WITTMANN ADMS

APPENDIX D

VOLUME II OF II

Circle City & Wittmann Area HEC-2 Backwater Analysis. Also Interim Delineations for Trilby, Iona, & Padelford Washes above the CAP

FCD 86-24

The WLB Group Inc. for Flood Control District of Maricopa County

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WITTMANN ADMS

APPENDIX D

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FCD 86-24

The WLB Group Inc. for Flood Control District of Maricopa County

INPUT FILE: CCWASH1

OUTPUT FILE: CCWASH1.OUT

FLOOD CONTROL DISTRICT
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	CH ENG		P & PM
	DEP		HYDRO
	ADMIN		LMGT
	FINANCE		FILE

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THIS RUN EXECUTED 06/08/88 10:22:21

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
 ERROR CORR - 01,02,03,04,05,06
 MODIFICATION - 50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - WASH 1

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .011400     .00      .5       0.   1844.000    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    1.000     .000     .000     .000     .000     .000     .000     .000     .000   15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000   43.000    1.000   53.000   21.000   22.000   54.000   51.000    4.000    8.000


    42.000    5.000   26.000     .000  110.000     .000  200.000     .000     .000     .000


NC      .080     .080     .050     .100     .300     .000     .000     .000     .000     .000
NT     4.000  278.000  278.000  153.000   33.000     .000     .000     .000     .000     .000
ET      .000     .000   10.400     .000     .000     .000     .000     .000     .000     .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
X1      .000    9.000 4985.000 5025.000     .000     .000     .000     .000     .000     .000
GR   1846.000 4930.000 1844.000 4985.000 1842.000 4990.000 1840.000 5000.000 1840.000 5005.000
GR   1842.000 5025.000 1842.000 5040.000 1844.000 5140.000 1846.000 5195.000     .000     .000

X1      .064    6.000 4980.000 5045.000  340.000  340.000  340.000     .000     .000     .000
GR   1848.000 4900.000 1846.000 4980.000 1844.000 4990.000 1844.000 5010.000 1846.000 5045.000
GR   1848.000 5075.000     .000     .000     .000     .000     .000     .000     .000     .000

ET      .000     .000    9.100     .000     .000     .000     .000     .000 4970.000 5119.000
X1      .142    6.000 4970.000 5030.000  370.000  420.000  410.000     .000     .000     .000
GR   1851.500 4910.000 1850.000 4970.000 1849.500 5000.000 1850.000 5030.000 1850.000 5030.000
GR   1852.000 5180.000     .000     .000     .000     .000     .000     .000     .000     .000

ET      .000     .000    9.100     .000     .000     .000     .000     .000 4974.000 5079.000
X1      .189    8.000 4965.000 5090.000  290.000  210.000  250.000     .000     .000     .000
GR   1855.000 4925.000 1854.000 4965.000 1852.000 5000.000 1853.000 5015.000 1852.000 5025.000
GR   1851.500 5050.000 1852.000 5060.000 1854.000 5090.000     .000     .000     .000     .000
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ET      .000      .000     9.100      .000      .000      .000      .000      .000   4945.000   5005.000
X1      .246     7.000  4945.000   5005.000   270.000   330.000   300.000      .000      .000      .000
GR   1856.500  4900.000  1856.000   4945.000  1854.000  4985.000  1854.000  4990.000  1854.000  5000.000
GR   1856.000  5005.000  1858.000   5070.000      .000      .000      .000      .000      .000      .000

ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
X1      .295     6.000  4990.000   5010.000   270.000   260.000   260.000      .000      .000      .000
GR   1859.500  4955.000  1858.000   4990.000  1856.000  4998.000  1856.000  5005.000  1858.000  5010.000
GR   1860.000  5025.000      .000      .000      .000      .000      .000      .000      .000      .000

X1      .344     7.000  4985.000   5010.000   260.000   240.000   260.000      .000      .000      .000
GR   1864.000  4935.000  1862.000   4985.000  1860.000  4995.000  1859.000  5000.000  1860.000  5005.000
GR   1862.000  5010.000  1863.500   5075.000      .000      .000      .000      .000      .000      .000

X1      .395     7.000  4980.000   5010.000   270.000   270.000   270.000      .000      .000      .000
GR   1867.000  4885.000  1866.000   4955.000  1864.000  4980.000  1862.000  4990.000  1862.000  5000.000
GR   1864.000  5010.000  1866.000   5050.000      .000      .000      .000      .000      .000      .000

ET      .000      .000     9.100      .000      .000      .000      .000      .000   4940.000   5007.000
X1      .439     8.000  4940.000   5010.000   210.000   240.000   230.000      .000      .000      .000
GR   1870.000  4725.000  1869.000   4775.000  1868.000  4890.000  1867.000  4940.000  1866.000  4990.000
GR   1866.000  5000.000  1868.000   5010.000  1870.000  5065.000      .000      .000      .000      .000

ET      .000      .000     9.100      .000      .000      .000      .000      .000   4980.000   5037.000
X1      .498     7.000  4975.000   5050.000   310.000   310.000   310.000      .000      .000      .000
GR   1873.000  4950.000  1872.000   4975.000  1870.000  4990.000  1868.000  5000.000  1870.000  5015.000
GR   1872.000  5050.000  1874.000   5225.000      .000      .000      .000      .000      .000      .000

X1      .526     8.000  4975.000   5025.000   140.000   180.000   140.000      .000      .000      .000
X3      .000      .000      .000   4975.000  1875.000  5025.000  1875.000      .000      .000      .000
GR   1875.500  4935.000  1874.000   4975.000  1872.000  4985.000  1870.000  4995.000  1868.000  5000.000
GR   1870.000  5005.000  1874.000   5025.000  1875.000  5085.000      .000      .000      .000      .000

                CULVERT DATA TAKEN FROM FIELD MEASUREMENTS.
                WATER SURFACE ELEVATION AT SECTION .540 IS BASED UPON
                CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS
                WITH INLET CONTROL.
X1      .540     7.000  4965.000   5020.000    75.000    75.000    75.000      .000      .000      .000
X3      .000      .000      .000   4985.000  1874.000  5020.000  1874.000      .000      .000      .000
X4     1.000  1874.000  4965.000      .000      .000      .000      .000      .000      .000      .000
X5     4.000  1874.000  1874.000  1872.900  1870.000      .000      .000      .000      .000      .000
GR   1876.000  4900.000  1872.000   4975.000  1870.000  4985.000  1868.500  5000.000  1870.000  5005.000
GR   1874.000  5020.000  1875.000   5045.000      .000      .000      .000      .000      .000      .000

X1      .564     7.000  4985.000   5015.000   110.000   125.000   125.000      .000      .000      .000
X3    10.000      .000      .000      .000      .000      .000      .000      .000      .000      .000
GR   1876.000  4985.000  1874.000   4990.000  1872.000  4995.000  1871.500  5000.000  1872.000  5005.000
GR   1874.000  5010.000  1876.000   5015.000      .000      .000      .000      .000      .000      .000
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NC      .080      .080      .050      .300      .500      .000      .000      .000      .000      .000
QT     4.000   276.000   276.000   158.000    37.000      .000      .000      .000      .000      .000
                WATER SURFACE ELEVATION AT SECTION .573 IS BASED UPON
                HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C22.
                WASH 1 AND WASH 2 DIVIDE SUBWATERSHED 22 INTO SIMILAR
                HALVES AND MAINTAIN THE EQUIVALENT TIME OF CONCENTRATION
                THUS THE PEAK DISCHARGE OF 150 CFS FOR SUBWATERSHED 22
                WAS DIVIDED INTO 75 CFS FOR EACH OF WASH 1 AND WASH 2.
X1      .573     5.000  4985.000   5030.000    50.000    50.000    50.000      .000      .000      .000
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XS      .000      .000      .000     4985.000  1880.000     5010.000  1880.000      .000      .000      .000
XS     4.000  1878.660  1878.660  1877.780  1874.800      .000      .000      .000      .000      .000
GR  1880.000  4985.000  1874.000  4995.000  1872.500  5000.000  1874.000  5010.000  1880.000  5030.000

ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
XI      .600     6.000  4980.000  5030.000   140.000   140.000   140.000      .000      .000      .000
GR  1880.000  4955.000  1878.000  4980.000  1876.000  5000.000  1876.000  5015.000  1878.000  5030.000
GR  1879.000  5060.000      .000      .000      .000      .000      .000      .000      .000      .000

GT     4.000    72.000    72.000    53.000    13.000      .000      .000      .000      .000      .000
XI      .683     7.000  4970.000  5045.000   430.000   450.000   440.000      .000      .000      .000
GR  1885.500  4915.000  1884.000  4970.000  1882.000  4990.000  1880.500  5000.000  1882.000  5020.000
GR  1884.000  5045.000  1885.000  5125.000      .000      .000      .000      .000      .000      .000

NC      .000      .000      .000      .100      .300      .000      .000      .000      .000      .000
XI      .782     8.000  4980.000  5025.000   550.000   490.000   520.000      .000      .000      .000
GR  1891.000  4820.000  1892.000  4910.000  1890.000  4980.000  1888.000  4990.000  1886.500  5000.000
GR  1888.000  5005.000  1890.000  5025.000  1892.000  5055.000      .000      .000      .000      .000

XI      .848     7.000  4965.000  5015.000   370.000   330.000   350.000      .000      .000      .000
GR  1895.000  4900.000  1894.000  4965.000  1892.000  4990.000  1891.000  5000.000  1892.000  5010.000
GR  1894.000  5015.000  1895.000  5080.000      .000      .000      .000      .000      .000      .000

XI      .911     6.000  4990.000  5050.000   310.000   350.000   330.000      .000      .000      .000
GR  1900.000  4950.000  1898.000  4980.000  1896.000  5000.000  1896.000  5015.000  1898.000  5050.000
GR  1900.000  5080.000      .000      .000      .000      .000      .000      .000      .000      .000

XI      .985     6.000  4940.000  5040.000   390.000   390.000   390.000      .000      .000      .000
GR  1905.000  4875.000  1904.000  4940.000  1902.000  4975.000  1902.000  5000.000  1904.000  5040.000
GR  1905.000  5080.000      .000      .000      .000      .000      .000      .000      .000      .000

XI     1.055     7.000  4950.000  5070.000   380.000   360.000   370.000      .000      .000      .000
GR  1911.000  4885.000  1910.000  4950.000  1908.000  4993.000  1907.000  5000.000  1908.000  5007.000
GR  1910.000  5070.000  1910.500  5160.000      .000      .000      .000      .000      .000      .000

XI     1.116     7.000  4935.000  5010.000   300.000   300.000   320.000      .000      .000      .000
GR  1914.500  4945.000  1914.000  4890.000  1913.500  4935.000  1912.000  4985.000  1912.000  5000.000
GR  1914.000  5010.000  1914.500  5065.000      .000      .000      .000      .000      .000      .000
1
 06/08/88    10:22:20                                                                          PAGE    4


XI     1.175     7.000  4970.000  5060.000   310.000   310.000   310.000      .000      .000      .000
GR  1919.000  4925.000  1918.000  4970.000  1916.500  4990.000  1916.500  5000.000  1918.000  5060.000
GR  1918.000  5125.000  1918.500  5155.000      .000      .000      .000      .000      .000      .000

XI     1.234     5.000  4985.000  5025.000   300.000   320.000   310.000      .000      .000      .000
GR  1923.000  4905.000  1922.000  4985.000  1920.500  5000.000  1922.000  5025.000  1923.000  5090.000
EJ      .000      .000      .000      .000      .000      .000      .000      .000      .000      .000
1
 06/08/88    10:22:20                                                                          PAGE    5


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA     LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN   SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID  ENDST


*PROF 1

CCHV=    .100 CEHV=    .300
*SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
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      .00      2.34  1842.54      .00  1844.00  1842.83      .28      .00      .00  1842.00
     278.        0.     261.      17.       0.      59.      16.       0.       0.  1842.00
      .00      .00     4.40     1.09     .080     .050     .080     .000  1840.00  4983.64
  .011543        0.       0.       0.        0        0        5      .00    78.51  5067.15
0
 FLOW DISTRIBUTION FOR SECNO=      .00          CWSEL=   1842.54

 STA=    4989.    5025.    5040.    5067.
   PER Q=     93.9      3.9      2.2
    AREA=     59.4      8.1      7.4
     VEL=      4.4      1.3       .8

 *SECNO  .064
      .06     2.01  1846.01      .00      .00  1846.17      .17     3.33      .01  1846.00
     278.        0.     278.       0.       0.      85.       0.       1.       1.  1846.00
      .03      .00     3.26      .00     .080     .050     .080     .000  1844.00  4979.84
  .008429     340.     340.     340.        4        0        0      .00    65.21  5045.06
0
 FLOW DISTRIBUTION FOR SECNO=      .06          CWSEL=   1846.01

