# DETENTION CALCULATIONS
# FOR
# THE FAIRMONT
# TO
# WICHITA, SEDGWICK COUNTY, KANSAS

**Prepared By**

**BAUGHMAN COMPANY, P.A.**
ENGINEERING, SURVEYING & PLANNING
316/262-7271 FAX 316/262-0149 WICHITA, KANSAS 67211

**December 2000**

## *INTRODUCTION*

This report provides supporting documentation for detention requirements for the proposed plat, "The Fairmont". The property is located in the Southeast Quarter of Section 3, T-27-S, R-2-E in Sedgwick County, Kansas.

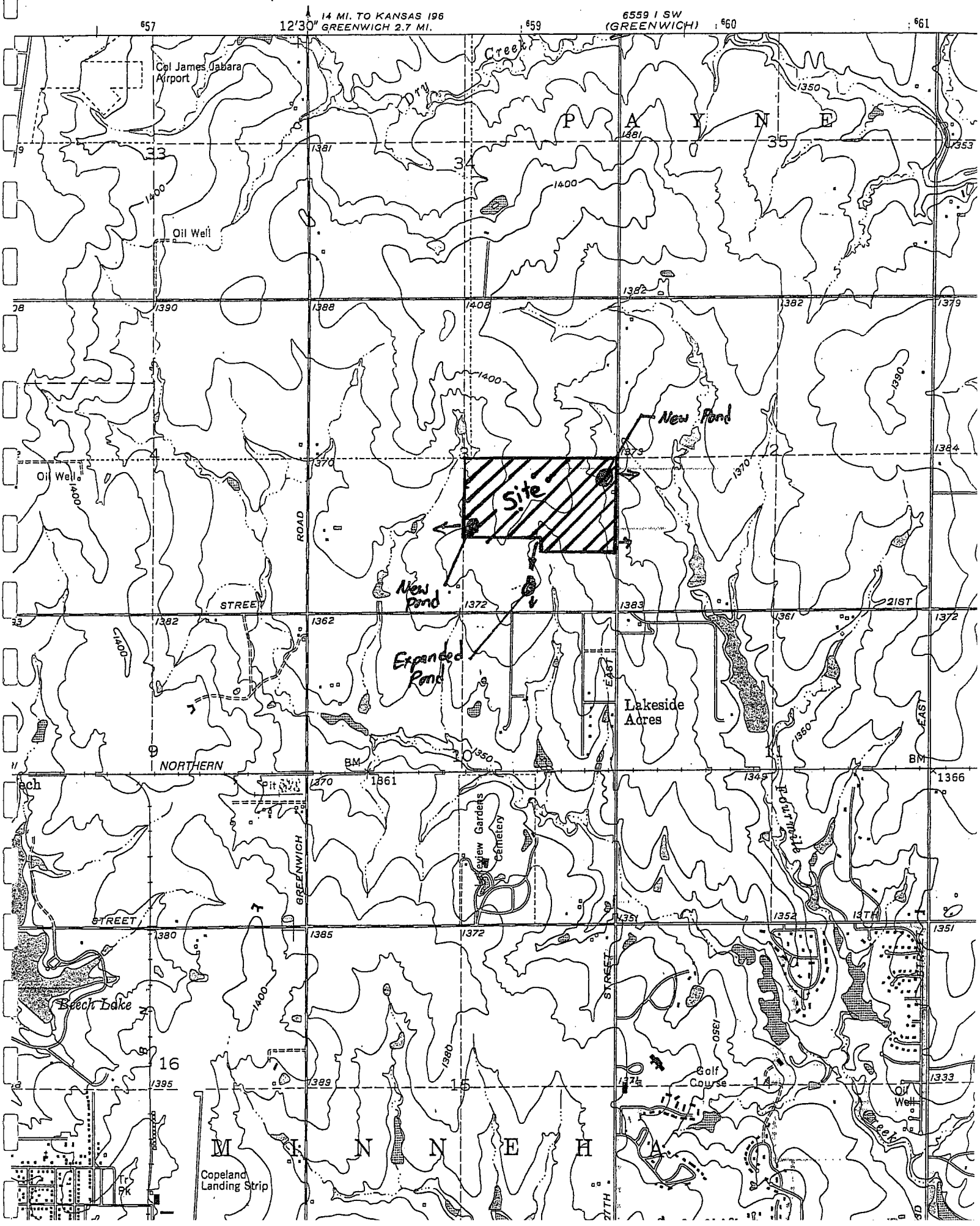
## *HYDROLOGIC SUMMARY*

| Southwest Pond | | | |
|---|---|---|---|
| Return Period yr | Existing Flowrate cfs | Developed Flowrate cfs | After Detention Flowrate cfs |
| 2 | 19 | 33 | 8 |
| 10 | 54 | 75 | 16 |
| 100 | 99 | 125 | 40 |

| Northeast Pond | | | |
|---|---|---|---|
| Return Period yr | Existing Flowrate cfs | Developed Flowrate cfs | After Detention Flowrate cfs |
| 2 | 19 | 33 | 8 |
| 10 | 54 | 75 | 16 |
| 100 | 99 | 125 | 40 |

| Messiah Baptist Church Pond | | | | |
|---|---|---|---|---|
| Return Period yr | Previous Peak Flowrate cfs | Previous After Detention Flowrate cfs | New Peak Flowrate cfs | New After Detention Flowrate cfs |
| 2 | 18 | 1 | 46 | 1 |
| 10 | 50 | 14 | 122 | 20 |
| 100 | 90 | 30 | 217 | 31 |

STATE OF KANSAS



```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  10:07:56   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   1          ID  THE FAIRMONT ADDITION, NORTH EAST POND
              * Existing Conditions
              * 100-YR RETURN PERIOD
   2          IT       5 30NOV00    0000     300                    2000
   3          IO       3       0
              *DIAGRAM
              *
   4          KK   BASIN
   5          BA   0.044
   6          PH       0       0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
              *     50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
   7          UD     0.2
   8          LS       0      79
              *
   9          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (---->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<----) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
```


```
1*****************************************
*                                       *
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*             MAY   1991                *
*          VERSION 4.0.1E               *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
```

```
*      Dodson & Associates, Inc.      *                                    *          (916) 551-1748          *
*  RUN DATE  12/14/00  TIME  10:07:56  *                                    *                                  *
****************************************                                    ************************************


                        THE FAIRMONT ADDITION, NORTH EAST POND

   3 IO          OUTPUT CONTROL VARIABLES
                       IPRNT          3  PRINT CONTROL
                       IPLOT          0  PLOT CONTROL
                       QSCAL         0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                        NMIN          5  MINUTES IN COMPUTATION INTERVAL
                       IDATE     30NOV 0  STARTING DATE
                       ITIME       0000  STARTING TIME
                          NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      1DEC 0  ENDING DATE
                      NDTIME       0055  ENDING TIME
                       ICENT         20  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                      TOTAL TIME BASE   24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT


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


            **************
            *            *
   4 KK     *     BASIN  *
            *            *
            **************

               SUBBASIN RUNOFF DATA

   5 BA          SUBBASIN CHARACTERISTICS
                       TAREA       0.04  SUBBASIN AREA

                 PRECIPITATION DATA

   6 PH                                  DEPTHS FOR   0-PERCENT HYPOTHETICAL STORM
                 ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
                 5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                  0.86    1.84    3.73    4.60    5.04    5.94    0.00    0.00    0.00    0.00    0.00    0.00

                                                  STORM AREA =    0.04

   8 LS          SCS LOSS RATE
                       STRTL       0.53  INITIAL ABSTRACTION
                      CRVNBR      79.00  CURVE NUMBER
                       RTIMP       0.00  PERCENT IMPERVIOUS AREA

   7 UD          SCS DIMENSIONLESS UNITGRAPH
                       TLAG       0.20  LAG

                                                  ***
```

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21. | 71. | 88. | 70. | 39. | 22. | 13. | 7. | 4. | 2. |
| 1. | 1. | 0. | 0. | | | | | | |

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

HYDROGRAPH AT STATION BASIN

TOTAL RAINFALL = 5.94, TOTAL LOSS = 2.31, TOTAL EXCESS = 3.63

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | (CFS) | | | | |
| 124. | 3.25 | | 17. | 4. | 4. | 4. |
| | | (INCHES) | 3.626 | 3.626 | 3.626 | 3.626 |
| | | (AC-FT) | 9. | 9. | 9. | 9. |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | BASIN | 124. | 3.25 | 17. | 4. | 4. | 0.04 | | |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  08:36:09   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

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DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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

  1           ID  THE FAIRMONT ADDITION, NORTH EAST POND
              * 100-YR RETURN PERIOD
  2           IT       5 30NOV00    0000     300                    2000
  3           IO       3       0
              *DIAGRAM
              *

  4           KK   BASIN
  5           BA   0.044
  6           PH       0       0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
              *     50       0  0.4616  0.9575    1.69    2.66    2.91    4.02
  7           UD     .15
  8           LS       0      85
              *

  9           KK    POND
 10           RS       1    ELEV    1377
 11           SA     1.2     1.5     1.7
 12           SE    1377    1380    1381
 13           SL    1378    1.76     0.5    0.67
 14           SS    1380      20    2.86     1.5
              *
 15           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (---->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<----) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN
              V
```

```
                V
    9        POND

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
 *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
 *             MAY   1991                *
 *          VERSION 4.0.1E               *
 *     Lahey F77L-EM/32 version 5.01     *
 *       Dodson & Associates, Inc.       *
 *  RUN DATE  12/14/00  TIME  08:36:09   *
 *****************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*           (916) 551-1748          *
*                                   *
*************************************
```

THE FAIRMONT ADDITION, NORTH EAST POND

```
   3 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

     IT           HYDROGRAPH TIME DATA
                       NMIN          5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     30NOV 0  STARTING DATE
                      ITIME       0000  STARTING TIME
                         NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1DEC 0  ENDING DATE
                     NDTIME       0055  ENDING TIME
                      ICENT         20  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                       TOTAL TIME BASE   24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT


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


            **************
            *            *
   4 KK     *     BASIN  *
            *            *
            **************

               SUBBASIN RUNOFF DATA

   5 BA          SUBBASIN CHARACTERISTICS
                      TAREA        0.04  SUBBASIN AREA

                 PRECIPITATION DATA

   6 PH                              DEPTHS FOR   0-PERCENT HYPOTHETICAL STORM
                 ..... HYDRO-35 .....   ............. TP-40 .............   ........... TP-49 ...........
                 5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                  0.86    1.84    3.73    4.60    5.04    5.94    0.00    0.00    0.00    0.00    0.00    0.00

                                              STORM AREA =     0.04
```

```
 8 LS          SCS LOSS RATE
                     STRTL        0.35  INITIAL ABSTRACTION
                    CRVNBR       85.00  CURVE NUMBER
                     RTIMP        0.00  PERCENT IMPERVIOUS AREA

 7 UD          SCS DIMENSIONLESS UNITGRAPH
                      TLAG        0.15  LAG

                                                    ***

                                                 UNIT HYDROGRAPH
                                              11 END-OF-PERIOD ORDINATES
               41.      109.       96.       48.       24.       12.       6.        3.        1.        1.
                0.

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

                        HYDROGRAPH AT STATION    BASIN

    TOTAL RAINFALL =    5.94, TOTAL LOSS =    1.69, TOTAL EXCESS =    4.25

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                        (CFS)
+     157.      3.17                   20.         5.          5.          5.
                          (INCHES)    4.245       4.245       4.245       4.245
                          (AC-FT)      10.         10.         10.         10.

                        CUMULATIVE AREA =    0.04 SQ MI


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


              **************
              *            *
 9 KK         *      POND  *
              *            *
              **************

                 HYDROGRAPH ROUTING DATA

10 RS            STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        ELEV  TYPE OF INITIAL CONDITION
                       RSVRIC     1377.00  INITIAL CONDITION
                           X        0.00 WORKING R AND D COEFFICIENT

11 SA                 AREA         1.2       1.5       1.7

12 SE            ELEVATION     1377.00   1380.00   1381.00

13 SL            LOW-LEVEL OUTLET
                       ELEVL     1378.00  ELEVATION AT CENTER OF OUTLET
                       CAREA        1.76  CROSS-SECTIONAL AREA
                        COQL        0.50  COEFFICIENT
                        EXPL        0.67  EXPONENT OF HEAD

14 SS            SPILLWAY
                        CREL     1380.00  SPILLWAY CREST ELEVATION
                       SPWID       20.00  SPILLWAY WIDTH
                        COQW        2.86  WEIR COEFFICIENT
                        EXPW        1.50  EXPONENT OF HEAD

                                                    ***

                                          COMPUTED STORAGE-ELEVATION DATA
```

| | | | |
|---|---|---|---|
| STORAGE | 0.00 | 4.04 | 5.64 |
| ELEVATION | 1377.00 | 1380.00 | 1381.00 |

COMPUTED OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTFLOW | 0.00 | 0.00 | 5.64 | 6.14 | 6.71 | 7.36 | 8.12 | 8.99 | 10.02 | 11.23 |
| ELEVATION | 1377.00 | 1378.00 | 1378.71 | 1378.81 | 1378.93 | 1379.07 | 1379.23 | 1379.44 | 1379.69 | 1380.00 |
| OUTFLOW | 11.46 | 12.18 | 13.71 | 16.33 | 20.36 | 26.09 | 33.82 | 43.83 | 56.44 | 71.93 |
| ELEVATION | 1380.02 | 1380.06 | 1380.11 | 1380.18 | 1380.27 | 1380.38 | 1380.51 | 1380.65 | 1380.82 | 1381.00 |

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STORAGE | 0.00 | 1.25 | 2.20 | 2.33 | 2.49 | 2.69 | 2.92 | 3.21 | 3.58 | 4.04 |
| OUTFLOW | 0.00 | 0.00 | 5.64 | 6.14 | 6.71 | 7.36 | 8.12 | 8.99 | 10.02 | 11.23 |
| ELEVATION | 1377.00 | 1378.00 | 1378.71 | 1378.81 | 1378.93 | 1379.07 | 1379.23 | 1379.44 | 1379.69 | 1380.00 |
| STORAGE | 4.07 | 4.12 | 4.21 | 4.32 | 4.46 | 4.63 | 4.83 | 5.06 | 5.33 | 5.64 |
| OUTFLOW | 11.46 | 12.18 | 13.71 | 16.34 | 20.37 | 26.09 | 33.81 | 43.83 | 56.44 | 71.93 |
| ELEVATION | 1380.02 | 1380.06 | 1380.11 | 1380.18 | 1380.27 | 1380.38 | 1380.51 | 1380.65 | 1380.82 | 1381.00 |

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

HYDROGRAPH AT STATION POND

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | (CFS) | | | | |
| 63. | 3.58 | | 16. | 4. | 4. | 4. |
| | | (INCHES) | 3.374 | 3.713 | 3.713 | 3.713 |
| | | (AC-FT) | 8. | 9. | 9. | 9. |

| PEAK STORAGE | TIME | MAXIMUM AVERAGE STORAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (AC-FT) | (HR) | | | | |
| 5. | 3.58 | 4. | 2. | 2. | 2. |

| PEAK STAGE | TIME | MAXIMUM AVERAGE STAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (FEET) | (HR) | | | | |
| 1380.90 | 3.58 | 1379.70 | 1378.40 | 1378.35 | 1378.35 |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | | | | | | | | | |
| | BASIN | 157. | 3.17 | 20. | 5. | 5. | 0.04 | | |
| ROUTED TO | | | | | | | | | |
| | POND | 63. | 3.58 | 16. | 4. | 4. | 0.04 | | |
| | | | | | | | | 1380.90 | 3.58 |

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

