THE RANCH PLAN PLANNED COMMUNITY

PLANNING AREAS 3 AND 4 RUNOFF MANAGEMENT PLAN

Michael Baker INTERNATIONAL

TECHNICAL APPENDIX F.6

UH Expected Value – Complex Model

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             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                         Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 126                          *
* 2-YR EV JUNE 2019 ROKAMOTO                                               *
 ****************************************************************************

  FILE NAME: EV02126C.DAT
  TIME/DATE OF STUDY: 17:01 06/17/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    5.382 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.595; LOW LOSS FRACTION = 0.931
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.16; 30-MINUTE =  0.30;  1-HOUR =  0.41
    3-HOUR =  0.77;    6-HOUR =  1.15; 24-HOUR =  2.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.28;  1-HOUR =  0.37
    3-HOUR =  0.62;    6-HOUR =  0.85; 24-HOUR =  1.44
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.28;  1-HOUR =  0.37
    3-HOUR =  0.62;    6-HOUR =  0.85; 24-HOUR =  1.44
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    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       529.1|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     529.1       525.0|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         3.1|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     525.0       525.5|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       3.1         0.0|
|             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.4|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     525.5       525.6|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.4         0.0|
|             |           |
 |   126.00     126.00| View:                 Stream #1|                 525.6|
20.583 |       551.81|     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
```

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

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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                     *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 127                       *
* 2-YR EV JUNE 2019 CCHIU                                               *
 *************************************************************************

  FILE NAME: EV02127C.DAT
  TIME/DATE OF STUDY: 09:31 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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 = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.299 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.292; LOW LOSS FRACTION = 0.536
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.57      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.276; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.251; LOW LOSS FRACTION = 0.478
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.558 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.486; LOW LOSS FRACTION = 0.820
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.548 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.591; LOW LOSS FRACTION = 0.968
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.589 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.589; LOW LOSS FRACTION = 0.962
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941
```

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


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


*****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    127.00 IS CODE =  11
-----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
=============================================================================
=============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV02127C.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 10100.00     119.00| Subarea (UH) Added to Stream #1|       0.0       560.5|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     560.5       555.7|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         3.2|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     555.7       556.2|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       3.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.4|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     556.2       556.3|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|     556.3       555.1|
20.750 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        37.0|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      37.0         1.6|
24.333 |         0.52|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|       1.6         1.1|
26.167 |         0.18|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        18.2|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      18.2         1.6|
23.083 |         0.08|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|       1.1         2.2|
24.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|       1.6         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|     555.1       555.1|
20.750 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|       2.2         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|     555.1       554.4|
20.833 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        82.4|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      82.4         0.0|
25.333 |        11.77|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       0.0         0.0|
25.333 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0         7.1|
16.583 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0         7.1|
16.583 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|       7.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|       7.1         1.5|
19.833 |         2.83|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       1.5         1.5|
19.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       0.0         1.5|
19.917 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|     554.4       555.9|
20.833 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       1.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|     555.9       555.7|
20.917 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0         4.7|
16.583 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     555.7       556.5|
20.917 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|       4.7         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0         8.1|
16.667 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     556.5       558.0|
20.917 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|       8.1         0.0|
|             |           |
 |   127.00     127.00| View:                 Stream #1|                 558.0|
20.917 |       596.33|     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                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV02127C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2013 Advanced Engineering Software (aes)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133C                         *
* 2-YR EV JUNE 2019 CCHIU                                                  *
 ****************************************************************************

  FILE NAME: EV0233CC.DAT
  TIME/DATE OF STUDY: 09:39 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    5.382 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.595; LOW LOSS FRACTION = 0.931
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.17; 30-MINUTE =  0.33;  1-HOUR =  0.45
    3-HOUR =  0.84;    6-HOUR =  1.26; 24-HOUR =  2.22
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.299 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.292; LOW LOSS FRACTION = 0.536
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.57      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.276; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.251; LOW LOSS FRACTION = 0.478
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.558 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.486; LOW LOSS FRACTION = 0.820
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.548 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.591; LOW LOSS FRACTION = 0.968
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.589 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.589; LOW LOSS FRACTION = 0.962
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 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) =  0.569; LOW LOSS FRACTION = 0.947
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.274 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.253; LOW LOSS FRACTION = 0.494
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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       172.20       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    1.262 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.487; LOW LOSS FRACTION = 0.830
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
```

```
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   2
----------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
  THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
             DATA PAIR          Qenter           Qpass
               NUMBER            (CFS)            (CFS)
                 -                0.00             0.00
                 1              413.00           413.00
                 2             1897.00          1613.00
                 3             4682.00          3013.00
                 4             6819.00          4013.00
                 5             8100.00          4613.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```



```
****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE  13305.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     427.51; DOWNSTREAM ELEVATION(FT) =     315.00
  CHANNEL LENGTH(FT) =    9760.05      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================
```

```
****************************************************************************
  FLOW PROCESS FROM NODE  13305.00 TO NODE    133.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     315.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    6877.24      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    133.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =    1715.900 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 = 0.750
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.31;  1-HOUR =  0.41
    3-HOUR =  0.68;    6-HOUR =  0.93; 24-HOUR =  1.58
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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



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


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
============================================================================
============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0233CC.DAT   ]
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       563.4|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     563.4       560.4|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         3.2|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     560.4       560.9|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       3.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.4|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     560.9       561.0|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|     561.0       560.0|
20.750 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        36.4|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      36.4         2.7|
24.250 |         0.86|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|       2.7         2.0|
25.583 |         0.34|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        17.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      17.5         2.0|
21.500 |         0.09|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|       2.0         3.3|
24.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|       2.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|     560.0       561.8|
20.750 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|       3.3         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|     561.8       561.4|
20.833 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        80.6|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      80.6         0.0|
25.333 |        13.44|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       0.0         0.0|
25.333 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0         7.1|
16.583 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0         7.1|
16.583 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|       7.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|       7.1         1.6|
19.833 |         2.95|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       1.6         1.6|
19.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       0.0         1.6|
20.000 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       1.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|     561.4       563.0|
20.833 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       1.6         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|     563.0       562.6|
20.833 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0         4.7|
16.583 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     562.6       563.4|
20.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|       4.7         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0         8.1|
16.667 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     563.4       565.0|
20.833 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|       8.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|     565.0       564.6|
21.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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   ]
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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0         6.7|
16.667 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|     564.6       565.9|
21.083 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|       6.7         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        28.4|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      28.4        13.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      13.8         6.4|
17.750 |         2.71|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      14.6         4.0|
18.333 |         2.25|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|       6.4        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|     565.9       573.6|
21.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      10.4         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|     573.6       573.3|
21.167 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       148.1|
17.333 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     148.1       148.1|
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|     148.1       146.5|
17.750 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     146.5       145.8|
18.167 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0        79.5|
17.000 |             |           |
```

```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     145.8       212.6|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|      79.5         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|     573.3       654.8|
18.833 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     212.6         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                 654.8|
18.833 |       784.11|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             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 1264

                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                         Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133T                         *
* 2-YR EV JUNE 2019 ROKAMOTO                                               *
 ****************************************************************************

  FILE NAME: EV0233TC.DAT
  TIME/DATE OF STUDY: 16:57 06/17/2019


                          ** 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 = 0.986


****************************************************************************
  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 =    1715.900 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 = 0.750
  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 = 0.986


****************************************************************************
  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: [EV0233TC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 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       179.8|
17.000 |             |           |
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     329.9       403.3|
17.917 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     179.8         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|       0.0       403.3|
17.917 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #2|     403.3         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                 403.3|
17.917 |       171.09|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                              |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                      |
 +-------------------------------------------------------------------------------
-------------------------------------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133U                         *
* 2-YR EV JUNE 2019 CCHIU                                                  *
 ***************************************************************************

  FILE NAME: EV0233UC.DAT
  TIME/DATE OF STUDY: 09:38 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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 = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.299 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.292; LOW LOSS FRACTION = 0.536
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```


INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	6.57	2.090
3	2.00	24.47	3.540
4	3.00	50.89	6.490
5	4.00	86.23	9.870
6	5.00	165.68	13.480
7	6.00	215.80	17.240
8	7.00	254.44	21.170
9	8.00	279.62	25.270
10	9.00	298.60	29.530
11	10.00	316.33	33.960
12	11.00	990.19	54.910

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


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	6.56	1.100
3	2.00	24.47	4.200
4	3.00	50.88	8.800
5	4.00	151.57	13.700
6	5.00	183.65	18.800
7	6.00	225.86	24.000
8	7.00	245.89	29.400
9	8.00	258.65	34.900
10	9.00	926.24	40.500

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


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.276; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.251; LOW LOSS FRACTION = 0.478
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.558 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.486; LOW LOSS FRACTION = 0.820
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.548 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.591; LOW LOSS FRACTION = 0.968
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.589 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.589; LOW LOSS FRACTION = 0.962
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 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) =  0.569; LOW LOSS FRACTION = 0.947
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.274 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.253; LOW LOSS FRACTION = 0.494
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.39
    3-HOUR =  0.65;    6-HOUR =  0.89; 24-HOUR =  1.51
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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	172.20	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<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0233UC.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       556.1|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     556.1       551.8|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         3.2|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     551.8       552.3|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       3.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.4|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     552.3       552.4|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|     552.4       551.2|
20.750 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        36.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      36.6         1.6|
24.333 |         0.51|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|       1.6         1.0|
26.167 |         0.18|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        18.0|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      18.0         1.6|
23.083 |         0.08|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|       1.0         2.1|
24.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|       1.6         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|     551.2       551.2|
20.750 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|       2.1         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|     551.2       550.7|
20.833 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        81.7|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      81.7         0.0|
25.333 |        11.74|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       0.0         0.0|
25.333 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0         7.0|
16.583 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0         7.0|
16.583 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|       7.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|       7.0         1.5|
19.833 |         2.83|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       1.5         1.5|
19.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       0.0         1.5|
19.917 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|     550.7       552.2|
20.833 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       1.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|     552.2       551.8|
20.917 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0         4.7|
16.583 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     551.8       552.7|
20.917 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|       4.7         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0         8.1|
16.667 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     552.7       554.1|
20.917 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|       8.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|     554.1       553.7|
21.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS  |PEAK (CFS)  PEAK (CFS)|PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-----------+-----------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0         6.6|16.667 |           |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|     553.7       554.8|21.083 |           |           |
 |   129.00     129.00| Zero Out:             Stream #2|       6.6         0.0|       |           |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        29.4|16.333 |           |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      29.4        13.9|16.333 |           |           |
 +--------------------+-------------------------------+----------------------+-----------+-----------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      13.9         5.8|17.917 |     2.63  |           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      15.5         3.9|18.250 |     2.15  |           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|       5.8         9.7|18.000 |           |           |
 |   222.00     222.00| Zero Out:             Stream #5|       3.9         0.0|       |           |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|     554.8       562.4|21.083 |           |           |
 +--------------------+-------------------------------+----------------------+-----------+-----------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|       9.7         0.0|       |           |           |
 |   129.00     133.00| Convex Routing:       Stream #1|     562.4       561.8|21.167 |           |           |
 |   133.00     133.00| View:                 Stream #1|                 561.8|21.167 |    609.03 |     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
```

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

              F L O O D   R O U T I N G   A N A L Y S I S
              USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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              Ver. 20.0  Release Date: 06/01/2013  License ID 1264

                           Analysis prepared by:

                        Michael Baker International
                      5 Hutton Centre Drive Suite 500
                            Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134C                         *
* 2-YR EV JUNE 2019 CCHIU                                                  *
 ****************************************************************************

  FILE NAME: EV0234CC.DAT
  TIME/DATE OF STUDY: 09:34 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    5.382 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.595; LOW LOSS FRACTION = 0.931
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.17; 30-MINUTE =  0.32;  1-HOUR =  0.44
    3-HOUR =  0.82;    6-HOUR =  1.23; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.299 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.292; LOW LOSS FRACTION = 0.536
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```


INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	6.57	2.090
3	2.00	24.47	3.540
4	3.00	50.89	6.490
5	4.00	86.23	9.870
6	5.00	165.68	13.480
7	6.00	215.80	17.240
8	7.00	254.44	21.170
9	8.00	279.62	25.270
10	9.00	298.60	29.530
11	10.00	316.33	33.960
12	11.00	990.19	54.910

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


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	6.56	1.100
3	2.00	24.47	4.200
4	3.00	50.88	8.800
5	4.00	151.57	13.700
6	5.00	183.65	18.800
7	6.00	225.86	24.000
8	7.00	245.89	29.400
9	8.00	258.65	34.900
10	9.00	926.24	40.500

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


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.276; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.251; LOW LOSS FRACTION = 0.478
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.558 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.486; LOW LOSS FRACTION = 0.820
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.548 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.591; LOW LOSS FRACTION = 0.968
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.589 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.589; LOW LOSS FRACTION = 0.962
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 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) =  0.569; LOW LOSS FRACTION = 0.947
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.274 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.253; LOW LOSS FRACTION = 0.494
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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	172.20	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 =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    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 =    1715.900 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 = 0.750
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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



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


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    134.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     212.00; DOWNSTREAM ELEVATION(FT) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.453 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.490; LOW LOSS FRACTION = 0.891
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
```

```
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.991 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.567; LOW LOSS FRACTION = 0.908
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.66;    6-HOUR =  0.91; 24-HOUR =  1.54
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0234CC.DAT   ]
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       540.8|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     540.8       538.8|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         3.0|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     538.8       539.3|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       3.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.3|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     539.3       539.4|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.3         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|     539.4       538.6|
20.750 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        34.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      34.3         2.0|
24.333 |         0.63|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|       2.0         1.3|
25.917 |         0.23|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        16.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      16.5         1.7|
22.667 |         0.08|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|       1.3         2.5|
24.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|       1.7         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|     538.6       538.6|
20.750 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|       2.5         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|     538.6       538.4|
20.833 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        76.0|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      76.0         0.0|
25.333 |        12.21|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       0.0         0.0|
25.333 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0         6.7|
16.583 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0         6.7|
16.583 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|       6.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|       6.7         1.5|
19.833 |         2.86|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       1.5         1.5|
19.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       0.0         1.5|
20.000 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|     538.4       539.9|
20.833 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       1.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|     539.9       539.7|
20.833 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0         4.4|
16.583 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     539.7       540.5|
20.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|       4.4         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0         7.7|
16.667 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     540.5       542.0|
20.833 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|       7.7         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|     542.0       541.6|
21.000 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
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 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0         6.3|
16.667 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|     541.6       542.8|
21.000 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|       6.3         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        26.6|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      26.6        13.7|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      13.7         5.9|
18.083 |         2.65|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      12.9         3.9|
18.333 |         2.14|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|       5.9         9.8|
18.083 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       3.9         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|     542.8       550.5|
21.000 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|       9.8         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|     550.5       550.2|
21.167 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       140.9|
17.333 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     140.9       140.9|
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|     140.9       139.4|
17.917 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     139.4       138.8|
18.250 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0        75.4|
17.000 |             |           |
```



```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     138.8       202.8|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|      75.4         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|     550.2       635.3|
18.833 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     202.8         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|     635.3       635.2|
19.083 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0        37.9|
16.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|     635.2       644.7|
19.000 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      37.9         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0        51.3|
18.500 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|     644.7       695.7|
18.750 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      51.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| View:                 Stream #1|                 695.7|
18.750 |       824.43|     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                        |
 +-------------------------------------------------------------------------------
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   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134U                       *
* 2-YR EV JUNE 2019 CCHIU                                                *
 ************************************************************************

  FILE NAME: EV0234UC.DAT
  TIME/DATE OF STUDY: 09:33 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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 =  1.24; 24-HOUR =  2.19
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  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 = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.67;    6-HOUR =  0.92; 24-HOUR =  1.56
  *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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.299 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.292; LOW LOSS FRACTION = 0.536
  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 = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.57      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.276; LOW LOSS FRACTION = 0.517
  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 = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.251; LOW LOSS FRACTION = 0.478
  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 = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.558 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.486; LOW LOSS FRACTION = 0.820
  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 = 0.304; 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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.548 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.591; LOW LOSS FRACTION = 0.968
  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 = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.589 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.589; LOW LOSS FRACTION = 0.962
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.40
    3-HOUR =  0.67;    6-HOUR =  0.92; 24-HOUR =  1.56
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 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) =  0.569; LOW LOSS FRACTION = 0.947
  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 = 0.304; 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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.274 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.253; LOW LOSS FRACTION = 0.494
  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 = 0.304; 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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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	172.20	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 = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   2
----------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
  THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
             DATA PAIR          Qenter           Qpass
               NUMBER            (CFS)            (CFS)
                 -                0.00             0.00
                 1              413.00           413.00
                 2             1897.00          1613.00
                 3             4682.00          3013.00
                 4             6819.00          4013.00
                 5             8100.00          4613.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```



```
****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE  13305.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     427.51; DOWNSTREAM ELEVATION(FT) =     315.00
  CHANNEL LENGTH(FT) =    9760.05      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================
```

```
****************************************************************************
  FLOW PROCESS FROM NODE  13305.00 TO NODE    133.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     315.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    6877.24      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    133.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =    1715.900 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 = 0.750
  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 = 0.304; 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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.453 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.490; LOW LOSS FRACTION = 0.891
  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 = 0.304; 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    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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       548.8|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     548.8       546.5|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         3.1|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     546.5       547.0|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       3.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.4|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     547.0       547.1|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|     547.1       546.3|
20.750 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        35.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      35.1         2.4|
24.333 |         0.76|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|       2.4         1.7|
25.750 |         0.29|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        16.9|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      16.9         1.9|
22.000 |         0.09|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|       1.7         2.9|
24.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|       1.9         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|     546.3       547.4|
20.750 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|       2.9         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|     547.4       547.1|
20.833 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        77.7|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      77.7         0.0|
25.333 |        12.86|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       0.0         0.0|
25.333 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0         6.9|
16.583 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0         6.9|
16.583 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|       6.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|       6.9         1.5|
19.833 |         2.91|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       1.5         1.5|
19.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       0.0         1.6|
20.000 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|     547.1       548.7|
20.833 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       1.6         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|     548.7       548.3|
20.833 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0         4.5|
16.583 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     548.3       549.2|
20.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|       4.5         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0         7.9|
16.667 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     549.2       550.7|
20.833 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|       7.9         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|     550.7       550.3|
21.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0         6.5|
16.667 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|     550.3       551.6|
21.083 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|       6.5         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        27.3|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      27.3        13.7|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      13.7         6.2|
17.917 |         2.68|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      13.5         3.9|
18.333 |         2.19|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|       6.2        10.1|
18.000 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       3.9         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|     551.6       559.3|
21.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      10.1         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|     559.3       559.0|
21.167 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       144.2|
17.333 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     144.2       144.2|
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|     144.2       142.7|
17.917 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     142.7       142.1|
18.250 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0        77.2|
17.000 |             |           |
```



```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     142.1       208.1|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|      77.2         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|     559.0       642.9|
18.833 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     208.1         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|     642.9       642.8|
19.083 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0        38.8|
16.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|     642.8       652.6|
18.917 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      38.8         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|                 652.6|
18.917 |       792.22|     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                        |
 +-------------------------------------------------------------------------------
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   END OF FLOODSCx ROUTING ANALYSIS
```

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

             F L O O D   R O U T I N G   A N A L Y S I S
             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 1264

                          Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                     *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 137                       *
* 2-YR EV JUNE 2019 CCHIU                                               *
 *************************************************************************

  FILE NAME: EV02137C.DAT
  TIME/DATE OF STUDY: 09:30 06/19/2019


                         ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    5.382 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.595; LOW LOSS FRACTION = 0.931
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.17; 30-MINUTE =  0.32;  1-HOUR =  0.44
    3-HOUR =  0.82;    6-HOUR =  1.22; 24-HOUR =  2.15
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.299 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.292; LOW LOSS FRACTION = 0.536
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.57      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.276; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.251; LOW LOSS FRACTION = 0.478
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.558 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.486; LOW LOSS FRACTION = 0.820
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.548 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.591; LOW LOSS FRACTION = 0.968
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.589 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.589; LOW LOSS FRACTION = 0.962
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 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) =  0.569; LOW LOSS FRACTION = 0.947
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.274 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.253; LOW LOSS FRACTION = 0.494
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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       172.20       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 =  0.39
```

```
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *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          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 =    1715.900 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 = 0.750
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.453 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.490; LOW LOSS FRACTION = 0.891
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
```

```
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.991 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.567; LOW LOSS FRACTION = 0.908
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 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) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.540 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.780
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.30;  1-HOUR =  0.39
    3-HOUR =  0.66;    6-HOUR =  0.90; 24-HOUR =  1.53
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
```



```
  5-MINUTE = 0.291; 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: [EV02137C.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       534.7|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     534.7       532.6|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         3.0|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     532.6       533.2|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       3.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.3|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     533.2       533.2|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.3         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|     533.2       532.5|
20.750 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        33.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      33.9         1.8|
24.333 |        0.56|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|       1.8         1.2|
26.083 |        0.20|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        16.4|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      16.4         1.7|
23.000 |        0.08|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|       1.2         2.3|
24.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|       1.7         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|     532.5       532.5|
20.750 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|       2.3         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|     532.5       532.3|
20.833 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        75.0|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      75.0         0.0|
25.333 |        11.90|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       0.0         0.0|
25.333 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0         6.6|
16.583 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0         6.6|
16.583 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|       6.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|       6.6         1.5|
19.917 |         2.84|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       1.5         1.5|
19.917 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       0.0         1.5|
20.000 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|     532.3       533.8|
20.833 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       1.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|     533.8       533.6|
20.833 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0         4.4|
16.583 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     533.6       534.4|
20.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|       4.4         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0         7.6|
16.667 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     534.4       535.9|
20.833 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|       7.6         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|     535.9       535.5|
21.000 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV02137C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0         6.2|
16.667 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|     535.5       536.7|
21.000 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|       6.2         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        26.3|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      26.3        13.7|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      13.7         5.8|
18.083 |         2.63|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      12.7         3.9|
18.333 |         2.11|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|       5.8         9.7|
18.083 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       3.9         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|     536.7       544.3|
21.000 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|       9.7         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|     544.3       544.1|
21.167 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       139.0|
17.333 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     139.0       139.0|
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|     139.0       137.6|
17.917 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     137.6       137.0|
18.250 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0        74.3|
17.000 |             |           |
```

```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     137.0       200.9|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|      74.3         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|     544.1       628.4|
18.833 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     200.9         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|     628.4       628.2|
19.083 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0        37.3|
16.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|     628.2       637.6|
19.000 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      37.3         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0        50.8|
18.000 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|     637.6       687.8|
18.750 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      50.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     137.00| Convex Routing:       Stream #1|     687.8       687.5|
19.167 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0        52.0|
16.583 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|     687.5       704.0|
18.667 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|      52.0         0.0|
|             |           |
 |   137.00     137.00| View:                 Stream #1|                 704.0|
18.667 |       849.06|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 138                          *
* 2-YR EV JUNE 2019 CCHIU                                                  *
 ****************************************************************************