 STA=    4980.    5045.
   PER Q=    100.0
    AREA=     85.3
     VEL=      3.3

 *SECNO  .142
      .14     1.16  1850.66      .00      .00  1850.80      .14     4.63      .00  1850.00
     278.        9.     189.      79.       9.      54.      49.       2.       2.  1850.00
      .07     1.11     3.49     1.63     .080     .050     .080     .000  1849.50  4943.90
  .015838     370.     410.     420.        4        0        0      .00   175.46  5119.36
0
 FLOW DISTRIBUTION FOR SECNO=      .14          CWSEL=   1850.66

 STA=    4944.    4970.    5030.    5090.    5119.
   PER Q=      3.4     68.0     24.8      3.8
    AREA=      8.5     54.1     39.1      9.6
     VEL=      1.1      3.5      1.8      1.1

1
 06/08/88    10:22:20                                                                  PAGE    6

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

 *SECNO  .189
      .19     1.84  1853.34      .00      .00  1853.45      .11     2.64      .00  1854.00
     278.        0.     278.       0.       0.     105.       0.       2.       2.  1854.00
      .09      .00     2.65      .00     .080     .050     .080     .000  1851.50  4976.72
  .007820     290.     250.     210.        3        0        0      .00   103.24  5079.96
0
 FLOW DISTRIBUTION FOR SECNO=      .19          CWSEL=   1853.34

 STA=    4977.    5090.
   PER Q=    100.0
    AREA=    104.8
     VEL=      2.7

 *SECNO  .246
      .25     2.03  1856.03      .00      .00  1856.24      .21     2.76      .03  1856.00
     278.        0.     278.       0.       0.      76.       0.       3.       3.  1856.00
      .12      .02     3.64      .02     .080     .050     .080     .000  1854.00  4942.93
  .010977     270.     300.     330.        2        0        0      .00    62.81  5005.75
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0
 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1856.03

 STA=    4943.    4945.    5005.
   PER Q=       .0     100.0
    AREA=       .0      76.4
     VEL=       .0       3.6

 *SECNO  .295
       .29     2.93  1858.93      .00      .00  1859.41      .48     3.09      .08  1858.00
      278.      13.     261.       4.      10.      46.       3.       3.       3.  1858.00
       .13     1.27     5.73     1.26     .080     .050     .080     .000  1856.00  4969.30
   .012893     270.     260.     260.        3        0        0      .00    48.68  5016.98
0
 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1858.93

 STA=    4968.    4990.    5010.    5017.
   PER Q=      4.6     93.9      1.5
    AREA=     10.1     45.6      3.2
     VEL=      1.3      5.7      1.3

1
 06/08/98    10:22:20                                                                    PAGE    7

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .344
       .34     3.42  1862.42      .00      .00  1862.87      .45     3.45      .00  1862.00
      278.       2.     274.       3.       2.      50.       4.       4.       4.  1862.00
       .14      .76     5.43      .76     .080     .050     .090     .000  1859.00  4974.61
   .013650     280.     260.     240.        4        0        0      .00    53.39  5028.01
0
 FLOW DISTRIBUTION FOR SECNO=       .34          CWSEL=   1862.42

 STA=    4975.    4985.    5010.    5028.
   PER Q=       .6     98.4      1.0
    AREA=      2.2     50.4      3.7
     VEL=       .8      5.4       .8

 *SECNO  .395
       .40     2.95  1864.95      .00      .00  1865.17      .22     2.28      .02  1864.00
      278.       5.     265.       8.       6.      63.       9.       4.       4.  1864.00
       .16      .86     3.87      .86     .080     .050     .090     .000  1862.00  4968.11
   .005746     270.     270.     270.        3        0        0      .00    60.90  5029.02
0
 FLOW DISTRIBUTION FOR SECNO=       .40          CWSEL=   1864.95

 STA=    4968.    4980.    5010.    5029.
   PER Q=      1.7     95.5      2.8
    AREA=      5.7     68.5      9.0
     VEL=       .9      3.9       .9

 *SECNO  .439
       .44     1.35  1867.35      .00      .00  1867.66      .32     2.46      .03  1867.00
      278.       3.     275.       0.       3.      61.       0.       4.       4.  1868.00
       .18      .95     4.54      .00     .080     .050     .080     .000  1866.00  4922.49
   .026658     210.     230.     240.        3        0        0      .00    84.26  5006.75
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1867.35

 STA=    4922.    4940.    5010.
```

```
 PER Q=      1.0     99.0
  AREA=      3.1     60.6
   VEL=       .9      4.5

1
 06/08/88    10:22:20                                                                                    PAGE    8

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *SECNO  .498
      .50     3.44  1871.44      .00      .00  1871.60      .16     3.92      .02  1872.00
     278.       0.     278.       0.       0.      87.       0.       5.       5.  1872.00
      .20      .00     3.21      .00     .080     .050     .080     .000  1868.00  4979.24
  .007361     310.     310.     310.        5        0        0      .00    60.00  5040.11
0
 FLOW DISTRIBUTION FOR SECNO=        .50          CWSEL=   1871.44

 STA=    4979.    5050.
   PER Q=    100.0
   AREA=      86.6
    VEL=       3.2

 *SECNO  .526

 3470 ENCROACHMENT STATIONS=    4975.0    5025.0  TYPE=     1  TARGET=      50.000
  ELENCL=   1875.00  ELENCR=   1875.00
      .53     4.50  1872.50      .00      .00  1872.77      .27     1.13      .03  1874.00
     278.       0.     278.       0.       0.      66.       0.       5.       5.  1875.00
      .21      .00     4.20      .00     .080     .050     .080     .000  1869.00  4982.52
  .008969     140.     140.     180.        3        0        0      .00    34.97  5017.48
0
 FLOW DISTRIBUTION FOR SECNO=        .53          CWSEL=   1872.50

 STA=    4983.    5025.
   PER Q=    100.0
   AREA=      66.1
    VEL=       4.2

 *SECNO  .540
  WATER EL=X5 CARD=  1874.000

 3470 ENCROACHMENT STATIONS=    4985.0    5020.0  TYPE=     1  TARGET=      35.000
  ELENCL=   1874.00  ELENCR=   1874.00
                 CULVERT DATA TAKEN FROM FIELD MEASUREMENTS.
                 WATER SURFACE ELEVATION AT SECTION .540 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BAR CHARTS
                 WITH INLET CONTROL.
      .54     6.30  1874.90      .00      .00  1874.94      .04      .13      .02  1874.00
     278.       3.     273.       2.      10.     169.       8.       5.       5.  1874.00
      .23      .27     1.62      .27     .080     .050     .090     .000  1868.50  4939.00
  .000739      75.      75.      75.        0        0        0      .00   101.00  5040.00
0
1
 06/08/88    10:22:20                                                                                    PAGE    9

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST
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FLOW DISTRIBUTION FOR SECNO=      .54          CWSEL=   1874.80

STA=    4939.    4965.    5020.    5040.
  PER Q=      1.0      98.2       .8
   AREA=     10.4     169.0      6.0
    VEL=       .3       1.6       .3

*SECNO  .564

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1876.00 ELREA=     1876.00

      .56     3.21  1874.71      .00      .00  1875.23      .52      .25      .14  1876.00
     278.       0.     278.       0.       0.     48.       0.       6.       5.   1876.00
      .23      .00     5.78      .00     .080     .050     .080     .000  1871.50  4988.21
  .015555     110.     125.     125.        4        0        0      .00    23.57  5011.79
0
FLOW DISTRIBUTION FOR SECNO=      .56          CWSEL=   1874.71

STA=    4988.    5015.
  PER Q=    100.0
   AREA=     48.1
    VEL=      5.8

CCHV=    .300 CEHV=    .500
*SECNO  .573
 WATER EL=XS CARD=  1878.660

3470 ENCROACHMENT STATIONS=    4985.0    5010.0  TYPE=     1  TARGET=      25.000
 ELENCL=   1880.00  ELENCR=   1880.00
                WATER SURFACE ELEVATION AT SECTION .573 IS BASED UPON
                HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C22.
                WASH 1 AND WASH 2 DIVIDE SUBWATERSHED 22 INTO SIMILAR
                HALVES AND MAINTAIN THE EQUIVALENT TIME OF CONCENTRATION
                THUS THE PEAK DISCHARGE OF 150 CFS FOR SUBWATERSHED 22
                WAS DIVIDED INTO 75 CFS FOR EACH OF WASH 1 AND WASH 2.
      .57     6.16  1878.66      .00      .00  1879.70      .12      .19      .12  1880.00
     276.       0.     276.       0.       0.     99.       0.       6.       5.   1880.00
      .24      .00     2.78      .00     .080     .050     .080     .000  1872.50  4987.23
  .001702      50.      50.      50.        0        0        0      .00    22.77  5010.00
0
1
 06/08/88    10:22:20                                                                    PAGE   10


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        GLOB     GCH      GROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      .57          CWSEL=   1878.66

STA=    4987.    5030.
  PER Q=    100.0
   AREA=     99.2
    VEL=      2.8

*SECNO  .600
      .60     2.97  1878.97      .00      .00  1879.05      .08      .26      .01  1878.00
     276.       3.     265.       7.       6.    114.      14.       6.       6.   1878.00
      .26      .52     2.33      .52     .080     .050     .080     .000  1876.00  4967.83
  .002077     140.     140.     140.        3        0        0      .00    91.39  5059.22
0
FLOW DISTRIBUTION FOR SECNO=      .60          CWSEL=   1879.97
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STA=    4990.    4990.    5030.    5035.
  PER Q=      1.1      96.2      2.7
   AREA=      5.9     113.7     14.2
    VEL=       .5       2.3       .5

*SECNO  .683
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
      .68     1.26  1881.76  1881.76      .00  1882.03      .32     1.30      .12  1884.00
      72.       0.      72.       0.       0.      16.       0.       7.       6.  1884.00
      .29      .00     4.57      .00     .000     .050     .080     .000  1830.50  4991.63
  .044252     430.     440.     450.       20       18        0      .00    25.11  5016.74
0
 FLOW DISTRIBUTION FOR SECNO=        .68          CWSEL=   1881.76

 STA=    4992.    5045.
   PER Q=    100.0
    AREA=     15.8
     VEL=      4.6

 CONV=    .100 CEHV=    .300
 *SECNO  .792
      .78     2.36  1888.86      .00      .00  1888.95      .09     6.85      .02  1890.00
      72.       0.      72.       0.       0.      30.       0.       7.       6.  1890.00
      .34      .00     2.42      .00     .000     .050     .080     .000  1836.50  4985.69
  .006227     550.     520.     490.        6        0        0      .00    27.93  5013.62
0
1
 06/09/98    10:22:20                                                                    PAGE   11


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=        .78          CWSEL=   1888.86

 STA=    4996.    5025.
   PER Q=    100.0
    AREA=     29.9
     VEL=      2.4

 *SECNO  .848
      .85     1.44  1892.44      .00      .00  1892.64      .20     3.65      .03  1894.00
      72.       0.      72.       0.       0.      20.       0.       7.       7.  1894.00
      .37      .00     3.57      .00     .000     .050     .080     .000  1891.00  4984.53
  .020953     370.     350.     330.        4        0        0      .00    26.57  5011.09
0
 FLOW DISTRIBUTION FOR SECNO=        .85          CWSEL=   1892.44

 STA=    4985.    5015.
   PER Q=    100.0
    AREA=     20.2
     VEL=      3.6

 *SECNO  .911
      .91     1.06  1897.06      .00      .00  1897.14      .08     4.49      .01  1898.00
      72.       0.      72.       0.       0.      31.       0.       8.       7.  1898.00
      .41      .00     2.31      .00     .000     .050     .080     .000  1896.00  4989.43
  .009556     310.     330.     350.        4        0        0      .00    44.07  5033.50
0
 FLOW DISTRIBUTION FOR SECNO=        .91          CWSEL=   1897.06
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STA=    4985.    5030.
  PER Q=    100.0
   AREA=     31.2
    VEL=      2.3

 *SECNO  .985
      .99      .66  1902.66      .00      .00  1902.80      .13     5.64      .01  1904.00
      72.       0.      72.       0.       0.      25.       0.       8.       7.  1904.00
      .45      .00     2.91      .00     .080     .050     .080     .000  1902.00  4963.42
  .024391     390.     390.     390.        4        0        0      .00    49.81  5013.23
0
1
 06/08/88    10:22:20                                                                    PAGE   12