```
1*****************************************
*                                       *
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*             MAY   1991                *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  10:07:21   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
        1           ID  THE FAIRMONT ADDITION, NORTH EAST POND
                    * Existing Conditions
                    * 10-YR RETURN PERIOD
        2           IT       5 30NOV00    0000     300                    2000
        3           IO       3       0
                    *DIAGRAM
                    *
        4           KK   BASIN
        5           BA   0.044
                    *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
        6           PH      10       0  0.6175   1.305    2.53    3.10    3.39    4.02
                    *     50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
        7           UD     0.2
        8           LS       0      79
                    *
        9           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
```


```
1*****************************************
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*                                       *
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```
*      Dodson & Associates, Inc.      *                                    *          (916) 551-1748          *
*  RUN DATE  12/14/00  TIME  10:07:21  *                                    *                                  *
****************************************                                    ************************************


                    THE FAIRMONT ADDITION, NORTH EAST POND

  3 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE    30NOV 0  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE     1DEC 0  ENDING DATE
                    NDTIME       0055  ENDING TIME
                     ICENT         20  CENTURY MARK

                COMPUTATION INTERVAL    0.08 HOURS
                     TOTAL TIME BASE   24.92 HOURS

        ENGLISH UNITS
             DRAINAGE AREA         SQUARE MILES
             PRECIPITATION DEPTH   INCHES
             LENGTH, ELEVATION     FEET
             FLOW                  CUBIC FEET PER SECOND
             STORAGE VOLUME        ACRE-FEET
             SURFACE AREA          ACRES
             TEMPERATURE           DEGREES FAHRENHEIT


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


          **************
          *            *
  4 KK    *     BASIN  *
          *            *
          **************

             SUBBASIN RUNOFF DATA

  5 BA         SUBBASIN CHARACTERISTICS
                     TAREA        0.04  SUBBASIN AREA

               PRECIPITATION DATA

  6 PH                                 DEPTHS FOR  10-PERCENT HYPOTHETICAL STORM
               ..... HYDRO-35 .....   ............. TP-40 .............   ........... TP-49 ...........
               5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                0.62    1.30    2.53    3.10    3.39    4.02    0.00    0.00    0.00    0.00    0.00    0.00

                                                 STORM AREA =    0.04

  8 LS         SCS LOSS RATE
                     STRTL        0.53  INITIAL ABSTRACTION
                    CRVNBR       79.00  CURVE NUMBER
                     RTIMP        0.00  PERCENT IMPERVIOUS AREA

  7 UD         SCS DIMENSIONLESS UNITGRAPH
                     TLAG        0.20  LAG

                                                 ***
```

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21. | 71. | 88. | 70. | 39. | 22. | 13. | 7. | 4. | 2. |
| 1. | 1. | 0. | 0. | | | | | | |

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

HYDROGRAPH AT STATION BASIN

TOTAL RAINFALL = 3.98, TOTAL LOSS = 2.03, TOTAL EXCESS = 1.95

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | | | | | |
| | | (CFS) | | | | |
| 68. | 3.25 | | 9. | 2. | 2. | 2. |
| | | (INCHES) | 1.947 | 1.947 | 1.947 | 1.947 |
| | | (AC-FT) | 5. | 5. | 5. | 5. |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | BASIN | 68. | 3.25 | 9. | 2. | 2. | 0.04 | | |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  08:35:32   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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

  1           ID  THE FAIRMONT ADDITION, NORTH EAST POND
              * 10-YR RETURN PERIOD
  2           IT       5 30NOV00    0000     300                    2000
  3           IO       3       0
              *DIAGRAM
              *

  4           KK   BASIN
  5           BA   0.044
              *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
  6           PH      10       0  0.6175   1.305    2.53    3.10    3.39    4.02
              *      50       0  0.4616  0.9575    1.69    2.66    2.91    4.02
  7           UD     .15
  8           LS       0      85
              *

  9           KK    POND
 10           RS       1    ELEV    1377
 11           SA     1.2     1.5     1.7
 12           SE    1377    1380    1381
 13           SL    1378    1.76     0.5    0.67
 14           SS    1380      20    2.86     1.5
              *
 15           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN
              V
```

```
                V
    9       POND

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************                    *************************************
 *                                       *                    *                                   *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                    *    U.S. ARMY CORPS OF ENGINEERS   *
 *              MAY   1991               *                    *    HYDROLOGIC ENGINEERING CENTER  *
 *           VERSION 4.0.1E              *                    *         609 SECOND STREET         *
 *     Lahey F77L-EM/32 version 5.01     *                    *       DAVIS, CALIFORNIA 95616     *
 *       Dodson & Associates, Inc.       *                    *          (916) 551-1748           *
 *  RUN DATE  12/14/00  TIME  08:35:32   *                    *                                   *
 *****************************************                    *************************************

                        THE FAIRMONT ADDITION, NORTH EAST POND

    3 IO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

      IT          HYDROGRAPH TIME DATA
                         NMIN          5  MINUTES IN COMPUTATION INTERVAL
                        IDATE     30NOV 0  STARTING DATE
                        ITIME       0000  STARTING TIME
                           NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                       NDDATE      1DEC 0  ENDING DATE
                       NDTIME       0055  ENDING TIME
                        ICENT         20  CENTURY MARK

                    COMPUTATION INTERVAL    0.08 HOURS
                        TOTAL TIME BASE   24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT


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


             **************
             *            *
    4 KK     *     BASIN  *
             *            *
             **************

                SUBBASIN RUNOFF DATA

    5 BA          SUBBASIN CHARACTERISTICS
                        TAREA        0.04  SUBBASIN AREA

                  PRECIPITATION DATA

    6 PH                                 DEPTHS FOR  10-PERCENT HYPOTHETICAL STORM
                  ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
                  5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                   0.62    1.30    2.53    3.10    3.39    4.02    0.00    0.00    0.00    0.00    0.00    0.00

                                                  STORM AREA =     0.04
```

```
 8 LS          SCS LOSS RATE
                    STRTL        0.35  INITIAL ABSTRACTION
                   CRVNBR       85.00  CURVE NUMBER
                    RTIMP        0.00  PERCENT IMPERVIOUS AREA

 7 UD          SCS DIMENSIONLESS UNITGRAPH
                    TLAG        0.15  LAG

                                                    ***

                                                 UNIT HYDROGRAPH
                                              11 END-OF-PERIOD ORDINATES
              41.      109.       96.       48.       24.       12.        6.        3.        1.        1.
               0.

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

                       HYDROGRAPH AT STATION    BASIN

    TOTAL RAINFALL =    3.98, TOTAL LOSS =    1.54, TOTAL EXCESS =    2.44

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      94.      3.17                   12.         3.          3.          3.
                         (INCHES)     2.439       2.439       2.439       2.439
                          (AC-FT)       6.          6.          6.          6.

                         CUMULATIVE AREA =    0.04 SQ MI


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


             **************
             *            *
 9 KK        *      POND  *
             *            *
             **************

                HYDROGRAPH ROUTING DATA

 10 RS            STORAGE ROUTING
                       NSTPS           1  NUMBER OF SUBREACHES
                        ITYP        ELEV  TYPE OF INITIAL CONDITION
                       RSVRIC     1377.00  INITIAL CONDITION
                           X        0.00 WORKING R AND D COEFFICIENT

 11 SA                 AREA         1.2       1.5       1.7

 12 SE            ELEVATION     1377.00   1380.00   1381.00

 13 SL            LOW-LEVEL OUTLET
                       ELEVL     1378.00  ELEVATION AT CENTER OF OUTLET
                       CAREA        1.76  CROSS-SECTIONAL AREA
                        COQL        0.50  COEFFICIENT
                        EXPL        0.67  EXPONENT OF HEAD

 14 SS            SPILLWAY
                        CREL     1380.00  SPILLWAY CREST ELEVATION
                       SPWID       20.00  SPILLWAY WIDTH
                        COQW        2.86  WEIR COEFFICIENT
                        EXPW        1.50  EXPONENT OF HEAD

                                                    ***

                                          COMPUTED STORAGE-ELEVATION DATA
```

| | | | |
|---|---|---|---|
| STORAGE | 0.00 | 4.04 | 5.64 |
| ELEVATION | 1377.00 | 1380.00 | 1381.00 |

COMPUTED OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTFLOW | 0.00 | 0.00 | 5.64 | 6.14 | 6.71 | 7.36 | 8.12 | 8.99 | 10.02 | 11.23 |
| ELEVATION | 1377.00 | 1378.00 | 1378.71 | 1378.81 | 1378.93 | 1379.07 | 1379.23 | 1379.44 | 1379.69 | 1380.00 |
| OUTFLOW | 11.46 | 12.18 | 13.71 | 16.33 | 20.36 | 26.09 | 33.82 | 43.83 | 56.44 | 71.93 |
| ELEVATION | 1380.02 | 1380.06 | 1380.11 | 1380.18 | 1380.27 | 1380.38 | 1380.51 | 1380.65 | 1380.82 | 1381.00 |

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STORAGE | 0.00 | 1.25 | 2.20 | 2.33 | 2.49 | 2.69 | 2.92 | 3.21 | 3.58 | 4.04 |
| OUTFLOW | 0.00 | 0.00 | 5.64 | 6.14 | 6.71 | 7.36 | 8.12 | 8.99 | 10.02 | 11.23 |
| ELEVATION | 1377.00 | 1378.00 | 1378.71 | 1378.81 | 1378.93 | 1379.07 | 1379.23 | 1379.44 | 1379.69 | 1380.00 |
| STORAGE | 4.07 | 4.12 | 4.21 | 4.32 | 4.46 | 4.63 | 4.83 | 5.06 | 5.33 | 5.64 |
| OUTFLOW | 11.46 | 12.18 | 13.71 | 16.34 | 20.37 | 26.09 | 33.81 | 43.83 | 56.44 | 71.93 |
| ELEVATION | 1380.02 | 1380.06 | 1380.11 | 1380.18 | 1380.27 | 1380.38 | 1380.51 | 1380.65 | 1380.82 | 1381.00 |

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

HYDROGRAPH AT STATION POND

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | | | | | |
| | | (CFS) | | | | |
| 11. | 4.17 | | 8. | 2. | 2. | 2. |
| | | (INCHES) | 1.683 | 1.908 | 1.908 | 1.908 |
| | | (AC-FT) | 4. | 4. | 4. | 4. |

| PEAK STORAGE | TIME | MAXIMUM AVERAGE STORAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (AC-FT) | (HR) | | | | |
| 4. | 4.17 | 3. | 2. | 2. | 2. |

| PEAK STAGE | TIME | MAXIMUM AVERAGE STAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (FEET) | (HR) | | | | |
| 1379.93 | 4.17 | 1379.26 | 1378.26 | 1378.22 | 1378.22 |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | | | | | | | | | |
| | BASIN | 94. | 3.17 | 12. | 3. | 3. | 0.04 | | |
| ROUTED TO | | | | | | | | | |
| | POND | 11. | 4.17 | 8. | 2. | 2. | 0.04 | | |
| | | | | | | | | 1379.93 | 4.17 |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
*        Dodson & Associates, Inc.      *
*  RUN DATE  12/14/00  TIME  10:05:19   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*            (916) 551-1748             *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   1          ID  THE FAIRMONT ADDITION, NORTH EAST POND
              * Existing Conditions
              * 2-YR RETURN PERIOD
   2          IT       5 30NOV00    0000     300                    2000
   3          IO       3       0
              *DIAGRAM
              *

   4          KK   BASIN
   5          BA   0.044
              *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
   6          PH      50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
   7          UD     0.2
   8          LS       0      79
              *
   9          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN

  (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
```


```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
```

```
*       Dodson & Associates, Inc.       *                                    *           (916) 551-1748           *
*  RUN DATE  12/14/00  TIME  10:05:19   *                                    *                                    *
****************************************                                    ****************************************


                        THE FAIRMONT ADDITION, NORTH EAST POND

   3 IO          OUTPUT CONTROL VARIABLES
                      IPRNT           3  PRINT CONTROL
                      IPLOT           0  PLOT CONTROL
                      QSCAL          0.  HYDROGRAPH PLOT SCALE

     IT           HYDROGRAPH TIME DATA
                       NMIN           5  MINUTES IN COMPUTATION INTERVAL
                      IDATE     30NOV 0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      1DEC 0  ENDING DATE
                     NDTIME        0055  ENDING TIME
                     ICENT           20  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                      TOTAL TIME BASE   24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT


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


            **************
            *            *
   4 KK     *     BASIN  *
            *            *
            **************

               SUBBASIN RUNOFF DATA

   5 BA          SUBBASIN CHARACTERISTICS
                       TAREA        0.04  SUBBASIN AREA

                 PRECIPITATION DATA

   6 PH                                 DEPTHS FOR  50-PERCENT HYPOTHETICAL STORM
                 ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
                 5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                  0.46    0.96    1.69    1.98    2.16    2.52    0.00    0.00    0.00    0.00    0.00    0.00

                                                  STORM AREA =    0.04

   8 LS          SCS LOSS RATE
                       STRTL        0.53  INITIAL ABSTRACTION
                      CRVNBR       79.00  CURVE NUMBER
                       RTIMP        0.00  PERCENT IMPERVIOUS AREA