  FILE NAME: EV02138C.DAT
  TIME/DATE OF STUDY: 09:28 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.38
    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    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.299 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.292; LOW LOSS FRACTION = 0.536
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.57      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.276; LOW LOSS FRACTION = 0.517
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.251; LOW LOSS FRACTION = 0.478
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.558 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.486; LOW LOSS FRACTION = 0.820
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.548 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.591; LOW LOSS FRACTION = 0.968
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.50
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.589 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.589; LOW LOSS FRACTION = 0.962
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 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    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 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) =  0.569; LOW LOSS FRACTION = 0.947
  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<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.274 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.253; LOW LOSS FRACTION = 0.494
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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	172.20	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    1.262 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.487; LOW LOSS FRACTION = 0.830
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.38
```

```
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.50
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   2
----------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
  THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
             DATA PAIR          Qenter           Qpass
               NUMBER            (CFS)            (CFS)
                 -                0.00             0.00
                 1              413.00           413.00
                 2             1897.00          1613.00
                 3             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 =    1715.900 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 = 0.750
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.453 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.490; LOW LOSS FRACTION = 0.891
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.50
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
```

```
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.991 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.567; LOW LOSS FRACTION = 0.908
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 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) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.540 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.780
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.14; 30-MINUTE =  0.29;  1-HOUR =  0.38
    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) =     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 =    0.927 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    |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |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       523.6|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     523.6       521.7|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         2.9|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     521.7       522.2|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       2.9         0.0|
|             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.3|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     522.2       522.3|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.3         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|     522.3       521.6|
20.750 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        32.9|
16.333 |             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      32.9         1.1|
24.417 |         0.34|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|       1.1         0.7|
26.500 |         0.11|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        15.9|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      15.9         1.5|
23.917 |         0.07|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|       0.7         1.7|
24.167 |             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|     521.6       521.6|
20.750 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|       1.7         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|     521.6       521.4|
20.833 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        72.6|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      72.6         0.0|
25.333 |        11.04|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       0.0         0.0|
25.333 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0         6.4|
16.583 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0         6.4|
16.583 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|       6.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|       6.4         1.5|
19.917 |         2.78|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       1.5         1.5|
19.917 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       0.0         1.5|
20.083 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|     521.4       522.9|
20.833 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       1.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|     522.9       522.7|
20.833 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0         4.2|
16.583 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     522.7       523.5|
20.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|       4.2         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0         7.3|
16.667 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     523.5       525.0|
20.833 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|       7.3         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|     525.0       524.6|
21.000 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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```

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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0         6.0|
16.667 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|     524.6       525.8|
21.000 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|       6.0         0.0|
|            |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        25.6|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      25.6        13.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      13.6         5.5|
18.167 |         2.57|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      11.9         3.8|
18.333 |         2.03|           |
 |   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|     525.8       533.2|
21.000 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|       9.3         0.0|
|            |           |
 |   129.00     133.00| Convex Routing:       Stream #1|     533.2       533.0|
21.167 |             |           |
 | 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        71.8|
17.000 |             |           |
```



```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     132.5       194.3|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|      71.8         0.0|
|            |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|     533.0       615.4|
18.917 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     194.3         0.0|
|            |           |
 |   133.00     134.00| Convex Routing:       Stream #1|     615.4       615.2|
19.167 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0        36.1|
16.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|     615.2       624.3|
19.083 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      36.1         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|     624.3       672.8|
19.000 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      49.4         0.0|
|            |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     137.00| Convex Routing:       Stream #1|     672.8       672.7|
19.167 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0        50.3|
16.583 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|     672.7       688.0|
18.667 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|      50.3         0.0|
|            |           |
 |   137.00     138.00| Convex Routing:       Stream #1|     688.0       687.5|
18.917 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   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|     687.5       703.0|
18.833 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|      30.4         0.0|
|            |           |
 |   138.00     138.00| View:                 Stream #1|                 703.0|
18.833 |       852.58|     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
```

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

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                          Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                     *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 139                       *
* 2-YR EV JUNE 2019 CCHIU                                               *
 *************************************************************************

  FILE NAME: EV02139C.DAT
  TIME/DATE OF STUDY: 09:25 06/19/2019


                         ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    5.382 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.595; LOW LOSS FRACTION = 0.931
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.17; 30-MINUTE =  0.31;  1-HOUR =  0.42
    3-HOUR =  0.80;    6-HOUR =  1.19; 24-HOUR =  2.10
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.428 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.592; LOW LOSS FRACTION = 0.982
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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) =    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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.299 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.292; LOW LOSS FRACTION = 0.536
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.57      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.276; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.251; LOW LOSS FRACTION = 0.478
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.558 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.486; LOW LOSS FRACTION = 0.820
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.548 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.591; LOW LOSS FRACTION = 0.968
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.589 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.589; LOW LOSS FRACTION = 0.962
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 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) =  0.569; LOW LOSS FRACTION = 0.947
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.274 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.253; LOW LOSS FRACTION = 0.494
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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	172.20	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 =  0.88; 24-HOUR =  1.49
  *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          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 =    1715.900 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 = 0.750
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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) =    0.01     CHANNEL Z =  3.00
  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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.453 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.490; LOW LOSS FRACTION = 0.891
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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 =    2.991 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.567; LOW LOSS FRACTION = 0.908
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.540 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.780
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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) =    0.01     CHANNEL Z =  3.00
  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 =    0.927 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.534; LOW LOSS FRACTION = 0.861
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     119.70; DOWNSTREAM ELEVATION(FT) =     100.00
  CHANNEL LENGTH(FT) =    3107.78      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    138.00 TO NODE    139.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     428.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.413; LOW LOSS FRACTION = 0.670
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.13; 30-MINUTE =  0.29;  1-HOUR =  0.38
    3-HOUR =  0.64;    6-HOUR =  0.88; 24-HOUR =  1.49
  *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: [EV02139C.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       520.8|
20.417 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|     520.8       518.9|
20.583 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0         2.8|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     518.9       519.4|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       2.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         0.3|
16.500 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|     519.4       519.5|
20.583 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       0.3         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|     519.5       518.8|
20.750 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        32.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      32.3         0.8|
24.500 |         0.26|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|       0.8         0.5|
26.667 |         0.08|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        15.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      15.5         1.5|
24.083 |         0.07|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|       0.5         1.6|
24.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|     518.8       518.8|
20.750 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|       1.6         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|     518.8       518.6|
20.833 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        71.6|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      71.6         0.0|
25.333 |        10.76|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       0.0         0.0|
25.333 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0         6.3|
16.583 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0         6.3|
16.583 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|       6.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|       6.3         1.5|
19.833 |         2.76|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       1.5         1.5|
19.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       0.0         1.5|
20.000 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       1.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|     518.6       520.1|
20.833 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       1.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|     520.1       519.9|
20.833 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0         4.2|
16.583 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     519.9       520.7|
20.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|       4.2         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0         7.3|
16.667 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|     520.7       522.1|
20.833 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|       7.3         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|     522.1       521.7|
21.000 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV02139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0         6.0|
16.667 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|     521.7       522.9|
21.000 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|       6.0         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        25.0|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      25.0        13.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      13.6         5.5|
18.167 |         2.56|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      11.4         3.8|
18.333 |         2.03|           |
 |   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|     522.9       530.3|
21.000 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|       9.3         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|     530.3       530.1|
21.167 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       134.0|
17.333 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     134.0       134.0|
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|     134.0       132.6|
17.917 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     132.6       132.1|
18.250 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0        71.5|
17.000 |             |           |
```

```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     132.1       194.0|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|      71.5         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|     530.1       612.7|
18.917 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     194.0         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|     612.7       612.6|
19.167 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0        35.7|
16.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|     612.6       621.6|
19.083 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      35.7         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|     621.6       670.0|
19.000 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|      49.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     137.00| Convex Routing:       Stream #1|     670.0       669.9|
19.167 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0        49.8|
16.583 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|     669.9       685.4|
18.667 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|      49.8         0.0|
|             |           |
 |   137.00     138.00| Convex Routing:       Stream #1|     685.4       685.0|
18.917 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Subarea (UH) Added to Stream #2|       0.0        30.2|
17.000 |             |           |
 |   138.00     138.00| Stream #2 Added to:   Stream #1|     685.0       700.5|
18.833 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|      30.2         0.0|
|             |           |
 |   138.00     139.00| Convex Routing:       Stream #1|     700.5       700.4|
18.917 |             |           |
 |   138.00     139.00| Subarea (UH) Added to Stream #2|       0.0        31.6|
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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```

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 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV02139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   139.00     139.00| Stream #2 Added to:   Stream #1|     700.4       707.2|
18.917 |             |           |
 |   139.00     139.00| Zero Out:             Stream #2|      31.6         0.0|
|             |           |
 |   139.00     139.00| View:                 Stream #1|                 707.2|
18.917 |       863.96|     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                        |
 +-------------------------------------------------------------------------------
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   END OF FLOODSCx ROUTING ANALYSIS
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____________________________________________________________________________
****************************************************************************

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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                          Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 126                          *
* 5-YR EV JUNE 2019 ROKAMOTO                                               *
 ***************************************************************************

  FILE NAME: EV05126C.DAT
  TIME/DATE OF STUDY: 15:47 06/17/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    3.308 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.496; LOW LOSS FRACTION = 0.845
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.23; 30-MINUTE =  0.44;  1-HOUR =  0.62
    3-HOUR =  1.15;    6-HOUR =  1.71; 24-HOUR =  3.02
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.41;  1-HOUR =  0.55
    3-HOUR =  0.92;    6-HOUR =  1.27; 24-HOUR =  2.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  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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 +-------------------------------------------------------------------------------
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 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV05126C.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      2394.9|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2394.9      2344.2|
19.417 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        49.3|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2344.2      2346.7|
19.417 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      49.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         5.8|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2346.7      2347.0|
19.417 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       5.8         0.0|
|             |           |
 |   126.00     126.00| View:                 Stream #1|                2347.0|
19.417 |      1932.60|     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
```

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

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                           Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                    *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 127                      *
* 5-YR EV JULY 2019 ROKAMOTO                                           *
 ************************************************************************

  FILE NAME: EV05127C.DAT
  TIME/DATE OF STUDY: 06:20 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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 = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.271 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.472
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.230; LOW LOSS FRACTION = 0.459
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.209; LOW LOSS FRACTION = 0.415
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.433 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.405; LOW LOSS FRACTION = 0.770
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.429 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.492; LOW LOSS FRACTION = 0.931
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.447 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.491; LOW LOSS FRACTION = 0.915
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941
```

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


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


*******************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    127.00 IS CODE =  11
-------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
===============================================================================
===============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV05127C.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | 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      2420.6|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2420.6      2370.9|
19.417 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        45.4|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2370.9      2373.5|
19.417 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      45.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         5.4|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2373.5      2373.8|
19.417 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       5.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    2373.8      2372.8|
19.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        71.4|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      71.4        28.2|
17.500 |         3.95|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      28.2        17.9|
19.250 |         3.06|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        32.9|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      32.9        15.8|
17.167 |         0.81|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      17.9        26.3|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      15.8         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    2372.8      2395.6|
19.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      26.3         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    2395.6      2393.7|
19.583 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       144.2|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     144.2         5.2|
24.417 |        34.81|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       5.2         5.2|
24.417 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        18.6|
16.500 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0        18.6|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      18.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      18.6         2.9|
19.417 |         5.40|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       2.9         2.9|
19.417 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       5.2         7.9|
24.333 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       2.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    2393.7      2400.9|
19.583 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       7.9         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    2400.9      2399.8|
19.583 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0        36.5|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2399.8      2402.9|
19.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|      36.5         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0        55.6|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2402.9      2408.5|
19.583 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|      55.6         0.0|
|             |           |
 |   127.00     127.00| View:                 Stream #1|                2408.5|
19.583 |      2046.44|     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                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV05127C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             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 1264

                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                         Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133T                         *
* 5-YR EV JUNE 2019 ROKAMOTO                                               *
 ***************************************************************************

  FILE NAME: EV0533TC.DAT
  TIME/DATE OF STUDY: 15:37 06/17/2019


                          ** 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 =  0.18; 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 = 0.744; 30-MINUTE = 0.744;  1-HOUR = 0.744
    3-HOUR = 0.959;    6-HOUR = 0.978; 24-HOUR = 0.986


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1        0.00        0.00       0.000
               2        1.50        0.01       0.002
               3        2.00        0.02       1.900
               4        4.00        0.03      16.100
               5        4.30        0.05      18.200
               6        5.00      314.00      23.200
               7        6.00     1306.00      30.300
               8        7.00     2847.00      39.100
               9        8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

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


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.374; LOW LOSS FRACTION = 0.689
  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 = 0.744; 30-MINUTE = 0.744;  1-HOUR = 0.744
    3-HOUR = 0.959;    6-HOUR = 0.978; 24-HOUR = 0.986


****************************************************************************
  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: [EV0533TC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       777.4|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     777.4       707.7|
17.000 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      69.7         0.0|
17.667 |         4.02|           |
 |   132.00     132.00| Split Hydrograph:     Stream #3|       0.0         0.0|
17.667 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|       0.0         0.0|
47.833 |         0.00|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #3 Added to:   Stream #2|     707.7       707.7|
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|
69.917 |         0.01|           |
 |   132.00     132.00| Stream #4 Added to:   Stream #2|     707.7       707.7|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|       0.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00   13305.00| Convex Routing:       Stream #2|     707.7       674.2|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     674.2       664.6|
17.667 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       391.4|
16.750 |             |           |
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     664.6       796.5|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     391.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #2 Added to:   Stream #1|       0.0       796.5|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     796.5         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                 796.5|
17.583 |       312.57|     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
```

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

              F L O O D   R O U T I N G   A N A L Y S I S
              USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
          (c) Copyright 1989-2016 Advanced Engineering Software (aes)
             Ver. 23.0  Release Date: 07/01/2016  License ID 1264

                           Analysis prepared by:




 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133U                         *
* 5-YR EV JULY 2019 ROKAMOTO                                               *
 ***************************************************************************

  FILE NAME: EV0533UC.DAT
  TIME/DATE OF STUDY: 06:10 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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 =  0.25; 30-MINUTE =  0.47;  1-HOUR =  0.66
    3-HOUR =  1.23;    6-HOUR =  1.83; 24-HOUR =  3.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.271 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.472
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.230; LOW LOSS FRACTION = 0.459
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.209; LOW LOSS FRACTION = 0.415
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.433 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.405; LOW LOSS FRACTION = 0.770
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.429 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.492; LOW LOSS FRACTION = 0.931
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.447 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.491; LOW LOSS FRACTION = 0.915
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.443 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.916
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *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 =     214.700 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) =  0.211; LOW LOSS FRACTION = 0.441
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.44;  1-HOUR =  0.59
    3-HOUR =  0.98;    6-HOUR =  1.36; 24-HOUR =  2.27
  *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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * 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      2541.4|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2541.4      2488.7|
19.417 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        51.5|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2488.7      2491.4|
19.417 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      51.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         6.1|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2491.4      2491.7|
19.417 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       6.1         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    2491.7      2488.8|
19.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        72.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      72.9        31.3|
17.417 |         4.30|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      31.3        20.3|
19.167 |         3.47|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        34.9|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      34.9        17.0|
16.500 |         0.88|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      20.3        29.5|
18.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      17.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    2488.8      2514.1|
19.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      29.5         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    2514.1      2513.1|
19.583 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       152.1|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     152.1         5.6|
24.417 |        37.59|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       5.6         5.6|
24.417 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        20.1|
16.500 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0        20.1|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      20.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      20.1         3.0|
19.417 |         5.67|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       3.0         3.0|
19.417 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       5.6         8.5|
24.250 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       3.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    2513.1      2521.0|
19.583 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       8.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    2521.0      2519.7|
19.583 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0        41.0|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2519.7      2522.9|
19.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|      41.0         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0        62.1|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2522.9      2528.8|
19.583 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|      62.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    2528.8      2523.1|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        39.1|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    2523.1      2526.5|
19.667 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      39.1         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        53.9|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      53.9        15.5|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      15.5        12.3|
17.417 |         3.51|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      38.4         5.4|
18.417 |         5.13|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      12.3        17.6|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       5.4         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    2526.5      2539.4|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      17.6         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    2539.4      2536.7|
19.750 |             |           |
 |   133.00     133.00| View:                 Stream #1|               2536.7|
19.750 |      2172.76|     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
```

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

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
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                           Analysis prepared by:




 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133C                         *
* 5-YR EV JULY 2019 ROKAMOTO                                               *
 ***************************************************************************

  FILE NAME: EV0533CC.DAT
  TIME/DATE OF STUDY: 06:36 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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 = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.57
    3-HOUR =  0.96;    6-HOUR =  1.33; 24-HOUR =  2.22
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  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 = 0.308; 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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.271 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.472
  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 = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.230; LOW LOSS FRACTION = 0.459
  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 = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.209; LOW LOSS FRACTION = 0.415
  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 = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.433 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.405; LOW LOSS FRACTION = 0.770
  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 = 0.308; 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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.429 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.492; LOW LOSS FRACTION = 0.931
  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 = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.447 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.491; LOW LOSS FRACTION = 0.915
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.57
    3-HOUR =  0.96;    6-HOUR =  1.33; 24-HOUR =  2.22
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.443 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.916
  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 = 0.308; 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 =     214.700 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) =  0.211; LOW LOSS FRACTION = 0.441
  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 = 0.308; 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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.986 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.406; LOW LOSS FRACTION = 0.789
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.57
```

```
    3-HOUR =  0.96;    6-HOUR =  1.33; 24-HOUR =  2.22
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   2
----------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
  THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
             DATA PAIR          Qenter           Qpass
               NUMBER            (CFS)            (CFS)
                 -                0.00             0.00
                 1              413.00           413.00
                 2             1897.00          1613.00
                 3             4682.00          3013.00
                 4             6819.00          4013.00
                 5             8100.00          4613.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```



```
****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE  13305.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     427.51; DOWNSTREAM ELEVATION(FT) =     315.00
  CHANNEL LENGTH(FT) =    9760.05      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================
```

```
****************************************************************************
  FLOW PROCESS FROM NODE  13305.00 TO NODE    133.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     315.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    6877.24      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    133.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =    1715.900 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) =  0.374; LOW LOSS FRACTION = 0.689
  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 = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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



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


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
============================================================================
============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0533CC.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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      2369.7|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2369.7      2328.4|
19.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        43.3|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2328.4      2331.1|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      43.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         5.1|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2331.1      2331.4|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       5.1         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    2331.4      2328.6|
19.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        67.0|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      67.0        29.0|
17.500 |         4.04|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      29.0        18.7|
19.250 |         3.20|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        32.0|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      32.0        15.9|
17.167 |         0.81|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      18.7        27.4|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      15.9         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    2328.6      2352.4|
19.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      27.4         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    2352.4      2351.8|
19.583 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       140.5|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     140.5         5.4|
24.417 |        35.90|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       5.4         5.4|
24.417 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        18.1|
16.500 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0        18.1|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      18.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      18.1         2.9|
19.417 |         5.48|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       2.9         2.9|
19.417 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       5.4         8.1|
24.333 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       2.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    2351.8      2359.2|
19.583 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       8.1         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    2359.2      2358.6|
19.583 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0        34.9|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2358.6      2361.8|
19.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|      34.9         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0        53.2|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2361.8      2367.5|
19.583 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|      53.2         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    2367.5      2363.9|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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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```

```
 +-------------------------------------------------------------------------------
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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        33.7|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    2363.9      2367.2|
19.667 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      33.7         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        49.7|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      49.7        15.2|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      15.2        12.1|
17.417 |         3.48|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      34.5         5.3|
18.417 |         4.82|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      12.1        17.3|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       5.3         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    2367.2      2379.8|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      17.3         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    2379.8      2377.6|
19.750 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       323.2|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     323.2       323.2|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|       0.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Zero Out:             Stream #4|       0.0         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|     323.2       314.4|
17.500 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     314.4       312.5|
17.833 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       164.9|
16.750 |             |           |
```

```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     312.5       424.0|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|     164.9         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    2377.6      2620.9|
18.417 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     424.0         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                2620.9|
18.417 |      2369.85|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                              |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                      |
 +-------------------------------------------------------------------------------
-------------------------------------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
            Ver. 23.0  Release Date: 07/01/2016  License ID 1264

                           Analysis prepared by:





 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134U                         *
* 5-YR EV JULY 2019 ROKAMOTO                                               *
 ****************************************************************************

  FILE NAME: EV0534UC.DAT
  TIME/DATE OF STUDY: 06:12 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    3.308 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.496; LOW LOSS FRACTION = 0.845
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.24; 30-MINUTE =  0.46;  1-HOUR =  0.65
    3-HOUR =  1.21;    6-HOUR =  1.80; 24-HOUR =  3.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.271 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.472
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.230; LOW LOSS FRACTION = 0.459
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.209; LOW LOSS FRACTION = 0.415
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.433 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.405; LOW LOSS FRACTION = 0.770
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.429 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.492; LOW LOSS FRACTION = 0.931
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.447 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.491; LOW LOSS FRACTION = 0.915
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.443 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.916
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 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) =  0.211; LOW LOSS FRACTION = 0.441
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.986 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.406; LOW LOSS FRACTION = 0.789
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
```

```
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   2
----------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
  THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
             DATA PAIR          Qenter           Qpass
               NUMBER            (CFS)            (CFS)
                 -                0.00             0.00
                 1              413.00           413.00
                 2             1897.00          1613.00
                 3             4682.00          3013.00
                 4             6819.00          4013.00
                 5             8100.00          4613.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```



```
****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE  13305.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     427.51; DOWNSTREAM ELEVATION(FT) =     315.00
  CHANNEL LENGTH(FT) =    9760.05      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================
```

```
****************************************************************************
  FLOW PROCESS FROM NODE  13305.00 TO NODE    133.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     315.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    6877.24      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    133.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =    1715.900 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) =  0.374; LOW LOSS FRACTION = 0.689
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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