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=       .99          CWSEL=   1902.66

 STA=    4963.    5040.
   PER Q=    100.0
    AREA=     24.7
     VEL=      2.9

 *SECNO 1.055
      1.05     1.74  1908.74      .00      .00  1908.82      .09     6.02      .01  1910.00
      72.       0.      72.       0.       0.      32.       0.       8.       8.  1910.00
      .49      .00     2.27      .00     .080     .050     .080     .000  1907.00  4977.14
  .011616     380.     370.     360.        5        0        0      .00    53.09  5030.23
0
 FLOW DISTRIBUTION FOR SECNO=      1.05          CWSEL=   1908.74

 STA=    4977.    5070.
   PER Q=    100.0
    AREA=     31.7
     VEL=      2.3

 *SECNO 1.116
      1.12      .89  1912.89      .00      .00  1912.99      .10     4.16      .01  1913.50
      72.       0.      72.       0.       0.      29.       0.       8.       8.  1914.00
      .53      .00     2.51      .00     .080     .050     .080     .000  1912.00  4955.21
  .014669     300.     320.     300.        3        0        0      .00    49.25  5004.47
0
 FLOW DISTRIBUTION FOR SECNO=      1.12          CWSEL=   1912.89

 STA=    4955.    5010.
   PER Q=    100.0
    AREA=     28.7
     VEL=      2.5

 *SECNO 1.175
      1.17      .91  1917.41      .00      .00  1917.49      .08     4.50      .00  1918.00
      72.       0.      72.       0.       0.      31.       0.       8.       9.  1918.00
      .56      .00     2.33      .00     .080     .050     .080     .000  1916.50  4977.94
  .014374     310.     310.     310.        3        0        0      .00    58.25  5036.19
0
1
 06/08/88    10:22:20                                                                    PAGE   13

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
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  TIME     VLOB     VCH     VROB     XNC     XNCH     XNR     WTR     ELMIN     STA
  SLOPE    XLOBL    XLCH    XLOBR    ITRIAL   IDC     ICONT   CORAR   TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=      1.17          CWSEL=   1917.41

STA=    4978.    5060.
  PER Q=    100.0
   AREA=     30.9
    VEL=      2.3

*SECNO 1.234
     1.23     1.39  1921.89      .00      .00  1922.01      .12     4.51      .01  1922.00
     72.       0.     72.        0.       0.     26.        0.       9.        9.  1922.00
     .59      .00     2.82      .00     .080    .050     .090     .000  1920.50  4986.15
  .014709     300.    310.     320.        3       0        0      .00    36.93  5023.00
0
FLOW DISTRIBUTION FOR SECNO=      1.23          CWSEL=   1921.89

STA=    4986.    5025.
  PER Q=    100.0
   AREA=     25.6
    VEL=      2.8

1
PROFILE FOR STREAM  CIRCLE CITY - WASH 1


PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


ELEVATION  1840.     1850.     1860.     1870.     1880.     1890.     1900.     1910.     1920.     1930.
   SECNO   CUMDIS

     .00      0.  I REL M  .         .         .         .         .         .         .         .         .
              50.  CI EL M  .         .         .         .         .         .         .         .         .
             100.  CI REL M .         .         .         .         .         .         .         .         .
             150.  C I EL M .         .         .         .         .         .         .         .         .
             200.  C I RE M .         .         .         .         .         .         .         .         .
             250.  C  I E M .         .         .         .         .         .         .         .         .
             300.  C   I E M .         .         .         .         .         .         .         .         .
     .06     350.  C   I E M .         .         .         .         .         .         .         .         .
             400.  C    ILEM .         .         .         .         .         .         .         .         .
             450.  C    I E M.         .         .         .         .         .         .         .         .
             500.  C     ILEM.         .         .         .         .         .         .         .         .
             550.  C      IE M         .         .         .         .         .         .         .         .
             600.  C      ILEM         .         .         .         .         .         .         .         .
             650.  C       IWEM        .         .         .         .         .         .         .         .
             700.  C        IEM        .         .         .         .         .         .         .         .
     .14     750.  C         IEM       .         .         .         .         .         .         .         .
             800.  C         IEM       .         .         .         .         .         .         .         .
             850.  C         I EM      .         .         .         .         .         .         .         .
             900.  C         .IEM      .         .         .         .         .         .         .         .
             950.  C         .I EM     .         .         .         .         .         .         .         .
     .19    1000.  C         . IEL     .         .         .         .         .         .         .         .
            1050.  C         . I E     .         .         .         .         .         .         .         .
            1100.  C         . I EL    .         .         .         .         .         .         .         .
            1150.  C         .  I E    .         .         .         .         .         .         .         .
            1200.  C         .  I EM   .         .         .         .         .         .         .         .
            1250.  C         .   I E   .         .         .         .         .         .         .         .
     .25    1300.  C         .   I EM  .         .         .         .         .         .         .         .
            1350.  C         .   I LE  .         .         .         .         .         .         .         .
            1400.  C         .    I EM .         .         .         .         .         .         .         .
            1450.  C         .    I LE .         .         .         .         .         .         .         .
            1500.  C         .     I WE.         .         .         .         .         .         .         .
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```
     1550. C     . I LE.      .    .    .    .    .    .    .    .
.29  1600. C     . I LEM      .    .    .    .    .    .    .    .
     1650. C     . I LE       .    .    .    .    .    .    .    .
     1700. C     . I  WE      .    .    .    .    .    .    .    .
     1750. C     . I LEM      .    .    .    .    .    .    .    .
     1800. C     . I .LEM     .    .    .    .    .    .    .    .
.34  1850. C     .  I. WEM    .    .    .    .    .    .    .    .
     1900. C     .   I LEM    .    .    .    .    .    .    .    .
     1950. C     .   I  WE    .    .    .    .    .    .    .    .
     2000. C     .  .I LEM    .    .    .    .    .    .    .    .
     2050. C     .  .I LWE    .    .    .    .    .    .    .    .
.40  2100. C     .  . I LEM   .    .    .    .    .    .    .    .
     2150. C     .  .  I WEM  .    .    .    .    .    .    .    .
     2200. C     .  .   ILE M .    .    .    .    .    .    .    .
     2250. C     .  .    ILE M.    .    .    .    .    .    .    .
     2300. C     .  .    I E M.    .    .    .    .    .    .    .
.44  2350. C     .  .     IWE M    .    .    .    .    .    .    .
     2400. C     .  .     I ERM    .    .    .    .    .    .    .
     2450. C     .  .      I E.M   .    .    .    .    .    .    .
     2500. C     .  .      I WEM   .    .    .    .    .    .    .
     2550. C     .  .      I  ERM  .    .    .    .    .    .    .
     2600. C     .  .       I .EM  .    .    .    .    .    .    .
.50  2650. C     .  .       I .WEM .    .    .    .    .    .    .
     2700. C     .  .       I . ELM .    .    .    .    .    .    .
     2750. C     .  .       I . ELR .    .    .    .    .    .    .
.53  2800. C     .  .       I .  ELR .   .    .    .    .    .    .
.54  2850. C     .  .        I.   LE  .  .    .    .    .    .    .
     2900. C     .  .         I    E  .  .    .    .    .    .    .
     2950. C     .  .         .I   EL .  .    .    .    .    .    .
.56  3000. C     .  .         . I  EL .  .    .    .    .    .    .
.57  3050. C     .  .         .  I    EL .    .    .    .    .    .
     3100. C     .  .         .   I   EM .    .    .    .    .    .
     3150. C     .  .         .    I  E. .    .    .    .    .    .
.60  3200. C     .  .         .     I LE. .   .    .    .    .    .
     3250. C     .  .         .      I EM .   .    .    .    .    .
     3300. C     .  .         .      I LE .   .    .    .    .    .
     3350. C     .  .         .       I EM .  .    .    .    .    .
     3400. C     .  .         .       I ELM .  .    .    .    .    .
     3450. C     .  .         .        I.EM .  .    .    .    .    .
     3500. C     .  .         .        I.ELM .  .    .    .    .    .
     3550. C     .  .         .         IE LM .  .    .    .    .    .
.68  3600. .     .  .         .         .IE LM .  .    .    .    .    .
     3650. C     .  .         .         .IWE LM .  .    .    .    .    .
     3700. C     .  .         .          . IE LM .  .    .    .    .    .
     3750. C     .  .         .          . I E LM .  .    .    .    .    .
     3800. C     .  .         .           . IWELM .  .    .    .    .    .
     3850. C     .  .         .           . I E LM .  .    .    .    .    .
     3900. C     .  .         .            . I ELM .  .    .    .    .    .
     3950. C     .  .         .             . I ELM. .    .    .    .    .
     4000. C     .  .         .             . I E LM .    .    .    .    .
     4050. C     .  .         .              . I ELM .    .    .    .    .
     4100. C     .  .         .              . I  ELM .   .    .    .    .
.78  4150. C     .  .         .               . I ELM .   .    .    .    .
     4200. C     .  .         .               . I E.LM .  .    .    .    .
     4250. C     .  .         .                . I ELM .  .    .    .    .
     4300. C     .  .         .                . I WELM .  .    .    .    .
     4350. C     .  .         .                 . I.ELM .  .    .    .    .
     4400. C     .  .         .                  IWELM .  .    .    .    .
     4450. C     .  .         .                  I ELM .  .    .    .    .
.85  4500. C     .  .         .                  .IWELM .  .    .    .    .
     4550. C     .  .         .                  . IE LM .  .    .    .    .
     4600. C     .  .         .                   . IEL M .  .    .    .    .
     4650. C     .  .         .                   . I ELM .  .    .    .    .
     4700. C     .  .         .                    . IEL M .  .    .    .    .
     4750. C     .  .         .                     IEL M.  .    .    .    .
.91  4800. C     .  .         .                      IEL M  .    .    .    .
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        4850.  C     .     .     .     .     .     IEL.M     .     .     .     .
        4900.  C     .     .     .     .     .     WELM      .     .     .     .
        4950.  C     .     .     .     .     .     IEL M     .     .     .     .
        5000.  C     .     .     .     .     .      IEL M    .     .     .     .
        5050.  C     .     .     .     .     .       IELM    .     .     .     .
        5100.  C     .     .     .     .     .      .E LM    .     .     .     .
        5150.  C     .     .     .     .     .      .IELM    .     .     .     .
    .99 5200.  C     .     .     .     .     .      . IELM   .     .     .     .
        5250.  C     .     .     .     .     .      .  WELM  .     .     .     .
        5300.  C     .     .     .     .     .      .  IE L  .     .     .     .
        5350.  C     .     .     .     .     .      .   IELM .     .     .     .
        5400.  C     .     .     .     .     .      .    IELM.     .     .     .
        5450.  C     .     .     .     .     .      .    I ELM.    .     .     .
        5500.  C     .     .     .     .     .      .     I EL.    .     .     .
        5550.  C     .     .     .     .     .      .      IE L    .     .     .
   1.05 5600.  C     .     .     .     .     .      .      I ELM   .     .     .
        5650.  C     .     .     .     .     .      .       IE.L   .     .     .
        5700.  C     .     .     .     .     .      .        IELM  .     .     .
        5750.  C     .     .     .     .     .      .        I.EL  .     .     .
        5800.  C     .     .     .     .     .      .         IELR .     .     .
        5850.  C     .     .     .     .     .      .        .IELM .     .     .
   1.12 5900.  C     .     .     .     .     .      .        . IELM.     .     .
        5950.  C     .     .     .     .     .      .        .  IER.     .     .
        6000.  C     .     .     .     .     .      .        .  IELM     .     .
        6050.  C     .     .     .     .     .      .        .   IEL .   .     .
        6100.  C     .     .     .     .     .      .        .    IER    .     .
        6150.  C     .     .     .     .     .      .        .     IEM . .     .
   1.17 6200.  C     .     .     .     .     .      .        .      ELM.       .
        6250.  C     .     .     .     .     .      .        .      IEL.       .
        6300.  C     .     .     .     .     .      .        .       IEM .     .
        6350.  C     .     .     .     .     .      .        .      I EM .     .
        6400.  C     .     .     .     .     .      .        .        IEL.     .
        6450.  C     .     .     .     .     .      .        .         IEM.    .
   1.23 6500.  C     .     .     .     .     .      .        .        .IEM.    .
1
```

06/08/88 10:22:20 PAGE 14

THIS RUN EXECUTED 06/08/88 10:23:17

```
**************************************************
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION 1.1
**************************************************
```

T1 WITTMANN ADMS
T2 100 YEAR STORM EVENT - ENCROACHED
T3 CIRCLE CITY - WASH 1

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	3.	0.	0.	.000000	.00	.0	0.	1842.540	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2.000	.000	-1.000	.000	.000	.000	.000	.000	.000	15.000

1
06/08/88 10:22:20 PAGE 15

SECNO DEPTH CWSEL CRIWS WSELK EG HV HL OLOSS BANK ELEV