   7 UD          SCS DIMENSIONLESS UNITGRAPH
                       TLAG        0.20  LAG

                                                        ***
```

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21. | 71. | 88. | 70. | 39. | 22. | 13. | 7. | 4. | 2. |
| 1. | 1. | 0. | 0. | | | | | | |

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

HYDROGRAPH AT STATION BASIN

TOTAL RAINFALL = 2.22, TOTAL LOSS = 1.56, TOTAL EXCESS = 0.65

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | (CFS) | | | | |
| 24. | 3.33 | | 3. | 1. | 1. | 1. |
| | | (INCHES) | 0.654 | 0.654 | 0.654 | 0.654 |
| | | (AC-FT) | 2. | 2. | 2. | 2. |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | BASIN | 24. | 3.33 | 3. | 1. | 1. | 0.04 | | |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  09:23:27   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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

  1           ID  THE FAIRMONT ADDITION, NORTH EAST POND
              * 2-YR RETURN PERIOD
  2           IT       5 30NOV00    0000     300                    2000
  3           IO       3       0
              *DIAGRAM
              *

  4           KK   BASIN
  5           BA   0.044
              *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
  6           PH      50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
  7           UD     .15
  8           LS       0      85
              *

  9           KK    POND
 10           RS       1    ELEV    1377
 11           SA     1.2     1.5     1.7
 12           SE    1377    1380    1381
 13           SL    1378    1.76     0.5    0.67
 14           SS    1380      20    2.86     1.5
              *
 15           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN
              V
```

```
                V
    9        POND

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************                    *****************************************
*                                       *                    *                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                    *    U.S. ARMY CORPS OF ENGINEERS       *
*             MAY   1991                *                    *    HYDROLOGIC ENGINEERING CENTER      *
*           VERSION 4.0.1E              *                    *         609 SECOND STREET             *
*     Lahey F77L-EM/32 version 5.01     *                    *       DAVIS, CALIFORNIA 95616         *
*       Dodson & Associates, Inc.       *                    *           (916) 551-1748              *
*  RUN DATE  12/14/00  TIME  09:23:27   *                    *                                       *
*****************************************                    *****************************************


                        THE FAIRMONT ADDITION, NORTH EAST POND

    3 IO          OUTPUT CONTROL VARIABLES
                        IPRNT          3  PRINT CONTROL
                        IPLOT          0  PLOT CONTROL
                        QSCAL         0.  HYDROGRAPH PLOT SCALE

      IT          HYDROGRAPH TIME DATA
                         NMIN          5  MINUTES IN COMPUTATION INTERVAL
                        IDATE     30NOV 0  STARTING DATE
                        ITIME       0000  STARTING TIME
                           NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                       NDDATE      1DEC 0  ENDING DATE
                       NDTIME        0055  ENDING TIME
                        ICENT          20  CENTURY MARK

                    COMPUTATION INTERVAL    0.08 HOURS
                         TOTAL TIME BASE   24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT


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


             **************
             *            *
    4 KK     *     BASIN  *
             *            *
             **************

                SUBBASIN RUNOFF DATA

    5 BA          SUBBASIN CHARACTERISTICS
                        TAREA        0.04  SUBBASIN AREA

                  PRECIPITATION DATA

    6 PH                                DEPTHS FOR  50-PERCENT HYPOTHETICAL STORM
                  ..... HYDRO-35 .....   ............. TP-40 .............   ........... TP-49 ...........
                  5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                   0.46   0.96   1.69     1.98    2.16    2.52    0.00    0.00    0.00    0.00    0.00    0.00

                                                STORM AREA =     0.04
```

```
 8 LS          SCS LOSS RATE
                    STRTL        0.35  INITIAL ABSTRACTION
                   CRVNBR       85.00  CURVE NUMBER
                    RTIMP        0.00  PERCENT IMPERVIOUS AREA

 7 UD          SCS DIMENSIONLESS UNITGRAPH
                     TLAG        0.15  LAG

                                                    ***

                                                UNIT HYDROGRAPH
                                             11 END-OF-PERIOD ORDINATES
              41.      109.       96.       48.       24.       12.       6.        3.        1.        1.
               0.

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

                       HYDROGRAPH AT STATION    BASIN

   TOTAL RAINFALL =    2.22, TOTAL LOSS =    1.26, TOTAL EXCESS =    0.96

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                     (CFS)
+     42.      3.25                    5.          1.          1.          1.
                    (INCHES)      0.958       0.958       0.958       0.958
                     (AC-FT)        2.          2.          2.          2.

                     CUMULATIVE AREA =    0.04 SQ MI


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


          **************
          *            *
 9 KK     *      POND  *
          *            *
          **************

             HYDROGRAPH ROUTING DATA

10 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        ELEV  TYPE OF INITIAL CONDITION
                     RSVRIC     1377.00  INITIAL CONDITION
                         X        0.00 WORKING R AND D COEFFICIENT

11 SA               AREA         1.2       1.5       1.7

12 SE          ELEVATION     1377.00   1380.00   1381.00

13 SL          LOW-LEVEL OUTLET
                    ELEVL     1378.00  ELEVATION AT CENTER OF OUTLET
                    CAREA        1.76  CROSS-SECTIONAL AREA
                     COQL        0.50  COEFFICIENT
                     EXPL        0.67  EXPONENT OF HEAD

14 SS          SPILLWAY
                     CREL     1380.00  SPILLWAY CREST ELEVATION
                    SPWID       20.00  SPILLWAY WIDTH
                     COQW        2.86  WEIR COEFFICIENT
                     EXPW        1.50  EXPONENT OF HEAD

                                                    ***

                                        COMPUTED STORAGE-ELEVATION DATA
```

| | | | |
|---|---|---|---|
| STORAGE | 0.00 | 4.04 | 5.64 |
| ELEVATION | 1377.00 | 1380.00 | 1381.00 |

COMPUTED OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTFLOW | 0.00 | 0.00 | 5.64 | 6.14 | 6.71 | 7.36 | 8.12 | 8.99 | 10.02 | 11.23 |
| ELEVATION | 1377.00 | 1378.00 | 1378.71 | 1378.81 | 1378.93 | 1379.07 | 1379.23 | 1379.44 | 1379.69 | 1380.00 |
| OUTFLOW | 11.46 | 12.18 | 13.71 | 16.33 | 20.36 | 26.09 | 33.82 | 43.83 | 56.44 | 71.93 |
| ELEVATION | 1380.02 | 1380.06 | 1380.11 | 1380.18 | 1380.27 | 1380.38 | 1380.51 | 1380.65 | 1380.82 | 1381.00 |

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STORAGE | 0.00 | 1.25 | 2.20 | 2.33 | 2.49 | 2.69 | 2.92 | 3.21 | 3.58 | 4.04 |
| OUTFLOW | 0.00 | 0.00 | 5.64 | 6.14 | 6.71 | 7.36 | 8.12 | 8.99 | 10.02 | 11.23 |
| ELEVATION | 1377.00 | 1378.00 | 1378.71 | 1378.81 | 1378.93 | 1379.07 | 1379.23 | 1379.44 | 1379.69 | 1380.00 |
| STORAGE | 4.07 | 4.12 | 4.21 | 4.32 | 4.46 | 4.63 | 4.83 | 5.06 | 5.33 | 5.64 |
| OUTFLOW | 11.46 | 12.18 | 13.71 | 16.34 | 20.37 | 26.09 | 33.81 | 43.83 | 56.44 | 71.93 |
| ELEVATION | 1380.02 | 1380.06 | 1380.11 | 1380.18 | 1380.27 | 1380.38 | 1380.51 | 1380.65 | 1380.82 | 1381.00 |

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

HYDROGRAPH AT STATION POND

| PEAK FLOW (CFS) | TIME (HR) | | MAXIMUM AVERAGE FLOW 6-HR | 24-HR | 72-HR | 24.92-HR |
|---|---|---|---|---|---|---|
| | | (CFS) | | | | |
| 3. | 4.75 | | 2. | 1. | 0. | 0. |
| | | (INCHES) | 0.389 | 0.426 | 0.426 | 0.426 |
| | | (AC-FT) | 1. | 1. | 1. | 1. |

| PEAK STORAGE (AC-FT) | TIME (HR) | MAXIMUM AVERAGE STORAGE 6-HR | 24-HR | 72-HR | 24.92-HR |
|---|---|---|---|---|---|
| 2. | 4.67 | 2. | 1. | 1. | 1. |

| PEAK STAGE (FEET) | TIME (HR) | MAXIMUM AVERAGE STAGE 6-HR | 24-HR | 72-HR | 24.92-HR |
|---|---|---|---|---|---|
| 1378.36 | 4.75 | 1378.23 | 1377.97 | 1377.93 | 1377.93 |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | BASIN | 42. | 3.25 | 5. | 1. | 1. | 0.04 | | |
| ROUTED TO | POND | 3. | 4.75 | 2. | 1. | 0. | 0.04 | 1378.36 | 4.75 |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  10:10:25   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  1           ID  THE FAIRMONT ADDITION,
              * EXISTING CONDITIONS
              * 100-YR RETURN PERIOD
  2           IT       5 07JUL00    0000     300                    2000
  3           IO       3       0
              *DIAGRAM
              *
  4           KK   BASIN
  5           BA   0.035
  6           PH       0       0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
              *     50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
  7           UD      .2
  8           LS       0      79
              *
  9           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
```


```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
```

```
*       Dodson & Associates, Inc.       *                    *           (916) 551-1748           *
*  RUN DATE  12/14/00  TIME  10:10:25   *                    *                                    *
****************************************                    ****************************************


                        THE FAIRMONT ADDITION, NORTH EAST POND

   3 IO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                        NMIN           5  MINUTES IN COMPUTATION INTERVAL
                       IDATE      7JUL 0  STARTING DATE
                       ITIME        0000  STARTING TIME
                          NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      8JUL 0  ENDING DATE
                      NDTIME        0055  ENDING TIME
                      ICENT           20  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                      TOTAL TIME BASE   24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT


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


            **************
            *            *
   4 KK     *     BASIN  *
            *            *
            **************

               SUBBASIN RUNOFF DATA

   5 BA          SUBBASIN CHARACTERISTICS
                       TAREA        0.04  SUBBASIN AREA

                 PRECIPITATION DATA

   6 PH                                 DEPTHS FOR   0-PERCENT HYPOTHETICAL STORM
                 ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
                 5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                  0.86    1.84    3.73    4.60    5.04    5.94    0.00    0.00    0.00    0.00    0.00    0.00

                                                  STORM AREA =    0.04

   8 LS          SCS LOSS RATE
                        STRTL        0.53  INITIAL ABSTRACTION
                       CRVNBR       79.00  CURVE NUMBER
                        RTIMP        0.00  PERCENT IMPERVIOUS AREA

   7 UD          SCS DIMENSIONLESS UNITGRAPH
                         TLAG        0.20  LAG

                                                  ***
```

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17. | 56. | 70. | 56. | 31. | 18. | 10. | 6. | 3. | 2. |
| 1. | 1. | 0. | 0. | | | | | | |

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

HYDROGRAPH AT STATION BASIN

TOTAL RAINFALL = 5.94, TOTAL LOSS = 2.31, TOTAL EXCESS = 3.63

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | (CFS) | | | | |
| 99. | 3.25 | | 14. | 3. | 3. | 3. |
| | | (INCHES) | 3.626 | 3.626 | 3.626 | 3.626 |
| | | (AC-FT) | 7. | 7. | 7. | 7. |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | BASIN | 99. | 3.25 | 14. | 3. | 3. | 0.04 | | |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  08:33:04   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  1           ID  THE FAIRMONT ADDITION,
              * 100-YR RETURN PERIOD
  2           IT       5 07JUL00     0000      300                    2000
  3           IO       3        0
              *DIAGRAM
              *
  4           KK   BASIN
  5           BA   0.035
  6           PH       0        0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10        0  0.6175   1.305    2.53    3.10    3.39    4.02
              *     50        0  0.4616  0.9575    1.69    2.66    2.91    4.02
  7           UD     .15
  8           LS       0       85
              *
  9           KK    POND
 10           RS       1    ELEV    1370
 11           SA     1.6     1.8     2.0
 12           SE    1371    1373    1375
 13           SL    1371    3.14     0.5    0.67
 14           SS    1373      20    2.86     1.5
              *
 15           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN
              V
```

```
            V
    9       POND

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              MAY   1991              *
*           VERSION 4.0.1E             *
*     Lahey F77L-EM/32 version 5.01    *
*       Dodson & Associates, Inc.      *
*  RUN DATE  12/14/00  TIME  08:33:04  *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748             *
*                                      *
****************************************
```

THE FAIRMONT ADDITION, NORTH EAST POND

3 IO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 3 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |

IT HYDROGRAPH TIME DATA

| | | |
|---|---|---|
| NMIN | 5 | MINUTES IN COMPUTATION INTERVAL |
| IDATE | 7JUL 0 | STARTING DATE |
| ITIME | 0000 | STARTING TIME |
| NQ | 300 | NUMBER OF HYDROGRAPH ORDINATES |
| NDDATE | 8JUL 0 | ENDING DATE |
| NDTIME | 0055 | ENDING TIME |
| ICENT | 20 | CENTURY MARK |

COMPUTATION INTERVAL 0.08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

| | |
|---|---|
| DRAINAGE AREA | SQUARE MILES |
| PRECIPITATION DEPTH | INCHES |
| LENGTH, ELEVATION | FEET |
| FLOW | CUBIC FEET PER SECOND |
| STORAGE VOLUME | ACRE-FEET |
| SURFACE AREA | ACRES |
| TEMPERATURE | DEGREES FAHRENHEIT |

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

```
          **************
          *            *
4 KK      *     BASIN  *
          *            *
          **************
```

SUBBASIN RUNOFF DATA

5 BA SUBBASIN CHARACTERISTICS

| | | |
|---|---|---|
| TAREA | 0.04 | SUBBASIN AREA |

PRECIPITATION DATA

6 PH DEPTHS FOR 0-PERCENT HYPOTHETICAL STORM

| ..... HYDRO-35 ..... | | | ..... TP-40 ..... | | | | | ..... TP-49 ..... | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-MIN | 15-MIN | 60-MIN | 2-HR | 3-HR | 6-HR | 12-HR | 24-HR | 2-DAY | 4-DAY | 7-DAY | 10-DAY |
| 0.86 | 1.84 | 3.73 | 4.60 | 5.04 | 5.94 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