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


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    134.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     212.00; DOWNSTREAM ELEVATION(FT) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.409; LOW LOSS FRACTION = 0.762
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.43;  1-HOUR =  0.58
    3-HOUR =  0.97;    6-HOUR =  1.33; 24-HOUR =  2.23
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
```

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



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0534UC.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      2365.3|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2365.3      2325.2|
19.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        41.4|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2325.2      2327.9|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      41.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         4.9|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2327.9      2328.2|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       4.9         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    2328.2      2325.0|
19.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        66.0|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      66.0        29.2|
17.500 |         4.06|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      29.2        18.8|
19.250 |         3.22|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        31.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      31.5        16.0|
17.167 |         0.82|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      18.8        27.5|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      16.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    2325.0      2348.8|
19.500 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      27.5         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    2348.8      2348.5|
19.583 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       139.1|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     139.1         5.4|
24.417 |        36.11|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       5.4         5.4|
24.417 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        17.7|
16.500 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0        17.7|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      17.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      17.7         2.9|
19.500 |         5.48|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       2.9         2.9|
19.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       5.4         8.1|
24.333 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       2.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    2348.5      2356.0|
19.583 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       8.1         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    2356.0      2355.4|
19.583 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0        33.6|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2355.4      2358.6|
19.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|      33.6         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0        51.4|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2358.6      2364.3|
19.583 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|      51.4         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    2364.3      2360.9|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |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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 +-------------------------------------------------------------------------------
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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        32.6|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    2360.9      2364.3|
19.667 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      32.6         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        49.0|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      49.0        15.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      15.1        12.1|
17.417 |         3.48|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      33.8         5.3|
18.417 |         4.83|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      12.1        17.3|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       5.3         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    2364.3      2376.9|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      17.3         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    2376.9      2374.7|
19.750 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       320.6|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     320.6       320.6|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|       0.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Zero Out:             Stream #4|       0.0         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|     320.6       312.2|
17.500 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     312.2       310.4|
17.833 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       163.6|
16.750 |             |           |
```



```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     310.4       422.0|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|     163.6         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    2374.7      2619.8|
18.417 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     422.0         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    2619.8      2616.4|
18.583 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       160.4|
16.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2616.4      2653.9|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     160.4         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|                2653.9|
18.583 |      2448.24|     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                        |
 +-------------------------------------------------------------------------------
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   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134C                       *
* 5-YR EV JULY 2019 ROKAMOTO                                             *
 ************************************************************************

  FILE NAME: EV0534CC.DAT
  TIME/DATE OF STUDY: 06:13 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    3.308 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.496; LOW LOSS FRACTION = 0.845
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.24; 30-MINUTE =  0.45;  1-HOUR =  0.64
    3-HOUR =  1.18;    6-HOUR =  1.76; 24-HOUR =  3.11
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.271 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.472
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.230; LOW LOSS FRACTION = 0.459
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.209; LOW LOSS FRACTION = 0.415
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.433 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.405; LOW LOSS FRACTION = 0.770
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.429 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.492; LOW LOSS FRACTION = 0.931
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.447 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.491; LOW LOSS FRACTION = 0.915
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.443 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.916
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 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) =  0.211; LOW LOSS FRACTION = 0.441
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.81	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	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.986 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.406; LOW LOSS FRACTION = 0.789
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
```

```
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   2
----------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
  THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
             DATA PAIR          Qenter           Qpass
               NUMBER            (CFS)            (CFS)
                 -                0.00             0.00
                 1              413.00           413.00
                 2             1897.00          1613.00
                 3             4682.00          3013.00
                 4             6819.00          4013.00
                 5             8100.00          4613.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```



```
****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE  13305.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     427.51; DOWNSTREAM ELEVATION(FT) =     315.00
  CHANNEL LENGTH(FT) =    9760.05      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================
```

```
****************************************************************************
  FLOW PROCESS FROM NODE  13305.00 TO NODE    133.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     315.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    6877.24      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    133.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =    1715.900 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) =  0.374; LOW LOSS FRACTION = 0.689
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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



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


****************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    134.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     212.00; DOWNSTREAM ELEVATION(FT) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.409; LOW LOSS FRACTION = 0.762
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
```

```
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.180 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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0534CC.DAT   ]
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      2255.7|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2255.7      2225.3|
19.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        37.2|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2225.3      2227.9|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      37.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         4.4|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2227.9      2228.3|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       4.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    2228.3      2222.4|
19.500 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        62.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      62.9        27.3|
17.583 |         3.86|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      27.3        17.5|
19.250 |         2.99|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        30.0|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      30.0        15.2|
17.167 |         0.78|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      17.5        25.9|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      15.2         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    2222.4      2245.1|
19.500 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      25.9         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    2245.1      2244.9|
19.583 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       132.9|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     132.9         5.1|
24.417 |        34.56|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       5.1         5.1|
24.417 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        16.6|
16.500 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0        16.6|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      16.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      16.6         2.8|
19.500 |         5.34|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       2.8         2.8|
19.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       5.1         7.8|
24.333 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       2.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    2244.9      2252.0|
19.583 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       7.8         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    2252.0      2251.8|
19.583 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0        30.4|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2251.8      2254.9|
19.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|      30.4         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0        46.8|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2254.9      2260.5|
19.583 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|      46.8         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    2260.5      2258.4|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0534CC.DAT   ]
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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        29.8|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    2258.4      2261.7|
19.667 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      29.8         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        46.8|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      46.8        15.0|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      15.0        12.0|
17.417 |         3.46|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      31.7         5.2|
18.417 |         4.61|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      12.0        17.1|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       5.2         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    2261.7      2274.1|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      17.1         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    2274.1      2272.3|
19.750 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       304.2|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     304.2       304.2|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|       0.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Zero Out:             Stream #4|       0.0         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|     304.2       296.5|
17.500 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     296.5       295.1|
17.833 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       155.4|
16.750 |             |           |
```



```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     295.1       403.4|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|     155.4         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    2272.3      2527.9|
18.417 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     403.4         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    2527.9      2524.7|
18.583 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       150.5|
16.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2524.7      2561.7|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     150.5         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0       146.6|
18.083 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2561.7      2705.0|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     146.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| View:                 Stream #1|                2705.0|
18.583 |      2484.97|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
            Ver. 23.0  Release Date: 07/01/2016  License ID 1264

                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 137                        *
* 5-YR EV JULY 2019 ROKAMOTO                                             *
 **************************************************************************

  FILE NAME: EV05137C.DAT
  TIME/DATE OF STUDY: 06:13 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    3.308 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.496; LOW LOSS FRACTION = 0.845
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.24; 30-MINUTE =  0.45;  1-HOUR =  0.64
    3-HOUR =  1.18;    6-HOUR =  1.76; 24-HOUR =  3.11
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  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 =  2.18
  *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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.271 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.472
  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 =  2.18
  *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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.230; LOW LOSS FRACTION = 0.459
  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 =  2.18
  *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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.209; LOW LOSS FRACTION = 0.415
  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 =  2.18
  *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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.433 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.405; LOW LOSS FRACTION = 0.770
  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 =  2.18
  *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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.429 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.492; LOW LOSS FRACTION = 0.931
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.447 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.491; LOW LOSS FRACTION = 0.915
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.443 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.916
  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 =  2.18
  *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 =     214.700 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) =  0.211; LOW LOSS FRACTION = 0.441
  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 =  2.18
  *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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.986 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.406; LOW LOSS FRACTION = 0.789
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
```

```
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *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          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 =    1715.900 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) =  0.374; LOW LOSS FRACTION = 0.689
  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 =  2.18
  *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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.409; LOW LOSS FRACTION = 0.762
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
```

```
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.180 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 =  2.18
  *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) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.438 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.395; LOW LOSS FRACTION = 0.714
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV05137C.DAT   ]
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      2240.1|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2240.1      2211.8|
19.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        36.0|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2211.8      2214.5|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      36.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         4.3|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2214.5      2214.8|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       4.3         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    2214.8      2208.4|
19.500 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        62.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      62.3        27.2|
17.667 |         3.84|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      27.2        17.4|
19.250 |         2.98|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        29.6|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      29.6        15.1|
17.167 |         0.77|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      17.4        25.8|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      15.1         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    2208.4      2231.4|
19.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      25.8         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    2231.4      2230.8|
19.583 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       131.7|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     131.7         5.1|
24.417 |        34.50|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       5.1         5.1|
24.417 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        16.4|
16.500 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0        16.4|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      16.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      16.4         2.8|
19.500 |         5.33|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       2.8         2.8|
19.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       5.1         7.8|
24.333 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       2.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    2230.8      2237.9|
19.583 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       7.8         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    2237.9      2237.8|
19.583 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0        29.5|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2237.8      2240.9|
19.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|      29.5         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0        45.5|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2240.9      2246.4|
19.583 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|      45.5         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    2246.4      2244.7|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV05137C.DAT   ]
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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        29.1|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    2244.7      2248.0|
19.667 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      29.1         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        46.3|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      46.3        15.0|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      15.0        11.9|
17.417 |         3.46|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      31.3         5.2|
18.417 |         4.58|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      11.9        17.0|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       5.2         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    2248.0      2260.4|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      17.0         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    2260.4      2258.6|
19.750 |             |           |
 | 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       153.7|
16.750 |             |           |
```

```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     291.9       399.8|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|     153.7         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    2258.6      2517.2|
18.417 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     399.8         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    2517.2      2514.2|
18.583 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       148.2|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2514.2      2551.1|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     148.2         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0       145.3|
18.083 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2551.1      2693.2|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     145.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     137.00| Convex Routing:       Stream #1|    2693.2      2689.6|
18.750 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       118.1|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|    2689.6      2719.1|
18.667 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     118.1         0.0|
|             |           |
 |   137.00     137.00| View:                 Stream #1|                2719.1|
18.667 |      2540.45|     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
```

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____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - FREE DRAINING UH                                *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 138                        *
* 5-YR EV JULY 2019 ROKAMOTO                                             *
 ************************************************************************

  FILE NAME: EV05138C.DAT
  TIME/DATE OF STUDY: 06:14 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.271 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.472
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.230; LOW LOSS FRACTION = 0.459
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    3.500 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.209; LOW LOSS FRACTION = 0.415
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.433 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.405; LOW LOSS FRACTION = 0.770
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.429 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.492; LOW LOSS FRACTION = 0.931
  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  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.447 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.491; LOW LOSS FRACTION = 0.915
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
    3-HOUR =  0.94;    6-HOUR =  1.30; 24-HOUR =  2.17
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.443 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.916
  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 =     214.700 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) =  0.211; LOW LOSS FRACTION = 0.441
  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    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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.986 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.406; LOW LOSS FRACTION = 0.789
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 30-MINUTE =  0.42;  1-HOUR =  0.56
```

```
    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          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 =    1715.900 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) =  0.374; LOW LOSS FRACTION = 0.689
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.409; LOW LOSS FRACTION = 0.762
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 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 =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *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) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.438 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.395; LOW LOSS FRACTION = 0.714
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.18; 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) =     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 =    0.607 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   ]
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      2210.7|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2210.7      2185.1|
19.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        28.9|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2185.1      2187.8|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      28.9         0.0|
|             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         3.4|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2187.8      2188.1|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       3.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    2188.1      2181.7|
19.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        59.3|
16.333 |             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      59.3        26.6|
17.667 |         3.78|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      26.6        17.0|
19.333 |         2.91|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        28.0|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      28.0        14.8|
17.167 |         0.75|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      17.0        25.3|
18.250 |             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      14.8         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    2181.7      2204.5|
19.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      25.3         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    2204.5      2203.5|
19.500 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0        78.0|
18.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|      78.0         5.0|
28.500 |        33.49|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       5.0         5.0|
28.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        15.0|
16.500 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0        15.0|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      15.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      15.0         2.8|
19.500 |         5.25|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       2.8         2.8|
19.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       5.0         7.3|
26.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       2.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    2203.5      2206.3|
19.500 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       7.3         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    2206.3      2206.1|
19.500 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0        24.5|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2206.1      2209.2|
19.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|      24.5         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0        38.4|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2209.2      2214.8|
19.500 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|      38.4         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    2214.8      2213.4|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV05138C.DAT   ]
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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        24.8|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    2213.4      2216.6|
19.667 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      24.8         0.0|
|            |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        44.1|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      44.1        14.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      14.8        11.9|
17.417 |         3.45|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      29.3         5.1|
18.417 |         4.48|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      11.9        16.9|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       5.1         0.0|
|            |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    2216.6      2229.0|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      16.9         0.0|
|            |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    2229.0      2227.2|
19.750 |             |           |
 | 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       145.5|
16.750 |             |           |
```



```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     276.0       382.8|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|     145.5         0.0|
|            |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    2227.2      2483.8|
18.417 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     382.8         0.0|
|            |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    2483.8      2481.2|
18.667 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       136.5|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2481.2      2517.5|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     136.5         0.0|
|            |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0       138.5|
18.083 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2517.5      2652.7|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     138.5         0.0|
|            |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     137.00| Convex Routing:       Stream #1|    2652.7      2649.6|
18.750 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       109.8|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|    2649.6      2678.9|
18.750 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     109.8         0.0|
|            |           |
 |   137.00     138.00| Convex Routing:       Stream #1|    2678.9      2677.2|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   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|    2677.2      2702.2|
18.833 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|      76.8         0.0|
|            |           |
 |   138.00     138.00| View:                 Stream #1|                2702.2|
18.833 |      2563.55|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 139                        *
* 5-YR EV JULY 2019 ROKAMOTO                                             *
 ************************************************************************

  FILE NAME: EV05139C.DAT
  TIME/DATE OF STUDY: 07:00 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    3.308 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.496; LOW LOSS FRACTION = 0.845
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.24; 30-MINUTE =  0.45;  1-HOUR =  0.64
    3-HOUR =  1.18;    6-HOUR =  1.76; 24-HOUR =  3.11
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.335 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.948
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.314 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.493; LOW LOSS FRACTION = 0.947
  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 =  2.18
  *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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.271 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.472
  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 =  2.18
  *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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 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) =  0.230; LOW LOSS FRACTION = 0.459
  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 =  2.18
  *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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.209; LOW LOSS FRACTION = 0.415
  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 =  2.18
  *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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.433 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.405; LOW LOSS FRACTION = 0.770
  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 =  2.18
  *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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.429 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.492; LOW LOSS FRACTION = 0.931
  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 =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.447 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.491; LOW LOSS FRACTION = 0.915
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.443 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.474; LOW LOSS FRACTION = 0.916
  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 =  2.18
  *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 =     214.700 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) =  0.211; LOW LOSS FRACTION = 0.441
  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 =  2.18
  *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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.986 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.406; LOW LOSS FRACTION = 0.789
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
```

```
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   2
----------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  MODEL STREAM NUMBER 2 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 2 WHICH ARE GREATER THAN Qpass IN
  THE FOLLOWING RELATIONSHIPS ARE ASSUMED TO BE EXCESS FLOWS.
             DATA PAIR          Qenter           Qpass
               NUMBER            (CFS)            (CFS)
                 -                0.00             0.00
                 1              413.00           413.00
                 2             1897.00          1613.00
                 3             4682.00          3013.00
                 4             6819.00          4013.00
                 5             8100.00          4613.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================
***STREAM 3 IS ZERO...STREAM NOW DEFINED AS ZERO***
```



```
****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 2<<<<<
============================================================================

***********
*****ERROR-STREAM  4 CONTAINS NO INFORMATION (EMPTY).
           PROCESS IS NEGATED.
***********



****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE  13305.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     427.51; DOWNSTREAM ELEVATION(FT) =     315.00
  CHANNEL LENGTH(FT) =    9760.05      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================
```

```
****************************************************************************
  FLOW PROCESS FROM NODE  13305.00 TO NODE    133.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #2 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 2 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     315.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    6877.24      MANNING'S FACTOR = 0.040
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    133.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =    1715.900 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) =  0.374; LOW LOSS FRACTION = 0.689
  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 =  2.18
  *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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.409; LOW LOSS FRACTION = 0.762
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
```

```
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.180 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 =  2.18
  *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) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.438 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.395; LOW LOSS FRACTION = 0.714
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *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) =     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 =    0.607 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.445; LOW LOSS FRACTION = 0.797
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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

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


****************************************************************************
  FLOW PROCESS FROM NODE    138.00 TO NODE    139.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =    0.01     CHANNEL Z =  3.00
  UPSTREAM ELEVATION(FT) =     119.70; DOWNSTREAM ELEVATION(FT) =     100.00
  CHANNEL LENGTH(FT) =    3107.78      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    138.00 TO NODE    139.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     428.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.255 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.345; LOW LOSS FRACTION = 0.606
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.19; 30-MINUTE =  0.42;  1-HOUR =  0.57
    3-HOUR =  0.95;    6-HOUR =  1.31; 24-HOUR =  2.18
  *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      2219.0|
19.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    2219.0      2193.5|
19.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0        34.3|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2193.5      2196.1|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      34.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0         4.1|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    2196.1      2196.5|
19.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|       4.1         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    2196.5      2190.0|
19.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0        61.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|      61.3        27.0|
17.667 |         3.83|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      27.0        17.4|
19.333 |         2.97|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        29.2|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      29.2        15.0|
17.167 |         0.77|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      17.4        25.7|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      15.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    2190.0      2213.2|
19.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      25.7         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    2213.2      2212.2|
19.500 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       130.0|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     130.0         5.1|
24.417 |        34.43|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|       5.1         5.1|
24.417 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        16.0|
16.500 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|       0.0        16.0|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      16.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      16.0         2.8|
19.500 |         5.31|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       2.8         2.8|
19.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|       5.1         7.8|
24.333 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       2.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    2212.2      2219.1|
19.500 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|       7.8         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    2219.1      2218.9|
19.500 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0        28.3|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2218.9      2222.0|
19.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|      28.3         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0        43.7|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    2222.0      2227.7|
19.500 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|      43.7         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    2227.7      2226.2|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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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```

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 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV05139C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        28.0|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    2226.2      2229.4|
19.667 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      28.0         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        45.6|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      45.6        14.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      14.9        11.9|
17.417 |         3.46|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      30.7         5.2|
18.417 |         4.55|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      11.9        17.0|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|       5.2         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    2229.4      2241.9|
19.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      17.0         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    2241.9      2240.1|
19.750 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       295.8|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     295.8       295.8|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|       0.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Zero Out:             Stream #4|       0.0         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|     295.8       288.9|
17.583 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     288.9       287.5|
17.833 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       151.3|
16.750 |             |           |
```

```
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     287.5       395.1|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Zero Out:             Stream #3|     151.3         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    2240.1      2502.3|
18.417 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     395.1         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    2502.3      2499.3|
18.583 |             |           |
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       144.9|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2499.3      2536.3|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     144.9         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0       143.5|
18.083 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    2536.3      2676.6|
18.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     143.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     137.00| Convex Routing:       Stream #1|    2676.6      2673.2|
18.750 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       115.8|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|    2673.2      2702.9|
18.667 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     115.8         0.0|
|             |           |
 |   137.00     138.00| Convex Routing:       Stream #1|    2702.9      2701.9|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Subarea (UH) Added to Stream #2|       0.0        81.7|
16.667 |             |           |
 |   138.00     138.00| Stream #2 Added to:   Stream #1|    2701.9      2729.1|
18.583 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|      81.7         0.0|
|             |           |
 |   138.00     139.00| Convex Routing:       Stream #1|    2729.1      2728.3|
18.667 |             |           |
 |   138.00     139.00| Subarea (UH) Added to Stream #2|       0.0        63.8|
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                        |
 +-------------------------------------------------------------------------------
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 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV05139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   139.00     139.00| Stream #2 Added to:   Stream #1|    2728.3      2740.7|
18.667 |             |           |
 |   139.00     139.00| Zero Out:             Stream #2|      63.8         0.0|
|             |           |
 |   139.00     139.00| View:                 Stream #1|                2740.7|
18.667 |      2607.49|     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                        |
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   END OF FLOODSCx ROUTING ANALYSIS
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             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                         Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 126                          *
* 10-YR EV JUNE 2019 ROKAMOTO                                              *
 ***************************************************************************

  FILE NAME: EV10126C.DAT
  TIME/DATE OF STUDY: 14:45 06/17/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.63;  1-HOUR =  0.88
    3-HOUR =  1.65;    6-HOUR =  2.45; 24-HOUR =  4.32
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  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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 +-------------------------------------------------------------------------------
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 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV10126C.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      7142.4|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    7142.4      7099.6|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       177.8|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    7099.6      7110.5|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     177.8         0.0|
|             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        20.5|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    7110.5      7111.8|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      20.5         0.0|
|             |           |
 |   126.00     126.00| View:                 Stream #1|                7111.8|
18.500 |      4890.01|     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
```

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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 127                          *
* 10-YR EV JUNE 2019 CCHIU                                                 *
 ****************************************************************************

  FILE NAME: EV10127C.DAT
  TIME/DATE OF STUDY: 08:57 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.64;  1-HOUR =  0.89
    3-HOUR =  1.67;    6-HOUR =  2.47; 24-HOUR =  4.36
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.406
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.175 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.400
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.326 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.354
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.381 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.702
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.389 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941
```

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


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


*******************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    127.00 IS CODE =  11
-------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
===============================================================================
===============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV10127C.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 10100.00     119.00| Subarea (UH) Added to Stream #1|       0.0      7139.2|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    7139.2      7097.2|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       172.5|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    7097.2      7108.2|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     172.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        19.8|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    7108.2      7109.6|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      19.8         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    7109.6      7079.3|
18.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       127.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     127.6        63.4|
17.083 |         7.69|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      63.4        45.5|
18.500 |         7.87|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        61.1|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      61.1        29.2|
16.417 |         1.71|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      45.5        65.8|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      29.2         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    7079.3      7138.9|
18.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      65.8         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    7138.9      7121.4|
18.667 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       250.8|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     250.8        39.9|
19.250 |        59.26|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|      39.9        20.3|
19.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        47.3|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|      19.6        47.3|
16.417 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      47.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      47.3         7.2|
23.167 |        13.64|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       7.2         7.2|
23.167 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      20.3        27.3|
22.833 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       7.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    7121.4      7147.0|
18.667 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      27.3         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    7147.0      7138.5|
18.667 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       125.9|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    7138.5      7149.8|
18.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     125.9         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       200.2|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    7149.8      7165.4|
18.667 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     200.2         0.0|
|             |           |
 |   127.00     127.00| View:                 Stream #1|                7165.4|
18.667 |      5113.59|     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                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV10127C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+

   END OF FLOODSCx ROUTING ANALYSIS
```

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

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                          Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                     *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133C                      *
* 10-YR EV JUNE 2019 CCHIU                                              *
 ************************************************************************

  FILE NAME: EV1033CC.DAT
  TIME/DATE OF STUDY: 09:04 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.63;  1-HOUR =  0.88
    3-HOUR =  1.65;    6-HOUR =  2.45; 24-HOUR =  4.32
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.406
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.175 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.400
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.326 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.354
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.381 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.702
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.389 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.875
  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    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.409 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.863
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.243 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.386
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.938 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.727
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
```