```
   Q       QLOB    QCH     QROB    ALOB    ACH     AROB    VOL     TNA     LEFT/RIGHT
   TIME    VLOB    VCH     VROB    XNL     XNCH    XNR     WTN     ELMIN   SSTA
   SLOPE   XLOBL   XLCH    XLOBR   ITRIAL  IDC     ICONT   CORAR   TOPWID  ENDST


*PROF 2

CCHV=    .100 CEHV=    .300
*SECNO  .000
 2000 NAT Q1=     25.88  WSEL=   1842.54  ENC Q1=     52.50  WSEL=   1843.54  RATIO= -1.0290
 NAT Q1=     68.  RATIOS LOB,CH,ROB=   .0000   .7773   .2227  WSEL=   1843.54

3470 ENCROACHMENT STATIONS=    4985.0    5025.0  TYPE=     4  TARGET=        .223
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
     .00     2.54  1842.54     .00  1842.54  1842.80     .34     .00     .00  1844.00
    278.       0.    278.       0.       0.     59.       0.       0.       0.  1842.00
     .00     .00     4.69     .00     .000     .050     .000     .000  1840.00  4988.65
  .013431      0.       0.       0.        0        0        0     .00    36.35  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1842.54

STA=    4989.    5025.
  PER Q=    100.0
   AREA=     59.3
    VEL=      4.7

*SECNO  .064
 2000 NAT Q1=     30.29  WSEL=   1846.01  ENC Q1=     77.96  WSEL=   1847.01  RATIO= -1.5745
 NAT Q1=     81.  RATIOS LOB,CH,ROB=   .0292   .9598   .0109  WSEL=   1847.01

3470 ENCROACHMENT STATIONS=    4980.0    5045.0  TYPE=     4  TARGET=        .040
     .06     2.06  1846.06     .00  1846.01  1846.2      .15     3.31     .02  1846.00
    278.       0.    278.       0.       0.     99.       0.       1.       0.  1846.00
     .03     .00     3.13     .00     .000     .050     .000     .000  1844.00  4980.00
  .007367    340.    340.    340.        4        0        0     .00    65.00  5045.00
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1846.06

STA=    4980.    5045.
  PER Q=    100.0
   AREA=     88.8
    VEL=      3.1

*SECNO  .142
1
 06/09/88    10:22:20                                                              PAGE   16


   SECNO   DEPTH   CWSEL   CRIWS   WSELK   EG      HV      HL      GLOSS   BANK ELEV
   Q       QLOB    QCH     QROB    ALOB    ACH     AROB    VOL     TNA     LEFT/RIGHT
   TIME    VLOB    VCH     VROB    XNL     XNCH    XNR     WTN     ELMIN   SSTA
   SLOPE   XLOBL   XLCH    XLOBR   ITRIAL  IDC     ICONT   CORAR   TOPWID  ENDST



3470 ENCROACHMENT STATIONS=    4970.0    5119.3  TYPE=     1  TARGET=     149.000
     .14     1.13  1850.63     .00  1850.66  1850.80     .17     4.59     .00  1850.00
    278.       0.    197.      81.       0.     53.      47.       1.       1.  1850.00
     .07     .00     3.72     1.74     .080     .050     .000     .000  1949.50  4970.00
  .018812    370.    410.    420.        3        0        0     .00   148.38  5118.38
0
 FLOW DISTRIBUTION FOR SECNO=       .14          CWSEL=   1850.63

STA=    4970.    5030.    5090.    5118.
  PER Q=     70.7     25.5      3.8
```

```
   AREA=      32.8      37.8      1.0
    VEL=       3.7       1.9      1.2

*SECNO  .189

 3470 ENCROACHMENT STATIONS=    4974.0    5079.0  TYPE=     1  TARGET=     105.000
      .19      1.86  1853.36      .00  1853.34  1853.46      .10      2.66      .01100000.00
     278.        0.     278.       0.       0.     108.       0.        2.        2. 100000.00
      .09       .00     2.58      .00     .080     .050     .000      .000  1851.50  4976.20
  .007084      290.     250.     210.        5        0        0       .00   102.00  5079.00
0
 FLOW DISTRIBUTION FOR SECNO=       .19          CWSEL=   1853.36

 STA=    4976.    5090.
   PER Q=    100.0
    AREA=    107.8
     VEL=      2.6

*SECNO  .246

 3470 ENCROACHMENT STATIONS=    4945.0    5005.0  TYPE=     1  TARGET=      60.000
      .25      1.99  1855.99      .00  1856.03  1856.21      .22      2.71      .03  1856.00
     278.        0.     278.       0.       0.      74.       0.        3.        3. 100000.00
      .12       .00     3.74      .00     .080     .050     .000      .000  1854.00  4945.21
  .011929      270.     300.     330.        4        0        0       .00    59.77  5004.97
0
 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1855.99

 STA=    4945.    5005.
   PER Q=    100.0
    AREA=     74.4
     VEL=      3.7

1
 06/08/88    10:22:20                                                                                    PAGE   17


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .295
  2800 NAT Q1=     24.48  WSEL=   1858.93  ENC Q1=     42.18  WSEL=   1859.93  RATIO=  -.7226
  NAT Q1=     53.  RATIOS LOB,CH,ROB=   .1598   .7928   .0474  WSEL=   1859.93

 3470 ENCROACHMENT STATIONS=    4990.0    5010.0  TYPE=     4  TARGET=       .207
      .29      3.08  1859.08      .00  1858.93  1859.59      .51      3.30      .09  1858.00
     278.        0.     278.       0.       0.      49.       0.        3.        3.  1858.00
      .13       .00     5.72      .00     .080     .050     .000      .000  1856.00  4990.00
  .013501      270.     260.     260.        3        0        0       .00    20.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1859.08

 STA=    4990.    5010.
   PER Q=    100.0
    AREA=     48.6
     VEL=      5.7

*SECNO  .344
 2800 NAT Q1=     23.79  WSEL=   1862.42  ENC Q1=     45.81  WSEL=   1863.42  RATIO=  -.9253
 NAT Q1=     56.  RATIOS LOB,CH,ROB=   .0660   .8195   .1145  WSEL=   1863.42

 3470 ENCROACHMENT STATIONS=    4985.0    5010.0  TYPE=     4  TARGET=       .181
      .34      3.54  1862.54      .00  1862.42  1862.96      .42      3.38      .01  1862.00
```

```
     278.      0.     278.      0.      0.     33.      0.      3.      3.  1852.00
      .14     .00     5.22     .00    .080    .050    .080    .000  1879.00  4985.00
   .012375    280.    260.    240.       3       0       0     .00    25.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .34          CWSEL=   1862.54

 STA=    4985.    5010.
   PER Q=    100.0
    AREA=     53.3
     VEL=      5.2

 *SECNO  .395
  2900 NAT Q1=     36.68  WSEL=   1864.95  ENC Q1=     54.05  WSEL=   1865.95  RATIO=  -.7463
  NAT Q1=     75.  RATIOS LOB,CH,ROB=   .0574   .8507   .0919  WSEL=   1865.95

 3470 ENCROACHMENT STATIONS=    4980.0    5010.0  TYPE=     4  TARGET=       .149
      .40     3.03  1865.03     .00  1864.95  1865.27     .24     2.29     .02  1864.00
     278.      0.     278.      0.      0.     71.      0.      4.      3.  1864.00
      .16     .00     3.93     .00    .080    .050    .080    .000  1862.00  4980.00
   .006167    270.    270.    270.       4       0       0     .00    30.00  5010.00
0
1
 06/08/08    10:22:20                                                                                PAGE   18

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=       .40          CWSEL=   1865.03

 STA=    4980.    5010.
   PER Q=    100.0
    AREA=     70.8
     VEL=      3.9

 *SECNO  .439

 3470 ENCROACHMENT STATIONS=    4940.0    5007.0  TYPE=     1  TARGET=      57.000
      .44     1.42  1867.42     .00  1867.35  1867.70     .29     2.43     .01  1867.00
     278.      0.     278.      0.      0.     65.      0.      4.      3. 100000.00
      .18     .00     4.29     .00    .080    .050    .080    .000  1866.00  4940.00
   .021989    210.    230.    240.       3       0       0     .00    67.00  5007.00
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1867.42

 STA=    4940.    5010.
   PER Q=    100.0
    AREA=     64.8
     VEL=      4.3

 *SECNO  .498

 3470 ENCROACHMENT STATIONS=    4980.0    5037.0  TYPE=     1  TARGET=      57.000
      .50     3.37  1871.37     .00  1871.44  1871.55     .18     3.83     .01100000.00
     278.      0.     278.      0.      0.     83.      0.      5.      4. 100000.00
      .20     .00     3.36     .00    .080    .050    .080    .000  1869.00  4980.00
   .007316    310.    310.    310.       4       0       0     .00    57.00  5037.00
0
 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1871.37

 STA=    4980.    5050.
   PER Q=    100.0
    AREA=     82.6
```

```
  VEL=      3.4

*SECNO  .526

3470 ENCROACHMENT STATIONS=    4975.0    5025.0  TYPE=     1  TARGET=      50.000
 ELENCL=   1875.00  ELENCR=   1875.00
1
 06/08/98    10:22:20                                                                                    PAGE   19


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


     .53     4.49  1872.49      .00  1872.50  1872.76      .28     1.18      .03  1874.00
    278.       0.     278.       0.       0.      66.       0.       5.       4.   1875.00
     .21      .00     4.22      .00     .080     .050     .080     .000  1868.00  4982.55
  .009061    140.     140.     180.        3        0        0      .00    34.03  5017.45
0
 FLOW DISTRIBUTION FOR SECNO=       .53          CWSEL=   1872.49

 STA=    4983.    5025.
  PER Q=    100.0
   AREA=     65.9
    VEL=      4.2

*SECNO  .540
 WATER EL=X5 CARD=  1874.000

3470 ENCROACHMENT STATIONS=    4985.0    5020.0  TYPE=     1  TARGET=      35.000
 ELENCL=   1874.00  ELENCR=   1874.00
                 CULVERT DATA TAKEN FROM FIELD MEASUREMENTS.
                 WATER SURFACE ELEVATION AT SECTION .540 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BAR CHARTS
                 WITH INLET CONTROL.
     .54     6.30  1874.00      .00  1874.00  1874.04      .04      .13      .02  1874.00
    278.       3.     273.       2.      10.     169.       8.       5.       4.   1874.00
     .22      .27     1.62      .27     .080     .050     .080     .000  1868.50  4939.00
  .000739     75.      75.      75.        0        0        0      .00   101.00  5040.00
0
 FLOW DISTRIBUTION FOR SECNO=       .54          CWSEL=   1874.00

 STA=    4939.    4965.    5020.    5040.
  PER Q=      1.0     98.2      .8
   AREA=     10.4    169.0     8.0
    VEL=      .3      1.6      .3

*SECNO  .564

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1876.00 ELREA=     1876.00

     .56     3.21  1874.71      .00  1874.71  1875.23      .52      .25      .14  1876.00
    278.       0.     278.       0.       0.      48.       0.       5.       4.   1876.00
     .23      .00     5.78      .00     .080     .050     .080     .000  1871.50  4988.21
  .015512    110.     125.     125.        3        0        0      .00    23.58  5011.79
0
1
 06/08/98    10:22:20                                                                                    PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
```

```
FLOW DISTRIBUTION FOR SECNO=        .56          CWSEL=   1874.71

STA=    4980.    5015.
  PER Q=    100.0
   AREA=     48.1
    VEL=      5.8

CCHV=    .300 CEHV=    .500
*SECNO  .573
 WATER EL=X5 CARD=  1878.660

3470 ENCROACHMENT STATIONS=    4985.0    5010.0  TYPE=     1  TARGET=      25.000
 ELENCL=   1880.00  ELENCR=   1880.00
                WATER SURFACE ELEVATION AT SECTION .573 IS BASED UPON
                HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C22.
                WASH 1 AND WASH 2 DIVIDE SUBWATERSHED 22 INTO SIMILAR
                HALVES AND MAINTAIN THE EQUIVALENT TIME OF CONCENTRATION
                THUS THE PEAK DISCHARGE OF 150 CFS FOR SUBWATERSHED 22
                WAS DIVIDED INTO 75 CFS FOR EACH OF WASH 1 AND WASH 2.
      .57     6.16  1878.66      .00  1878.66  1878.70      .12      .19      .12  1880.00
     276.       0.     276.       0.       0.      99.       0.       5.       4.   1880.00
      .23      .00     2.78      .00     .000     .050     .000     .000  1872.50  4987.23
  .001702      50.      50.      50.        0        0        0      .00    22.77  5010.00
0
FLOW DISTRIBUTION FOR SECNO=        .57          CWSEL=   1878.66