STORM AREA = 0.04

```
  8 LS          SCS LOSS RATE
                      STRTL        0.35  INITIAL ABSTRACTION
                     CRVNBR       85.00  CURVE NUMBER
                      RTIMP        0.00  PERCENT IMPERVIOUS AREA

  7 UD          SCS DIMENSIONLESS UNITGRAPH
                      TLAG        0.15  LAG

                                                        ***

                                                  UNIT HYDROGRAPH
                                               11 END-OF-PERIOD ORDINATES
               33.       86.       76.       38.       19.       9.        5.        2.        1.        1.
                0.

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

                         HYDROGRAPH AT STATION    BASIN

     TOTAL RAINFALL =    5.94, TOTAL LOSS =    1.69, TOTAL EXCESS =    4.25

  PEAK FLOW     TIME                              MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+     125.      3.17                     16.         4.          4.          4.
                         (INCHES)     4.245       4.245       4.245       4.245
                          (AC-FT)       8.          8.          8.          8.

                         CUMULATIVE AREA =    0.04 SQ MI


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


              **************
              *            *
  9 KK        *      POND  *
              *            *
              **************

                 HYDROGRAPH ROUTING DATA

 10 RS             STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        ELEV  TYPE OF INITIAL CONDITION
                        RSVRIC     1370.00  INITIAL CONDITION
                            X        0.00 WORKING R AND D COEFFICIENT

 11 SA                  AREA         1.6       1.8       2.0

 12 SE             ELEVATION     1371.00   1373.00   1375.00

 13 SL             LOW-LEVEL OUTLET
                        ELEVL     1371.00  ELEVATION AT CENTER OF OUTLET
                        CAREA        3.14  CROSS-SECTIONAL AREA
                         COQL        0.50  COEFFICIENT
                         EXPL        0.67  EXPONENT OF HEAD

 14 SS             SPILLWAY
                         CREL     1373.00  SPILLWAY CREST ELEVATION
                        SPWID       20.00  SPILLWAY WIDTH
                         COQW        2.86  WEIR COEFFICIENT
                         EXPW        1.50  EXPONENT OF HEAD

                                                        ***

                                              COMPUTED STORAGE-ELEVATION DATA
```

| | | | |
|---|---|---|---|
| STORAGE | 0.00 | 3.40 | 7.20 |
| ELEVATION | 1371.00 | 1373.00 | 1375.00 |

COMPUTED OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTFLOW | 0.00 | 11.91 | 12.62 | 13.40 | 14.25 | 15.19 | 16.22 | 17.36 | 18.63 | 20.03 |
| ELEVATION | 1371.00 | 1371.92 | 1372.00 | 1372.10 | 1372.20 | 1372.32 | 1372.46 | 1372.62 | 1372.79 | 1373.00 |
| OUTFLOW | 20.88 | 23.18 | 27.83 | 35.63 | 47.39 | 63.90 | 85.98 | 114.43 | 150.05 | 193.66 |
| ELEVATION | 1373.04 | 1373.12 | 1373.23 | 1373.38 | 1373.56 | 1373.77 | 1374.03 | 1374.32 | 1374.64 | 1375.00 |

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STORAGE | 0.00 | 1.51 | 1.65 | 1.81 | 2.00 | 2.20 | 2.44 | 2.71 | 3.03 | 3.40 |
| OUTFLOW | 0.00 | 11.91 | 12.62 | 13.40 | 14.25 | 15.19 | 16.22 | 17.36 | 18.63 | 20.03 |
| ELEVATION | 1371.00 | 1371.92 | 1372.00 | 1372.10 | 1372.20 | 1372.32 | 1372.46 | 1372.62 | 1372.79 | 1373.00 |
| STORAGE | 3.48 | 3.61 | 3.81 | 4.08 | 4.42 | 4.82 | 5.30 | 5.85 | 6.48 | 7.20 |
| OUTFLOW | 20.88 | 23.18 | 27.83 | 35.63 | 47.39 | 63.90 | 85.98 | 114.43 | 150.06 | 193.66 |
| ELEVATION | 1373.04 | 1373.12 | 1373.23 | 1373.38 | 1373.56 | 1373.77 | 1374.03 | 1374.32 | 1374.64 | 1375.00 |

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

HYDROGRAPH AT STATION POND

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | (CFS) | | | | |
| 40. | 3.67 | | 15. | 4. | 4. | 4. |
| | | (INCHES) | 3.995 | 4.245 | 4.245 | 4.245 |
| | | (AC-FT) | 7. | 8. | 8. | 8. |

| PEAK STORAGE | TIME | MAXIMUM AVERAGE STORAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (AC-FT) | (HR) | | | | |
| 4. | 3.67 | 2. | 1. | 1. | 1. |

| PEAK STAGE | TIME | MAXIMUM AVERAGE STAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (FEET) | (HR) | | | | |
| 1373.45 | 3.67 | 1372.23 | 1371.33 | 1371.31 | 1371.31 |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | BASIN | 125. | 3.17 | 16. | 4. | 4. | 0.04 | | |
| ROUTED TO | POND | 40. | 3.67 | 15. | 4. | 4. | 0.04 | 1373.45 | 3.67 |

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

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*          VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01    *
*       Dodson & Associates, Inc.      *
*  RUN DATE  12/14/00  TIME  10:09:53  *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*         609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 551-1748             *
*                                      *
****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   1          ID  THE FAIRMONT ADDITION,
              * EXISTING CONDITIONS
              * 10-YR RETURN PERIOD
   2          IT       5 07JUL00    0000     300                    2000
   3          IO       3       0
              *DIAGRAM
              *

   4          KK   BASIN
   5          BA   0.035
              *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
   6          PH      10       0  0.6175   1.305    2.53    3.10    3.39    4.02
              *     50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
   7          UD      .2
   8          LS       0      79
              *
   9          ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION


```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             MAY   1991               *
*          VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01    *
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*         609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616        *
```

```
*       Dodson & Associates, Inc.       *                                    *           (916) 551-1748           *
*  RUN DATE  12/14/00  TIME  10:09:53   *                                    *                                    *
*****************************************                                    **************************************
```

THE FAIRMONT ADDITION, NORTH EAST POND

3 IO OUTPUT CONTROL VARIABLES

| | | |
|---|---|---|
| IPRNT | 3 | PRINT CONTROL |
| IPLOT | 0 | PLOT CONTROL |
| QSCAL | 0. | HYDROGRAPH PLOT SCALE |

IT HYDROGRAPH TIME DATA

| | | |
|---|---|---|
| NMIN | 5 | MINUTES IN COMPUTATION INTERVAL |
| IDATE | 7JUL 0 | STARTING DATE |
| ITIME | 0000 | STARTING TIME |
| NQ | 300 | NUMBER OF HYDROGRAPH ORDINATES |
| NDDATE | 8JUL 0 | ENDING DATE |
| NDTIME | 0055 | ENDING TIME |
| ICENT | 20 | CENTURY MARK |

COMPUTATION INTERVAL 0.08 HOURS
TOTAL TIME BASE 24.92 HOURS

ENGLISH UNITS

| | |
|---|---|
| DRAINAGE AREA | SQUARE MILES |
| PRECIPITATION DEPTH | INCHES |
| LENGTH, ELEVATION | FEET |
| FLOW | CUBIC FEET PER SECOND |
| STORAGE VOLUME | ACRE-FEET |
| SURFACE AREA | ACRES |
| TEMPERATURE | DEGREES FAHRENHEIT |

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

```
**************
*            *
*     BASIN  *
*            *
**************
```

SUBBASIN RUNOFF DATA

5 BA SUBBASIN CHARACTERISTICS

| | | |
|---|---|---|
| TAREA | 0.04 | SUBBASIN AREA |

PRECIPITATION DATA

6 PH DEPTHS FOR 10-PERCENT HYPOTHETICAL STORM

| HYDRO-35 | | | TP-40 | | | | | TP-49 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-MIN | 15-MIN | 60-MIN | 2-HR | 3-HR | 6-HR | 12-HR | 24-HR | 2-DAY | 4-DAY | 7-DAY | 10-DAY |
| 0.62 | 1.30 | 2.53 | 3.10 | 3.39 | 4.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

STORM AREA = 0.04

8 LS SCS LOSS RATE

| | | |
|---|---|---|
| STRTL | 0.53 | INITIAL ABSTRACTION |
| CRVNBR | 79.00 | CURVE NUMBER |
| RTIMP | 0.00 | PERCENT IMPERVIOUS AREA |

7 UD SCS DIMENSIONLESS UNITGRAPH

| | | |
|---|---|---|
| TLAG | 0.20 | LAG |

***

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17. | 56. | 70. | 56. | 31. | 18. | 10. | 6. | 3. | 2. |
| 1. | 1. | 0. | 0. | | | | | | |

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

HYDROGRAPH AT STATION BASIN

TOTAL RAINFALL = 3.98, TOTAL LOSS = 2.03, TOTAL EXCESS = 1.95

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | (CFS) | | | | |
| 54. | 3.25 | | 7. | 2. | 2. | 2. |
| | | (INCHES) | 1.947 | 1.947 | 1.947 | 1.947 |
| | | (AC-FT) | 4. | 4. | 4. | 4. |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | BASIN | 54. | 3.25 | 7. | 2. | 2. | 0.04 | | |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  08:32:26   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  1           ID  THE FAIRMONT ADDITION,
              * 10-YR RETURN PERIOD
  2           IT       5 07JUL00    0000     300                    2000
  3           IO       3       0
              *DIAGRAM
              *

  4           KK   BASIN
  5           BA   0.035
              *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
  6           PH      10       0  0.6175   1.305    2.53    3.10    3.39    4.02
              *      50       0  0.4616  0.9575    1.69    2.66    2.91    4.02
  7           UD     .15
  8           LS       0      85
              *

  9           KK    POND
 10           RS       1    ELEV    1370
 11           SA     1.6     1.8     2.0
 12           SE    1371    1373    1375
 13           SL    1371    3.14     0.5    0.67
 14           SS    1373      20    2.86     1.5
              *
 15           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN
              V
```

```
            V
    9       POND

 (***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************                    *****************************************
 *                                       *                    *                                       *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                    *    U.S. ARMY CORPS OF ENGINEERS       *
 *              MAY   1991               *                    *    HYDROLOGIC ENGINEERING CENTER      *
 *           VERSION 4.0.1E              *                    *         609 SECOND STREET             *
 *     Lahey F77L-EM/32 version 5.01     *                    *       DAVIS, CALIFORNIA 95616         *
 *       Dodson & Associates, Inc.       *                    *           (916) 551-1748              *
 *  RUN DATE  12/14/00  TIME  08:32:26   *                    *                                       *
 *****************************************                    *****************************************
```

THE FAIRMONT ADDITION, NORTH EAST POND

```
   3 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

     IT           HYDROGRAPH TIME DATA
                       NMIN          5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      7JUL 0  STARTING DATE
                      ITIME        0000  STARTING TIME
                         NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE      8JUL 0  ENDING DATE
                     NDTIME        0055  ENDING TIME
                      ICENT          20  CENTURY MARK

                  COMPUTATION INTERVAL     0.08 HOURS
                      TOTAL TIME BASE     24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA          SQUARE MILES
               PRECIPITATION DEPTH    INCHES
               LENGTH, ELEVATION      FEET
               FLOW                   CUBIC FEET PER SECOND
               STORAGE VOLUME         ACRE-FEET
               SURFACE AREA           ACRES
               TEMPERATURE            DEGREES FAHRENHEIT


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


            **************
            *            *
   4 KK     *     BASIN  *
            *            *
            **************

               SUBBASIN RUNOFF DATA

   5 BA          SUBBASIN CHARACTERISTICS
                      TAREA       0.04  SUBBASIN AREA

                 PRECIPITATION DATA

   6 PH                                 DEPTHS FOR  10-PERCENT HYPOTHETICAL STORM
                 ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
                 5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                  0.62    1.30    2.53    3.10    3.39    4.02    0.00    0.00    0.00    0.00    0.00    0.00

                                                  STORM AREA =     0.04
```

```
 8 LS          SCS LOSS RATE
                     STRTL        0.35  INITIAL ABSTRACTION
                    CRVNBR       85.00  CURVE NUMBER
                     RTIMP        0.00  PERCENT IMPERVIOUS AREA

 7 UD          SCS DIMENSIONLESS UNITGRAPH
                     TLAG        0.15  LAG

                                                    ***

                                                UNIT HYDROGRAPH
                                            11 END-OF-PERIOD ORDINATES
              33.       86.       76.       38.       19.       9.        5.        2.        1.        1.
               0.

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

                       HYDROGRAPH AT STATION    BASIN

   TOTAL RAINFALL =    3.98, TOTAL LOSS =    1.54, TOTAL EXCESS =    2.44

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                      (CFS)
+     75.       3.17                   9.          2.          2.          2.
                     (INCHES)      2.439       2.439       2.439       2.439
                      (AC-FT)        5.          5.          5.          5.