```
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.615
  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    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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      6569.9|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    6569.9      6537.7|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       152.7|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6537.7      6548.7|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     152.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        17.6|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6548.7      6550.0|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      17.6         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    6550.0      6513.7|
18.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       117.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     117.6        60.6|
17.167 |         7.42|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      60.6        44.0|
18.583 |         7.60|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        56.2|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      56.2        27.7|
16.417 |         1.60|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      44.0        63.4|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      27.7         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    6513.7      6571.6|
18.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      63.4         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    6571.6      6557.7|
18.667 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       232.5|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     232.5        34.6|
19.917 |        59.13|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|      34.6        20.2|
19.917 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        42.7|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|      14.4        42.7|
16.417 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      42.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      42.7         6.5|
23.417 |        12.30|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       6.5         6.5|
23.417 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      20.2        26.6|
23.083 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       6.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    6557.7      6580.0|
18.667 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      26.6         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    6580.0      6569.4|
18.667 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       111.5|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6569.4      6580.7|
18.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     111.5         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       176.5|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6580.7      6596.1|
18.667 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     176.5         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    6596.1      6577.1|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-----------------------------------------------------------------------------
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```

```
 +-------------------------------------------------------------------------------
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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       107.6|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    6577.1      6586.4|
18.833 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     107.6         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        83.6|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      83.6        17.4|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      17.4        14.2|
17.333 |         3.77|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      66.2        14.5|
17.750 |         9.10|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      14.2        28.7|
17.583 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      14.5         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    6586.4      6611.7|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      28.7         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    6611.7      6599.7|
18.917 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       693.2|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     693.2       639.6|
17.000 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      53.6         0.0|
18.000 |         4.16|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   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|     639.6       639.6|
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|
69.333 |         0.01|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|     639.6       639.6|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|       0.0         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|     639.6       615.4|
17.417 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     615.4       609.7|
17.833 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       323.5|
16.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     609.7       795.3|
17.667 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     323.5         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    6599.7      7203.9|
18.000 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     795.3         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                7203.9|
18.000 |      5463.42|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                         Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133T                         *
* 10-YR EV JUNE 2019 ROKAMOTO                                              *
 ***************************************************************************

  FILE NAME: EV1033TC.DAT
  TIME/DATE OF STUDY: 14:38 06/17/2019


                          ** 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 = 0.986


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1        0.00        0.00       0.000
               2        1.50        0.01       0.002
               3        2.00        0.02       1.900
               4        4.00        0.03      16.100
               5        4.30        0.05      18.200
               6        5.00      314.00      23.200
               7        6.00     1306.00      30.300
               8        7.00     2847.00      39.100
               9        8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

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


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.615
  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 = 0.986


****************************************************************************
  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: [EV1033TC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1730.6|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1730.6      1478.4|
17.000 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     252.2        85.3|
17.583 |        19.58|           |
 |   132.00     132.00| Split Hydrograph:     Stream #3|      85.3        42.7|
17.583 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      42.7         6.9|
18.250 |         1.84|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1478.4      1478.4|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|       6.9         0.0|
|             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #4|      42.7         6.6|
18.250 |         1.86|           |
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1478.4      1478.4|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|       6.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00   13305.00| Convex Routing:       Stream #2|    1478.4      1423.3|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1423.3      1395.9|
17.583 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       780.8|
16.750 |             |           |
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1395.9      1654.2|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     780.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #2 Added to:   Stream #1|       0.0      1654.2|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1654.2         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                1654.2|
17.500 |       596.37|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
```

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

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133U                         *
* 10-YR EV JUNE 2019 CCHIU                                                 *
 ***************************************************************************

  FILE NAME: EV1033UC.DAT
  TIME/DATE OF STUDY: 09:02 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.64;  1-HOUR =  0.89
    3-HOUR =  1.67;    6-HOUR =  2.47; 24-HOUR =  4.36
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.406
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.175 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.400
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.326 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.354
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.381 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.702
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.389 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.409 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.863
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.243 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.386
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.60;  1-HOUR =  0.79
    3-HOUR =  1.32;    6-HOUR =  1.83; 24-HOUR =  3.06
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV1033UC.DAT   ]
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      7091.7|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    7091.7      7049.9|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       170.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    7049.9      7060.9|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     170.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        19.6|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    7060.9      7062.3|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      19.6         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    7062.3      7032.4|
18.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       126.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     126.6        63.1|
17.083 |         7.66|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      63.1        45.4|
18.500 |         7.85|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        60.6|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      60.6        29.0|
16.417 |         1.70|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      45.4        65.6|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      29.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    7032.4      7091.9|
18.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      65.6         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    7091.9      7074.8|
18.667 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       249.0|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     249.0        39.6|
19.250 |        59.25|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|      39.6        20.3|
19.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        46.9|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|      19.3        46.9|
16.417 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      46.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      46.9         7.2|
23.250 |        13.57|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       7.2         7.2|
23.250 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      20.3        27.3|
22.833 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       7.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    7074.8      7100.3|
18.667 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      27.3         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    7100.3      7091.7|
18.667 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       124.4|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    7091.7      7103.1|
18.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     124.4         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       197.9|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    7103.1      7118.6|
18.667 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     197.9         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    7118.6      7095.9|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------------------------------------------------------------+
 |                                                    * AES FLOODSCx PROGRAM RESULTS SUMMARY *                                         |
 |INPUT FILENAME: [EV1033UC.DAT   ]
Page:   2 of    |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                                | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       119.6|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    7095.9      7105.3|
18.833 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     119.6         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        89.8|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      89.8        17.8|
16.333 |             |           |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      17.8        14.3|
17.333 |         3.79|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      72.0        15.3|
17.583 |         9.43|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      14.3        29.6|
17.500 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      15.3         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    7105.3      7131.7|
18.833 |             |           |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      29.6         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    7131.7      7117.9|
18.917 |             |           |
 |   133.00     133.00| View:                 Stream #1|                7117.9|
18.917 |      5158.63|     3     |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------------------------------------------------------------+

   END OF FLOODSCx ROUTING ANALYSIS
```

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

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                          Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                     *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134C                      *
* 10-YR EV JUNE 2019 CCHIU                                              *
 *************************************************************************

  FILE NAME: EV1034CC.DAT
  TIME/DATE OF STUDY: 09:01 06/19/2019


                         ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.63;  1-HOUR =  0.88
    3-HOUR =  1.65;    6-HOUR =  2.45; 24-HOUR =  4.32
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.406
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.175 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.400
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.326 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.354
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.381 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.702
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.389 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.409 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.863
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.243 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.386
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             12       11.00        37.17       16.920
             13       12.00        57.63       19.160
             14       13.00        83.32       21.500
             15       14.00       112.96       23.940
             16       15.00       133.28       26.480
             17       16.00       144.34       29.150
             18       17.00       154.45       31.950
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.938 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.727
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
```

```
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.615
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
```

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


********************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    134.00 IS CODE = 5.2
--------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
================================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     212.00; DOWNSTREAM ELEVATION(FT) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.690
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


********************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
--------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
================================================================================


********************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
--------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
================================================================================


********************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
--------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
================================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.489 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.760
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


********************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
--------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
================================================================================


********************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
--------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
================================================================================


********************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
--------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
================================================================================
================================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV1034CC.DAT   ]
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      6310.1|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    6310.1      6283.0|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       142.2|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6283.0      6294.0|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     142.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        16.4|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6294.0      6295.4|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      16.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    6295.4      6255.9|
18.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       112.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     112.3        59.2|
17.167 |         7.29|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      59.2        43.4|
18.583 |         7.50|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        53.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      53.5        27.0|
16.417 |         1.54|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      43.4        62.5|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      27.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    6255.9      6313.3|
18.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      62.5         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    6313.3      6301.1|
18.667 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       222.9|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     222.9        33.4|
20.167 |        59.10|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|      33.4        20.2|
20.167 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        40.4|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|      13.2        40.4|
16.417 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      40.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      40.4         6.4|
23.500 |        11.96|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       6.4         6.4|
23.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      20.2        26.4|
23.167 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       6.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    6301.1      6323.0|
18.667 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      26.4         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    6323.0      6311.8|
18.667 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       103.9|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6311.8      6323.2|
18.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     103.9         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       164.3|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6323.2      6338.6|
18.667 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     164.3         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    6338.6      6321.4|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV1034CC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       100.6|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    6321.4      6330.7|
18.833 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     100.6         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        79.8|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      79.8        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|      62.7        14.2|
17.833 |         8.96|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      14.2        28.3|
17.667 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      14.2         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    6330.7      6355.6|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      28.3         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    6355.6      6344.7|
18.917 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       662.1|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     662.1       614.4|
17.000 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      47.7         0.0|
18.000 |         3.51|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   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|     614.4       614.4|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|       0.0         0.0|
|             |           |
```

```
 |   132.00     132.00| Flow-Through Basin:   Stream #4|       0.0         0.0|
69.417 |         0.01|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|     614.4       614.4|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|       0.0         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|     614.4       591.7|
17.417 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     591.7       586.8|
17.833 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       309.9|
16.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     586.8       769.8|
17.667 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     309.9         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    6344.7      6951.6|
18.000 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     769.8         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    6951.6      6942.0|
18.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       348.0|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    6942.0      7049.0|
18.167 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     348.0         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0       394.7|
17.500 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    7049.0      7368.8|
18.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|     394.7         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|                7368.8|
18.083 |      5748.57|     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
```

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____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134U                         *
* 10-YR EV JUNE 2019 CCHIU                                                 *
 ***************************************************************************

  FILE NAME: EV1034UC.DAT
  TIME/DATE OF STUDY: 08:59 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.63;  1-HOUR =  0.88
    3-HOUR =  1.65;    6-HOUR =  2.45; 24-HOUR =  4.32
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.406
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.175 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.400
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.326 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.354
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.381 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.702
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.389 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.875
  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    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.409 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.863
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.243 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.386
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.938 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.727
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
```

```
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.615
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.690
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV1034UC.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      6488.3|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    6488.3      6458.2|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       149.0|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6458.2      6469.1|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     149.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        17.2|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6469.1      6470.5|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      17.2         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    6470.5      6432.7|
18.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       115.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     115.8        60.2|
17.167 |         7.38|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      60.2        43.8|
18.583 |         7.57|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        55.3|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      55.3        27.5|
16.417 |         1.58|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      43.8        63.2|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      27.5         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    6432.7      6490.5|
18.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      63.2         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    6490.5      6477.2|
18.667 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       229.2|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     229.2        34.3|
20.000 |        59.12|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|      34.3        20.2|
20.000 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        41.8|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|      14.0        41.8|
16.417 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      41.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      41.8         6.5|
23.417 |        12.20|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       6.5         6.5|
23.417 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      20.2        26.5|
23.083 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       6.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    6477.2      6499.4|
18.667 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      26.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    6499.4      6488.5|
18.667 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       108.8|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6488.5      6499.8|
18.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     108.8         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       172.1|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6499.8      6515.3|
18.667 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     172.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    6515.3      6496.9|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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```

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 +-------------------------------------------------------------------------------
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 |                                      * 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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       105.1|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    6496.9      6506.2|
18.833 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     105.1         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        82.3|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      82.3        17.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      17.3        14.2|
17.333 |         3.77|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      64.9        14.4|
17.750 |         9.05|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      14.2        28.5|
17.583 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      14.4         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    6506.2      6531.4|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      28.5         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    6531.4      6519.9|
18.917 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0       682.4|
17.000 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|     682.4       630.8|
17.000 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      51.5         0.0|
18.000 |         3.93|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   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|     630.8       630.8|
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|
69.333 |         0.01|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|     630.8       630.8|
17.000 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|       0.0         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|     630.8       607.2|
17.417 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     607.2       601.7|
17.833 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       318.9|
16.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     601.7       785.7|
17.667 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     318.9         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    6519.9      7126.2|
18.000 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     785.7         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    7126.2      7115.6|
18.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       360.4|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    7115.6      7221.4|
18.167 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     360.4         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|                7221.4|
18.167 |      5570.95|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2013 Advanced Engineering Software (aes)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 137                          *
* 10-YR EV JUNE 2019 CCHIU                                                 *
 ****************************************************************************

  FILE NAME: EV10137C.DAT
  TIME/DATE OF STUDY: 08:55 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.63;  1-HOUR =  0.88
    3-HOUR =  1.65;    6-HOUR =  2.45; 24-HOUR =  4.32
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.406
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.175 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.400
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.326 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.354
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.381 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.702
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.389 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.409 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.863
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.243 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.386
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.938 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.727
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
```

```
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.615
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.690
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.489 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.760
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.430 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.636
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  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: [EV10137C.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 10100.00     119.00| Subarea (UH) Added to Stream #1|       0.0      6255.6|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    6255.6      6228.7|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       140.2|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6228.7      6239.7|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     140.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        16.2|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6239.7      6241.1|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      16.2         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    6241.1      6202.0|
18.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       111.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     111.3        58.9|
17.167 |         7.26|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      58.9        43.3|
18.583 |         7.48|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        53.0|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      53.0        26.9|
16.417 |         1.53|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      43.3        62.3|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      26.9         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    6202.0      6259.2|
18.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      62.3         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    6259.2      6247.1|
18.667 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       221.1|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     221.1        33.1|
20.167 |        59.10|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|      33.1        20.2|
20.167 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        40.0|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|      12.9        40.0|
16.417 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      40.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      40.0         6.3|
23.500 |        11.87|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       6.3         6.3|
23.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      20.2        26.4|
23.167 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       6.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    6247.1      6269.0|
18.667 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      26.4         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    6269.0      6257.8|
18.667 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       102.5|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6257.8      6269.2|
18.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     102.5         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       162.1|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6269.2      6284.7|
18.667 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     162.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    6284.7      6267.5|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        99.3|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    6267.5      6276.8|
18.833 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      99.3         0.0|
|            |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        79.1|
16.333 |             |           |
 |   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        14.1|
17.917 |         8.94|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      14.2        28.2|
17.750 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      14.1         0.0|
|            |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    6276.8      6301.7|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      28.2         0.0|
|            |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    6301.7      6290.9|
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|      46.6         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|
47.417 |         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       307.3|
16.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     582.3       764.3|
17.667 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     307.3         0.0|
|            |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    6290.9      6897.5|
18.000 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     764.3         0.0|
|            |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    6897.5      6887.9|
18.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       344.5|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    6887.9      6995.3|
18.167 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     344.5         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|    6995.3      7313.4|
18.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|     391.6         0.0|
|            |           |
 |   134.00     137.00| Convex Routing:       Stream #1|    7313.4      7307.7|
18.333 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       258.8|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|    7307.7      7390.2|
18.333 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     258.8         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: [EV10137C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     137.00| View:                 Stream #1|                7390.2|
18.333 |      5841.09|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                              |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                      |
 +-------------------------------------------------------------------------------
-------------------------------------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 138                          *
* 10-YR EV JUNE 2019 CCHIU                                                 *
 ****************************************************************************

  FILE NAME: EV10138C.DAT
  TIME/DATE OF STUDY: 08:54 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.63;  1-HOUR =  0.88
    3-HOUR =  1.65;    6-HOUR =  2.45; 24-HOUR =  4.32
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.406
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.175 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.400
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.326 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.354
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.381 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.702
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.389 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.409 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.863
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.243 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.386
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.938 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.727
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
```

```
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.615
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.690
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.489 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.760
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.430 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.636
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    138.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  100.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     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 =    0.562 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    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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      6199.3|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    6199.3      6172.7|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       138.1|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6172.7      6183.7|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     138.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        16.0|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6183.7      6185.0|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      16.0         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    6185.0      6146.3|
18.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       110.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     110.3        58.6|
17.167 |         7.23|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      58.6        43.2|
18.583 |         7.46|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        52.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      52.5        26.7|
16.417 |         1.52|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      43.2        62.0|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      26.7         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    6146.3      6203.4|
18.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      62.0         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    6203.4      6191.4|
18.667 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       219.2|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     219.2        32.8|
20.250 |        59.09|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|      32.8        20.2|
20.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        39.5|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|      12.6        39.5|
16.417 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      39.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      39.5         6.3|
23.500 |        11.79|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       6.3         6.3|
23.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      20.2        26.3|
23.167 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       6.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    6191.4      6213.2|
18.667 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      26.3         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    6213.2      6202.0|
18.667 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       101.1|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6202.0      6213.4|
18.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     101.1         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       159.8|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6213.4      6228.9|
18.667 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     159.8         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    6228.9      6211.9|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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```

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 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV10138C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        97.9|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    6211.9      6221.2|
18.833 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      97.9         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        78.4|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      78.4        17.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      17.1        14.1|
17.417 |         3.76|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      61.3        14.0|
17.917 |         8.91|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      14.1        28.1|
17.833 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      14.0         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    6221.2      6246.1|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      28.1         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    6246.1      6235.4|
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|
69.583 |         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       304.5|
16.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     577.8       759.8|
17.667 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     304.5         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    6235.4      6841.0|
18.000 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     759.8         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    6841.0      6832.1|
18.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       340.7|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    6832.1      6939.9|
18.167 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     340.7         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|    6939.9      7257.0|
18.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|     388.4         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|    7257.0      7251.0|
18.333 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       256.0|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|    7251.0      7333.8|
18.333 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     256.0         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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```

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 +-------------------------------------------------------------------------------
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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Convex Routing:       Stream #1|    7333.8      7326.6|
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|    7326.6      7391.2|
18.500 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|     204.2         0.0|
|             |           |
 |   138.00     138.00| View:                 Stream #1|                7391.2|
18.500 |      5914.00|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 139                          *
* 10-YR EV JUNE 2019 CCHIU                                                 *
 ****************************************************************************

  FILE NAME: EV10139C.DAT
  TIME/DATE OF STUDY: 08:51 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.320 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.746
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.33; 30-MINUTE =  0.63;  1-HOUR =  0.88
    3-HOUR =  1.65;    6-HOUR =  2.45; 24-HOUR =  4.32
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.312 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.889
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.318 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.882
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.406
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.175 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.400
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.326 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.354
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.381 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.702
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.389 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.875
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.409 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.863
  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<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.243 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.386
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.938 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.727
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
```

```
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.615
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.690
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.489 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.760
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.430 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.636
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    138.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  100.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     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 =    0.562 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.267; LOW LOSS FRACTION = 0.717
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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



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


****************************************************************************
  FLOW PROCESS FROM NODE    138.00 TO NODE    139.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  100.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     119.70; DOWNSTREAM ELEVATION(FT) =     100.00
  CHANNEL LENGTH(FT) =    3107.78      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    138.00 TO NODE    139.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     428.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.258 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.207; LOW LOSS FRACTION = 0.540
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.26; 30-MINUTE =  0.59;  1-HOUR =  0.78
    3-HOUR =  1.31;    6-HOUR =  1.81; 24-HOUR =  3.03
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    139.00 TO NODE    139.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    139.00 TO NODE    139.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    139.00 TO NODE    139.00 IS CODE =  11
```

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



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV10139C.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      6181.7|
18.333 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|    6181.7      6155.4|
18.500 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       137.4|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6155.4      6166.5|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     137.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        15.9|
16.417 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|    6166.5      6167.8|
18.500 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      15.9         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|    6167.8      6127.9|
18.583 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       109.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     109.9        58.5|
17.167 |         7.23|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      58.5        43.1|
18.583 |         7.45|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        52.3|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      52.3        26.7|
16.417 |         1.51|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      43.1        62.0|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      26.7         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|    6127.9      6185.0|
18.583 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      62.0         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|    6185.0      6173.3|
18.667 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       218.5|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     218.5        32.7|
20.250 |        59.09|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|      32.7        20.2|
20.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        39.4|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|      12.5        39.4|
16.417 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      39.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|      39.4         6.3|
23.500 |        11.77|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|       6.3         6.3|
23.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      20.2        26.3|
23.167 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|       6.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|    6173.3      6195.1|
18.667 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      26.3         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|    6195.1      6183.6|
18.667 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       100.5|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6183.6      6195.0|
18.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     100.5         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       158.9|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|    6195.0      6210.5|
18.667 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     158.9         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|    6210.5      6193.8|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV10139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0        97.4|
16.500 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|    6193.8      6203.1|
18.833 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|      97.4         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0        78.1|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|      78.1        17.0|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      17.0        14.1|
17.417 |         3.76|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      61.1        14.0|
17.917 |         8.91|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      14.1        28.0|
17.833 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      14.0         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|    6203.1      6227.9|
18.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      28.0         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|    6227.9      6217.4|
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       303.6|
16.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     576.2       757.7|
17.667 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     303.6         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|    6217.4      6823.2|
18.000 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|     757.7         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|    6823.2      6813.8|
18.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       339.3|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|    6813.8      6921.7|
18.167 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     339.3         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|    6921.7      7237.5|
18.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|     387.3         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|    7237.5      7232.0|
18.333 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       255.1|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|    7232.0      7314.9|
18.333 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     255.1         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: [EV10139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Convex Routing:       Stream #1|    7314.9      7307.8|
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|    7307.8      7372.4|
18.500 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|     203.5         0.0|
|             |           |
 |   138.00     139.00| Convex Routing:       Stream #1|    7372.4      7369.9|
18.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   138.00     139.00| Subarea (UH) Added to Stream #2|       0.0       127.3|
16.333 |             |           |
 |   139.00     139.00| Stream #2 Added to:   Stream #1|    7369.9      7390.9|
18.583 |             |           |
 |   139.00     139.00| Zero Out:             Stream #2|     127.3         0.0|
|             |           |
 |   139.00     139.00| View:                 Stream #1|                7390.9|
18.583 |      5955.75|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                          |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                      |
 +-------------------------------------------------------------------------------
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   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                          Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 126                          *
* 25-YR EV JUNE 2019 ROKAMOTO                                              *
 ***************************************************************************

  FILE NAME: EV25126C.DAT
  TIME/DATE OF STUDY: 14:13 06/17/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  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<<<<<
============================================================================
============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                     * 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     14855.2|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   14855.2     14774.5|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       304.6|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14774.5     14836.6|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     304.6         0.0|
|             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        34.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14836.6     14843.7|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      34.4         0.0|
|             |           |
 |   126.00     126.00| View:                 Stream #1|               14843.7|
18.250 |     11936.45|     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                        |
 +-------------------------------------------------------------------------------
-------------------------------------+

   END OF FLOODSCx ROUTING ANALYSIS
```

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

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                          Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                     *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 127                       *
* 25-YR EV JUNE 2019 CCHIU                                              *
 ************************************************************************

  FILE NAME: EV25127C.DAT
  TIME/DATE OF STUDY: 08:38 06/19/2019


                         ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.242 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.362
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.169 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.368
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.321
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.511
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.628
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.369 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.551
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941
```