STA=    4987.    5030.
  PER Q=    100.0
   AREA=     99.2
    VEL=      2.9

*SECNO  .600
 2900 NAT Q1=     60.57  WSEL=   1879.97  ENC Q1=    106.87  WSEL=   1879.97  RATIO=  -.7646
 NAT Q1=    122.  RATIOS LOB,CH,ROB=   .0367   .8779   .0854  WSEL=   1879.97

3470 ENCROACHMENT STATIONS=    4980.0    5030.0  TYPE=     4  TARGET=       .122
      .60     2.98  1878.98      .00  1878.97  1879.07      .09      .28      .01  1878.00
     276.       0.     276.       0.       0.     114.       0.       6.       4.   1878.00
      .25      .00     2.43      .00     .000     .050     .000     .000  1876.00  4980.00
  .002355     140.     140.     140.        2        0        0      .00    50.00  5030.00
0
1
 06/08/88    10:22:20                                                                    PAGE   21


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=        .60          CWSEL=   1878.98

STA=    4980.    5030.
  PER Q=    100.0
   AREA=    113.8
    VEL=      2.4

*SECNO  .693
 2800 NAT Q1=      3.42  WSEL=   1881.76  ENC Q1=     16.26  WSEL=   1882.76  RATIO= -3.7511
 NAT Q1=     16.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1882.76
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
```

```
3470 ENCROACHMENT STATIONS=    4970.0    5045.0  TYPE=     4  TARGET=        .000
      .68     1.26  1881.76  1881.76  1881.76  1882.03      .32     1.47      .12  1884.00
      72.       0.      72.       0.       0.      16.       0.       6.       5.   1894.00
      .28      .00     4.56      .00     .080     .050     .080     .000  1830.50  4991.62
   .044114     430.     440.     450.       20       15        0      .00    25.13  5016.75
0
 FLOW DISTRIBUTION FOR SECNO=       .68          CWSEL=   1881.76

 STA=    4932.    5045.
   PER Q=    100.0
    AREA=     15.8
     VEL=      4.6

 CCHV=    .100 CEHV=    .300
 *SECNO  .782
  2000 NAT Q1=      9.12  WSEL=   1888.96  ENC Q1=     25.34  WSEL=   1889.06  RATIO= -1.7773
  NAT Q1=     25.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1889.06

 3470 ENCROACHMENT STATIONS=    4980.0    5025.0  TYPE=     4  TARGET=        .000
      .78     2.36  1888.86      .00  1888.86  1888.93      .03     6.88      .02  1890.00
      72.       0.      72.       0.       0.      30.       0.       7.       5.   1890.00
      .34      .00     2.42      .00     .080     .050     .080     .000  1836.50  4985.63
   .006235     550.     520.     490.        7        0        0      .00    27.92  5013.62
0
 FLOW DISTRIBUTION FOR SECNO=       .78          CWSEL=   1888.86

 STA=    4986.    5025.
   PER Q=    100.0
    AREA=     29.7
     VEL=      2.4

1
 06/08/88    10:22:20                                                                    PAGE   22

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA     LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .848
  2000 NAT Q1=      4.97  WSEL=   1892.44  ENC Q1=     19.14  WSEL=   1893.44  RATIO= -2.8484
  NAT Q1=     19.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1893.44

 3470 ENCROACHMENT STATIONS=    4965.0    5015.0  TYPE=     4  TARGET=        .000
      .85     1.44  1892.44      .00  1892.44  1892.64      .20     3.65      .03  1894.00
      72.       0.      72.       0.       0.      20.       0.       7.       5.   1894.00
      .36      .00     3.56      .00     .080     .050     .080     .000  1891.00  4984.52
   .020907     370.     350.     330.        3        0        0      .00    26.58  5011.10
0
 FLOW DISTRIBUTION FOR SECNO=       .85          CWSEL=   1892.44

 STA=    4985.    5015.
   PER Q=    100.0
    AREA=     20.2
     VEL=      3.6

 *SECNO  .911
  2000 NAT Q1=      7.37  WSEL=   1897.06  ENC Q1=     31.08  WSEL=   1898.06  RATIO= -3.2192
  NAT Q1=     31.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1898.06

 3470 ENCROACHMENT STATIONS=    4980.0    5050.0  TYPE=     4  TARGET=        .000
      .91     1.06  1897.06      .00  1897.06  1897.16      .08     4.49      .01  1898.00
      72.       0.      72.       0.       0.      31.       0.       7.       5.   1898.00
```

```
   .40      .00     2.31      .00      .000      .000      .000      .000  1903.66  5033.50
 .003561    310.     330.     350.        4         0         0      .00    44.07  5033.50
0
FLOW DISTRIBUTION FOR SECNO=        .91          CWSEL=   1897.06

STA=    4989.    5050.
  PER Q=    100.0
   AREA=     31.2
    VEL=      2.3

*SECNO  .985
 2800 NAT Q1=       4.61  WSEL=   1902.66  ENC Q1=      29.05  WSEL=   1903.66  RATIO= -5.3011
 NAT Q1=     29.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1903.66

3470 ENCROACHMENT STATIONS=    4940.0    5040.0  TYPE=     4  TARGET=        .000
     .99      .66  1902.66      .00  1902.66  1902.80      .13     5.64      .01  1904.00
     72.       0.      72.       0.       0.      25.       0.       7.       6.   1904.00
     .44      .00     2.91      .00     .080     .050     .080     .000  1902.00  4963.43
 .024408    390.     390.     390.        4         0         0      .00    49.90  5013.23
0
1
 06/08/98    10:22:20                                                                          PAGE   23


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=        .99          CWSEL=   1902.66

STA=    4963.    5040.
  PER Q=    100.0
   AREA=     24.7
    VEL=      2.9

*SECNO 1.055
 2800 NAT Q1=       6.68  WSEL=   1909.74  ENC Q1=      34.19  WSEL=   1909.74  RATIO= -4.1181
 NAT Q1=     34.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1909.74

3470 ENCROACHMENT STATIONS=    4950.0    5070.0  TYPE=     4  TARGET=        .000
    1.05     1.74  1908.74  1908.43  1908.74  1908.82      .08     6.02      .01  1910.00
     72.       0.      72.       0.       0.      32.       0.       8.       7.   1910.00
     .49      .00     2.27      .00     .080     .050     .080     .000  1907.00  4977.14
 .011604    380.     370.     360.       17        17         0      .00    53.10  5030.24
0
FLOW DISTRIBUTION FOR SECNO=       1.05          CWSEL=   1908.74

STA=    4977.    5070.
  PER Q=    100.0
   AREA=     31.8
    VEL=      2.3

*SECNO 1.116
 2800 NAT Q1=       5.94  WSEL=   1912.89  ENC Q1=      32.72  WSEL=   1913.89  RATIO= -4.5034
 NAT Q1=     33.  RATIOS LOB,CH,ROB=   .0129   .9871   .0000  WSEL=   1913.89

3470 ENCROACHMENT STATIONS=    4935.0    5010.0  TYPE=     4  TARGET=        .013
    1.12      .89  1912.89      .00  1912.89  1912.99      .10     4.17      .01  1913.50
     72.       0.      72.       0.       0.      29.       0.       8.       7.   1914.00
     .52      .00     2.51      .00     .080     .050     .080     .000  1912.00  4955.24
 .014728    300.     320.     300.        5         0         0      .00    49.22  5004.46
0
FLOW DISTRIBUTION FOR SECNO=       1.12          CWSEL=   1912.89
```

```
STA=    4955.    5010.
  PER Q=    100.0
   AREA=     28.7
    VEL=      2.5

1
 06/08/88    10:22:20                                                                                    PAGE   24


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       O.DSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 1.175
  2000 NAT Q1=      6.01  WSEL=   1917.41  ENC Q1=     38.19  WSEL=   1918.41  RATIO= -5.3591
  NAT Q1=     41.  RATIOS LOB,CH,ROB=   .0057   .9220   .0723  WSEL=   1918.41

 3470 ENCROACHMENT STATIONS=    4970.0    5060.0  TYPE=     4  TARGET=        .078
      1.17      .91  1917.41      .00  1917.41  1917.49      .08     4.50      .00  1918.00
       72.       0.      72.       0.       0.      31.       0.       0.       7.   1918.00
       .56      .00     2.33      .00     .000     .050     .000     .000  1916.50  4977.93
   .014311     310.     310.     310.        5        0        0      .00    58.29  5036.22
0
 FLOW DISTRIBUTION FOR SECNO=      1.17          CWSEL=   1917.41

 STA=    4978.    5060.
   PER Q=    100.0
    AREA=     30.9
     VEL=      2.3

 *SECNO 1.234
  2000 NAT Q1=      5.94  WSEL=   1921.89  ENC Q1=     26.94  WSEL=   1922.89  RATIO= -1.5378
  NAT Q1=     33.  RATIOS LOB,CH,ROB=   .1024   .8145   .0832  WSEL=   1922.89

 3470 ENCROACHMENT STATIONS=    4985.0    5025.0  TYPE=     4  TARGET=        .186
      1.23     1.38  1921.88      .00  1921.89  1922.01      .12     4.50      .01  1922.00
       72.       0.      72.       0.       0.      26.       0.       0.       0.   1922.00
       .59      .00     2.82      .00     .000     .050     .000     .000  1920.50  4986.16
   .014744     300.     310.     320.        4        0        0      .00    36.91  5023.07
0
 FLOW DISTRIBUTION FOR SECNO=      1.23          CWSEL=   1921.88

 STA=    4986.    5025.
   PER Q=    100.0
    AREA=     25.5
     VEL=      2.8

1
 06/08/88    10:22:20                                                                                    PAGE   25


                                                                                THIS RUN EXECUTED 06/08/88    10:23:53

 ***************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
 ***************************************************