                     CUMULATIVE AREA =    0.04 SQ MI


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


          **************
          *            *
 9 KK     *      POND  *
          *            *
          **************

             HYDROGRAPH ROUTING DATA

10 RS          STORAGE ROUTING
                     NSTPS           1  NUMBER OF SUBREACHES
                      ITYP        ELEV  TYPE OF INITIAL CONDITION
                     RSVRIC     1370.00  INITIAL CONDITION
                         X        0.00 WORKING R AND D COEFFICIENT

11 SA               AREA         1.6       1.8       2.0

12 SE          ELEVATION     1371.00   1373.00   1375.00

13 SL          LOW-LEVEL OUTLET
                     ELEVL     1371.00  ELEVATION AT CENTER OF OUTLET
                     CAREA        3.14  CROSS-SECTIONAL AREA
                      COQL        0.50  COEFFICIENT
                      EXPL        0.67  EXPONENT OF HEAD

14 SS          SPILLWAY
                      CREL     1373.00  SPILLWAY CREST ELEVATION
                     SPWID       20.00  SPILLWAY WIDTH
                      COQW        2.86  WEIR COEFFICIENT
                      EXPW        1.50  EXPONENT OF HEAD

                                                    ***

                                        COMPUTED STORAGE-ELEVATION DATA
```

| | | | |
|---|---|---|---|
| STORAGE | 0.00 | 3.40 | 7.20 |
| ELEVATION | 1371.00 | 1373.00 | 1375.00 |

COMPUTED OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTFLOW | 0.00 | 11.91 | 12.62 | 13.40 | 14.25 | 15.19 | 16.22 | 17.36 | 18.63 | 20.03 |
| ELEVATION | 1371.00 | 1371.92 | 1372.00 | 1372.10 | 1372.20 | 1372.32 | 1372.46 | 1372.62 | 1372.79 | 1373.00 |
| OUTFLOW | 20.88 | 23.18 | 27.83 | 35.63 | 47.39 | 63.90 | 85.98 | 114.43 | 150.05 | 193.66 |
| ELEVATION | 1373.04 | 1373.12 | 1373.23 | 1373.38 | 1373.56 | 1373.77 | 1374.03 | 1374.32 | 1374.64 | 1375.00 |

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STORAGE | 0.00 | 1.51 | 1.65 | 1.81 | 2.00 | 2.20 | 2.44 | 2.71 | 3.03 | 3.40 |
| OUTFLOW | 0.00 | 11.91 | 12.62 | 13.40 | 14.25 | 15.19 | 16.22 | 17.36 | 18.63 | 20.03 |
| ELEVATION | 1371.00 | 1371.92 | 1372.00 | 1372.10 | 1372.20 | 1372.32 | 1372.46 | 1372.62 | 1372.79 | 1373.00 |
| STORAGE | 3.48 | 3.61 | 3.81 | 4.08 | 4.42 | 4.82 | 5.30 | 5.85 | 6.48 | 7.20 |
| OUTFLOW | 20.88 | 23.18 | 27.83 | 35.63 | 47.39 | 63.90 | 85.98 | 114.43 | 150.06 | 193.66 |
| ELEVATION | 1373.04 | 1373.12 | 1373.23 | 1373.38 | 1373.56 | 1373.77 | 1374.03 | 1374.32 | 1374.64 | 1375.00 |

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

HYDROGRAPH AT STATION POND

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (CFS) | (HR) | | | | | |
| | | (CFS) | | | | |
| 16. | 3.75 | | 9. | 2. | 2. | 2. |
| | | (INCHES) | 2.318 | 2.439 | 2.439 | 2.439 |
| | | (AC-FT) | 4. | 5. | 5. | 5. |

| PEAK STORAGE | TIME | MAXIMUM AVERAGE STORAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (AC-FT) | (HR) | | | | |
| 2. | 3.75 | 1. | 0. | 0. | 0. |

| PEAK STAGE | TIME | MAXIMUM AVERAGE STAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| (FEET) | (HR) | | | | |
| 1372.49 | 3.75 | 1371.72 | 1371.19 | 1371.18 | 1371.18 |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| HYDROGRAPH AT | | | | | | | | | |
| | BASIN | 75. | 3.17 | 9. | 2. | 2. | 0.04 | | |
| ROUTED TO | | | | | | | | | |
| | POND | 16. | 3.75 | 9. | 2. | 2. | 0.04 | | |
| | | | | | | | | 1372.49 | 3.75 |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  10:09:11   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
      LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
        1           ID  THE FAIRMONT ADDITION,
                    * EXISTING CONDITIONS
                    * 2-YR RETURN PERIOD
        2           IT       5 07JUL00    0000     300                    2000
        3           IO       3       0
                    *DIAGRAM
                    *

        4           KK   BASIN
        5           BA   0.035
                    *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
                    *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
        6           PH      50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
        7           UD      .2
        8           LS       0      79
                    *
        9           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION


```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
```

```
*      Dodson & Associates, Inc.       *                                    *          (916) 551-1748          *
*  RUN DATE  12/14/00  TIME  10:09:11   *                                    *                                  *
****************************************                                    ************************************


                        THE FAIRMONT ADDITION, NORTH EAST POND

   3 IO          OUTPUT CONTROL VARIABLES
                       IPRNT           3  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

     IT          HYDROGRAPH TIME DATA
                        NMIN           5  MINUTES IN COMPUTATION INTERVAL
                       IDATE      7JUL 0  STARTING DATE
                       ITIME        0000  STARTING TIME
                          NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE      8JUL 0  ENDING DATE
                      NDTIME        0055  ENDING TIME
                       ICENT          20  CENTURY MARK

                    COMPUTATION INTERVAL    0.08 HOURS
                         TOTAL TIME BASE   24.92 HOURS

          ENGLISH UNITS
               DRAINAGE AREA         SQUARE MILES
               PRECIPITATION DEPTH   INCHES
               LENGTH, ELEVATION     FEET
               FLOW                  CUBIC FEET PER SECOND
               STORAGE VOLUME        ACRE-FEET
               SURFACE AREA          ACRES
               TEMPERATURE           DEGREES FAHRENHEIT


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


            **************
            *            *
   4 KK     *     BASIN  *
            *            *
            **************

               SUBBASIN RUNOFF DATA

   5 BA          SUBBASIN CHARACTERISTICS
                       TAREA        0.04  SUBBASIN AREA

                 PRECIPITATION DATA

   6 PH                                 DEPTHS FOR  50-PERCENT HYPOTHETICAL STORM
                 ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
                 5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                  0.46   0.96   1.69     1.98    2.16    2.52    0.00    0.00    0.00    0.00    0.00    0.00

                                                 STORM AREA =     0.04

   8 LS          SCS LOSS RATE
                       STRTL        0.53  INITIAL ABSTRACTION
                      CRVNBR       79.00  CURVE NUMBER
                       RTIMP        0.00  PERCENT IMPERVIOUS AREA

   7 UD          SCS DIMENSIONLESS UNITGRAPH
                       TLAG        0.20  LAG

                                                    ***
```

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 17. | 56. | 70. | 56. | 31. | 18. | 10. | 6. | 3. | 2. |
| | 1. | 1. | 0. | 0. | | | | | | |

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

HYDROGRAPH AT STATION BASIN

TOTAL RAINFALL = 2.22, TOTAL LOSS = 1.56, TOTAL EXCESS = 0.65

| | PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|---|
| | | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| + | (CFS) | (HR) | | | | | |
| | | | (CFS) | | | | |
| + | 19. | 3.33 | | 2. | 1. | 1. | 1. |
| | | | (INCHES) | 0.654 | 0.654 | 0.654 | 0.654 |
| | | | (AC-FT) | 1. | 1. | 1. | 1. |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| + | | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | BASIN | 19. | 3.33 | 2. | 1. | 1. | 0.04 | | |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  09:27:54   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

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

  1           ID  THE FAIRMONT ADDITION,
              * 2-YR RETURN PERIOD
  2           IT       5 07JUL00    0000     300                    2000
  3           IO       3       0
              *DIAGRAM
              *

  4           KK   BASIN
  5           BA   0.035
              *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
  6           PH      50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
  7           UD     .15
  8           LS       0      85
              *

  9           KK    POND
 10           RS       1    ELEV    1370
 11           SA     1.6     1.8     2.0
 12           SE    1371    1373    1375
 13           SL    1371    3.14     0.5    0.67
 14           SS    1373      20    2.86     1.5
              *
 15           ZZ
```

1

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (---->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<----) RETURN OF DIVERTED OR PUMPED FLOW

    4       BASIN
              V
```

```
                V
  9       POND

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*            VERSION 4.0.1E             *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  09:27:54   *
*****************************************

*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748               *
*                                       *
*****************************************

                    THE FAIRMONT ADDITION, NORTH EAST POND

  3 IO          OUTPUT CONTROL VARIABLES
                      IPRNT          3  PRINT CONTROL
                      IPLOT          0  PLOT CONTROL
                      QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                       NMIN          5  MINUTES IN COMPUTATION INTERVAL
                      IDATE      7JUL 0  STARTING DATE
                      ITIME       0000  STARTING TIME
                         NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                      NDDATE     8JUL 0  ENDING DATE
                      NDTIME       0055  ENDING TIME
                      ICENT         20  CENTURY MARK

                COMPUTATION INTERVAL     0.08 HOURS
                    TOTAL TIME BASE     24.92 HOURS

        ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT


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


          **************
          *            *
  4 KK    *     BASIN  *
          *            *
          **************

             SUBBASIN RUNOFF DATA

  5 BA         SUBBASIN CHARACTERISTICS
                     TAREA        0.04  SUBBASIN AREA

               PRECIPITATION DATA

  6 PH                                 DEPTHS FOR  50-PERCENT HYPOTHETICAL STORM
               ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
               5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                0.46   0.96   1.69     1.98    2.16    2.52    0.00    0.00    0.00    0.00    0.00    0.00

                                                STORM AREA =     0.04
```

```
  8 LS          SCS LOSS RATE
                      STRTL        0.35  INITIAL ABSTRACTION
                     CRVNBR       85.00  CURVE NUMBER
                      RTIMP        0.00  PERCENT IMPERVIOUS AREA

  7 UD          SCS DIMENSIONLESS UNITGRAPH
                      TLAG        0.15  LAG

                                                    ***

                                                 UNIT HYDROGRAPH
                                              11 END-OF-PERIOD ORDINATES
               33.       86.       76.       38.       19.       9.        5.        2.        1.        1.
                0.

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

                        HYDROGRAPH AT STATION    BASIN

     TOTAL RAINFALL =    2.22, TOTAL LOSS =    1.26, TOTAL EXCESS =    0.96

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     24.92-HR
+   (CFS)       (HR)
                          (CFS)
+      33.      3.25                   4.          1.          1.          1.
                          (INCHES)   0.958       0.958       0.958       0.958
                          (AC-FT)      2.          2.          2.          2.

                        CUMULATIVE AREA =    0.04 SQ MI


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


              **************
              *            *
  9 KK        *      POND  *
              *            *
              **************

                 HYDROGRAPH ROUTING DATA

 10 RS             STORAGE ROUTING
                        NSTPS          1  NUMBER OF SUBREACHES
                         ITYP       ELEV  TYPE OF INITIAL CONDITION
                        RSVRIC    1370.00  INITIAL CONDITION
                            X       0.00 WORKING R AND D COEFFICIENT

 11 SA                  AREA        1.6       1.8       2.0

 12 SE             ELEVATION    1371.00   1373.00   1375.00

 13 SL             LOW-LEVEL OUTLET
                        ELEVL    1371.00  ELEVATION AT CENTER OF OUTLET
                        CAREA       3.14  CROSS-SECTIONAL AREA
                         COQL       0.50  COEFFICIENT
                         EXPL       0.67  EXPONENT OF HEAD

 14 SS             SPILLWAY
                         CREL    1373.00  SPILLWAY CREST ELEVATION
                        SPWID      20.00  SPILLWAY WIDTH
                         COQW       2.86  WEIR COEFFICIENT
                         EXPW       1.50  EXPONENT OF HEAD

                                                    ***

                                          COMPUTED STORAGE-ELEVATION DATA
```

| | | | |
|---|---|---|---|
| STORAGE | 0.00 | 3.40 | 7.20 |
| ELEVATION | 1371.00 | 1373.00 | 1375.00 |

COMPUTED OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTFLOW | 0.00 | 11.91 | 12.62 | 13.40 | 14.25 | 15.19 | 16.22 | 17.36 | 18.63 | 20.03 |
| ELEVATION | 1371.00 | 1371.92 | 1372.00 | 1372.10 | 1372.20 | 1372.32 | 1372.46 | 1372.62 | 1372.79 | 1373.00 |
| OUTFLOW | 20.88 | 23.18 | 27.83 | 35.63 | 47.39 | 63.90 | 85.98 | 114.43 | 150.05 | 193.66 |
| ELEVATION | 1373.04 | 1373.12 | 1373.23 | 1373.38 | 1373.56 | 1373.77 | 1374.03 | 1374.32 | 1374.64 | 1375.00 |

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STORAGE | 0.00 | 1.51 | 1.65 | 1.81 | 2.00 | 2.20 | 2.44 | 2.71 | 3.03 | 3.40 |
| OUTFLOW | 0.00 | 11.91 | 12.62 | 13.40 | 14.25 | 15.19 | 16.22 | 17.36 | 18.63 | 20.03 |
| ELEVATION | 1371.00 | 1371.92 | 1372.00 | 1372.10 | 1372.20 | 1372.32 | 1372.46 | 1372.62 | 1372.79 | 1373.00 |
| STORAGE | 3.48 | 3.61 | 3.81 | 4.08 | 4.42 | 4.82 | 5.30 | 5.85 | 6.48 | 7.20 |
| OUTFLOW | 20.88 | 23.18 | 27.83 | 35.63 | 47.39 | 63.90 | 85.98 | 114.43 | 150.06 | 193.66 |
| ELEVATION | 1373.04 | 1373.12 | 1373.23 | 1373.38 | 1373.56 | 1373.77 | 1374.03 | 1374.32 | 1374.64 | 1375.00 |

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

HYDROGRAPH AT STATION POND

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| + (CFS) | (HR) | | | | | |
| | | (CFS) | | | | |
| + 8. | 3.75 | | 3. | 1. | 1. | 1. |
| | | (INCHES) | 0.920 | 0.958 | 0.958 | 0.958 |
| | | (AC-FT) | 2. | 2. | 2. | 2. |

| PEAK STORAGE | TIME | MAXIMUM AVERAGE STORAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| + (AC-FT) | (HR) | | | | |
| 1. | 3.75 | 0. | 0. | 0. | 0. |

| PEAK STAGE | TIME | MAXIMUM AVERAGE STAGE | | | |
|---|---|---|---|---|---|
| | | 6-HR | 24-HR | 72-HR | 24.92-HR |
| + (FEET) | (HR) | | | | |
| 1371.58 | 3.75 | 1371.27 | 1371.07 | 1371.07 | 1371.07 |

CUMULATIVE AREA = 0.04 SQ MI

1

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

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD | | | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| + | | | | | 6-HOUR | 24-HOUR | 72-HOUR | | | |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | BASIN | 33. | 3.25 | 4. | 1. | 1. | 0.04 | | |
| | ROUTED TO | | | | | | | | | |
| + | | POND | 8. | 3.75 | 3. | 1. | 1. | 0.04 | | |
| + | | | | | | | | | 1371.58 | 3.75 |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  09:45:23   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X,               X
X     X  X        X     X          X
X     X  XXXXXXX   XXXXX          XXX
```

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
  1           ID  MESSIAH BAPTIST CHURCH
              * 2-YR RETURN PERIOD
  2           ID  EAST BASIN POND
  3           IT       1 15MAY97    0000     300
  4           IO       3       0
              *

  5           KK     OLD
  6           BA    0.03
              *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
  7           PH      50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
              *
  8           UD     0.2
  9           LS       0      80
              *

 10           KK    OLDP
 11           RS       1    ELEV    1377
 12           SA       0     1.0     1.3
 13           SE    1377    1378    1381
 14           SL  1378.5    3.14     .67      .5
 15           SS    1380      10     2.8     1.5
              *

 16           KK     NEW
 17           BA    0.07
              *
 18           UD     0.2
 19           LS       0      81
              *