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


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


*****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    127.00 IS CODE =  11
-----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
=============================================================================
=============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV25127C.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 10100.00     119.00| Subarea (UH) Added to Stream #1|       0.0     14644.6|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   14644.6     14566.4|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       293.6|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14566.4     14629.1|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     293.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        33.2|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14629.1     14636.2|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      33.2         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   14636.2     14619.6|
18.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       168.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     168.6        87.2|
16.583 |         9.93|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      87.2        76.3|
17.667 |        10.04|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        81.1|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      81.1        37.6|
16.417 |         2.39|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      76.3       107.5|
17.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      37.6         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   14619.6     14714.6|
18.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     107.5         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   14714.6     14667.1|
18.417 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       324.4|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     324.4       183.9|
17.250 |        62.71|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     183.9        28.1|
17.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        73.5|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     155.9       194.8|
17.167 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      73.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     194.8        31.6|
20.333 |        39.88|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      31.6        31.6|
20.333 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      28.1        52.7|
18.417 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      31.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   14667.1     14719.8|
18.417 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      52.7         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   14719.8     14717.3|
18.417 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       220.1|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14717.3     14769.5|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     220.1         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       364.8|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14769.5     14856.5|
18.417 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     364.8         0.0|
|             |           |
 |   127.00     127.00| View:                 Stream #1|               14856.5|
18.417 |     12296.09|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV25127C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             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 1264

                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - FREE DRAINING UH                                 *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133T                        *
* 25-YR EV JUNE 2019 CCHIU                                                *
 **************************************************************************

  FILE NAME: EV2533TC.DAT
  TIME/DATE OF STUDY: 14:12 06/19/2019


                          ** 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 = 0.986


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1        0.00        0.00       0.000
               2        1.50        0.01       0.002
               3        2.00        0.02       1.900
               4        4.00        0.03      16.100
               5        4.30        0.05      18.200
               6        5.00      314.00      23.200
               7        6.00     1306.00      30.300
               8        7.00     2847.00      39.100
               9        8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

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


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.647 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.224; LOW LOSS FRACTION = 0.408
  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 = 0.986


****************************************************************************
  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: [EV2533TC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      2536.6|
16.917 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    2536.6      1934.5|
16.917 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     602.1       533.0|
17.000 |        24.86|           |
 |   132.00     132.00| Split Hydrograph:     Stream #3|     533.0       266.5|
17.000 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     266.5        22.3|
18.333 |        15.22|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1934.5      1945.8|
16.917 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|      22.3         0.0|
|             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #4|     266.5        22.3|
18.333 |        15.26|           |
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1945.8      1955.1|
16.917 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      22.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00   13305.00| Convex Routing:       Stream #2|    1955.1      1894.5|
17.250 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1894.5      1875.1|
17.500 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0      1097.0|
16.667 |             |           |
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1875.1      2347.0|
17.333 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|    1097.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #2 Added to:   Stream #1|       0.0      2347.0|
17.333 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    2347.0         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                2347.0|
17.333 |      1030.40|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133U                       *
* 25-YR EV JUNE 2019 CCHIU                                               *
 ************************************************************************

  FILE NAME: EV2533UC.DAT
  TIME/DATE OF STUDY: 08:45 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.242 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.362
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.169 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.368
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.321
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.511
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.628
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.369 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.551
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.386 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.637
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.352
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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	31.500
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV2533UC.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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     14595.6|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   14595.6     14518.9|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       290.9|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14518.9     14581.7|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     290.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        32.9|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14581.7     14588.8|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      32.9         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   14588.8     14572.7|
18.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       167.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     167.3        86.5|
16.583 |         9.90|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      86.5        76.0|
17.667 |        10.02|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        80.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      80.5        37.4|
16.417 |         2.38|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      76.0       107.0|
17.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      37.4         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   14572.7     14667.4|
18.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     107.0         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   14667.4     14619.8|
18.417 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       322.1|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     322.1       183.1|
17.250 |        62.69|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     183.1        28.0|
17.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        72.9|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     155.1       193.8|
17.167 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      72.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     193.8        31.4|
20.333 |        39.77|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      31.4        31.4|
20.333 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      28.0        52.6|
18.417 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      31.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   14619.8     14672.4|
18.417 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      52.6         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   14672.4     14670.0|
18.417 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       218.2|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14670.0     14722.4|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     218.2         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       361.7|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14722.4     14809.6|
18.417 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     361.7         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   14809.6     14787.3|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV2533UC.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       199.2|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   14787.3     14826.0|
18.500 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     199.2         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       117.0|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     117.0        19.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      19.6        15.4|
17.250 |         3.93|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      97.5        22.4|
17.667 |        13.09|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.4        37.7|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      22.4         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   14826.0     14862.2|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      37.7         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   14862.2     14837.2|
18.583 |             |           |
 |   133.00     133.00| View:                 Stream #1|               14837.2|
18.583 |     12395.64|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133C                         *
* 25-YR EV JUNE 2019 CCHIU                                                 *
 ****************************************************************************

  FILE NAME: EV2533CC.DAT
  TIME/DATE OF STUDY: 13:25 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.242 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.362
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.169 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.368
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.321
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.511
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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,
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  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.628
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.369 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.551
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.386 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.637
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.352
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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       31.500
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.856 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
```

```
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.647 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.224; LOW LOSS FRACTION = 0.408
  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    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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     14234.7|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   14234.7     14164.5|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       270.6|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14164.5     14228.5|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     270.6         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        30.6|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14228.5     14235.7|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      30.6         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   14235.7     14220.3|
18.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       157.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     157.6        83.3|
16.583 |         9.61|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      83.3        73.6|
17.750 |         9.90|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        75.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      75.5        36.0|
16.417 |         2.27|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      73.6       103.5|
17.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      36.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   14220.3     14313.5|
18.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     103.5         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   14313.5     14271.7|
18.417 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       304.9|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     304.9       176.7|
17.250 |        62.53|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     176.7        27.8|
17.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        68.5|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     149.0       186.5|
17.250 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      68.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     186.5        30.0|
20.500 |        39.05|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      30.0        30.0|
20.500 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      27.8        51.7|
18.417 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      30.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   14271.7     14323.4|
18.417 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      51.7         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   14323.4     14320.7|
18.417 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       204.2|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14320.7     14373.8|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     204.2         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       338.5|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14373.8     14462.2|
18.417 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     338.5         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   14462.2     14441.6|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * 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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       186.1|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   14441.6     14480.6|
18.500 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     186.1         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       110.3|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     110.3        19.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      19.1        15.3|
17.250 |         3.92|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      91.2        22.0|
17.750 |        12.82|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.3        37.2|
17.500 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      22.0         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   14480.6     14516.5|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      37.2         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   14516.5     14494.2|
18.583 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1167.7|
16.917 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1167.7      1023.3|
16.917 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     144.4       109.2|
17.333 |        19.94|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     109.2        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|    1023.3      1023.4|
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|    1023.4      1023.5|
16.917 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      10.8         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1023.5       990.1|
17.417 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     990.1       982.1|
17.667 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       517.8|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     982.1      1347.6|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     517.8         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   14494.2     15764.6|
17.667 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1347.6         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|               15764.6|
17.667 |     13241.04|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134U                       *
* 25-YR EV JULY 2019 ROKAMOTO                                            *
 ************************************************************************

  FILE NAME: EV2534UC.DAT
  TIME/DATE OF STUDY: 08:48 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.242 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.362
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.169 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.368
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.321
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.511
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.628
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.369 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.551
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.386 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.637
  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<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.352
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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	31.500
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.856 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
```

```
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.647 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.224; LOW LOSS FRACTION = 0.408
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.367 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.462
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV2534UC.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     14147.1|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   14147.1     14078.4|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       265.5|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14078.4     14142.7|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     265.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        30.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   14142.7     14150.0|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      30.0         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   14150.0     14134.9|
18.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       155.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     155.1        82.6|
16.583 |         9.54|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      82.6        73.1|
17.750 |         9.88|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        74.3|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      74.3        35.6|
16.417 |         2.24|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      73.1       102.7|
17.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      35.6         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   14134.9     14227.7|
18.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     102.7         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   14227.7     14187.3|
18.417 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       300.6|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     300.6       175.3|
17.250 |        62.49|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     175.3        27.7|
17.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        67.4|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     147.5       184.9|
17.250 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      67.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     184.9        29.7|
20.583 |        38.88|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      29.7        29.7|
20.583 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      27.7        51.5|
18.417 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      29.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   14187.3     14238.8|
18.417 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      51.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   14238.8     14236.0|
18.417 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       200.7|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14236.0     14289.3|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     200.7         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       333.3|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14289.3     14378.1|
18.417 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     333.3         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   14378.1     14357.6|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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                        |
 +-------------------------------------------------------------------------------
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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       182.9|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   14357.6     14396.8|
18.500 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     182.9         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       108.7|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     108.7        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|      89.6        21.9|
17.750 |        12.76|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.3        37.1|
17.500 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      21.9         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   14396.8     14432.6|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      37.1         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   14432.6     14411.1|
18.583 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1153.4|
16.917 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1153.4      1011.7|
16.917 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     141.7       106.7|
17.333 |        19.90|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     106.7        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|    1011.7      1011.8|
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 |         4.22|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1011.8      1011.8|
16.917 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      10.7         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1011.8       979.3|
17.417 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     979.3       971.3|
17.667 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       511.8|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     971.3      1335.6|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     511.8         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   14411.1     15687.1|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1335.6         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   15687.1     15674.7|
17.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       598.7|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   15674.7     15923.3|
17.750 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     598.7         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|               15923.3|
17.750 |     13496.03|     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
```

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____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
            Ver. 23.0  Release Date: 07/01/2016  License ID 1264

                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134C                       *
* 25-YR EV JULY 2019 ROKAMOTO                                            *
 ************************************************************************

  FILE NAME: EV2534CC.DAT
  TIME/DATE OF STUDY: 08:49 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.242 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.362
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.169 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.368
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.321
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.511
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.628
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.369 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.551
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.386 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.637
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.352
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
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	31.500
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.856 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
```

```
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.647 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.224; LOW LOSS FRACTION = 0.408
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
```

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


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    134.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     212.00; DOWNSTREAM ELEVATION(FT) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.367 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.462
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.463
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV2534CC.DAT   ]
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     13952.4|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   13952.4     13886.3|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       256.3|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   13886.3     13951.3|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     256.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        29.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   13951.3     13958.7|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      29.0         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   13958.7     13943.8|
18.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       150.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     150.6        81.1|
16.583 |         9.40|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      81.1        71.9|
17.750 |         9.83|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        72.0|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      72.0        34.9|
16.417 |         2.18|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      71.9       101.0|
17.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      34.9         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   13943.8     14035.9|
18.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     101.0         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   14035.9     13998.2|
18.417 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       292.4|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     292.4       171.7|
17.250 |        62.42|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     171.7        27.6|
17.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        65.3|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     144.1       181.2|
17.250 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      65.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     181.2        29.1|
20.667 |        38.45|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      29.1        29.1|
20.667 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      27.6        51.0|
18.500 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      29.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   13998.2     14049.2|
18.417 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      51.0         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   14049.2     14046.1|
18.417 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       194.1|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14046.1     14100.0|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     194.1         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       323.3|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14100.0     14189.4|
18.417 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     323.3         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   14189.4     14169.7|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV2534CC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       176.9|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   14169.7     14209.0|
18.500 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     176.9         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       105.6|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     105.6        18.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      18.8        15.2|
17.250 |         3.91|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      86.7        21.7|
17.833 |        12.63|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.2        36.8|
17.500 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      21.7         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   14209.0     14244.6|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      36.8         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   14244.6     14224.5|
18.583 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1124.8|
16.917 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1124.8       988.6|
16.917 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     136.2       101.3|
17.417 |        19.82|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     101.3        50.7|
17.417 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      50.7        12.4|
18.750 |         3.81|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|     988.6       988.6|
16.917 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|      12.4         0.0|
|             |           |
```

```
 |   132.00     132.00| Flow-Through Basin:   Stream #4|      50.7        10.4|
18.750 |         4.04|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|     988.6       988.7|
16.917 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      10.4         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|     988.7       957.3|
17.417 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|     957.3       949.7|
17.667 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       499.8|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     949.7      1311.3|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     499.8         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   14224.5     15510.7|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1311.3         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   15510.7     15495.8|
17.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       581.9|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   15495.8     15749.5|
17.750 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     581.9         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0       892.7|
17.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   15749.5     16597.2|
17.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|     892.7         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|               16597.2|
17.750 |     14054.65|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 137                        *
* 25-YR EV JULY 2019 ROKAMOTO                                            *
 ************************************************************************

  FILE NAME: EV25137C.DAT
  TIME/DATE OF STUDY: 08:50 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.242 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.362
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.169 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.368
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.321
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.511
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.628
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.369 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.551
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.386 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.637
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.352
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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       31.500
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.856 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
```

```
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.647 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.224; LOW LOSS FRACTION = 0.408
  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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.367 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.462
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.463
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.406 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.468
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
============================================================================
============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV25137C.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     13890.3|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   13890.3     13824.8|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       253.7|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   13824.8     13890.1|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     253.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        28.7|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   13890.1     13897.4|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      28.7         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   13897.4     13882.6|
18.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       149.3|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     149.3        80.7|
16.583 |         9.36|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      80.7        71.6|
17.833 |         9.81|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        71.4|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      71.4        34.7|
16.417 |         2.16|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      71.6       100.5|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      34.7         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   13882.6     13974.4|
18.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     100.5         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   13974.4     13937.8|
18.417 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       290.1|
16.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     290.1       170.5|
17.250 |        62.39|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     170.5        27.6|
17.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        64.7|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     142.9       180.0|
17.250 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      64.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     180.0        29.0|
20.667 |        38.32|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      29.0        29.0|
20.667 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      27.6        50.9|
18.500 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      29.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   13937.8     13988.6|
18.417 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      50.9         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   13988.6     13985.4|
18.417 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       192.2|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   13985.4     14039.4|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     192.2         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       320.3|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   14039.4     14129.1|
18.417 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     320.3         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   14129.1     14109.5|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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                        |
 +-------------------------------------------------------------------------------
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 +-------------------------------------------------------------------------------
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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       175.2|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   14109.5     14148.9|
18.500 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     175.2         0.0|
|            |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       104.7|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     104.7        18.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      18.8        15.2|
17.250 |         3.91|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      85.9        21.6|
17.833 |        12.59|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.2        36.7|
17.583 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      21.6         0.0|
|            |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   14148.9     14184.5|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      36.7         0.0|
|            |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   14184.5     14164.7|
18.583 |             |           |
 | 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 |             |           |
 | 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       496.2|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     943.2      1303.8|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     496.2         0.0|
|            |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   14164.7     15453.6|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1303.8         0.0|
|            |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   15453.6     15438.8|
17.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       577.1|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   15438.8     15693.2|
17.750 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     577.1         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|   15693.2     16536.7|
17.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|     887.4         0.0|
|            |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   16536.7     16522.1|
17.917 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       398.9|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   16522.1     16698.8|
17.917 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     398.9         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: [EV25137C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     137.00| View:                 Stream #1|               16698.8|
17.917 |     14227.45|     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
```

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

              F L O O D   R O U T I N G   A N A L Y S I S
              USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
          (c) Copyright 1989-2016 Advanced Engineering Software (aes)
             Ver. 23.0  Release Date: 07/01/2016  License ID 1264

                           Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                    *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 138                      *
* 25-YR EV JULY 2019 ROKAMOTO                                          *
 ************************************************************************

  FILE NAME: EV25138C.DAT
  TIME/DATE OF STUDY: 09:10 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.242 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.362
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.169 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.368
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.321
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.511
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.628
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.369 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.551
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.386 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.637
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.352
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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       31.500
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.856 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
```

```
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.647 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.224; LOW LOSS FRACTION = 0.408
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.367 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.462
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.463
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.406 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.468
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    138.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  100.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     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   ]
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     13827.3|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   13827.3     13762.5|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       250.9|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   13762.5     13827.9|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     250.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        28.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   13827.9     13835.3|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      28.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   13835.3     13820.8|
18.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       147.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     147.9        80.2|
16.583 |         9.31|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      80.2        71.2|
17.833 |         9.79|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        70.7|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      70.7        34.5|
16.417 |         2.15|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      71.2       100.0|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      34.5         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   13820.8     13912.4|
18.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     100.0         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   13912.4     13876.6|
18.417 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       287.7|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     287.7       169.3|
17.250 |        62.36|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     169.3        27.5|
17.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        64.1|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     141.8       178.8|
17.250 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      64.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     178.8        28.9|
20.667 |        38.18|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      28.9        28.9|
20.667 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      27.5        50.7|
18.500 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      28.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   13876.6     13927.3|
18.417 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      50.7         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   13927.3     13924.0|
18.417 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       190.1|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   13924.0     13978.2|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     190.1         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       317.2|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   13978.2     14068.1|
18.417 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     317.2         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   14068.1     14048.6|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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                        |
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV25138C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       173.4|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   14048.6     14088.1|
18.500 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     173.4         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       103.7|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     103.7        18.7|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      18.7        15.2|
17.250 |         3.90|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      85.0        21.6|
17.917 |        12.55|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.2        36.6|
17.583 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      21.6         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   14088.1     14123.6|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      36.6         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   14123.6     14104.3|
18.583 |             |           |
 | 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       492.4|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     936.5      1296.4|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     492.4         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   14104.3     15396.1|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1296.4         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   15396.1     15381.5|
17.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       571.9|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   15381.5     15636.5|
17.750 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     571.9         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|   15636.5     16475.7|
17.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|     882.0         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   16475.7     16461.1|
17.917 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       395.1|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   16461.1     16638.4|
17.917 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     395.1         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   ]
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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Convex Routing:       Stream #1|   16638.4     16631.5|
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|   16631.5     16801.9|
18.000 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|     349.6         0.0|
|             |           |
 |   138.00     138.00| View:                 Stream #1|               16801.9|
18.000 |     14396.53|     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
```

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____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 139                        *
* 25-YR EV JULY 2019 ROKAMOTO                                            *
 ************************************************************************

  FILE NAME: EV25139C.DAT
  TIME/DATE OF STUDY: 09:11 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.119 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.42; 30-MINUTE =  0.78;  1-HOUR =  1.08
    3-HOUR =  2.02;    6-HOUR =  3.00; 24-HOUR =  5.30
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.625
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.300 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.634
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.242 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.362
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.169 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.368
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.321
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.511
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.628
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.369 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.551
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.386 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.637
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.352
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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       31.500
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.856 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
```

```
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.647 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.224; LOW LOSS FRACTION = 0.408
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.367 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.462
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.350 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.463
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.406 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.468
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.34; 30-MINUTE =  0.72;  1-HOUR =  0.95
    3-HOUR =  1.59;    6-HOUR =  2.20; 24-HOUR =  3.68
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    138.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  100.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     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 = 0.286; 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    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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     13808.9|
18.167 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   13808.9     13744.5|
18.250 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       249.8|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   13744.5     13810.0|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     249.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        28.2|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   13810.0     13817.4|
18.250 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      28.2         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   13817.4     13802.9|
18.333 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       147.5|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     147.5        80.1|
16.583 |         9.30|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|      80.1        71.1|
17.833 |         9.79|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        70.4|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      70.4        34.4|
16.417 |         2.14|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      71.1        99.8|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      34.4         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   13802.9     13894.5|
18.333 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|      99.8         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   13894.5     13859.0|
18.417 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       286.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     286.9       169.0|
17.250 |        62.36|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     169.0        27.5|
17.250 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        63.9|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     141.5       178.4|
17.250 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      63.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     178.4        28.8|
20.667 |        38.14|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      28.8        28.8|
20.667 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      27.5        50.7|
18.500 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      28.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   13859.0     13909.6|
18.417 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      50.7         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   13909.6     13906.3|
18.417 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       189.4|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   13906.3     13960.5|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     189.4         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       316.1|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   13960.5     14050.5|
18.417 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     316.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   14050.5     14031.1|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * 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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       172.7|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   14031.1     14070.7|
18.500 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     172.7         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       103.4|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     103.4        18.7|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      18.7        15.2|
17.250 |         3.90|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      84.7        21.5|
17.917 |        12.53|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.2        36.6|
17.583 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      21.5         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   14070.7     14106.1|
18.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      36.6         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   14106.1     14089.3|
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       491.3|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|     934.4      1294.1|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     491.3         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   14089.3     15379.5|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1294.1         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   15379.5     15365.0|
17.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       570.1|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   15365.0     15620.2|
17.750 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     570.1         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|   15620.2     16458.1|
17.750 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|     880.4         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   16458.1     16443.5|
17.917 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       393.9|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   16443.5     16620.9|
17.917 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     393.9         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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```

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 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV25139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Convex Routing:       Stream #1|   16620.9     16614.3|
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|   16614.3     16784.8|
18.000 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|     348.5         0.0|
|             |           |
 |   138.00     139.00| Convex Routing:       Stream #1|   16784.8     16777.9|
18.083 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   138.00     139.00| Subarea (UH) Added to Stream #2|       0.0       176.3|
16.333 |             |           |
 |   139.00     139.00| Stream #2 Added to:   Stream #1|   16777.9     16830.1|
18.083 |             |           |
 |   139.00     139.00| Zero Out:             Stream #2|     176.3         0.0|
|             |           |
 |   139.00     139.00| View:                 Stream #1|               16830.1|
18.083 |     14448.19|     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
```

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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                          Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 126                          *
* 50-YR EV JUNE 2019 ROKAMOTO                                              *
 ****************************************************************************

  FILE NAME: EV50126C.DAT
  TIME/DATE OF STUDY: 13:31 06/17/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
============================================================================
============================================================================
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 +-------------------------------------------------------------------------------
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 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV50126C.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     17775.0|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   17775.0     17676.4|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       357.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   17676.4     17759.3|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     357.4         0.0|
|             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        40.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   17759.3     17768.7|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      40.4         0.0|
|             |           |
 |   126.00     126.00| View:                 Stream #1|               17768.7|
18.167 |     14273.58|     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
```

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____________________________________________________________________________
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 127                        *
* 50-YR EV JUNE 2019 CCHIU                                               *
 ************************************************************************