 T1       WITTMANN ADMS
 T2       50 YEAR STORM EVENT
```

T3 CIRCLE CITY - WASH 1

J1	ICHECK	INQ	NINV	IDIR	STAT	METRIC	HVINS	Q	WSEL	FQ
	0.	4.	0.	0.	.011400	.00	.5	0.	1840.000	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3.000	.000	-1.000	.000	.000	.000	.000	.000	.000	15.000

1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 3

CCHV= .100 CEHV= .300
*SECNO .000
THIS IS A MULTIPLE PROFILE RUN. ALL DISCHARGES ARE BASED ON
THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.

.00	2.10	1842.10	.00	1840.00	1842.3	.20	.00	.00	1844.00
159.	0.	158.	1.	0.	44.	2.	0.	0.	1842.00
.00	.00	3.63	.41	.080	.050	.080	.000	1840.00	4989.75
.011413	0.	0.	0.	0	0	7	.00	55.31	5045.06

0
FLOW DISTRIBUTION FOR SECNO= .00 CWSEL= 1842.10

STA=	4990.	5025.	5040.	5045.
PER Q=	99.5	.4	.0	
AREA=	43.6	1.5	.3	
VEL=	3.6	.4	.3	

*SECNO .064

.06	1.52	1845.52	.00	.00	1845.65	.12	3.33	.01	1846.00
159.	0.	159.	0.	0.	57.	0.	0.	0.	1846.00
.03	.00	2.91	.00	.080	.050	.080	.000	1844.00	4982.39
.008516	340.	340.	340.	4	0	0	.00	54.26	5036.65

0
FLOW DISTRIBUTION FOR SECNO= .06 CWSEL= 1845.52

STA=	4982.	5045.
PER Q=	100.0	
AREA=	56.5	
VEL=	2.9	

*SECNO .142

.14	.91	1850.41	.00	.00	1850.52	.11	4.87	.00	1850.00
159.	3.	119.	37.	3.	40.	29.	1.	1.	1850.00
.08	.86	3.00	1.30	.080	.050	.080	.000	1849.50	4953.53
.017656	370.	410.	420.	5	0	0	.00	105.00	5100.53

0
FLOW DISTRIBUTION FOR SECNO= .14 CWSEL= 1850.41

STA=	4954.	4970.	5030.	5090.	5100.
PER Q=	1.8	74.9	21.2	2.1	
AREA=	3.4	39.7	24.7	3.8	
VEL=	.9	3.0	1.4	.9	

1

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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .189
      .19     1.52  1853.02      .00      .00  1853.00      .07     2.57      .00  1854.00
     159.       0.     159.       0.       0.      75.       0.       1.       2.   1854.00
      .11      .00     2.13      .00     .000     .050     .000     .000  1851.50  4982.00
  .006900     290.     250.     210.        4        0        0      .00    93.29  5075.36
0
 FLOW DISTRIBUTION FOR SECNO=      .19          CWSEL=   1853.02

 STA=    4982.    5090.
   PER Q=    100.0
    AREA=     74.7
     VEL=      2.1

 *SECNO  .246
      .25     1.56  1855.56      .00      .00  1855.71      .15     2.59      .02  1856.00
     159.       0.     159.       0.       0.      51.       0.       2.       3.   1856.00
      .14      .00     3.14      .00     .000     .050     .000     .000  1854.00  4953.87
  .011105     270.     300.     330.        2        0        0      .00    50.02  5003.89
0
 FLOW DISTRIBUTION FOR SECNO=      .25          CWSEL=   1855.56

 STA=    4954.    5005.
   PER Q=    100.0
    AREA=     50.6
     VEL=      3.1

 *SECNO  .295
      .29     2.39  1858.39      .00      .00  1858.70      .32     2.95      .05  1858.00
     159.       1.     157.       0.       2.      35.       1.       2.       3.   1858.00
      .15      .67     4.53      .67     .000     .050     .000     .000  1856.00  4980.93
  .011570     270.     260.     260.        3        0        0      .00    31.98  5012.92
0
 FLOW DISTRIBUTION FOR SECNO=      .29          CWSEL=   1858.39

 STA=    4981.    4990.    5010.    5013.
   PER Q=      .7     99.0      .2
    AREA=     1.8     34.8      .6
     VEL=      .7      4.5      .7

1
  06/08/88    10:22:20                                                                    PAGE   29


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .344
      .34     2.78  1861.78      .00      .00  1862.11      .33     3.40      .00  1862.00
     159.       0.     159.       0.       0.      34.       0.       2.       3.   1862.00
      .17      .00     4.61      .00     .000     .050     .000     .000  1859.00  4986.15
  .014876     280.     260.     240.        3        0        0      .00    23.28  5009.43
0
 FLOW DISTRIBUTION FOR SECNO=      .34          CWSEL=   1861.78

 STA=    4986.    5010.
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```
  PER Q=     100.0
   AREA=      34.5
    VEL=       4.6

*SECNO  .399
      .40     2.34  1864.34      .00      .00  1864.49      .15     2.37      .02  1864.00
     159.       0.     158.       0.       1.      50.       1.       3.       3.  1864.00
      .19      .43     3.15      .43     .080     .050     .080     .000  1862.00  4975.77
  .005776     270.     270.     270.        4        0        0      .00    41.00  5016.77
0
 FLOW DISTRIBUTION FOR SECNO=        .40          CWSEL=  1864.34

 STA=    4976.    4980.    5010.    5017.
   PER Q=      .2     99.5      .3
   AREA=       .7     50.2     1.1
    VEL=       .4      3.2      .4

*SECNO  .439
      .44     1.01  1867.01      .00      .00  1867.27      .26     2.75      .03  1867.00
     159.       0.     159.       0.       0.      39.       0.       3.       3.  1868.00
      .21      .04     4.09      .00     .080     .050     .080     .000  1866.00  4938.97
  .037857     210.     230.     240.        4        0        0      .00    66.13  5005.10
0
 FLOW DISTRIBUTION FOR SECNO=        .44          CWSEL=  1867.01

 STA=    4939.    4940.    5010.
   PER Q=      .0    100.0
   AREA=       .0     38.8
    VEL=       .0      4.1

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 06/09/88   10:22:20                                                                    PAGE   29


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .498
      .50     2.97  1870.97      .00      .00  1871.07      .11     3.79      .02  1872.00
     159.       0.     159.       0.       0.      61.       0.       3.       4.  1872.00
      .24      .00     2.63      .00     .080     .050     .080     .000  1868.00  4982.79
  .005953     310.     310.     310.        6        0        0      .00    49.02  5031.82
0
 FLOW DISTRIBUTION FOR SECNO=        .50          CWSEL=  1870.97

 STA=    4983.    5050.
   PER Q=    100.0
   AREA=      60.6
    VEL=       2.6

*SECNO  .526

 3470 ENCROACHMENT STATIONS=    4975.0    5025.0  TYPE=     1  TARGET=      50.000
  ELENCL=   1875.00  ELENCR=   1875.00
      .53     3.85  1871.85      .00      .00  1872.04      .19      .34      .02  1874.00
     159.       0.     159.       0.       0.      46.       0.       3.       4.  1875.00
      .25      .00     3.48      .00     .080     .050     .080     .000  1868.00  4985.73
  .007699     140.     140.     180.        3        0        0      .00    28.53  5014.27
0
 FLOW DISTRIBUTION FOR SECNO=        .53          CWSEL=  1871.85

 STA=    4986.    5025.
   PER Q=    100.0
```

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   AREA=      43.7
    VEL=       3.5

 *SECNO  .540
  WATER EL=XS CARD=  1872.900

 3470 ENCROACHMENT STATIONS=    4985.0    5020.0  TYPE=     1  TARGET=      35.000
  ELENCL=   1874.00  ELENCR=   1874.00
                 CULVERT DATA TAKEN FROM FIELD MEASUREMENTS.
                 WATER SURFACE ELEVATION AT SECTION .540 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS
                 WITH INLET CONTROL.
      .54     4.40  1872.90      .00      .00  1872.93      .05      .17      .01  1874.00
     159.       0.     159.       0.       0.      89.       0.       3.       4.  1874.00
      .26      .00     1.79      .00     .080     .050     .080     .000  1868.50  4985.00
  .001028      75.      75.      75.        0        0        0      .00    30.88  5015.87
0
1
 06/09/88    10:22:20                                                                    PAGE   30


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA      LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=       .54          CWSEL=   1872.90

 STA=    4985.    5020.
  PER Q=    100.0
   AREA=     99.8
    VEL=      1.8

 *SECNO  .564

 3301 HV CHANGED MORE THAN HVINS

 3695 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLER=     1876.00 ELREA=     1876.00

      .56     2.04  1873.54  1873.54      .00  1874.23      .69      .38      .19  1876.00
     159.       0.     159.       0.       0.      24.       0.       4.       4.  1876.00
      .27      .00     6.65      .00     .080     .050     .080     .000  1871.50  4991.14
  .035251     110.     125.     125.       20       14        0      .00    17.72  5003.86
0
 FLOW DISTRIBUTION FOR SECNO=       .56          CWSEL=   1873.54

 STA=    4991.    5015.
  PER Q=    100.0
   AREA=     23.9
    VEL=      6.7

 CCHV=    .300 CEHV=    .500
 *SECNO  .573
  WATER EL=XS CARD=  1877.700

 3470 ENCROACHMENT STATIONS=    4985.0    5010.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1880.00  ELENCR=   1880.00
                 WATER SURFACE ELEVATION AT SECTION .573 IS BASED UPON
                 HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C22.
                 WASH 1 AND WASH 2 DIVIDE SUBWATERSHED 22 INTO SIMILAR
                 HALVES AND MAINTAIN THE EQUIVALENT TIME OF CONCENTRATION
```

THUS THE PEAK DISCHARGE OF 150 CFS FOR BOTH WASH 1 AND
WAS DIVIDED INTO 75 CFS FOR EACH OF WASH 1 AND WASH 2.

```
     .57     5.28  1877.78      .00      .00  1877.84      .06      .15      .17  1880.00
    158.       0.     158.       0.       0.      80.       0.       4.       4.  1880.00
     .28      .00     1.99      .00     .080     .050     .080     .000  1872.50  4986.70
  .001016     50.      50.      50.        0        0        0      .00    21.30  5010.00
0
1
 06/08/88    10:22:20                                                                    PAGE   31

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORRR    TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=      .57          CWSEL=   1877.78

STA=    4989.    5030.
  PER Q=    100.0
   AREA=     79.9
    VEL=      2.0

*SECNO  .600
     .60     2.03  1878.03      .00      .00  1878.11      .09      .26      .01  1878.00
    158.       0.     158.       0.       0.      66.       0.       4.       4.  1878.00
     .29      .01     2.38      .01     .080     .050     .090     .000  1876.00  4979.63
  .004402    140.     140.     140.        3        0        0      .00    51.26  5030.89
0
FLOW DISTRIBUTION FOR SECNO=      .60          CWSEL=   1878.03

STA=    4980.    5030.    5031.
  PER Q=    100.0       .0
   AREA=     66.5       .0
    VEL=      2.4       .0

*SECNO  .683
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .68     1.11  1881.61  1881.61      .00  1881.90      .28     2.83      .10  1884.00
      53.       0.      53.       0.       0.      12.       0.       4.       5.  1884.00
     .32      .00     4.27      .00     .080     .050     .090     .000  1880.50  4992.57
  .045443    430.     440.     450.       20       11        0      .00    22.28  5014.85
0
FLOW DISTRIBUTION FOR SECNO=      .68          CWSEL=   1881.61

STA=    4993.    5045.
  PER Q=    100.0
   AREA=     12.4
    VEL=      4.3

CCHV=    .100 CEHV=    .300
*SECNO  .792
     .78     2.13  1888.63      .00      .00  1888.71      .08     6.79      .02  1890.00
      53.       0.      53.       0.       0.      24.       0.       5.       5.  1890.00
     .39      .00     2.24      .00     .080     .050     .080     .000  1886.50  4986.86
  .006090    550.     520.     490.        6        0        0      .00    24.42  5011.28
0
1
 06/08/88    10:22:20                                                                    PAGE   32

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
```

```
   TIME     VLOB     VCH     VROB     XNL     XNCH     XNR     WTN     ELMIN     SSTA
   SLOPE    XLOBL    XLCH    XLOBR    ITRIAL  IDC      ICONT   CORAR   TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=       .78          CWSEL=   1888.63

STA=    4987.    5025.
  PER Q=    100.0
   AREA=     23.6
    VEL=      2.2

*SECNO  .840
      .85     1.26  1892.26      .00      .00  1892.44      .18     3.70      .03  1894.00
      53.       0.      53.       0.       0.      16.       0.       5.       5.  1894.00
      .41      .00     3.37      .00     .080     .050     .080     .000  1891.00  4986.75
  .022737     370.     350.     330.        4        0        0      .00    23.90  5010.65
0
 FLOW DISTRIBUTION FOR SECNO=       .85          CWSEL=   1892.26

STA=    4987.    5015.
  PER Q=    100.0
   AREA=     15.7
    VEL=      3.4

*SECNO  .911
      .91      .92  1896.92      .00      .00  1896.93      .07     4.54      .01  1899.00
      53.       0.      53.       0.       0.      25.       0.       5.       5.  1898.00
      .46      .00     2.09      .00     .080     .050     .080     .000  1896.00  4990.83
  .009214     310.     330.     350.        4        0        0      .00    40.22  5031.05
0
 FLOW DISTRIBUTION FOR SECNO=       .91          CWSEL=   1896.92

STA=    4991.    5050.
  PER Q=    100.0
   AREA=     25.3
    VEL=      2.1

*SECNO  .985
      .99      .55  1902.55      .00      .00  1902.67      .12     5.66      .01  1904.00
      53.       0.      53.       0.       0.      19.       0.       5.       6.  1904.00
      .50      .00     2.72      .00     .080     .050     .080     .000  1902.00  4965.36
  .026191     390.     390.     390.        4        0        0      .00    45.66  5011.02
0
1
 06/08/88    10:22:20                                                                PAGE   33


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       GLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=       .99          CWSEL=   1902.55

STA=    4965.    5040.
  PER Q=    100.0
   AREA=     19.5
    VEL=      2.7

*SECNO 1.055
     1.05     1.61  1908.61      .00      .00  1908.68      .07     6.01      .00  1910.00
      53.       0.      53.       0.       0.      25.       0.       5.       6.  1910.00
      .55      .00     2.03      .00     .080     .050     .080     .000  1907.00  4979.89
  .011044     380.     370.     360.        4        0        0      .00    46.32  5026.21
0
```

```
FLOW DISTRIBUTION FOR SECNO=      1.03          CWSEL=   1906.01

STA=    4980.    5070.
  PER Q=    100.0
   AREA=     25.4
    VEL=      2.1

*SECNO 1.116
     1.12      .76  1912.76      .00      .00  1912.84      .09     4.16      .01  1913.50
      53.       0.      53.       0.       0.      22.       0.       5.       6.   1914.00
      .58      .00     2.36      .00     .080     .050     .080     .000  1912.00  4959.66
  .015521     300.     320.     300.        4        0        0      .00    44.14  5003.80
0
FLOW DISTRIBUTION FOR SECNO=      1.12          CWSEL=   1912.76