 20           KK    NEWP
```

```
          21          RS       1    ELEV    1374
          22          SA     1.5     2.0     2.5
          23          SE    1374    1378    1381
          24          SL  1375.5    3.14     .67      .5
          25          SS    1380      10     2.8     1.5
                      *
          26          ZZ
1*****************************************                    *****************************************
*                                       *                    *                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                    *    U.S. ARMY CORPS OF ENGINEERS       *
*              MAY   1991               *                    *    HYDROLOGIC ENGINEERING CENTER      *
*           VERSION 4.0.1E              *                    *          609 SECOND STREET            *
*     Lahey F77L-EM/32 version 5.01     *                    *       DAVIS, CALIFORNIA 95616         *
*       Dodson & Associates, Inc.       *                    *           (916) 551-1748              *
*  RUN DATE  12/14/00  TIME  09:45:23   *                    *                                       *
*****************************************                    *****************************************

                      MESSIAH BAPTIST CHURCH
                      EAST BASIN POND

  4 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN          1  MINUTES IN COMPUTATION INTERVAL
                     IDATE    15MAY97  STARTING DATE
                     ITIME       0000  STARTING TIME
                        NQ        300  NUMBER OF HYDROGRAPH ORDINATES
                     NDDATE   15MAY97  ENDING DATE
                     NDTIME       0459  ENDING TIME
                     ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL     0.02 HOURS
                      TOTAL TIME BASE      4.98 HOURS

        ENGLISH UNITS
             DRAINAGE AREA          SQUARE MILES
             PRECIPITATION DEPTH    INCHES
             LENGTH, ELEVATION      FEET
             FLOW                   CUBIC FEET PER SECOND
             STORAGE VOLUME         ACRE-FEET
             SURFACE AREA           ACRES
             TEMPERATURE            DEGREES FAHRENHEIT


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


          **************
          *            *
  5 KK    *       OLD  *
          *            *
          **************

             SUBBASIN RUNOFF DATA

  6 BA         SUBBASIN CHARACTERISTICS
                    TAREA        0.03  SUBBASIN AREA

               PRECIPITATION DATA

  7 PH                                DEPTHS FOR  50-PERCENT HYPOTHETICAL STORM
               ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
               5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
```

```
                0.46    0.96    1.69    1.98    2.16    2.52    0.00    0.00    0.00    0.00    0.00    0.00

                                                STORM AREA =    0.03

  9 LS          SCS LOSS RATE
                      STRTL       0.50  INITIAL ABSTRACTION
                     CRVNBR      80.00  CURVE NUMBER
                      RTIMP       0.00  PERCENT IMPERVIOUS AREA

  8 UD          SCS DIMENSIONLESS UNITGRAPH
                      TLAG       0.20  LAG

                                                                ***

VALUE EXCEEDS TABLE IN LOGLOG         0.01667         0.01667         6.00000

                                                    UNIT HYDROGRAPH
                                                62 END-OF-PERIOD ORDINATES
              2.      5.      9.     15.     22.     30.     41.     50.     59.     65.
             68.     69.     69.     68.     65.     61.     56.     51.     46.     39.
             33.     29.     25.     22.     19.     17.     15.     14.     12.     10.
              9.      8.      7.      6.      5.      5.      4.      4.      3.      3.
              2.      2.      2.      2.      1.      1.      1.      1.      1.      1.
              1.      1.      1.      0.      0.      0.      0.      0.      0.      0.
              0.      0.

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

                        HYDROGRAPH AT STATION      OLD

    TOTAL RAINFALL =    2.13, TOTAL LOSS =    1.49, TOTAL EXCESS =    0.64

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR       4.98-HR
+   (CFS)       (HR)
                          (CFS)
+     18.       2.75                2.           2.           2.           2.
                          (INCHES)  0.625        0.625        0.625        0.625
                          (AC-FT)     1.           1.           1.           1.

                        CUMULATIVE AREA =    0.03 SQ MI


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


            **************
            *            *
 10 KK      *      OLDP  *
            *            *
            **************

               HYDROGRAPH ROUTING DATA

 11 RS          STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       ELEV  TYPE OF INITIAL CONDITION
                      RSVRIC  1377.00  INITIAL CONDITION
                          X       0.00 WORKING R AND D COEFFICIENT

 12 SA                AREA        0.0       1.0       1.3

 13 SE          ELEVATION    1377.00   1378.00   1381.00

 14 SL          LOW-LEVEL OUTLET
                      ELEVL  1378.50  ELEVATION AT CENTER OF OUTLET
                      CAREA     3.14  CROSS-SECTIONAL AREA
                       COQL     0.67  COEFFICIENT
                       EXPL     0.50  EXPONENT OF HEAD
```

```
   15 SS          SPILLWAY
                         CREL     1380.00  SPILLWAY CREST ELEVATION
                        SPWID       10.00  SPILLWAY WIDTH
                         COQW        2.80  WEIR COEFFICIENT
                         EXPW        1.50  EXPONENT OF HEAD

                                                                 ***

                                                  COMPUTED STORAGE-ELEVATION DATA

             STORAGE      0.00      0.33      3.77
           ELEVATION   1377.00   1378.00   1381.00

                                                  COMPUTED OUTFLOW-ELEVATION DATA

             OUTFLOW      0.00      0.00     16.01     16.54     17.11     17.72     18.38     19.08     19.84     20.66
           ELEVATION   1377.00   1378.50   1379.40   1379.46   1379.53   1379.60   1379.69   1379.78   1379.88   1380.00

             OUTFLOW     21.51     22.42     23.82     25.78     28.40     31.78     36.00     41.16     47.36     54.68
           ELEVATION   1380.06   1380.11   1380.17   1380.25   1380.34   1380.44   1380.56   1380.69   1380.84   1381.00


                                              COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

             STORAGE      0.00      0.33      0.85      1.83      1.90      1.97      2.06      2.16      2.26      2.39
             OUTFLOW      0.00      0.00      0.00     16.01     16.54     17.11     17.72     18.38     19.08     19.84
           ELEVATION   1377.00   1378.00   1378.50   1379.40   1379.46   1379.53   1379.60   1379.69   1379.78   1379.88

             STORAGE      2.53      2.60      2.66      2.73      2.83      2.94      3.07      3.21      3.38      3.57
             OUTFLOW     20.66     21.51     22.42     23.82     25.78     28.40     31.77     36.00     41.16     47.36
           ELEVATION   1380.00   1380.06   1380.11   1380.17   1380.25   1380.34   1380.44   1380.56   1380.69   1380.84

             STORAGE      3.77
             OUTFLOW     54.68
           ELEVATION   1381.00
       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     OLDP

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR     4.98-HR
+   (CFS)       (HR)
                           (CFS)
+       1.      4.98                    0.          0.          0.          0.
                        (INCHES)     0.051       0.051       0.051       0.051
                         (AC-FT)        0.          0.          0.          0.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR     4.98-HR
+  (AC-FT)      (HR)
        1.      4.88                    0.          0.          0.          0.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR     4.98-HR
+   (FEET)      (HR)
   1378.57      4.98               1377.66     1377.66     1377.66     1377.66

                         CUMULATIVE AREA =    0.03 SQ MI



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


             **************
             *            *
   16 KK     *       NEW  *
             *            *
```

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

                SUBBASIN RUNOFF DATA

   17 BA          SUBBASIN CHARACTERISTICS
                        TAREA        0.07  SUBBASIN AREA

                  PRECIPITATION DATA

    7 PH                                 DEPTHS FOR  50-PERCENT HYPOTHETICAL STORM
                  ..... HYDRO-35 ......   ................ TP-40 ...............   ........... TP-49 ...........
                  5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                   0.46    0.96    1.69    1.98    2.16    2.52    0.00    0.00    0.00    0.00    0.00    0.00

                                                   STORM AREA =     0.07

   19 LS          SCS LOSS RATE
                        STRTL        0.47  INITIAL ABSTRACTION
                       CRVNBR       81.00  CURVE NUMBER
                        RTIMP        0.00  PERCENT IMPERVIOUS AREA

   18 UD          SCS DIMENSIONLESS UNITGRAPH
                         TLAG        0.20  LAG

                                                                 ***

 VALUE EXCEEDS TABLE IN LOGLOG         0.01667        0.01667        6.00000

                                                           UNIT HYDROGRAPH
                                                      62 END-OF-PERIOD ORDINATES
                    4.       12.       22.       35.       50.       71.       95.      118.      137.      151.
                  159.      162.      162.      159.      151.      142.      132.      120.      107.       91.
                   78.       68.       59.       52.       45.       41.       36.       32.       28.       24.
                   21.       19.       16.       14.       13.       11.       10.        8.        7.        6.
                    6.        5.        4.        4.        3.        3.        3.        2.        2.        2.
                    2.        1.        1.        1.        1.        1.        1.        1.        0.        0.
                    0.        0.

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

                         HYDROGRAPH AT STATION      NEW

     TOTAL RAINFALL =    2.13, TOTAL LOSS =    1.44, TOTAL EXCESS =    0.69

  PEAK FLOW      TIME                        MAXIMUM AVERAGE FLOW
                                     6-HR        24-HR        72-HR      4.98-HR
+   (CFS)        (HR)
                           (CFS)
+      46.       2.75                  6.           6.           6.           6.
                        (INCHES)    0.670        0.670        0.670        0.670
                         (AC-FT)       3.           3.           3.           3.

                         CUMULATIVE AREA =    0.07 SQ MI


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

             **************
             *            *
   20 KK     *      NEWP  *
             *            *
             **************

                HYDROGRAPH ROUTING DATA

   21 RS          STORAGE ROUTING
                        NSTPS           1  NUMBER OF SUBREACHES
                         ITYP        ELEV  TYPE OF INITIAL CONDITION
```

```
                    RSVRIC     1374.00  INITIAL CONDITION
                         X        0.00 WORKING R AND D COEFFICIENT

22 SA               AREA         1.5       2.0       2.5

23 SE          ELEVATION     1374.00   1378.00   1381.00

24 SL          LOW-LEVEL OUTLET
                     ELEVL     1375.50  ELEVATION AT CENTER OF OUTLET
                     CAREA        3.14  CROSS-SECTIONAL AREA
                      COQL        0.67  COEFFICIENT
                      EXPL        0.50  EXPONENT OF HEAD

25 SS          SPILLWAY
                      CREL     1380.00  SPILLWAY CREST ELEVATION
                     SPWID       10.00  SPILLWAY WIDTH
                      COQW        2.80  WEIR COEFFICIENT
                      EXPW        1.50  EXPONENT OF HEAD
```

***

COMPUTED STORAGE-ELEVATION DATA

| | | | |
|---|---|---|---|
| STORAGE | 0.00 | 6.98 | 13.71 |
| ELEVATION | 1374.00 | 1378.00 | 1381.00 |

COMPUTED OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTFLOW | 0.00 | 0.00 | 16.69 | 18.07 | 19.70 | 21.64 | 24.02 | 26.98 | 30.76 | 35.79 |
| ELEVATION | 1374.00 | 1375.50 | 1376.48 | 1376.65 | 1376.86 | 1377.15 | 1377.53 | 1378.06 | 1378.82 | 1380.00 |
| OUTFLOW | 36.11 | 36.68 | 37.70 | 39.28 | 41.56 | 44.64 | 48.66 | 53.74 | 60.01 | 67.57 |
| ELEVATION | 1380.03 | 1380.08 | 1380.13 | 1380.21 | 1380.30 | 1380.41 | 1380.53 | 1380.67 | 1380.83 | 1381.00 |

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STORAGE | 0.00 | 2.38 | 4.09 | 4.39 | 4.79 | 5.32 | 6.04 | 6.98 | 7.09 | 8.68 |
| OUTFLOW | 0.00 | 0.00 | 16.69 | 18.07 | 19.70 | 21.64 | 24.02 | 26.68 | 26.98 | 30.76 |
| ELEVATION | 1374.00 | 1375.50 | 1376.48 | 1376.65 | 1376.86 | 1377.15 | 1377.53 | 1378.00 | 1378.06 | 1378.82 |
| STORAGE | 11.30 | 11.38 | 11.48 | 11.61 | 11.79 | 12.00 | 12.26 | 12.56 | 12.90 | 13.28 |
| OUTFLOW | 35.79 | 36.11 | 36.68 | 37.70 | 39.28 | 41.55 | 44.64 | 48.66 | 53.74 | 60.01 |
| ELEVATION | 1380.00 | 1380.03 | 1380.08 | 1380.13 | 1380.21 | 1380.30 | 1380.41 | 1380.53 | 1380.67 | 1380.83 |
| STORAGE | 13.71 | | | | | | | | | |
| OUTFLOW | 67.57 | | | | | | | | | |
| ELEVATION | 1381.00 | | | | | | | | | |

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

HYDROGRAPH AT STATION NEWP

| PEAK FLOW | TIME | | MAXIMUM AVERAGE FLOW | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 4.98-HR |
| + (CFS) | (HR) | | | | | |
| | | (CFS) | | | | |
| + 1. | 4.98 | | 0. | 0. | 0. | 0. |
| | | (INCHES) | 0.005 | 0.005 | 0.005 | 0.005 |
| | | (AC-FT) | 0. | 0. | 0. | 0. |

| PEAK STORAGE | TIME | | MAXIMUM AVERAGE STORAGE | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 4.98-HR |
| + (AC-FT) | (HR) | | | | | |
| 2. | 4.98 | | 1. | 1. | 1. | 1. |

| PEAK STAGE | TIME | | MAXIMUM AVERAGE STAGE | | | |
|---|---|---|---|---|---|---|
| | | | 6-HR | 24-HR | 72-HR | 4.98-HR |
| + (FEET) | (HR) | | | | | |
| 1375.56 | 4.98 | | 1374.58 | 1374.58 | 1374.58 | 1374.58 |