  FILE NAME: EV50127C.DAT
  TIME/DATE OF STUDY: 08:10 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.341
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.167 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.349
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.303
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.486
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.597
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.363 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941
```

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


*******************************************************************************
  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    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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     17524.0|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   17524.0     17428.4|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       345.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   17428.4     17512.0|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     345.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        39.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   17512.0     17521.5|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      39.0         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   17521.5     17504.3|
18.250 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       189.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     189.8       113.9|
16.500 |        11.15|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     113.9        98.2|
17.333 |        11.10|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        91.0|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      91.0        43.3|
16.417 |         2.85|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      98.2       138.2|
17.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      43.3         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   17504.3     17617.4|
18.250 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     138.2         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   17617.4     17542.3|
18.250 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       370.5|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     370.5       280.0|
16.500 |        65.07|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     280.0        31.5|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        85.0|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     248.5       326.5|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      85.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     326.5        59.1|
19.083 |        54.25|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      59.1        59.1|
19.083 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      31.5        82.9|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      59.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   17542.3     17623.8|
18.333 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      82.9         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   17623.8     17623.7|
18.333 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       256.3|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   17623.7     17692.8|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     256.3         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       428.1|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   17692.8     17809.7|
18.333 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     428.1         0.0|
|             |           |
 |   127.00     127.00| View:                 Stream #1|               17809.7|
18.333 |     14710.93|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV50127C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
            Ver. 23.0  Release Date: 07/01/2016  License ID 1264

                          Analysis prepared by:




 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133T                       *
* 50-YR EV JULY 2019 ROKAMOTO                                            *
 ************************************************************************

  FILE NAME: EV5033TC.DAT
  TIME/DATE OF STUDY: 08:18 07/19/2019


                         ** 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 = 0.986


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1        0.00        0.00       0.000
               2        1.50        0.01       0.002
               3        2.00        0.02       1.900
               4        4.00        0.03      16.100
               5        4.30        0.05      18.200
               6        5.00      314.00      23.200
               7        6.00     1306.00      30.300
               8        7.00     2847.00      39.100
               9        8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

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


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.381
  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 = 0.986


****************************************************************************
  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: [EV5033TC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      2969.4|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    2969.4      2152.1|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     817.3       773.0|
16.917 |        26.51|           |
 |   132.00     132.00| Split Hydrograph:     Stream #3|     773.0       386.5|
16.917 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     386.5        27.4|
18.417 |        26.17|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    2152.1      2169.4|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|      27.4         0.0|
|             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #4|     386.5        27.9|
18.417 |        26.17|           |
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    2169.4      2186.6|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      27.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00   13305.00| Convex Routing:       Stream #2|    2186.6      2137.8|
17.167 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    2137.8      2122.1|
17.417 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0      1283.2|
16.667 |             |           |
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    2122.1      2682.9|
17.333 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|    1283.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #2 Added to:   Stream #1|       0.0      2682.9|
17.333 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    2682.9         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                2682.9|
17.333 |      1221.26|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133U                         *
* 50-YR EV JUNE 2019 CCHIU                                                 *
 ****************************************************************************

  FILE NAME: EV5033UC.DAT
  TIME/DATE OF STUDY: 08:15 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  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    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.341
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.167 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.349
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.303
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.486
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.597
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.363 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.609
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.233 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.333
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV5033UC.DAT   ]
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     17465.7|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   17465.7     17370.5|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       342.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   17370.5     17454.4|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     342.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        38.7|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   17454.4     17463.9|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      38.7         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   17463.9     17446.7|
18.250 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       188.4|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     188.4       113.1|
16.500 |        11.11|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     113.1        97.7|
17.333 |        11.08|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        90.2|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      90.2        43.0|
16.417 |         2.83|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      97.7       137.6|
17.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      43.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   17446.7     17559.6|
18.250 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     137.6         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   17559.6     17486.0|
18.333 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       367.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     367.8       278.2|
16.500 |        65.03|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     278.2        31.5|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        84.3|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     246.7       324.2|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      84.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     324.2        58.8|
19.083 |        54.13|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      58.8        58.8|
19.083 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      31.5        82.7|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      58.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   17486.0     17567.6|
18.333 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      82.7         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   17567.6     17567.3|
18.333 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       254.2|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   17567.3     17636.6|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     254.2         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       424.6|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   17636.6     17753.6|
18.333 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     424.6         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   17753.6     17734.9|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------------------------------------------------------------+
 |                                                    * AES FLOODSCx PROGRAM RESULTS SUMMARY *                                         |
 |INPUT FILENAME: [EV5033UC.DAT   ]
Page:   2 of    |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                                | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       235.3|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   17734.9     17786.8|
18.417 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     235.3         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       131.7|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     131.7        20.5|
16.333 |             |           |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      20.5        16.1|
17.250 |         4.03|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|     111.2        29.9|
17.500 |        15.68|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.1        45.9|
17.500 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      29.9         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   17786.8     17829.3|
18.417 |             |           |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      45.9         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   17829.3     17787.3|
18.500 |             |           |
 |   133.00     133.00| View:                 Stream #1|               17787.3|
18.500 |     14829.62|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133C                       *
* 50-YR EV JULY 2019 ROKAMOTO                                            *
 ************************************************************************

  FILE NAME: EV5033CC.DAT
  TIME/DATE OF STUDY: 08:20 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  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    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.341
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.167 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.349
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.303
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.486
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.597
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.363 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.609
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.233 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.333
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.821 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.538
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
```

```
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.381
  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    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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     17035.7|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   17035.7     16947.1|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       319.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16947.1     17032.7|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     319.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        36.1|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   17032.7     17042.4|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      36.1         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   17042.4     17025.7|
18.250 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       177.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     177.6       107.1|
16.500 |        10.83|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     107.1        94.0|
17.417 |        10.90|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        84.7|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      84.7        41.4|
16.417 |         2.70|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      94.0       132.6|
17.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      41.4         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   17025.7     17137.1|
18.250 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     132.6         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   17137.1     17071.8|
18.333 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       347.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     347.8       264.4|
16.500 |        64.70|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     264.4        31.0|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        79.3|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     233.4       306.6|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      79.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     306.6        57.2|
19.167 |        53.30|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      57.2        57.2|
19.167 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      31.0        80.9|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      57.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   17071.8     17151.6|
18.333 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      80.9         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   17151.6     17150.6|
18.333 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       238.6|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   17150.6     17221.1|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     238.6         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       398.1|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   17221.1     17340.1|
18.333 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     398.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   17340.1     17321.8|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-----------------------------------------------------------------------------
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 +-------------------------------------------------------------------------------
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 |                                        * 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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       219.8|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   17321.8     17374.4|
18.417 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     219.8         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       124.1|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     124.1        20.0|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      20.0        16.0|
17.250 |         4.01|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|     104.0        28.4|
17.667 |        15.42|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.0        44.3|
17.583 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      28.4         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   17374.4     17416.1|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      44.3         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   17416.1     17378.7|
18.500 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1359.5|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1359.5      1178.4|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     181.1       170.6|
17.083 |        20.92|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     170.6        85.3|
17.083 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      85.3        18.4|
18.750 |         9.23|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1178.4      1189.0|
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 |         9.33|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1189.0      1197.3|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      18.6         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1197.3      1182.6|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1182.6      1170.0|
17.583 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       607.1|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1170.0      1609.5|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     607.1         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   17378.7     18935.8|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1609.5         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|               18935.8|
17.583 |     15834.75|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134UC                      *
* 50-YR EV JULY 2019 ROKAMOTO                                            *
 ************************************************************************

  FILE NAME: EV5034UC.DAT
  TIME/DATE OF STUDY: 08:21 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  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    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.341
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.167 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.349
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.303
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.486
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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,
```



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  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.597
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.363 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.609
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.233 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.333
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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          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<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      5.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      5.700
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.381
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV5034UC.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     16931.2|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   16931.2     16844.1|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       313.3|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16844.1     16930.1|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     313.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        35.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16930.1     16939.8|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      35.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   16939.8     16923.6|
18.250 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       174.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     174.9       105.6|
16.500 |        10.76|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     105.6        93.2|
17.417 |        10.86|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        83.3|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      83.3        41.0|
16.417 |         2.67|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      93.2       131.4|
17.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      41.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   16923.6     17034.8|
18.250 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     131.4         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   17034.8     16971.5|
18.333 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       342.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     342.8       261.0|
16.500 |        64.61|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     261.0        30.9|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        78.1|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     230.1       302.2|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      78.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     302.2        56.9|
19.167 |        53.11|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      56.9        56.9|
19.167 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      30.9        80.5|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      56.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   16971.5     17050.9|
18.333 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      80.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   17050.9     17049.7|
18.333 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       234.7|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   17049.7     17120.5|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     234.7         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       391.5|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   17120.5     17240.1|
18.333 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     391.5         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   17240.1     17221.9|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV5034UC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       216.1|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   17221.9     17274.8|
18.417 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     216.1         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       122.2|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     122.2        19.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      19.9        16.0|
17.250 |         4.01|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|     102.3        28.1|
17.667 |        15.36|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.0        43.9|
17.583 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      28.1         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   17274.8     17316.2|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      43.9         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   17316.2     17279.7|
18.500 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1341.9|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1341.9      1164.1|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     177.8       167.6|
17.083 |        20.87|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     167.6        83.8|
17.083 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      83.8        18.3|
18.833 |         9.09|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1164.1      1174.6|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|      18.3         0.0|
|             |           |
```

```
 |   132.00     132.00| Flow-Through Basin:   Stream #4|      83.8        18.5|
18.750 |         9.19|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1174.6      1182.8|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      18.5         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1182.8      1168.8|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1168.8      1156.2|
17.583 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       599.6|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1156.2      1593.3|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     599.6         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   17279.7     18838.8|
17.583 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1593.3         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   18838.8     18822.7|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       695.5|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   18822.7     19131.5|
17.667 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     695.5         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|               19131.5|
17.667 |     16130.63|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                              |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                      |
 +-------------------------------------------------------------------------------
-------------------------------------+

   END OF FLOODSCx ROUTING ANALYSIS
```

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____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
            Ver. 23.0  Release Date: 07/01/2016  License ID 1264

                           Analysis prepared by:





 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134C                         *
* 50-YR EV JULY 2019 ROKAMOTO                                              *
 ****************************************************************************

  FILE NAME: EV5034CC.DAT
  TIME/DATE OF STUDY: 08:25 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.341
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.167 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.349
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.303
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.486
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.597
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.363 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.609
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.233 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.333
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             12       11.00        37.17       16.920
             13       12.00        57.63       19.160
             14       13.00        83.32       21.500
             15       14.00       112.96       23.940
             16       15.00       133.28       26.480
             17       16.00       144.34       29.150
             18       17.00       154.45       31.950
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.821 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.538
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
```

```
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.381
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
```

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

******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    134.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     212.00; DOWNSTREAM ELEVATION(FT) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.294 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.431
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV5034CC.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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     16699.2|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   16699.2     16614.0|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       302.8|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16614.0     16701.0|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     302.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        34.3|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16701.0     16710.9|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      34.3         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   16710.9     16694.2|
18.250 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       169.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     169.9       102.6|
16.500 |        10.62|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     102.6        91.3|
17.417 |        10.77|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        80.8|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      80.8        40.3|
16.417 |         2.61|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      91.3       128.8|
17.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      40.3         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   16694.2     16804.7|
18.250 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     128.8         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   16804.7     16746.5|
18.333 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       334.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     334.1       254.4|
16.500 |        64.46|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     254.4        30.6|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        75.8|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     223.8       293.8|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      75.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     293.8        56.0|
19.250 |        52.66|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      56.0        56.0|
19.250 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      30.6        79.6|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      56.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   16746.5     16824.8|
18.333 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      79.6         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   16824.8     16822.8|
18.333 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       227.3|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   16822.8     16894.4|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     227.3         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       379.3|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   16894.4     17015.2|
18.333 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     379.3         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   17015.2     16996.2|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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```

```
 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV5034CC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       209.3|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   16996.2     17049.5|
18.417 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     209.3         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       118.7|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     118.7        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|      99.0        27.3|
17.833 |        15.23|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.9        43.0|
17.667 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      27.3         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   17049.5     17090.5|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      43.0         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   17090.5     17063.3|
17.583 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1308.6|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1308.6      1137.2|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     171.4       161.7|
17.083 |        20.78|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     161.7        80.9|
17.083 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      80.9        18.0|
18.833 |         8.83|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1137.2      1147.3|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|      18.0         0.0|
|             |           |
```

```
 |   132.00     132.00| Flow-Through Basin:   Stream #4|      80.9        18.4|
18.833 |         8.94|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1147.3      1155.3|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      18.4         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1155.3      1142.0|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1142.0      1129.8|
17.583 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       585.5|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1129.8      1562.7|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     585.5         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   17063.3     18620.6|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1562.7         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   18620.6     18605.8|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       675.3|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   18605.8     18916.4|
17.667 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     675.3         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0      1056.0|
17.333 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   18916.4     19924.6|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|    1056.0         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|               19924.6|
17.667 |     16792.69|     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                        |
 +-------------------------------------------------------------------------------
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   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 137                        *
* 50-YR EV JULY 2019 ROKAMOTO                                            *
 ************************************************************************

  FILE NAME: EV50137C.DAT
  TIME/DATE OF STUDY: 12:44 07/22/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  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    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.341
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.167 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.349
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.303
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.486
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.597
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.363 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.609
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.233 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.333
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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          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<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      5.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      5.700
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.381
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.294 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.431
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.399 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.441
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
============================================================================
============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV50137C.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     16625.2|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   16625.2     16540.4|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       299.9|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16540.4     16627.8|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     299.9         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        33.9|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16627.8     16637.7|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      33.9         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   16637.7     16621.3|
18.250 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       168.4|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     168.4       101.6|
16.500 |        10.58|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     101.6        90.6|
17.417 |        10.73|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        80.1|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      80.1        40.0|
16.417 |         2.59|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      90.6       127.9|
17.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      40.0         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   16621.3     16731.5|
18.250 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     127.9         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   16731.5     16674.6|
18.333 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       331.7|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     331.7       252.6|
16.500 |        64.41|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     252.6        30.5|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        75.1|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     222.0       291.4|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      75.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     291.4        55.7|
19.250 |        52.52|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      55.7        55.7|
19.250 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      30.5        79.3|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      55.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   16674.6     16752.6|
18.333 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      79.3         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   16752.6     16750.4|
18.333 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       225.2|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   16750.4     16822.2|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     225.2         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       375.8|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   16822.2     16943.3|
18.333 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     375.8         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   16943.3     16924.3|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-----------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       207.4|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   16924.3     16977.7|
18.417 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     207.4         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       117.7|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     117.7        19.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      19.6        15.9|
17.250 |         4.00|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|      98.1        27.1|
17.833 |        15.19|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.9        42.8|
17.667 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      27.1         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   16977.7     17018.5|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      42.8         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   17018.5     17000.2|
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 |             |           |
 | 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       581.3|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1122.2      1553.7|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     581.3         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   17000.2     18550.9|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1553.7         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   18550.9     18536.0|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       669.6|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   18536.0     18847.2|
17.667 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     669.6         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|   18847.2     19850.4|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|    1049.7         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   19850.4     19836.8|
17.750 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       459.8|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   19836.8     20057.2|
17.750 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     459.8         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: [EV50137C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     137.00| View:                 Stream #1|               20057.2|
17.750 |     17000.36|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
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                           Analysis prepared by:





 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 138                        *
* 50-YR EV JULY 2019 ROKAMOTO                                            *
 **************************************************************************

  FILE NAME: EV50138C.DAT
  TIME/DATE OF STUDY: 08:30 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  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    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.341
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.167 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.349
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.303
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.486
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.597
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.363 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.609
  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<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.233 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.333
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             12       11.00        37.17       16.920
             13       12.00        57.63       19.160
             14       13.00        83.32       21.500
             15       14.00       112.96       23.940
             16       15.00       133.28       26.480
             17       16.00       144.34       29.150
             18       17.00       154.45       31.950
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.821 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.538
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
```

```
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.381
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.294 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.431
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.399 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.441
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    138.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  100.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     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 =    0.515 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    138.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
============================================================================
============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV50138C.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     16550.2|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   16550.2     16465.7|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       296.7|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16465.7     16553.5|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     296.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        33.6|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16553.5     16563.4|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      33.6         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   16563.4     16547.0|
18.250 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       166.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     166.9       100.6|
16.500 |        10.53|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     100.6        90.0|
17.417 |        10.70|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        79.3|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      79.3        39.8|
16.417 |         2.57|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      90.0       127.1|
17.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      39.8         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   16547.0     16657.0|
18.250 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     127.1         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   16657.0     16601.7|
18.333 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       329.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     329.1       250.6|
16.500 |        64.36|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     250.6        30.5|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        74.4|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     220.1       288.8|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      74.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     288.8        55.4|
19.250 |        52.37|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      55.4        55.4|
19.250 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      30.5        79.0|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      55.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   16601.7     16679.3|
18.333 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      79.0         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   16679.3     16676.9|
18.333 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       222.9|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   16676.9     16748.9|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     222.9         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       372.0|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   16748.9     16870.5|
18.333 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     372.0         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   16870.5     16851.2|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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```

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 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV50138C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       205.3|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   16851.2     16904.7|
18.417 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     205.3         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       116.6|
16.333 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     116.6        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|      97.1        26.9|
17.917 |        15.15|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.9        42.5|
17.750 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      26.9         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   16904.7     16947.0|
17.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      42.5         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   16947.0     16936.4|
17.583 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1288.9|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1288.9      1121.3|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     167.6       158.2|
17.083 |        20.72|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     158.2        79.1|
17.083 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      79.1        17.8|
18.833 |         8.68|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1121.3      1131.2|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|      17.8         0.0|
|             |           |
```

```
 |   132.00     132.00| Flow-Through Basin:   Stream #4|      79.1        18.3|
18.833 |         8.79|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1131.2      1139.0|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      18.3         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1139.0      1126.0|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1126.0      1113.9|
17.583 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       577.0|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1113.9      1543.8|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     577.0         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   16936.4     18479.6|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1543.8         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   18479.6     18464.7|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       663.4|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   18464.7     18776.6|
17.667 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     663.4         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0      1043.3|
17.333 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   18776.6     19774.6|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|    1043.3         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   19774.6     19761.9|
17.750 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       455.6|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   19761.9     19982.8|
17.750 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     455.6         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                        |
 +-----------------------------------------------------------------------------
-------------------------------------+
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                     * 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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Convex Routing:       Stream #1|   19982.8     19969.7|
17.917 |             |           |
 |   137.00     138.00| Subarea (UH) Added to Stream #2|       0.0       410.2|
16.583 |             |           |
 |   138.00     138.00| Stream #2 Added to:   Stream #1|   19969.7     20178.3|
17.917 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|     410.2         0.0|
|             |           |
 |   138.00     138.00| View:                 Stream #1|               20178.3|
17.917 |     17197.54|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
         (c) Copyright 1989-2016 Advanced Engineering Software (aes)
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                           Analysis prepared by:





 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 139                          *
* 50-YR EV JULY 2019 ROKAMOTO                                              *
 ****************************************************************************

  FILE NAME: EV50139C.DAT
  TIME/DATE OF STUDY: 08:28 07/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    2.043 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.298; LOW LOSS FRACTION = 0.399
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.46; 30-MINUTE =  0.87;  1-HOUR =  1.21
    3-HOUR =  2.28;    6-HOUR =  3.40; 24-HOUR =  5.99
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.290 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.592
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  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    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.295 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.600
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 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) =  0.146; LOW LOSS FRACTION = 0.341
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.167 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.349
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.303
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.486
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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,
```



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  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 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) =  0.295; LOW LOSS FRACTION = 0.597
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.363 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.517
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.379 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.609
  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 =     214.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.233 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.126; LOW LOSS FRACTION = 0.333
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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          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<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      5.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      5.700
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.381
  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) =     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 =    1705.800 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.361 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.245; LOW LOSS FRACTION = 0.433
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.294 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.431
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.399 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.441
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.37; 30-MINUTE =  0.80;  1-HOUR =  1.06
    3-HOUR =  1.78;    6-HOUR =  2.47; 24-HOUR =  4.12
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    138.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  100.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     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 =    0.515 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   ]
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     16528.3|
18.083 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   16528.3     16444.2|
18.167 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       295.5|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16444.2     16532.1|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     295.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        33.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   16532.1     16542.1|
18.167 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      33.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   16542.1     16525.6|
18.250 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       166.4|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     166.4       100.3|
16.500 |        10.52|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     100.3        89.8|
17.417 |        10.69|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        79.0|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      79.0        39.7|
16.417 |         2.57|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|      89.8       126.8|
17.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      39.7         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   16525.6     16635.5|
18.250 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     126.8         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   16635.5     16580.7|
18.333 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       328.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     328.1       249.9|
16.500 |        64.35|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     249.9        30.5|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        74.2|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     219.4       287.9|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      74.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     287.9        55.4|
19.250 |        52.32|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      55.4        55.4|
19.250 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      30.5        78.9|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      55.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   16580.7     16658.3|
18.333 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|      78.9         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   16658.3     16655.8|
18.333 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       222.1|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   16655.8     16727.9|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     222.1         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       370.7|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   16727.9     16849.6|
18.333 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     370.7         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   16849.6     16830.2|
18.417 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV50139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       204.5|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   16830.2     16886.8|
17.500 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     204.5         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       116.2|
16.333 |             |           |
 |   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|      96.7        26.8|
17.917 |        15.14|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      15.9        42.4|
17.750 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      26.8         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   16886.8     16929.0|
17.500 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      42.4         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   16929.0     16918.4|
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 |             |           |
 | 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       575.6|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1111.8      1541.7|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     575.6         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   16918.4     18459.9|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1541.7         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   18459.9     18445.1|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       661.2|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   18445.1     18757.1|
17.667 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     661.2         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|   18757.1     19753.8|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|    1041.4         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   19753.8     19741.3|
17.750 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       454.2|
16.500 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   19741.3     19962.4|
17.750 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     454.2         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: [EV50139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Convex Routing:       Stream #1|   19962.4     19949.1|
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|   19949.1     20157.8|
17.917 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|     409.0         0.0|
|             |           |
 |   138.00     139.00| Convex Routing:       Stream #1|   20157.8     20153.6|
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|   20153.6     20217.2|
17.917 |             |           |
 |   139.00     139.00| Zero Out:             Stream #2|     200.8         0.0|
|             |           |
 |   139.00     139.00| View:                 Stream #1|               20217.2|
17.917 |     17265.43|     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
```

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____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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            Ver. 20.0  Release Date: 06/01/2013  License ID 1264

                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                          Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 126                          *
* 100-YR EV JUNE 2019 ROKAMOTO                                             *
 ***************************************************************************

  FILE NAME: EV00126C.DAT
  TIME/DATE OF STUDY: 12:41 06/17/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.341; 30-MINUTE = 0.392;  1-HOUR = 0.432
    3-HOUR = 0.782;    6-HOUR = 0.902; 24-HOUR = 0.943


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  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     20238.9|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   20238.9     20127.8|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       409.8|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   20127.8     20230.3|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     409.8         0.0|
|             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        46.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   20230.3     20242.0|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      46.4         0.0|
|             |           |
 |   126.00     126.00| View:                 Stream #1|               20242.0|
18.083 |     16180.93|     3     |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
-------------------------------------+

   END OF FLOODSCx ROUTING ANALYSIS
```

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____________________________________________________________________________
****************************************************************************

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

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                          Santa Ana, CA92707