STA=    4960.    5010.
  PER Q=    100.0
   AREA=     22.5
    VEL=      2.4

*SECNO 1.175
     1.17      .80  1917.30      .00      .00  1917.37      .07     4.52      .00  1918.00
      53.       0.      53.       0.       0.      25.       0.       6.       7.   1918.00
      .63      .00     2.12      .00     .080     .050     .080     .000  1916.50  4979.35
  .013725     310.     310.     310.        4        0        0      .00    52.60  5031.95
0
1
 06/08/88    10:22:20                                                                    PAGE   34

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=      1.17          CWSEL=   1917.30

STA=    4979.    5060.
  PER Q=    100.0
   AREA=     25.0
    VEL=      2.1

*SECNO 1.234
     1.23     1.23  1921.73      .00      .00  1921.84      .11     4.46      .01  1922.00
      53.       0.      53.       0.       0.      20.       0.       6.       7.   1922.00
      .66      .00     2.63      .00     .080     .050     .080     .000  1920.50  4987.71
  .015100     300.     310.     320.        3        0        0      .00    32.76  5020.48
0
FLOW DISTRIBUTION FOR SECNO=      1.23          CWSEL=   1921.73

STA=    4988.    5025.
  PER Q=    100.0
   AREA=     20.1
    VEL=      2.6

1
 06/08/88    10:22:20                                                                    PAGE   35


                                                                THIS RUN EXECUTED 06/08/88    10:24:26
*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
```

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MODIFICATION    00,01,02,03,04,05
IBM-PC-XT VERSION 1.1
*************************************************


T1      WITTMANN ADMS
T2      10 YEAR STORM EVENT
T3      CIRCLE CITY - WASH 1

J1  ICHECK    INQ      NINV     IDIR     STAT     METRIC   HVINS    Q        WSEL     FQ

      0.       5.       0.       0.   .011400     .00      .5       0.   1838.000    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLOC    IBW      CHNIM    ITRACE

    15.000    .000   -1.000    .000     .000     .000     .000     .000     .000    15.000

1
 06/09/88    10:22:20                                                                          PAGE   36


  SECNO    DEPTH    CWSEL    CRIWS    WSELK    ES       HV       HL       QLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TAA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


*PROF 4

CCHV=    .100 CEHV=    .300
*SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
     .00     1.06  1841.06     .00  1838.00  1841.15     .09     .00     .00  1844.00
    33.       0.      33.      0.       0.      14.       0.       0.       0.  1842.00
    .00      .00     2.39     .00     .080     .050     .080     .000  1840.00  4994.68
  .011360     0.       0.      0.        0        0        5     .00    20.97  5015.65
0
FLOW DISTRIBUTION FOR SECNO=      .00          CWSEL=   1841.06

STA=    4995.    5025.
  PER Q=    100.0
  AREA=      13.8
   VEL=       2.4

*SECNO  .064
     .06      .65  1844.65     .00      .00  1844.70     .05     3.55     .00  1846.00
    33.       0.      33.      0.       0.      18.       0.       0.       0.  1846.00
    .05      .00     1.86     .00     .080     .050     .080     .000  1844.00  4986.75
  .009607    340.     340.    340.        5        0        0     .00    34.51  5021.36
0
FLOW DISTRIBUTION FOR SECNO=      .06          CWSEL=   1844.65

STA=    4987.    5045.
  PER Q=    100.0
  AREA=      17.7
   VEL=       1.9

*SECNO  .142
     .14      .54  1850.04     .00      .00  1850.09     .05     5.38     .00  1850.00
    33.       0.      32.      1.       0.      18.       3.       0.       1.  1850.00
    .11      .03     1.82     .32     .080     .050     .080     .000  1849.50  4968.20
  .019012    370.     410.    420.        4        0        0     .00   123.82  5092.02
0
FLOW DISTRIBUTION FOR SECNO=      .14          CWSEL=   1850.04
```

```
STA=    4988.    4990.    5000.    5010.
  PER Q=      .0     97.3      2.6      .0
   AREA=      .0     17.7      2.7      .0
    VEL=      .0      1.8      .3       .0

1
 06/09/88    10:22:20                                                                                    PAGE   37

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .189

3265 DIVIDED FLOW

      .19      .87  1852.37      .00      .00  1852.40      .03     2.31      .00  1854.00
      33.       0.       33.       0.       0.      25.       0.       0.       1.   1854.00
      .17      .00     1.29      .00     .000     .050     .000     .000  1851.30  4993.57
  .005444     290.     250.     210.        4        0        0      .00    56.13  5065.51
0
 FLOW DISTRIBUTION FOR SECNO=       .19          CWSEL=   1852.37

 STA=    4994.    5090.
   PER Q=    100.0
    AREA=     25.5
     VEL=      1.3

 *SECNO  .246
      .25      .69  1854.69      .00      .00  1854.76      .07     2.35      .01  1856.00
      33.       0.       33.       0.       0.      16.       0.       1.       2.   1856.00
      .21      .00     2.10      .00     .000     .050     .000     .000  1854.00  4971.21
  .012238     270.     300.     330.        4        0        0      .00    30.31  5001.72
0
 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1854.69

 STA=    4971.    5005.
   PER Q=    100.0
    AREA=     15.7
     VEL=      2.1

 *SECNO  .295
      .29     1.23  1857.23      .00      .00  1857.32      .09     2.56      .01  1858.00
      33.       0.       33.       0.       0.      13.       0.       1.       2.   1858.00
      .24      .00     2.43      .00     .000     .050     .000     .000  1856.00  4993.09
  .008065     270.     260.     260.        4        0        0      .00    14.98  5008.07
0
 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1857.23

 STA=    4993.    5010.
   PER Q=    100.0
    AREA=     13.5
     VEL=      2.4

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 06/09/88    10:22:20                                                                                    PAGE   38

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
```

```
*SECNO  .344
      .34     1.39  1860.39      .00      .00  1860.50      .19     3.23      .03  1862.00
      33.       0.       33.       0.       0.       9.       0.       1.       2.  1862.00
      .26      .00     3.49      .00     .080     .050     .080     .000  1859.00  4993.05
  .021539     280.     260.     240.        4        0        0      .00    12.92  5005.97
0
 FLOW DISTRIBUTION FOR SECNO=       .34          CWSEL=   1860.39

 STA=    4993.    5010.
   PER Q=    100.0
    AREA=      9.5
     VEL=      3.5

 *SECNO  .395
      .40     1.12  1863.12      .00      .00  1863.17      .06     2.50      .01  1864.00
      33.       0.       33.       0.       0.       17.      0.       1.       2.  1864.00
      .30      .00     1.90      .00     .080     .050     .080     .000  1862.00  4984.42
  .005373     270.     270.     270.        5        0        0      .00    21.16  5005.50
0
 FLOW DISTRIBUTION FOR SECNO=       .40          CWSEL=   1863.12

 STA=    4984.    5010.
   PER Q=    100.0
    AREA=     17.4
     VEL=      1.9

 *SECNO  .439
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .44      .46  1866.46  1866.46      .00  1866.62      .15     2.80      .03  1867.00
      33.       0.       33.       0.       0.       11.      0.       1.       2.  1868.00
      .32      .00     3.12      .00     .080     .050     .080     .000  1866.00  4966.77
  .055506     210.     230.     240.        5       10        0      .00    35.55  5002.32
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1866.46

 STA=    4967.    5010.
   PER Q=    100.0
    AREA=     10.6
     VEL=      3.1

1
 06/08/88    10:22:20                                                                    PAGE   39

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .498
      .50     1.75  1869.75      .00      .00  1869.79      .05     3.17      .01  1872.00
      33.       0.       33.       0.       0.       19.      0.       1.       2.  1872.00
      .37      .00     1.73      .00     .080     .050     .080     .000  1868.00  4991.27
  .004140     310.     310.     310.        8        0        0      .00    21.83  5013.10
0
 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1869.75

 STA=    4991.    5050.
   PER Q=    100.0
    AREA=     19.1
     VEL=      1.7

 *SECNO  .526
```

```
3470 ENCROACHMENT STATIONS=    4975.0    5025.0  TYPE=     1  TARGET=      50.000
 ELENCL=   1875.00  ELENCR=   1875.00
      .53      2.40  1870.40      .00      .00  1870.40      .08      .57      .01  1874.00
      33.        0.      33.       0.       0.      15.       0.       1.       2.   1875.00
      .39      .00      2.23      .00     .080     .050     .080     .000  1859.00  4993.00
  .005664      140.     140.     180.        2        0        0      .00    13.99  5007.00
0
 FLOW DISTRIBUTION FOR SECNO=       .53          CWSEL=   1870.40

 STA=    4993.    5025.
   PER Q=    100.0
    AREA=     14.8
     VEL=      2.2

 *SECNO  .540
  WATER EL=X5 CARD=  1870.000

 3470 ENCROACHMENT STATIONS=    4985.0    5020.0  TYPE=     1  TARGET=      33.000
  ELENCL=   1874.00  ELENCR=   1874.00
                 CULVERT DATA TAKEN FROM FIELD MEASUREMENTS.
                 WATER SURFACE ELEVATION AT SECTION .540 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BAR CHARTS
                 WITH INLET CONTROL.
      .54      1.50  1870.00      .00      .00  1870.00      .08      .51      .00  1874.00
      33.        0.      33.       0.       0.      15.       0.       1.       3.   1874.00
      .39      .00      2.20      .00     .080     .050     .080     .000  1868.50  4985.00
  .008200       75.      75.      75.        0        0        0      .00    20.00  5005.00
0
1
 06/09/88    10:22:20                                                                    PAGE   40

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=       .54          CWSEL=   1870.00

 STA=    4985.    5020.
   PER Q=    100.0
    AREA=     15.0
     VEL=      2.2

 *SECNO  .564
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3435 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1876.00 ELREA=     1876.00

      .56      .94  1872.44  1872.44      .00  1872.75      .31     2.02      .07  1876.00
      33.        0.      33.       0.       0.       7.       0.       1.       3.   1876.00
      .40      .00      4.47      .00     .080     .050     .080     .000  1871.50  4993.90
  .045184      110.     125.     125.        1       14        0      .00    12.20  5006.10
0
 FLOW DISTRIBUTION FOR SECNO=       .56          CWSEL=   1872.44

 STA=    4994.    5015.
   PER Q=    100.0
    AREA=      7.4
     VEL=      4.5

 CCHV=    .300 CEHV=    .500
 *SECNO  .573
```

```
 WATER EL=XS CARD=  1874.800

3470 ENCROACHMENT STATIONS=    4985.0    5010.0  TYPE=     1  TARGET=      25.000
 ELENCL=   1880.00  ELENCR=   1880.00
                 WATER SURFACE ELEVATION AT SECTION .573 IS BASED UPON
                 HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C22.
                 WASH 1 AND WASH 2 DIVIDE SUBWATERSHED 22 INTO SIMILAR
                 HALVES AND MAINTAIN THE EQUIVALENT TIME OF CONCENTRATION
                 THUS THE PEAK DISCHARGE OF 150 CFS FOR SUBWATERSHED 22
                 WAS DIVIDED INTO 75 CFS FOR EACH OF WASH 1 AND WASH 2.
     .57     2.30  1874.80      .00      .00  1874.84      .04      .24      .03  1880.00
     37.       0.      37.       0.       0.      24.       0.       1.       3.   1880.00
     .41      .00     1.56      .00     .000     .050     .080     .000  1872.50  4993.67
  .001846     50.      50.      50.        0        0        0      .00    16.33  5010.00
0
1
 06/08/88    10:22:20                                                                PAGE   41

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=       .57          CWSEL=   1874.80

STA=    4994.    5030.
  PER Q=    100.0
   AREA=     23.8
    VEL=      1.6

*SECNO  .600
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .60      .51  1876.51  1876.51      .00  1876.73      .21      .73      .03  1878.00
     37.       0.      37.       0.       0.      10.       0.       1.       3.   1878.00
     .42      .00     3.70      .00     .080     .050     .000     .000  1876.00  4994.87
  .049834     140.     140.     140.       20       17        0      .00    23.98  5018.85
0
FLOW DISTRIBUTION FOR SECNO=       .60          CWSEL=   1876.51

STA=    4995.    5030.
  PER Q=    100.0
   AREA=     10.0
    VEL=      3.7

*SECNO  .683
     .68     1.28  1881.78      .00      .00  1881.80      .02     5.02      .05  1884.00
     19.       0.      19.       0.       0.      16.       0.       1.       3.   1884.00
     .53      .00     1.16      .00     .080     .050     .080     .000  1880.50  4991.48
  .002806     430.     440.     450.        6        0        0      .00    25.56  5017.04
0
FLOW DISTRIBUTION FOR SECNO=       .68          CWSEL=   1881.78

STA=    4991.    5045.
  PER Q=    100.0
   AREA=     16.3
    VEL=      1.2

CCHV=    .100 CEHV=    .300
*SECNO  .782
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


     .78      .97  1887.47  1887.47      .00  1887.72      .25     3.80      .07  1890.00
     19.       0.      19.       0.       0.       5.       0.       1.       3.   1890.00
     .56      .00     4.01      .00     .000     .050     .000     .000  1836.50  4993.51
  .049034     550.     520.     490.       20       19        0     .00     9.73  5003.24
0
 FLOW DISTRIBUTION FOR SECNO=       .78          CWSEL=   1887.47

 STA=    4994.    5025.
   PER Q=    100.0
    AREA=      4.7
     VEL=      4.0

 *SECNO  .848
     .85     1.12  1892.12      .00      .00  1892.15      .04     4.41      .02  1894.00
     19.       0.      19.       0.       0.      12.       0.       2.       3.   1894.00
     .63      .00     1.53      .00     .000     .050     .000     .000  1891.00  4984.56
  .005649     370.     350.     330.        6        0        0     .00    21.73  5010.29
0
 FLOW DISTRIBUTION FOR SECNO=       .85          CWSEL=   1892.12

 STA=    4989.    5015.
   PER Q=    100.0
    AREA=     12.4
     VEL=      1.5

 *SECNO  .911
     .91      .33  1896.33  1896.33      .00  1896.46      .13     4.26      .03  1898.00
     19.       0.      19.       0.       0.       7.       0.       2.       3.   1898.00
     .66      .00     2.92      .00     .000     .050     .000     .000  1896.00  4996.67
  .055267     310.     330.     350.        7       14        0     .00    24.15  5020.83
0
 FLOW DISTRIBUTION FOR SECNO=       .91          CWSEL=   1896.33

 STA=    4997.    5050.
   PER Q=    100.0
    AREA=      6.5
     VEL=      2.9

 *SECNO  .989
     .99      .44  1902.44      .00      .00  1902.47      .02     5.99      .01  1904.00
     19.       0.      19.       0.       0.      15.       0.       2.       4.   1904.00
     .74      .00     1.26      .00     .000     .050     .000     .000  1902.00  4967.13
  .007088     390.     390.     390.        4        0        0     .00    41.86  5008.99
0
1
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 FLOW DISTRIBUTION FOR SECNO=       .99          CWSEL=   1902.44
```

```
STA=    4967.    5040.
  PER Q=    100.0
   AREA=     15.0
    VEL=      1.3

*SECNO 1.055
     1.05      .85  1907.85  1907.85      .00  1908.07      .22     5.54      .06  1910.00
      19.       0.      19.       0.       0.      5.       0.       2.       4.   1910.00
      .77      .00     3.74      .00     .080     .050     .080     .000  1907.00  4994.04
  .050221     380.     370.     360.        5       17        0      .00    11.92  5005.96
0
 FLOW DISTRIBUTION FOR SECNO=      1.05          CWSEL=   1907.85

 STA=    4994.    5070.
   PER Q=    100.0
    AREA=      5.1
     VEL=      3.7

 *SECNO 1.116
     1.12      .57  1912.57      .00      .00  1912.59      .03     4.50      .02  1913.50
      19.       0.      19.       0.       0.     15.       0.       2.       4.   1914.00
      .84      .00     1.30      .00     .080     .050     .080     .000  1912.00  4966.12
  .006510     300.     320.     300.        6        0        0      .00    36.71  5002.83
0
 FLOW DISTRIBUTION FOR SECNO=      1.12          CWSEL=   1912.57

 STA=    4966.    5010.
   PER Q=    100.0
    AREA=     14.6
     VEL=      1.3

 *SECNO 1.175
     1.17      .37  1916.87      .00      .00  1916.97      .11     4.36      .02  1918.00
      19.       0.      19.       0.       0.      7.       0.       2.       4.   1918.00
      .87      .00     2.61      .00     .080     .050     .080     .000  1916.50  4985.09
  .049857     310.     310.     310.        3        0        0      .00    29.63  5014.72
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=      1.17          CWSEL=   1916.87

 STA=    4985.    5060.
   PER Q=    100.0
    AREA=      7.3
     VEL=      2.6

 *SECNO 1.234
     1.23      .97  1921.47      .00      .00  1921.51      .04     4.53      .01  1922.00
      19.       0.      19.       0.       0.     13.       0.       2.       5.   1922.00
      .93      .00     1.52      .00     .080     .050     .080     .000  1920.50  4990.31
  .006861     300.     310.     320.        7        0        0      .00    25.85  5016.16
0
 FLOW DISTRIBUTION FOR SECNO=      1.23          CWSEL=   1921.47

 STA=    4990.    5025.
   PER Q=    100.0
    AREA=     12.5
     VEL=      1.5
```