CUMULATIVE AREA = 0.07 SQ MI

1

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

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| | HYDROGRAPH AT | | | | | | | | | |
| + | | OLD | 18. | 2.75 | 2. | 2. | 2. | 0.03 | | |
| | ROUTED TO | | | | | | | | | |
| + | | OLDP | 1. | 4.98 | 0. | 0. | 0. | 0.03 | | |
| + | | | | | | | | | 1378.57 | 4.98 |
| | HYDROGRAPH AT | | | | | | | | | |
| + | | NEW | 46. | 2.75 | 6. | 6. | 6. | 0.07 | | |
| | ROUTED TO | | | | | | | | | |
| + | | NEWP | 1. | 4.98 | 0. | 0. | 0. | 0.07 | | |
| + | | | | | | | | | 1375.56 | 4.98 |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE 12/14/00  TIME  09:44:36    *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM



```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
   1          ID  MESSIAH BAPTIST CHURCH
              * 10-YR RETURN PERIOD
   2          ID  EAST BASIN POND
   3          IT       1 15MAY97    0000     300
   4          IO       3       0
              *
   5          KK     OLD
   6          BA    0.03
              *      0       0    0.86  1.8425    3.73    4.60    5.04    5.94
   7          PH      10       0  0.6175   1.305    2.53    3.10    3.39    4.02
              *      50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
              *
   8          UD     0.2
   9          LS       0      80
              *
  10          KK    OLDP
  11          RS       1    ELEV    1377
  12          SA       0     1.0     1.3
  13          SE    1377    1378    1381
  14          SL  1378.5    3.14     .67      .5
  15          SS    1380      10     2.8     1.5
              *
  16          KK     NEW
  17          BA    0.07
              *
  18          UD     0.2
  19          LS       0      81
              *
  20          KK    NEWP
```

```
          21          RS       1    ELEV    1374
          22          SA     1.5     2.0     2.5
          23          SE    1374    1378    1381
          24          SL  1375.5    3.14     .67      .5
          25          SS    1380      10     2.8     1.5
                      *
          26          ZZ
1*****************************************                    *****************************************
*                                       *                    *                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                    *    U.S. ARMY CORPS OF ENGINEERS       *
*             MAY   1991                *                    *    HYDROLOGIC ENGINEERING CENTER      *
*          VERSION 4.0.1E               *                    *         609 SECOND STREET             *
*     Lahey F77L-EM/32 version 5.01     *                    *       DAVIS, CALIFORNIA 95616         *
*      Dodson & Associates, Inc.        *                    *          (916) 551-1748               *
* RUN DATE  12/14/00  TIME  09:44:36    *                    *                                       *
*****************************************                    *****************************************

                     MESSIAH BAPTIST CHURCH
                     EAST BASIN POND

  4 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN          1  MINUTES IN COMPUTATION INTERVAL
                     IDATE     15MAY97  STARTING DATE
                     ITIME        0000  STARTING TIME
                        NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE     15MAY97  ENDING DATE
                    NDTIME        0459  ENDING TIME
                     ICENT          19  CENTURY MARK

                COMPUTATION INTERVAL     0.02 HOURS
                     TOTAL TIME BASE     4.98 HOURS

       ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT


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


          **************
          *            *
  5 KK    *       OLD  *
          *            *
          **************

            SUBBASIN RUNOFF DATA

  6 BA        SUBBASIN CHARACTERISTICS
                   TAREA        0.03  SUBBASIN AREA

              PRECIPITATION DATA

  7 PH                                DEPTHS FOR  10-PERCENT HYPOTHETICAL STORM
              ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
              5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
```

```
                0.62    1.30    2.53    3.10    3.39    4.02    0.00    0.00    0.00    0.00    0.00    0.00

                                                STORM AREA =     0.03

   9 LS         SCS LOSS RATE
                     STRTL       0.50  INITIAL ABSTRACTION
                     CRVNBR     80.00  CURVE NUMBER
                     RTIMP       0.00  PERCENT IMPERVIOUS AREA

   8 UD         SCS DIMENSIONLESS UNITGRAPH
                     TLAG        0.20  LAG

                                                          ***

VALUE EXCEEDS TABLE IN LOGLOG          0.01667         0.01667         6.00000

                                                    UNIT HYDROGRAPH
                                                62 END-OF-PERIOD ORDINATES
                2.      5.      9.     15.     22.     30.     41.     50.     59.     65.
               68.     69.     69.     68.     65.     61.     56.     51.     46.     39.
               33.     29.     25.     22.     19.     17.     15.     14.     12.     10.
                9.      8.      7.      6.      5.      5.      4.      4.      3.      3.
                2.      2.      2.      2.      1.      1.      1.      1.      1.      1.
                1.      1.      1.      0.      0.      0.      0.      0.      0.      0.
                0.      0.

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

                        HYDROGRAPH AT STATION      OLD

    TOTAL RAINFALL =    3.80, TOTAL LOSS =    1.92, TOTAL EXCESS =    1.88

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR      4.98-HR
+   (CFS)       (HR)
                        (CFS)
+      50.      2.73                    7.          7.          7.          7.
                       (INCHES)      1.837       1.837       1.837       1.837
                        (AC-FT)         3.          3.          3.          3.

                       CUMULATIVE AREA =    0.03 SQ MI


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


           **************
           *            *
  10 KK    *      OLDP  *
           *            *
           **************

              HYDROGRAPH ROUTING DATA

  11 RS        STORAGE ROUTING
                    NSTPS          1  NUMBER OF SUBREACHES
                     ITYP       ELEV  TYPE OF INITIAL CONDITION
                    RSVRIC  1377.00  INITIAL CONDITION
                        X       0.00 WORKING R AND D COEFFICIENT

  12 SA             AREA        0.0       1.0       1.3

  13 SE        ELEVATION    1377.00   1378.00   1381.00

  14 SL        LOW-LEVEL OUTLET
                    ELEVL  1378.50  ELEVATION AT CENTER OF OUTLET
                    CAREA     3.14  CROSS-SECTIONAL AREA
                     COQL     0.67  COEFFICIENT
                     EXPL     0.50  EXPONENT OF HEAD
```

```
   15 SS          SPILLWAY
                         CREL     1380.00  SPILLWAY CREST ELEVATION
                        SPWID       10.00  SPILLWAY WIDTH
                         COQW        2.80  WEIR COEFFICIENT
                         EXPW        1.50  EXPONENT OF HEAD

                                                                 ***

                                                  COMPUTED STORAGE-ELEVATION DATA

             STORAGE       0.00      0.33      3.77
           ELEVATION    1377.00   1378.00   1381.00

                                                  COMPUTED OUTFLOW-ELEVATION DATA

             OUTFLOW       0.00      0.00     16.01     16.54     17.11     17.72     18.38     19.08     19.84     20.66
           ELEVATION    1377.00   1378.50   1379.40   1379.46   1379.53   1379.60   1379.69   1379.78   1379.88   1380.00

             OUTFLOW      21.51     22.42     23.82     25.78     28.40     31.78     36.00     41.16     47.36     54.68
           ELEVATION    1380.06   1380.11   1380.17   1380.25   1380.34   1380.44   1380.56   1380.69   1380.84   1381.00


                                              COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

             STORAGE       0.00      0.33      0.85      1.83      1.90      1.97      2.06      2.16      2.26      2.39
             OUTFLOW       0.00      0.00      0.00     16.01     16.54     17.11     17.72     18.38     19.08     19.84
           ELEVATION    1377.00   1378.00   1378.50   1379.40   1379.46   1379.53   1379.60   1379.69   1379.78   1379.88

             STORAGE       2.53      2.60      2.66      2.73      2.83      2.94      3.07      3.21      3.38      3.57
             OUTFLOW      20.66     21.51     22.42     23.82     25.78     28.40     31.77     36.00     41.16     47.36
           ELEVATION    1380.00   1380.06   1380.11   1380.17   1380.25   1380.34   1380.44   1380.56   1380.69   1380.84

             STORAGE       3.77
             OUTFLOW      54.68
           ELEVATION    1381.00
       ***             ***             ***             ***             ***

                          HYDROGRAPH AT STATION     OLDP

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                      6-HR       24-HR       72-HR      4.98-HR
+   (CFS)       (HR)
                           (CFS)
+      14.      3.25                    4.          4.          4.           4.
                        (INCHES)     1.107       1.107       1.107        1.107
                         (AC-FT)        2.          2.          2.           2.

 PEAK STORAGE   TIME                         MAXIMUM AVERAGE STORAGE
                                      6-HR       24-HR       72-HR      4.98-HR
+  (AC-FT)      (HR)
       2.       3.23                    1.          1.          1.           1.

  PEAK STAGE    TIME                          MAXIMUM AVERAGE STAGE
                                      6-HR       24-HR       72-HR      4.98-HR
+   (FEET)      (HR)
   1379.29      3.25                  1377.98     1377.98     1377.98      1377.98

                        CUMULATIVE AREA =    0.03 SQ MI


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


            **************
            *            *
   16 KK    *      NEW   *
            *            *
```

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

               SUBBASIN RUNOFF DATA

  17 BA          SUBBASIN CHARACTERISTICS
                       TAREA         0.07  SUBBASIN AREA

                 PRECIPITATION DATA

   7 PH                                  DEPTHS FOR  10-PERCENT HYPOTHETICAL STORM
                 ..... HYDRO-35 ......   ............... TP-40 ...............   ........... TP-49 ...........
                 5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                  0.62    1.30    2.53    3.10    3.39    4.02    0.00    0.00    0.00    0.00    0.00    0.00

                                                   STORM AREA =     0.07

  19 LS          SCS LOSS RATE
                       STRTL         0.47  INITIAL ABSTRACTION
                      CRVNBR        81.00  CURVE NUMBER
                       RTIMP         0.00  PERCENT IMPERVIOUS AREA

  18 UD          SCS DIMENSIONLESS UNITGRAPH
                        TLAG         0.20  LAG

                                                                  ***

VALUE EXCEEDS TABLE IN LOGLOG         0.01667         0.01667         6.00000

                                                             UNIT HYDROGRAPH
                                                        62 END-OF-PERIOD ORDINATES
                     4.        12.        22.        35.        50.        71.        95.       118.       137.       151.
                   159.       162.       162.       159.       151.       142.       132.       120.       107.        91.
                    78.        68.        59.        52.        45.        41.        36.        32.        28.        24.
                    21.        19.        16.        14.        13.        11.        10.         8.         7.         6.
                     6.         5.         4.         4.         3.         3.         3.         2.         2.         2.
                     2.         1.         1.         1.         1.         1.         1.         1.         0.         0.
                     0.         0.

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

                          HYDROGRAPH AT STATION      NEW

    TOTAL RAINFALL =     3.80, TOTAL LOSS =     1.85, TOTAL EXCESS =     1.96

   PEAK FLOW     TIME                           MAXIMUM AVERAGE FLOW
                                      6-HR         24-HR         72-HR        4.98-HR
+    (CFS)      (HR)
                              (CFS)
+      122.     2.73                    17.           17.           17.           17.
                            (INCHES)   1.913         1.913         1.913         1.913
                             (AC-FT)      7.            7.            7.            7.

                            CUMULATIVE AREA =     0.07 SQ MI


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

            **************
            *            *
  20 KK     *      NEWP  *
            *            *
            **************

               HYDROGRAPH ROUTING DATA

  21 RS          STORAGE ROUTING
                       NSTPS            1  NUMBER OF SUBREACHES
                        ITYP         ELEV  TYPE OF INITIAL CONDITION
```

```
                    RSVRIC     1374.00  INITIAL CONDITION
                         X        0.00 WORKING R AND D COEFFICIENT

22 SA               AREA         1.5       2.0       2.5

23 SE          ELEVATION     1374.00   1378.00   1381.00

24 SL          LOW-LEVEL OUTLET
                    ELEVL     1375.50  ELEVATION AT CENTER OF OUTLET
                    CAREA        3.14  CROSS-SECTIONAL AREA
                     COQL        0.67  COEFFICIENT
                     EXPL        0.50  EXPONENT OF HEAD

25 SS          SPILLWAY
                    CREL     1380.00  SPILLWAY CREST ELEVATION
                   SPWID       10.00  SPILLWAY WIDTH
                    COQW        2.80  WEIR COEFFICIENT
                    EXPW        1.50  EXPONENT OF HEAD

                                                                  ***

                                        COMPUTED STORAGE-ELEVATION DATA

          STORAGE       0.00      6.98     13.71
        ELEVATION    1374.00   1378.00   1381.00

                                        COMPUTED OUTFLOW-ELEVATION DATA

          OUTFLOW       0.00      0.00     16.69     18.07     19.70     21.64     24.02     26.98     30.76     35.79
        ELEVATION    1374.00   1375.50   1376.48   1376.65   1376.86   1377.15   1377.53   1378.06   1378.82   1380.00

          OUTFLOW      36.11     36.68     37.70     39.28     41.56     44.64     48.66     53.74     60.01     67.57
        ELEVATION    1380.03   1380.08   1380.13   1380.21   1380.30   1380.41   1380.53   1380.67   1380.83   1381.00

                                    COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

          STORAGE       0.00      2.38      4.09      4.39      4.79      5.32      6.04      6.98      7.09      8.68
          OUTFLOW       0.00      0.00     16.69     18.07     19.70     21.64     24.02     26.68     26.98     30.76
        ELEVATION    1374.00   1375.50   1376.48   1376.65   1376.86   1377.15   1377.53   1378.00   1378.06   1378.82

          STORAGE      11.30     11.38     11.48     11.61     11.79     12.00     12.26     12.56     12.90     13.28
          OUTFLOW      35.79     36.11     36.68     37.70     39.28     41.55     44.64     48.66     53.74     60.01
        ELEVATION    1380.00   1380.03   1380.08   1380.13   1380.21   1380.30   1380.41   1380.53   1380.67   1380.83

          STORAGE      13.71
          OUTFLOW      67.57
        ELEVATION    1381.00

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

                          HYDROGRAPH AT STATION     NEWP

 PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                        6-HR       24-HR       72-HR      4.98-HR
+   (CFS)      (HR)
                          (CFS)
+     20.      3.55                       8.          8.          8.          8.
                          (INCHES)     0.857       0.857       0.857       0.857
                          (AC-FT)         3.          3.          3.          3.

 PEAK STORAGE  TIME                             MAXIMUM AVERAGE STORAGE
                                        6-HR       24-HR       72-HR      4.98-HR
+  (AC-FT)     (HR)
        5.     3.55                       2.          2.          2.          2.