 ************************* DESCRIPTION OF STUDY *************************
* RANCHO MISSION VIEJO - COMPLEX UH                                      *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 127                        *
* 100-YR EV JUNE 2019 CCHIU                                              *
 **************************************************************************

  FILE NAME: EV00127C.DAT
  TIME/DATE OF STUDY: 07:34 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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 = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.325
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```


INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	6.57	2.090
3	2.00	24.47	3.540
4	3.00	50.89	6.490
5	4.00	86.23	9.870
6	5.00	165.68	13.480
7	6.00	215.80	17.240
8	7.00	254.44	21.170
9	8.00	279.62	25.270
10	9.00	298.60	29.530
11	10.00	316.33	33.960
12	11.00	990.19	54.910

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


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	6.56	1.100
3	2.00	24.47	4.200
4	3.00	50.88	8.800
5	4.00	151.67	13.700
6	5.00	183.65	18.800
7	6.00	225.86	24.000
8	7.00	245.89	29.400
9	8.00	258.65	34.900
10	9.00	926.24	40.500

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


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.164 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.335
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.288
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.348 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.466
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.403 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.573
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.491
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.331; 30-MINUTE = 0.383;  1-HOUR = 0.424
    3-HOUR = 0.773;    6-HOUR = 0.898; 24-HOUR = 0.941
```

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


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


*******************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    127.00 IS CODE =  11
-------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
===============================================================================
===============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV00127C.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | 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     19949.8|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   19949.8     19842.3|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       395.3|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19842.3     19945.8|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     395.3         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        44.8|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19945.8     19957.5|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      44.8         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   19957.5     19932.9|
18.167 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       209.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     209.1       131.7|
16.500 |        11.98|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     131.7       114.3|
17.250 |        11.89|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0       100.4|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|     100.4        47.8|
16.417 |         3.25|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|     114.3       159.9|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      47.8         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   19932.9     20062.1|
18.167 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     159.9         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   20062.1     19970.0|
18.167 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       412.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     412.9       322.7|
16.500 |        66.03|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     322.7        33.1|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        95.8|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     289.6       375.7|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      95.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     375.7        82.4|
18.833 |        66.76|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      82.4        82.4|
18.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      33.1       107.5|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      82.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   19970.0     20075.6|
18.167 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|     107.5         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   20075.6     20075.3|
18.250 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       290.0|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   20075.3     20162.0|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     290.0         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       488.4|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   20162.0     20309.7|
18.250 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     488.4         0.0|
|             |           |
 |   127.00     127.00| View:                 Stream #1|               20309.7|
18.250 |     16686.29|     3     |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |Notes: 1 = BASIN MODEL VOLUME EXCEEDED; 2 = TIME IS AT END OF 5-MINUTE UNIT
INTERVAL                                |
 |       3 = RUNOFF ESTIMATES DO NOT EXTEND PAST 2 DAYS AFTER THE PEAK DAY OF
THE DESIGN STORM                        |
 +-------------------------------------------------------------------------------
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```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV00127C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+

   END OF FLOODSCx ROUTING ANALYSIS
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133C                         *
* 100-YR EV JUNE 2019 CCHIU                                                *
 ****************************************************************************

  FILE NAME: EV0033CC.DAT
  TIME/DATE OF STUDY: 08:01 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  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
----------------------------------------------------------------------------
  >>>>>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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.325
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.164 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.335
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.288
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.348 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.466
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.403 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.573
  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  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.491
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.371 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.587
  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<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 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) =  0.126; LOW LOSS FRACTION = 0.319
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.308; 30-MINUTE = 0.363;  1-HOUR = 0.408
    3-HOUR = 0.754;    6-HOUR = 0.891; 24-HOUR = 0.936


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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.
             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<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      5.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      5.700
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.362
  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   ]
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     19387.2|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   19387.2     19285.9|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       366.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19285.9     19391.7|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     366.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        41.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19391.7     19403.7|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      41.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   19403.7     19382.3|
18.167 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       195.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     195.8       125.3|
16.500 |        11.69|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     125.3       110.1|
17.333 |        11.68|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        93.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      93.5        46.2|
16.417 |         3.09|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|     110.1       154.0|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      46.2         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   19382.3     19509.6|
18.167 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     154.0         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   19509.6     19429.7|
18.250 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       387.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     387.6       305.6|
16.500 |        65.63|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     305.6        32.5|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        89.5|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     273.2       354.0|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      89.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     354.0        80.4|
18.833 |        65.68|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      80.4        80.4|
18.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      32.5       105.4|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      80.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   19429.7     19533.8|
18.250 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|     105.4         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   19533.8     19532.2|
18.250 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       270.2|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19532.2     19620.8|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     270.2         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       455.1|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19620.8     19771.5|
18.250 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     455.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   19771.5     19751.3|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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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```

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 +-------------------------------------------------------------------------------
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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       252.9|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   19751.3     19819.3|
18.333 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     252.9         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       136.9|
16.250 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     136.9        20.9|
16.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      20.9        16.6|
17.250 |         4.09|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|     116.0        39.8|
17.417 |        17.21|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.6        56.3|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      39.8         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   19819.3     19870.5|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      56.3         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   19870.5     19822.2|
18.417 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1582.8|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1582.8      1358.9|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     223.9       208.4|
17.083 |        21.54|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     208.4       104.2|
17.083 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     104.2        22.0|
18.917 |        14.72|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1358.9      1374.4|
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 |        14.86|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1374.4      1389.3|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      22.1         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1389.3      1352.6|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1352.6      1340.2|
17.500 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       683.3|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1340.2      1842.1|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     683.3         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   19822.2     21608.9|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1842.1         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|               21608.9|
17.500 |     17977.18|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                      Michael Baker International
                    5 Hutton Centre Drive Suite 500
                         Santa Ana, CA 92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133T                         *
* 100-YR EV JUNE 2019 ROKAMOTO                                             *
 ***************************************************************************

  FILE NAME: EV0033TC.DAT
  TIME/DATE OF STUDY: 12:39 06/17/2019


                          ** 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 = 0.986


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1        0.00        0.00       0.000
               2        1.50        0.01       0.002
               3        2.00        0.02       1.900
               4        4.00        0.03      16.100
               5        4.30        0.05      18.200
               6        5.00      314.00      23.200
               7        6.00     1306.00      30.300
               8        7.00     2847.00      39.100
               9        8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
  >>>MODEL STREAM SPLITFLOW WHERE  0.50 OF STREAM 3 IS ADDED TO STREAM 4<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

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


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.362
  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 = 0.986


****************************************************************************
  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: [EV0033TC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      3420.8|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    3420.8      2379.0|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|    1041.8       974.5|
16.917 |        28.04|           |
 |   132.00     132.00| Split Hydrograph:     Stream #3|     974.5       487.3|
16.917 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     487.3        31.4|
18.583 |        36.92|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    2379.0      2401.1|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|      31.4         0.0|
|             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #4|     487.3        32.2|
18.500 |        36.90|           |
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    2401.1      2423.2|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      32.2         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00   13305.00| Convex Routing:       Stream #2|    2423.2      2344.4|
17.167 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    2344.4      2325.0|
17.333 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0      1437.5|
16.667 |             |           |
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    2325.0      2985.3|
17.250 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|    1437.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #2 Added to:   Stream #1|       0.0      2985.3|
17.250 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    2985.3         0.0|
|             |           |
 |   133.00     133.00| View:                 Stream #1|                2985.3|
17.250 |      1388.83|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 133U                         *
* 100-YR EV JUNE 2019 CCHIU                                                *
 ****************************************************************************

  FILE NAME: EV0033UC.DAT
  TIME/DATE OF STUDY: 07:49 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  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 =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.325
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.164 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.335
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.288
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.348 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.466
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.403 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.573
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.491
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.371 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.587
  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<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 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) =  0.126; LOW LOSS FRACTION = 0.319
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.328; 30-MINUTE = 0.381;  1-HOUR = 0.422
    3-HOUR = 0.771;    6-HOUR = 0.897; 24-HOUR = 0.940


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0033UC.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     19882.7|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   19882.7     19775.9|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       391.8|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19775.9     19879.6|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     391.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        44.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19879.6     19891.3|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      44.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   19891.3     19867.2|
18.167 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       207.5|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     207.5       131.0|
16.500 |        11.95|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     131.0       113.8|
17.250 |        11.86|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        99.6|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      99.6        47.6|
16.417 |         3.23|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|     113.8       159.2|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      47.6         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   19867.2     19996.2|
18.167 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     159.2         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   19996.2     19904.7|
18.250 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       410.0|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     410.0       320.7|
16.500 |        65.99|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     320.7        33.0|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        95.0|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     287.7       373.1|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      95.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     373.1        82.1|
18.833 |        66.62|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      82.1        82.1|
18.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      33.0       107.2|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      82.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   19904.7     20010.8|
18.250 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|     107.2         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   20010.8     20010.6|
18.250 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       287.6|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   20010.6     20097.6|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     287.6         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       484.5|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   20097.6     20245.5|
18.250 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     484.5         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   20245.5     20226.5|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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  DOWNSTREAM|                                | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       270.5|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   20226.5     20293.3|
18.333 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     270.5         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       145.2|
16.250 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     145.2        21.4|
16.250 |             |           |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      21.4        16.7|
17.250 |         4.11|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|     123.8        42.0|
17.333 |        17.46|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.7        58.6|
17.333 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      42.0         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   20293.3     20345.1|
18.333 |             |           |
 +--------------------+--------------------------------+----------------------+-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      58.6         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   20345.1     20290.4|
18.417 |             |           |
 |   133.00     133.00| View:                 Stream #1|               20290.4|
18.417 |     16823.04|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134C                         *
* 100-YR EV JUNE 2019 CCHIU                                                *
 ****************************************************************************

  FILE NAME: EV0034CC.DAT
  TIME/DATE OF STUDY: 07:45 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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 = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    119.00 TO NODE    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================
```

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


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE  12720.50 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     286.00; DOWNSTREAM ELEVATION(FT) =     258.00
  CHANNEL LENGTH(FT) =    4077.05      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.325
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.164 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.335
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
```

```
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.288
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.348 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.466
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.403 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.573
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.491
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.371 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.587
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 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) =  0.126; LOW LOSS FRACTION = 0.319
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             12       11.00        37.17       16.920
             13       12.00        57.63       19.160
             14       13.00        83.32       21.500
             15       14.00       112.96       23.940
             16       15.00       133.28       26.480
             17       16.00       144.34       29.150
             18       17.00       154.45       31.950
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.795 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.515
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
```

```
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.362
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    133.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
```

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

******************************************************************************
  FLOW PROCESS FROM NODE    133.00 TO NODE    134.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     212.00; DOWNSTREAM ELEVATION(FT) =     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 =    1705.800 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) =  0.245; LOW LOSS FRACTION = 0.412
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.251 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.408
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.294; 30-MINUTE = 0.352;  1-HOUR = 0.397
    3-HOUR = 0.741;    6-HOUR = 0.887; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0034CC.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     18999.4|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   18999.4     18900.6|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       348.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   18900.6     19008.2|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     348.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        39.4|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19008.2     19020.4|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      39.4         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   19020.4     19000.8|
18.167 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       187.4|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     187.4       121.0|
16.500 |        11.49|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     121.0       107.1|
17.333 |        11.54|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        89.2|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      89.2        44.9|
16.417 |         2.99|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|     107.1       149.9|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      44.9         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   19000.8     19126.8|
18.167 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     149.9         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   19126.8     19055.7|
18.250 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       372.4|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     372.4       294.9|
16.500 |        65.37|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     294.9        32.1|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        85.5|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     262.9       340.3|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      85.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     340.3        79.1|
18.917 |        64.97|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      79.1        79.1|
18.917 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      32.1       104.1|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      79.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   19055.7     19158.4|
18.250 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|     104.1         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   19158.4     19155.5|
18.250 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       257.8|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19155.5     19245.4|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     257.8         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       434.0|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19245.4     19398.5|
18.250 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     434.0         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   19398.5     19376.8|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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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```

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 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0034CC.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       240.7|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   19376.8     19445.7|
18.333 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     240.7         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       131.2|
16.250 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     131.2        20.5|
16.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      20.5        16.5|
17.250 |         4.07|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|     110.7        38.0|
17.417 |        17.02|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.5        54.4|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      38.0         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   19445.7     19496.4|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      54.4         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   19496.4     19453.2|
18.417 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1519.6|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1519.6      1307.8|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     211.8       197.5|
17.083 |        21.36|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     197.5        98.7|
17.083 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      98.7        21.7|
18.917 |        14.11|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1307.8      1322.9|
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 |        14.26|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1322.9      1337.4|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      21.7         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1337.4      1304.8|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1304.8      1291.0|
17.583 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       658.7|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1291.0      1787.7|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     658.7         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   19453.2     21234.3|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1787.7         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   21234.3     21211.1|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       763.9|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21211.1     21580.0|
17.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     763.9         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0      1192.8|
17.250 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21580.0     22734.3|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|    1192.8         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|               22734.3|
17.583 |     19060.98|     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                        |
 +-------------------------------------------------------------------------------
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   END OF FLOODSCx ROUTING ANALYSIS
```

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____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 134U                         *
* 100-YR EV JUNE 2019 CCHIU                                                *
 ****************************************************************************

  FILE NAME: EV0034UC.DAT
  TIME/DATE OF STUDY: 07:44 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.325
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.164 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.335
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.288
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.348 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.466
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.403 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.573
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.491
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.371 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.587
  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 =     214.700 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) =  0.126; LOW LOSS FRACTION = 0.319
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             12       11.00        37.17       16.920
             13       12.00        57.63       19.160
             14       13.00        83.32       21.500
             15       14.00       112.96       23.940
             16       15.00       133.28       26.480
             17       16.00       144.34       29.150
             18       17.00       154.45       31.950
             19       18.00       163.94       34.870
             20       19.00       172.92       37.940
             21       20.00       181.39       41.140
             22       21.00       189.45       44.500
             23       22.00       197.22       48.010
             24       23.00       466.70       51.740
             25       24.00       951.81       53.820
==============================================================================
```



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


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


******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.795 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.515
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
```

```
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.362
  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) =     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 =    1705.800 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) =  0.245; LOW LOSS FRACTION = 0.412
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.304; 30-MINUTE = 0.358;  1-HOUR = 0.405
    3-HOUR = 0.750;    6-HOUR = 0.890; 24-HOUR = 0.936


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =  11
------------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
==============================================================================
==============================================================================
```

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV0034UC.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     19266.8|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   19266.8     19166.7|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       359.7|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19166.7     19273.0|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     359.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        40.7|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   19273.0     19285.1|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      40.7         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   19285.1     19264.7|
18.167 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       192.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     192.9       123.9|
16.500 |        11.62|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     123.9       109.1|
17.333 |        11.64|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        91.9|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      91.9        45.8|
16.417 |         3.06|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|     109.1       152.7|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      45.8         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   19264.7     19391.5|
18.167 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     152.7         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   19391.5     19314.5|
18.250 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       382.1|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     382.1       301.9|
16.500 |        65.54|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     301.9        32.3|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        88.1|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     269.6       349.3|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      88.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     349.3        80.0|
18.833 |        65.47|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      80.0        80.0|
18.833 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      32.3       105.0|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      80.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   19314.5     19418.2|
18.250 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|     105.0         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   19418.2     19416.2|
18.250 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       265.9|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19416.2     19505.1|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     265.9         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       447.7|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19505.1     19656.6|
18.250 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     447.7         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   19656.6     19635.9|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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: [EV0034UC.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 |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       248.5|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   19635.9     19704.1|
18.333 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     248.5         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       134.8|
16.250 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     134.8        20.7|
16.250 |             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   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|     114.0        39.2|
17.417 |        17.15|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.5        55.7|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      39.2         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   19704.1     19755.2|
18.333 |             |           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      55.7         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   19755.2     19708.6|
18.417 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1561.4|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1561.4      1341.6|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     219.8       204.8|
17.083 |        21.48|           |
 +--------------------+--------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     204.8       102.4|
17.083 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     102.4        21.9|
18.917 |        14.53|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1341.6      1356.9|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #3|      21.9         0.0|
|             |           |
```

```
 |   132.00     132.00| Flow-Through Basin:   Stream #4|     102.4        22.0|
18.917 |        14.67|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1356.9      1371.7|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      22.0         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1371.7      1337.0|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1337.0      1323.3|
17.500 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       674.9|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1323.3      1823.8|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     674.9         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   19708.6     21494.8|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1823.8         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   21494.8     21468.0|
17.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       786.4|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21468.0     21832.5|
17.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     786.4         0.0|
|             |           |
 |   134.00     134.00| View:                 Stream #1|               21832.5|
17.583 |     18311.18|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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            Ver. 20.0  Release Date: 06/01/2013  License ID 1264

                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 137                          *
* 100-YR EV JUNE 2019 CCHIU                                                *
 ****************************************************************************

  FILE NAME: EV00137C.DAT
  TIME/DATE OF STUDY: 07:32 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.325
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.164 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.335
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.288
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.348 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.466
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.403 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.573
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.491
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.371 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.587
  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 =     214.700 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) =  0.126; LOW LOSS FRACTION = 0.319
  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          Qenter           Qpass
                NUMBER            (CFS)            (CFS)
                  -                0.00             0.00
                  1               25.00            13.59
                  2               75.00            16.84
                  3              100.00            18.46
                  4              250.00            28.22
                  5              550.00            47.73
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
============================================================================


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.795 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.515
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
```

```
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.362
  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) =     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 =    1705.800 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) =  0.245; LOW LOSS FRACTION = 0.412
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.251 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.408
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.421
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.291; 30-MINUTE = 0.350;  1-HOUR = 0.394
    3-HOUR = 0.738;    6-HOUR = 0.886; 24-HOUR = 0.933
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>VIEW STREAM NUMBER 1 HYDROGRAPH<<<<<
============================================================================
============================================================================
```



```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV00137C.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     18914.3|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   18914.3     18815.6|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       344.7|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   18815.6     18923.7|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     344.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        39.0|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   18923.7     18935.9|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      39.0         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   18935.9     18916.5|
18.167 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       185.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     185.9       120.1|
16.500 |        11.45|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     120.1       106.5|
17.333 |        11.50|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        88.4|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      88.4        44.6|
16.417 |         2.97|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|     106.5       149.0|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      44.6         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   18916.5     19042.2|
18.167 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     149.0         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   19042.2     18973.0|
18.250 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       369.8|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     369.8       293.0|
16.500 |        65.32|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     293.0        32.0|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        84.8|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     260.9       337.7|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      84.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     337.7        78.8|
18.917 |        64.80|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      78.8        78.8|
18.917 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      32.0       103.7|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      78.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   18973.0     19075.3|
18.250 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|     103.7         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   19075.3     19072.1|
18.250 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       255.4|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19072.1     19162.3|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     255.4         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       430.1|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19162.3     19316.0|
18.250 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     430.1         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   19316.0     19293.9|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       238.4|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   19293.9     19363.0|
18.333 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     238.4         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       130.2|
16.250 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     130.2        20.4|
16.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      20.4        16.4|
17.250 |         4.07|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|     109.8        37.6|
17.500 |        16.97|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.4        54.0|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      37.6         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   19363.0     19413.7|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      54.0         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   19413.7     19373.1|
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 |             |           |
 | 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       653.9|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1281.6      1776.5|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     653.9         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   19373.1     21149.6|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1776.5         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   21149.6     21128.4|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       757.5|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21128.4     21497.8|
17.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     757.5         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0      1185.7|
17.250 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21497.8     22646.2|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|    1185.7         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   22646.2     22627.8|
17.667 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       518.4|
16.417 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   22627.8     22887.5|
17.667 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     518.4         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                        |
 +-------------------------------------------------------------------------------
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 |                                      * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV00137C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     137.00| View:                 Stream #1|               22887.5|
17.667 |     19294.88|     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
```

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____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 138                          *
* 100-YR EV JUNE 2019 CCHIU                                                *
 ****************************************************************************

  FILE NAME: EV00138C.DAT
  TIME/DATE OF STUDY: 07:27 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.325
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.164 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.335
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.288
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.348 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.466
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.403 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.573
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.491
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.371 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.587
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


****************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    129.00 IS CODE =   6
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 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) =  0.126; LOW LOSS FRACTION = 0.319
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

```
          NUMBER      (FT)        (CFS)         (AF)
              1        0.00         0.00        0.000
              2        1.00         0.01        0.310
              3        2.00         0.83        1.240
              4        3.00         5.60        2.600
              5        4.00        16.88        4.130
              6        5.00        23.48        5.790
              7        6.00        36.73        7.560
              8        7.00        55.95        9.440
              9        8.00        78.70       11.430
             10        9.00       228.67       12.460
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
              1        0.00         0.00        0.000
              2        1.00         1.84        0.260
              3        2.00         3.22        1.160
              4        3.00         4.16        2.520
              5        4.00         4.94        3.990
              6        5.00         5.60        5.550
              7        6.00         7.17        7.200
              8        7.00        14.13        8.950
              9        8.00        18.54       10.800
             10        9.00        21.90       12.740
             11       10.00        24.73       14.780
             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          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<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      5.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      5.700
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.362
  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) =     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 =    1705.800 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) =  0.245; LOW LOSS FRACTION = 0.412
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.251 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) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.421
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    138.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  100.00     CHANNEL Z =  4.00
  UPSTREAM ELEVATION(FT) =     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 = 0.287; 30-MINUTE = 0.348;  1-HOUR = 0.392
    3-HOUR = 0.734;    6-HOUR = 0.885; 24-HOUR = 0.932