 PEAK STAGE    TIME                             MAXIMUM AVERAGE STAGE
                                        6-HR       24-HR       72-HR      4.98-HR
+   (FEET)     (HR)
     1376.88   3.55                  1375.22     1375.22     1375.22     1375.22
```

CUMULATIVE AREA = 0.07 SQ MI

1

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

| | OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|---|
| + | HYDROGRAPH AT | OLD | 50. | 2.73 | 7. | 7. | 7. | 0.03 | | |
| + | ROUTED TO | OLDP | 14. | 3.25 | 4. | 4. | 4. | 0.03 | 1379.29 | 3.25 |
| + | HYDROGRAPH AT | NEW | 122. | 2.73 | 17. | 17. | 17. | 0.07 | | |
| + | ROUTED TO | NEWP | 20. | 3.55 | 8. | 8. | 8. | 0.07 | 1376.88 | 3.55 |

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

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  09:39:45   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
*****************************************
```

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

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

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL  LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1 HEC-1 INPUT PAGE 1

```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1         ID  MESSIAH BAPTIST CHURCH
              * 100-YR RETURN PERIOD
    2         ID  EAST BASIN POND
    3         IT       1 15MAY97    0000     300
    4         IO       3       0
              *
    5         KK     OLD
    6         BA    0.03
    7         PH       0       0    0.86  1.8425    3.73    4.60    5.04    5.94
              *     10       0  0.6175   1.305    2.53    3.10    3.39    4.02
              *     50       0  0.4616  0.9575    1.69    1.98    2.16    2.52
              *
    8         UD     0.2
    9         LS       0      80
              *
   10         KK    OLDP
   11         RS       1    ELEV    1377
   12         SA       0     1.0     1.3
   13         SE    1377    1378    1381
   14         SL  1378.5    3.14     .67      .5
   15         SS    1380      10     2.8     1.5
              *
   16         KK     NEW
   17         BA    0.07
              *
   18         UD     0.2
   19         LS       0      81
              *
   20         KK    NEWP
```

```
          21          RS       1    ELEV    1374
          22          SA     1.5     2.0     2.5
          23          SE    1374    1378    1381
          24          SL  1375.5    3.14     .67      .5
          25          SS    1380      10     2.8     1.5
                      *
          26          ZZ
```

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*           VERSION 4.0.1E              *
*     Lahey F77L-EM/32 version 5.01     *
*       Dodson & Associates, Inc.       *
*  RUN DATE  12/14/00  TIME  09:39:45   *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*            (916) 551-1748             *
*                                       *
*****************************************
```

```
                     MESSIAH BAPTIST CHURCH
                     EAST BASIN POND

  4 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          3  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

    IT          HYDROGRAPH TIME DATA
                      NMIN          1  MINUTES IN COMPUTATION INTERVAL
                     IDATE     15MAY97  STARTING DATE
                     ITIME        0000  STARTING TIME
                        NQ         300  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE     15MAY97  ENDING DATE
                    NDTIME        0459  ENDING TIME
                    ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL    0.02 HOURS
                      TOTAL TIME BASE    4.98 HOURS

        ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT


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


          **************
          *            *
  5 KK    *       OLD  *
          *            *
          **************

             SUBBASIN RUNOFF DATA

  6 BA       SUBBASIN CHARACTERISTICS
                   TAREA        0.03  SUBBASIN AREA

             PRECIPITATION DATA

  7 PH                              DEPTHS FOR   0-PERCENT HYPOTHETICAL STORM
             ..... HYDRO-35 .....   ............... TP-40 ...............   ........... TP-49 ...........
             5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
```

```
                0.86    1.84    3.73    4.60    5.04    5.94    0.00    0.00    0.00    0.00    0.00    0.00

                                                STORM AREA =    0.03

  9 LS          SCS LOSS RATE
                      STRTL       0.50  INITIAL ABSTRACTION
                     CRVNBR      80.00  CURVE NUMBER
                      RTIMP       0.00  PERCENT IMPERVIOUS AREA

  8 UD          SCS DIMENSIONLESS UNITGRAPH
                      TLAG       0.20  LAG

                                                                ***

VALUE EXCEEDS TABLE IN LOGLOG         0.01667        0.01667        6.00000

                                                    UNIT HYDROGRAPH
                                                62 END-OF-PERIOD ORDINATES
              2.       5.       9.      15.      22.      30.      41.      50.      59.      65.
             68.      69.      69.      68.      65.      61.      56.      51.      46.      39.
             33.      29.      25.      22.      19.      17.      15.      14.      12.      10.
              9.       8.       7.       6.       5.       5.       4.       4.       3.       3.
              2.       2.       2.       2.       1.       1.       1.       1.       1.       1.
              1.       1.       1.       0.       0.       0.       0.       0.       0.       0.
              0.       0.

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

                        HYDROGRAPH AT STATION      OLD

    TOTAL RAINFALL =    5.68, TOTAL LOSS =    2.19, TOTAL EXCESS =    3.50

 PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR        24-HR        72-HR       4.98-HR
+   (CFS)       (HR)
                          (CFS)
+     90.      2.72                13.          13.          13.          13.
                         (INCHES)  3.431        3.431        3.431        3.431
                         (AC-FT)     5.           5.           5.           5.

                        CUMULATIVE AREA =    0.03 SQ MI


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


            **************
            *            *
 10 KK      *      OLDP  *
            *            *
            **************

               HYDROGRAPH ROUTING DATA

 11 RS          STORAGE ROUTING
                      NSTPS          1  NUMBER OF SUBREACHES
                       ITYP       ELEV  TYPE OF INITIAL CONDITION
                      RSVRIC  1377.00  INITIAL CONDITION
                          X       0.00 WORKING R AND D COEFFICIENT

 12 SA                AREA        0.0       1.0       1.3

 13 SE          ELEVATION    1377.00   1378.00   1381.00

 14 SL          LOW-LEVEL OUTLET
                      ELEVL  1378.50  ELEVATION AT CENTER OF OUTLET
                      CAREA     3.14  CROSS-SECTIONAL AREA
                       COQL     0.67  COEFFICIENT
                       EXPL     0.50  EXPONENT OF HEAD
```

```
  15 SS         SPILLWAY
                       CREL      1380.00  SPILLWAY CREST ELEVATION
                      SPWID        10.00  SPILLWAY WIDTH
                       COQW         2.80  WEIR COEFFICIENT
                       EXPW         1.50  EXPONENT OF HEAD

                                                                ***

                                                   COMPUTED STORAGE-ELEVATION DATA

             STORAGE      0.00      0.33      3.77
           ELEVATION   1377.00   1378.00   1381.00

                                                   COMPUTED OUTFLOW-ELEVATION DATA

             OUTFLOW      0.00      0.00     16.01     16.54     17.11     17.72     18.38     19.08     19.84     20.66
           ELEVATION   1377.00   1378.50   1379.40   1379.46   1379.53   1379.60   1379.69   1379.78   1379.88   1380.00

             OUTFLOW     21.51     22.42     23.82     25.78     28.40     31.78     36.00     41.16     47.36     54.68
           ELEVATION   1380.06   1380.11   1380.17   1380.25   1380.34   1380.44   1380.56   1380.69   1380.84   1381.00


                                               COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

             STORAGE      0.00      0.33      0.85      1.83      1.90      1.97      2.06      2.16      2.26      2.39
             OUTFLOW      0.00      0.00      0.00     16.01     16.54     17.11     17.72     18.38     19.08     19.84
           ELEVATION   1377.00   1378.00   1378.50   1379.40   1379.46   1379.53   1379.60   1379.69   1379.78   1379.88

             STORAGE      2.53      2.60      2.66      2.73      2.83      2.94      3.07      3.21      3.38      3.57
             OUTFLOW     20.66     21.51     22.42     23.82     25.78     28.40     31.77     36.00     41.16     47.36
           ELEVATION   1380.00   1380.06   1380.11   1380.17   1380.25   1380.34   1380.44   1380.56   1380.69   1380.84

             STORAGE      3.77
             OUTFLOW     54.68
           ELEVATION   1381.00
      ***            ***            ***            ***            ***

                          HYDROGRAPH AT STATION     OLDP

  PEAK FLOW      TIME                              MAXIMUM AVERAGE FLOW
                                        6-HR        24-HR        72-HR       4.98-HR
+   (CFS)        (HR)
                           (CFS)
+     30.        3.17                    10.          10.          10.          10.
                         (INCHES)      2.462        2.462        2.462        2.462
                          (AC-FT)         4.           4.           4.           4.

 PEAK STORAGE    TIME                            MAXIMUM AVERAGE STORAGE
                                        6-HR        24-HR        72-HR       4.98-HR
+  (AC-FT)       (HR)
        3.       3.17                     1.           1.           1.           1.

  PEAK STAGE     TIME                              MAXIMUM AVERAGE STAGE
                                        6-HR        24-HR        72-HR       4.98-HR
+   (FEET)       (HR)
   1380.40       3.17                1378.42      1378.42      1378.42      1378.42

                         CUMULATIVE AREA =      0.03 SQ MI


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


            **************
            *            *
  16 KK     *      NEW   *
            *            *
```

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              SUBBASIN RUNOFF DATA

    17 BA       SUBBASIN CHARACTERISTICS
                      TAREA        0.07  SUBBASIN AREA

                PRECIPITATION DATA

     7 PH                                  DEPTHS FOR   0-PERCENT HYPOTHETICAL STORM
                ..... HYDRO-35 ......   ............... TP-40 ...............   ........... TP-49 ...........
                5-MIN  15-MIN  60-MIN    2-HR    3-HR    6-HR   12-HR   24-HR   2-DAY   4-DAY   7-DAY  10-DAY
                 0.86    1.84    3.73    4.60    5.04    5.94    0.00    0.00    0.00    0.00    0.00    0.00

                                                  STORM AREA =     0.07

    19 LS       SCS LOSS RATE
                      STRTL        0.47  INITIAL ABSTRACTION
                     CRVNBR       81.00  CURVE NUMBER
                      RTIMP        0.00  PERCENT IMPERVIOUS AREA

    18 UD       SCS DIMENSIONLESS UNITGRAPH
                       TLAG        0.20  LAG

                                                             ***

  VALUE EXCEEDS TABLE IN LOGLOG         0.01667        0.01667        6.00000

                                                       UNIT HYDROGRAPH
                                                  62 END-OF-PERIOD ORDINATES
                   4.        12.        22.        35.        50.        71.        95.       118.       137.       151.
                 159.       162.       162.       159.       151.       142.       132.       120.       107.        91.
                  78.        68.        59.        52.        45.        41.        36.        32.        28.        24.
                  21.        19.        16.        14.        13.        11.        10.         8.         7.         6.
                   6.         5.         4.         4.         3.         3.         3.         2.         2.         2.
                   2.         1.         1.         1.         1.         1.         1.         1.         0.         0.
                   0.         0.

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

                               HYDROGRAPH AT STATION      NEW

       TOTAL RAINFALL =     5.68, TOTAL LOSS =     2.09, TOTAL EXCESS =     3.60

     PEAK FLOW      TIME                           MAXIMUM AVERAGE FLOW
                                          6-HR        24-HR        72-HR       4.98-HR
 +    (CFS)        (HR)
                               (CFS)
 +      217.       2.72                    32.          32.          32.          32.
                            (INCHES)     3.529        3.529        3.529        3.529
                             (AC-FT)       13.          13.          13.          13.

                              CUMULATIVE AREA =     0.07 SQ MI


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

          **************
          *            *
   20 KK  *     NEWP   *
          *            *
          **************

             HYDROGRAPH ROUTING DATA

   21 RS        STORAGE ROUTING
                      NSTPS           1  NUMBER OF SUBREACHES
                       ITYP        ELEV  TYPE OF INITIAL CONDITION
```

```
                    RSVRIC     1374.00  INITIAL CONDITION
                         X        0.00 WORKING R AND D COEFFICIENT

   22 SA                 AREA        1.5       2.0       2.5

   23 SE           ELEVATION     1374.00   1378.00   1381.00

   24 SL           LOW-LEVEL OUTLET
                        ELEVL     1375.50  ELEVATION AT CENTER OF OUTLET
                        CAREA        3.14  CROSS-SECTIONAL AREA
                         COQL        0.67  COEFFICIENT
                         EXPL        0.50  EXPONENT OF HEAD

   25 SS           SPILLWAY
                         CREL     1380.00  SPILLWAY CREST ELEVATION
                        SPWID       10.00  SPILLWAY WIDTH
                         COQW        2.80  WEIR COEFFICIENT
                         EXPW        1.50  EXPONENT OF HEAD

                                                                  ***

                                                COMPUTED STORAGE-ELEVATION DATA

                STORAGE       0.00      6.98     13.71
              ELEVATION    1374.00   1378.00   1381.00

                                               COMPUTED OUTFLOW-ELEVATION DATA

                OUTFLOW       0.00      0.00     16.69     18.07     19.70     21.64     24.02     26.98     30.76     35.79
              ELEVATION    1374.00   1375.50   1376.48   1376.65   1376.86   1377.15   1377.53   1378.06   1378.82   1380.00

                OUTFLOW      36.11     36.68     37.70     39.28     41.56     44.64     48.66     53.74     60.01     67.57
              ELEVATION    1380.03   1380.08   1380.13   1380.21   1380.30   1380.41   1380.53   1380.67   1380.83   1381.00

                                            COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

                STORAGE       0.00      2.38      4.09      4.39      4.79      5.32      6.04      6.98      7.09      8.68
                OUTFLOW       0.00      0.00     16.69     18.07     19.70     21.64     24.02     26.68     26.98     30.76
              ELEVATION    1374.00   1375.50   1376.48   1376.65   1376.86   1377.15   1377.53   1378.00   1378.06   1378.82

                STORAGE      11.30     11.38     11.48     11.61     11.79     12.00     12.26     12.56     12.90     13.28
                OUTFLOW      35.79     36.11     36.68     37.70     39.28     41.55     44.64     48.66     53.74     60.01
              ELEVATION    1380.00   1380.03   1380.08   1380.13   1380.21   1380.30   1380.41   1380.53   1380.67   1380.83

                STORAGE      13.71
                OUTFLOW      67.57
              ELEVATION    1381.00

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

                                HYDROGRAPH AT STATION     NEWP

   PEAK FLOW     TIME                                MAXIMUM AVERAGE FLOW
                                          6-HR       24-HR       72-HR      4.98-HR
 +   (CFS)       (HR)
                                (CFS)
 +      31.      3.60              14.        14.         14.        14.
                                (INCHES)     1.502       1.502      1.502      1.502
                                (AC-FT)         6.          6.         6.         6.

   PEAK STORAGE  TIME                                MAXIMUM AVERAGE STORAGE
                                          6-HR       24-HR       72-HR      4.98-HR
 +   (AC-FT)     (HR)
          9.     3.58               4.         4.          4.         4.

   PEAK STAGE    TIME                                MAXIMUM AVERAGE STAGE
                                          6-HR       24-HR       72-HR      4.98-HR
 +   (FEET)      (HR)
     1378.99     3.60            1376.19    1376.19     1376.19    1376.19
```

CUMULATIVE AREA = 0.07 SQ MI

1

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

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | OLD | 90. | 2.72 | 13. | 13. | 13. | 0.03 | | |
| ROUTED TO | OLDP | 30. | 3.17 | 10. | 10. | 10. | 0.03 | 1380.40 | 3.17 |
| HYDROGRAPH AT | NEW | 217. | 2.72 | 32. | 32. | 32. | 0.07 | | |
| ROUTED TO | NEWP | 31. | 3.60 | 14. | 14. | 14. | 0.07 | 1378.99 | 3.60 |

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