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



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


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

```
 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                        * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV00138C.DAT   ]
Page:   1 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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     18827.9|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   18827.9     18729.5|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       341.1|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   18729.5     18838.0|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     341.1         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        38.6|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   18838.0     18850.3|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      38.6         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   18850.3     18831.3|
18.167 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       184.2|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     184.2       119.2|
16.500 |        11.41|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     119.2       105.8|
17.333 |        11.47|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        87.5|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      87.5        44.4|
16.417 |         2.95|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|     105.8       148.1|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      44.4         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   18831.3     18956.7|
18.167 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     148.1         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   18956.7     18889.9|
18.250 |             |           |
```



```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       366.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     366.9       290.8|
16.500 |        65.27|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     290.8        31.9|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        84.0|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     258.9       335.0|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      84.0         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     335.0        78.5|
18.917 |        64.64|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      78.5        78.5|
18.917 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      31.9       103.4|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      78.5         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   18889.9     18991.8|
18.250 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|     103.4         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   18991.8     18988.1|
18.250 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       252.8|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   18988.1     19078.7|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     252.8         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       425.9|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19078.7     19232.9|
18.250 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     425.9         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   19232.9     19210.0|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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: [EV00138C.DAT   ]
Page:   2 of    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |UPSTREAM  DOWNSTREAM|                               | UPSTREAM   DOWNSTREAM|
TIME(2) TO | MAX. STORAGE|           |
 | NODE #     NODE #  | HYDROLOGIC/HYDRAULIC PROCESS   |PEAK (CFS)  PEAK (CFS)|
PEAK (HR)  | MODELED (AF)| FOOTNOTES |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       236.1|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   19210.0     19279.3|
18.333 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     236.1         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       129.2|
16.250 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     129.2        20.4|
16.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   221.00     223.00| Flow-Through Basin:   Stream #2|      20.4        16.4|
17.250 |         4.07|           |
 |   221.00     222.00| Flow-Through Basin:   Stream #5|     108.8        37.2|
17.500 |        16.93|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.4        53.6|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      37.2         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   19279.3     19329.8|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      53.6         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   19329.8     19299.0|
17.500 |             |           |
 | 13010.00     132.00| Subarea (UH) Added to Stream #2|       0.0      1494.3|
16.833 |             |           |
 |   132.00     132.00| Flowby Basin Model:   Stream #2|    1494.3      1287.4|
16.833 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|     206.9       193.0|
17.083 |        21.29|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Split Hydrograph:     Stream #3|     193.0        96.5|
17.083 |             |           |
 |   132.00     132.00| Flow-Through Basin:   Stream #3|      96.5        21.5|
18.917 |        13.84|           |
 |   132.00     132.00| Stream #3 Added to:   Stream #2|    1287.4      1302.3|
16.833 |             |           |
 |   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|
18.917 |        13.99|           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   132.00     132.00| Stream #4 Added to:   Stream #2|    1302.3      1316.6|
16.833 |             |           |
 |   132.00     132.00| Zero Out:             Stream #4|      21.5         0.0|
|             |           |
 |   132.00   13305.00| Convex Routing:       Stream #2|    1316.6      1285.4|
17.333 |             |           |
 | 13305.00     133.00| Convex Routing:       Stream #2|    1285.4      1272.0|
17.583 |             |           |
 |   132.00     133.00| Subarea (UH) Added to Stream #3|       0.0       648.9|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1272.0      1765.0|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     648.9         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   19299.0     21064.1|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1765.0         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   21064.1     21044.5|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       750.6|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21044.5     21414.5|
17.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     750.6         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0      1178.5|
17.250 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21414.5     22556.8|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|    1178.5         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   22556.8     22539.2|
17.667 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       514.0|
16.417 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   22539.2     22799.4|
17.667 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     514.0         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: [EV00138C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Convex Routing:       Stream #1|   22799.4     22786.5|
17.833 |             |           |
 |   137.00     138.00| Subarea (UH) Added to Stream #2|       0.0       473.2|
16.583 |             |           |
 |   138.00     138.00| Stream #2 Added to:   Stream #1|   22786.5     23044.4|
17.750 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|     473.2         0.0|
|             |           |
 |   138.00     138.00| View:                 Stream #1|               23044.4|
17.750 |     19528.18|     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
```

```
____________________________________________________________________________
****************************************************************************

             F L O O D   R O U T I N G   A N A L Y S I S
             USING COUNTY HYDROLOGY MANUAL OF ORANGE(1986)
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                           Analysis prepared by:

                       Michael Baker International
                     5 Hutton Centre Drive Suite 500
                           Santa Ana, CA92707


 ************************** DESCRIPTION OF STUDY **************************
* RANCHO MISSION VIEJO - COMPLEX UH                                        *
* PHASED CONDITION - NO PA4&5 - REGIONAL NODE 139                          *
* 100-YR EV JUNE 2019 CCHIU                                                *
 ****************************************************************************

  FILE NAME: EV00139C.DAT
  TIME/DATE OF STUDY: 07:25 06/19/2019


                          ** INPUT SUMMARY **


****************************************************************************
  FLOW PROCESS FROM NODE  10100.00 TO NODE    119.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #1<<<<<
============================================================================
  WATERSHED AREA =   49511.801 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    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    126.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     341.63; DOWNSTREAM ELEVATION(FT) =     286.00
```



```
  CHANNEL LENGTH(FT) =    6204.49      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  40400.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     801.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.284 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.296; LOW LOSS FRACTION = 0.567
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


****************************************************************************
  FLOW PROCESS FROM NODE    126.00 TO NODE    126.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


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


****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    126.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =      92.400 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) =  0.296; LOW LOSS FRACTION = 0.574
  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    430.00 TO NODE    420.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     315.200 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.236 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.146; LOW LOSS FRACTION = 0.325
  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    420.00 TO NODE    420.50 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     16.600
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```



```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.57       2.090
               3       2.00       24.47       3.540
               4       3.00       50.89       6.490
               5       4.00       86.23       9.870
               6       5.00      165.68      13.480
               7       6.00      215.80      17.240
               8       7.00      254.44      21.170
               9       8.00      279.62      25.270
              10       9.00      298.60      29.530
              11      10.00      316.33      33.960
              12      11.00      990.19      54.910
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    420.50 TO NODE    427.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        6.56       1.100
               3       2.00       24.47       4.200
               4       3.00       50.88       8.800
               5       4.00      151.67      13.700
               6       5.00      183.65      18.800
               7       6.00      225.86      24.000
               8       7.00      245.89      29.400
               9       8.00      258.65      34.900
              10       9.00      926.24      40.500
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    413.00 TO NODE  12720.50 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #3<<<<<
============================================================================
  WATERSHED AREA =     124.300 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.164 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.138; LOW LOSS FRACTION = 0.335
  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    425.00 TO NODE    426.00 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) =      6.700
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        5.95       0.280
               3       2.00       22.18       1.150
               4       3.00       46.43       3.090
               5       4.00       75.05       6.150
               6       5.00      105.54      10.350
               7       6.00      127.29      15.380
               8       7.00      138.99      20.860
               9       8.00      150.45      26.500
              10       9.00      161.55      32.360
              11      10.00      697.61      38.410
              12      11.00     1666.99      44.700
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    426.00 TO NODE    427.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 TO NODE    427.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    427.00 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  12741.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 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) =     247.00
  CHANNEL LENGTH(FT) =    2294.66      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    320.00 TO NODE    339.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     675.500 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) =  0.126; LOW LOSS FRACTION = 0.288
  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    339.00 TO NODE    340.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #2<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 2
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =     30.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

```
          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.00        0.01       7.430
               3       2.00        0.02      15.170
               4       3.00        2.70      23.230
               5       4.00        4.69      31.610
               6       5.00        6.04      40.320
               7       6.00       10.72      49.360
               8       7.00       17.77      58.730
               9       8.00      424.53      68.440
              10       9.00     1169.03      78.500
              11      10.00     2113.61      88.500
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    339.00 TO NODE    372.00 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              10.00            10.00
                 2              20.00            20.00
                 3              50.00            20.50
                 4             100.00            25.00
                 5            1200.00            65.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 3
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    390.00 TO NODE    372.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #4<<<<<
==============================================================================
  WATERSHED AREA =     195.100 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.348 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.243; LOW LOSS FRACTION = 0.466
  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    372.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 ADDED TO STREAM NUMBER 3<<<<<
```



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


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 4 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    373.00 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       1.00       10.23      19.250
               3       2.00       29.46      38.770
               4       3.00       67.29      58.560
               5       4.00      104.29      78.630
               6       5.00      658.55      98.970
               7       6.00     1642.50     119.590
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    372.00 TO NODE    372.10 IS CODE =   2
------------------------------------------------------------------------------
  >>>>>FLOWBY STRUCTURE ROUTING MODEL APPLIED TO STREAM #3<<<<<
==============================================================================
  MODEL STREAM NUMBER 3 FLOWING PAST A FLOWBY STRUCTURE:
  FLOWRATES IN STREAM # 3 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              50.00            50.00
                 2             100.00           100.00
                 3             300.00           120.00
                 4             750.00           135.00
                 5             850.00           140.00
  FLOW EXCESS IS ASSUMED TO BE ADDED TO STREAM NUMBER 5
==============================================================================


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

```
  FLOW PROCESS FROM NODE    372.10 TO NODE    372.20 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    372.20 TO NODE    373.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 3<<<<<
============================================================================
***STREAM 5 IS ZERO...STREAM NOW DEFINED AS ZERO***


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    373.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    373.00 TO NODE    340.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE    340.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    340.00 TO NODE  12741.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 TO NODE  12741.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  12741.00 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) =     247.00; DOWNSTREAM ELEVATION(FT) =     240.00
  CHANNEL LENGTH(FT) =     819.00      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 =     720.900 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.403 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.573
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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


****************************************************************************
  FLOW PROCESS FROM NODE  50150.00 TO NODE    127.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =    1063.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.355 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.295; LOW LOSS FRACTION = 0.491
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

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


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


****************************************************************************
  FLOW PROCESS FROM NODE    127.00 TO NODE    129.00 IS CODE = 5.2
----------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     240.00; DOWNSTREAM ELEVATION(FT) =     213.00
  CHANNEL LENGTH(FT) =    4905.42      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE  50300.00 TO NODE    129.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     637.000 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.371 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.284; LOW LOSS FRACTION = 0.587
  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<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
============================================================================
  WATERSHED AREA =     214.700 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) =  0.126; LOW LOSS FRACTION = 0.319
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
```

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	1.00	0.01	0.310
3	2.00	0.83	1.240
4	3.00	5.60	2.600
5	4.00	16.88	4.130
6	5.00	23.48	5.790
7	6.00	36.73	7.560
8	7.00	55.95	9.440
9	8.00	78.70	11.430
10	9.00	228.67	12.460

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

******************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    222.00 IS CODE = 3.1
------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #5<<<<<
==============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 5
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:
```

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	1.00	1.84	0.260
3	2.00	3.22	1.160
4	3.00	4.16	2.520
5	4.00	4.94	3.990
6	5.00	5.60	5.550
7	6.00	7.17	7.200
8	7.00	14.13	8.950
9	8.00	18.54	10.800
10	9.00	21.90	12.740
11	10.00	24.73	14.780
12	11.00	37.17	16.920
13	12.00	57.63	19.160
14	13.00	83.32	21.500
15	14.00	112.96	23.940
16	15.00	133.28	26.480
17	16.00	144.34	29.150
18	17.00	154.45	31.950
19	18.00	163.94	34.870
20	19.00	172.92	37.940
21	20.00	181.39	41.140
22	21.00	189.45	44.500
23	22.00	197.22	48.010
24	23.00	466.70	51.740
25	24.00	951.81	53.820

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



```
******************************************************************************
  FLOW PROCESS FROM NODE    223.00 TO NODE    222.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 ADDED TO STREAM NUMBER 2<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    222.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 5 CLEARED AND SET TO ZERO<<<<<
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE    222.00 TO NODE    129.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================

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

******************************************************************************
  FLOW PROCESS FROM NODE    129.00 TO NODE    133.00 IS CODE = 5.2
------------------------------------------------------------------------------
  >>>>>MODEL CHANNEL ROUTING OF STREAM #1 BY THE CONVEX METHOD<<<<<
==============================================================================
  THE MODIFIED C-ROUTING COEFFICIENT IS ESTIMATED IN ORDER TO
  ROUTE THE STREAM 1 INFLOW HYDROGRAPH BY 5-MINUTE INTERVALS
  (Reference: the National Engineering Handbook, Hydrology,
  Chapter 17, page 17-52, August,1972, U.S. Department of Commerce).

  ASSUMED REGULAR CHANNEL INFORMATION:
  BASEWIDTH(FT) =  200.00     CHANNEL Z =  5.00
  UPSTREAM ELEVATION(FT) =     213.00; DOWNSTREAM ELEVATION(FT) =     212.00
  CHANNEL LENGTH(FT) =    1389.52      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================

******************************************************************************
  FLOW PROCESS FROM NODE  13010.00 TO NODE    132.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    4924.400 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.795 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.244; LOW LOSS FRACTION = 0.515
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
```

```
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (AF)
               1       0.00        0.00       0.000
               2       1.50        0.01       0.002
               3       2.00        0.02       1.900
               4       4.00        0.03      16.100
               5       4.30        0.05      18.200
               6       5.00      314.00      23.200
               7       6.00     1306.00      30.300
               8       7.00     2847.00      39.100
               9       8.00     4942.00      47.800
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   8
----------------------------------------------------------------------------
```



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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #3<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 3
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
  DEAD STORAGE(AF) =      0.000
  SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
  SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
  DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

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


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 ADDED TO STREAM NUMBER 2<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE =   6
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 3 CLEARED AND SET TO ZERO<<<<<
============================================================================


****************************************************************************
  FLOW PROCESS FROM NODE    132.00 TO NODE    132.00 IS CODE = 3.1
----------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #4<<<<<
============================================================================
  ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 4
  THROUGH A FLOW-THROUGH DETENTION BASIN.
  SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
```

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

  BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

          INTERVAL    DEPTH      OUTFLOW     STORAGE
           NUMBER      (FT)       (CFS)        (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 =    1715.900 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) =  0.224; LOW LOSS FRACTION = 0.362
  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) =     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 =    1705.800 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) =  0.245; LOW LOSS FRACTION = 0.412
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   7
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    134.00 IS CODE =   6
------------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 CLEARED AND SET TO ZERO<<<<<
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE  13500.00 TO NODE    134.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    3859.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
```



```
  *USER ENTERED "LAG" TIME =    1.251 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) =     173.00; DOWNSTREAM ELEVATION(FT) =     133.00
  CHANNEL LENGTH(FT) =    6064.09      MANNING'S FACTOR = 0.030
  CONSTANT LOSS RATE(CFS) =    0.00
==============================================================================


******************************************************************************
  FLOW PROCESS FROM NODE    134.00 TO NODE    137.00 IS CODE =   1
------------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS) ADDED TO STREAM #2<<<<<
==============================================================================
  WATERSHED AREA =    1240.700 ACRES; BASEFLOW =   0.000 CFS/SQUARE-MILE
  *USER ENTERED "LAG" TIME =    0.390 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.237; LOW LOSS FRACTION = 0.421
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  1-HOUR = 0.391
    3-HOUR = 0.733;    6-HOUR = 0.885; 24-HOUR = 0.932
```

```
****************************************************************************
  FLOW PROCESS FROM NODE    137.00 TO NODE    137.00 IS CODE =   7
----------------------------------------------------------------------------
  >>>>>STREAM NUMBER 2 ADDED TO STREAM NUMBER 1<<<<<
============================================================================


****************************************************************************
  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 =    0.240 HOURS
  VALLEY(DEVELOPED) S-GRAPH SELECTED
  MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) =  0.207; LOW LOSS FRACTION = 0.422
  SPECIFIED PEAK RAINFALL DEPTHS(INCH):
  5-MINUTE =  0.40; 30-MINUTE =  0.87;  1-HOUR =  1.15
    3-HOUR =  1.94;    6-HOUR =  2.71; 24-HOUR =  4.49
  *USER SPECIFIED PRECIPITATION DEPTH-AREA REDUCTION FACTORS:
  5-MINUTE = 0.286; 30-MINUTE = 0.348;  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    |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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     18802.8|
18.000 |             |           |
 |   119.00     126.00| Convex Routing:       Stream #1|   18802.8     18705.5|
18.083 |             |           |
 | 40400.00     126.00| Subarea (UH) Added to Stream #2|       0.0       339.8|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   18705.5     18814.1|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|     339.8         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   600.00     126.00| Subarea (UH) Added to Stream #2|       0.0        38.5|
16.333 |             |           |
 |   126.00     126.00| Stream #2 Added to:   Stream #1|   18814.1     18826.4|
18.083 |             |           |
 |   126.00     126.00| Zero Out:             Stream #2|      38.5         0.0|
|             |           |
 |   126.00   12720.50| Convex Routing:       Stream #1|   18826.4     18807.5|
18.167 |             |           |
 |   430.00     420.00| Subarea (UH) Added to Stream #2|       0.0       183.6|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   420.00     420.50| Flow-Through Basin:   Stream #2|     183.6       118.9|
16.500 |        11.40|           |
 |   420.50     427.00| Flow-Through Basin:   Stream #2|     118.9       105.6|
17.333 |        11.46|           |
 |   413.00   12720.50| Subarea (UH) Added to Stream #3|       0.0        87.2|
16.250 |             |           |
 |   425.00     426.00| Flow-Through Basin:   Stream #3|      87.2        44.3|
16.417 |         2.94|           |
 |   426.00     427.00| Stream #3 Added to:   Stream #2|     105.6       147.8|
17.167 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   427.00     427.00| Zero Out:             Stream #3|      44.3         0.0|
|             |           |
 |   427.00   12720.50| Stream #2 Added to:   Stream #1|   18807.5     18932.8|
18.167 |             |           |
 | 12720.50   12720.50| Zero Out:             Stream #2|     147.8         0.0|
|             |           |
 | 12720.50   12741.00| Convex Routing:       Stream #1|   18932.8     18865.7|
18.250 |             |           |
```

```
 |   320.00     339.00| Subarea (UH) Added to Stream #2|       0.0       365.9|
16.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   339.00     340.00| Flow-Through Basin:   Stream #2|     365.9       290.1|
16.500 |        65.25|           |
 |   339.00     372.00| Flowby Basin Model:   Stream #2|     290.1        31.9|
16.500 |             |           |
 |   390.00     372.00| Subarea (UH) Added to Stream #4|       0.0        83.7|
16.417 |             |           |
 |   390.00     372.00| Stream #4 Added to:   Stream #3|     258.2       334.1|
16.500 |             |           |
 |   372.00     372.00| Zero Out:             Stream #4|      83.7         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   372.00     373.00| Flow-Through Basin:   Stream #3|     334.1        78.4|
18.917 |        64.59|           |
 |   372.00     372.10| Flowby Basin Model:   Stream #3|      78.4        78.4|
18.917 |             |           |
 |   373.00     373.00| Zero Out:             Stream #5|       0.0         0.0|
|             |           |
 |   373.00     340.00| Stream #3 Added to:   Stream #2|      31.9       103.3|
18.583 |             |           |
 |   340.00     340.00| Zero Out:             Stream #3|      78.4         0.0|
|             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   340.00   12741.00| Stream #2 Added to:   Stream #1|   18865.7     18967.6|
18.250 |             |           |
 | 12741.00   12741.00| Zero Out:             Stream #2|     103.3         0.0|
|             |           |
 | 12741.00     127.00| Convex Routing:       Stream #1|   18967.6     18963.9|
18.250 |             |           |
 | 12710.00     127.00| Subarea (UH) Added to Stream #2|       0.0       252.0|
16.500 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   18963.9     19054.6|
18.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   127.00     127.00| Zero Out:             Stream #2|     252.0         0.0|
|             |           |
 | 50150.00     127.00| Subarea (UH) Added to Stream #2|       0.0       424.5|
16.417 |             |           |
 |   127.00     127.00| Stream #2 Added to:   Stream #1|   19054.6     19209.0|
18.250 |             |           |
 |   127.00     127.00| Zero Out:             Stream #2|     424.5         0.0|
|             |           |
 |   127.00     129.00| Convex Routing:       Stream #1|   19209.0     19186.3|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |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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```

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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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 | 50300.00     129.00| Subarea (UH) Added to Stream #2|       0.0       235.2|
16.417 |             |           |
 |   129.00     129.00| Stream #2 Added to:   Stream #1|   19186.3     19255.7|
18.333 |             |           |
 |   129.00     129.00| Zero Out:             Stream #2|     235.2         0.0|
|             |           |
 |   210.00     221.00| Subarea (UH) Added to Stream #2|       0.0       128.8|
16.250 |             |           |
 |   221.00     221.00| Flowby Basin Model:   Stream #2|     128.8        20.3|
16.250 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   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|     108.5        37.1|
17.500 |        16.92|           |
 |   223.00     222.00| Stream #5 Added to:   Stream #2|      16.4        53.5|
17.417 |             |           |
 |   222.00     222.00| Zero Out:             Stream #5|      37.1         0.0|
|             |           |
 |   222.00     129.00| Stream #2 Added to:   Stream #1|   19255.7     19306.2|
18.333 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   129.00     129.00| Zero Out:             Stream #2|      53.5         0.0|
|             |           |
 |   129.00     133.00| Convex Routing:       Stream #1|   19306.2     19278.3|
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       647.3|
16.667 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     133.00| Stream #3 Added to:   Stream #2|    1268.8      1761.5|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #3|     647.3         0.0|
|             |           |
 |   133.00     133.00| Stream #2 Added to:   Stream #1|   19278.3     21039.8|
17.500 |             |           |
 |   133.00     133.00| Zero Out:             Stream #2|    1761.5         0.0|
|             |           |
 |   133.00     134.00| Convex Routing:       Stream #1|   21039.8     21021.2|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   133.00     134.00| Subarea (UH) Added to Stream #2|       0.0       748.3|
16.417 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21021.2     21391.3|
17.583 |             |           |
 |   134.00     134.00| Zero Out:             Stream #2|     748.3         0.0|
|             |           |
 | 13500.00     134.00| Subarea (UH) Added to Stream #2|       0.0      1176.3|
17.250 |             |           |
 |   134.00     134.00| Stream #2 Added to:   Stream #1|   21391.3     22531.8|
17.583 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   134.00     134.00| Zero Out:             Stream #2|    1176.3         0.0|
|             |           |
 |   134.00     137.00| Convex Routing:       Stream #1|   22531.8     22515.2|
17.667 |             |           |
 |   134.00     137.00| Subarea (UH) Added to Stream #2|       0.0       512.5|
16.417 |             |           |
 |   137.00     137.00| Stream #2 Added to:   Stream #1|   22515.2     22775.4|
17.667 |             |           |
 |   137.00     137.00| Zero Out:             Stream #2|     512.5         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                        |
 +-------------------------------------------------------------------------------
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 +-------------------------------------------------------------------------------
-------------------------------------+
 |                                     * AES FLOODSCx PROGRAM RESULTS SUMMARY *
|
 |INPUT FILENAME: [EV00139C.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 |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   137.00     138.00| Convex Routing:       Stream #1|   22775.4     22761.8|
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|   22761.8     23021.1|
17.750 |             |           |
 |   138.00     138.00| Zero Out:             Stream #2|     471.8         0.0|
|             |           |
 |   138.00     139.00| Convex Routing:       Stream #1|   23021.1     23018.9|
17.833 |             |           |
 +--------------------+-------------------------------+----------------------+-
-----------+-------------+-----------+
 |   138.00     139.00| Subarea (UH) Added to Stream #2|       0.0       227.4|
16.333 |             |           |
 |   139.00     139.00| Stream #2 Added to:   Stream #1|   23018.9     23099.5|
17.833 |             |           |
 |   139.00     139.00| Zero Out:             Stream #2|     227.4         0.0|
|             |           |
 |   139.00     139.00| View:                 Stream #1|               23099.5|
17.833 |     19610.10|     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
```