THIS RUN EXECUTED 06/08/88 10:25:01

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*****************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
 ERROR CORR - 01,02,03,04,05,06
 MODIFICATION - 50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CIRCLE CITY - WASH 1

SUMMARY PRINTOUT

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
.000	278.00	1842.54	4988.64	4985.00	5025.00	5067.15	.00	78.51	2.54	1840.00	115.43	4.40
.000	278.00	1842.54	4988.65	4985.00	5025.00	5025.00	.00	36.35	2.54	1840.00	134.31	4.69
.000	159.00	1842.10	4989.75	4985.00	5025.00	5045.06	.00	55.31	2.10	1840.00	114.13	3.63
.000	33.00	1841.06	4994.68	4985.00	5025.00	5015.65	.00	20.97	1.06	1840.00	113.60	2.39
.064	278.00	1846.01	4979.84	4980.00	5045.00	5045.06	3.46	65.21	2.01	1844.00	84.29	3.26
.064	278.00	1846.06	4980.00	4980.00	5045.00	5045.00	3.52	65.00	2.06	1844.00	73.67	3.13
.064	159.00	1845.52	4982.39	4980.00	5045.00	5036.65	3.42	54.26	1.52	1844.00	85.16	2.81
.064	33.00	1844.65	4986.75	4980.00	5045.00	5021.36	3.58	34.61	.65	1844.00	96.07	1.86
.142	278.00	1850.66	4943.90	4970.00	5030.00	5119.36	4.66	175.46	1.16	1849.50	158.38	3.49
.142	278.00	1850.63	4970.00	4970.00	5030.00	5118.38	4.58	148.38	1.13	1849.50	189.12	3.72
.142	159.00	1850.41	4953.53	4970.00	5030.00	5108.53	4.89	155.00	.91	1849.50	176.56	3.00
.142	33.00	1850.04	4968.20	4970.00	5030.00	5092.02	5.39	123.82	.54	1849.50	190.12	1.82
.189	278.00	1853.34	4976.72	4965.00	5090.00	5079.96	2.68	103.24	1.84	1851.50	78.20	2.65
.189	278.00	1853.36	4976.20	4965.00	5090.00	5079.00	2.73	102.80	1.86	1851.50	70.84	2.58
.189	159.00	1853.02	4982.08	4965.00	5090.00	5075.36	2.61	93.29	1.52	1851.50	69.00	2.13
.189	33.00	1852.37	4993.57	4965.00	5090.00	5065.51	3.33	56.13	.87	1851.50	54.44	1.29
.246	278.00	1856.03	4942.93	4945.00	5005.00	5005.75	2.69	62.81	2.03	1854.00	109.77	3.64
.246	278.00	1855.99	4945.21	4945.00	5005.00	5004.97	2.63	59.77	1.99	1854.00	113.29	3.74
.246	159.00	1855.56	4953.87	4945.00	5005.00	5003.89	2.53	50.02	1.56	1854.00	111.05	3.14
.246	33.00	1854.69	4971.21	4945.00	5005.00	5001.72	2.32	30.51	.69	1854.00	122.38	2.10
.295	278.00	1858.93	4968.30	4990.00	5010.00	5016.98	2.90	48.68	2.93	1856.00	128.93	5.73
.295	278.00	1859.09	4990.00	4990.00	5010.00	5010.00	3.09	20.00	3.09	1856.00	135.01	5.72
.295	159.00	1858.39	4980.93	4990.00	5010.00	5012.92	2.83	31.98	2.39	1856.00	115.70	4.53
.295	33.00	1857.23	4993.09	4990.00	5010.00	5008.07	2.54	14.98	1.23	1856.00	80.65	2.45
.344	278.00	1862.42	4974.61	4985.00	5010.00	5028.01	3.48	53.39	3.42	1859.00	136.50	5.43
.344	278.00	1862.54	4985.00	4985.00	5010.00	5010.00	3.45	25.00	3.54	1859.00	123.75	5.22
.344	159.00	1861.78	4986.15	4985.00	5010.00	5009.43	3.39	23.28	2.78	1859.00	148.76	4.61
.344	33.00	1860.39	4993.05	4985.00	5010.00	5005.97	3.16	12.92	1.39	1859.00	215.39	3.49

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH

	.395	278.00	1864.95	4968.11	4980.00	5010.00	5029.02	2.53	60.90	2.95	1862.00	57.46	3.87
	.395	278.00	1865.03	4980.00	4980.00	5010.00	5010.00	2.49	30.00	3.03	1862.00	61.67	3.93
	.395	159.00	1864.34	4975.77	4980.00	5010.00	5016.77	2.56	41.00	2.34	1862.00	57.76	3.15
	.395	33.00	1863.12	4984.42	4980.00	5010.00	5005.58	2.73	21.16	1.12	1862.00	53.73	1.90
	.439	278.00	1867.35	4922.49	4940.00	5010.00	5006.75	2.40	84.26	1.35	1866.00	266.58	4.54
	.439	278.00	1867.42	4940.00	4940.00	5010.00	5007.00	2.39	67.00	1.42	1866.00	219.89	4.29
	.439	159.00	1867.01	4938.97	4940.00	5010.00	5005.10	2.67	56.13	1.01	1866.00	378.57	4.09
*	.439	33.00	1866.46	4966.77	4940.00	5010.00	5002.32	3.35	35.55	.46	1866.00	555.06	3.12
	.498	278.00	1871.44	4979.24	4975.00	5050.00	5040.11	4.10	60.89	3.44	1868.00	73.61	3.21
	.498	278.00	1871.37	4980.00	4975.00	5050.00	5037.00	3.95	57.00	3.37	1868.00	79.16	3.36
	.498	159.00	1870.97	4982.79	4975.00	5050.00	5031.82	3.98	49.02	2.97	1868.00	59.53	2.63
	.498	33.00	1869.75	4991.27	4975.00	5050.00	5012.10	3.28	21.83	1.75	1868.00	41.40	1.73
	.526	278.00	1872.50	4982.52	4975.00	5025.00	5017.48	1.05	34.97	4.50	1868.00	89.69	4.20
	.526	278.00	1872.49	4982.55	4975.00	5025.00	5017.45	1.11	34.89	4.49	1868.00	90.61	4.22
	.526	159.00	1871.85	4985.73	4975.00	5025.00	5014.27	.89	29.53	3.85	1868.00	76.99	3.48
	.526	33.00	1870.40	4993.00	4975.00	5025.00	5007.00	.65	13.99	2.40	1868.00	56.64	2.23
*	.540	278.00	1874.80	4939.00	4965.00	5020.00	5040.00	2.30	101.00	6.30	1868.50	7.39	1.62
*	.540	278.00	1874.80	4939.00	4965.00	5020.00	5040.00	2.31	101.00	6.30	1868.50	7.39	1.62
*	.540	159.00	1872.90	4985.00	4965.00	5020.00	5015.87	1.05	30.88	4.40	1868.50	10.28	1.79
*	.540	33.00	1870.00	4985.00	4965.00	5020.00	5005.00	-.40	20.00	1.50	1868.50	82.00	2.20
	.564	278.00	1874.71	4988.21	4985.00	5015.00	5011.79	-.09	23.57	3.21	1871.50	155.55	5.70
	.564	278.00	1874.71	4988.21	4985.00	5015.00	5011.79	-.09	23.58	3.21	1871.50	155.12	5.78
*	.564	159.00	1873.54	4991.14	4985.00	5015.00	5009.86	.64	17.72	2.04	1871.50	352.51	6.65
*	.564	33.00	1872.44	4993.90	4985.00	5015.00	5006.10	2.44	12.20	.94	1871.50	451.84	4.47
*	.573	276.00	1878.66	4987.23	4985.00	5030.00	5010.00	3.95	22.77	6.16	1872.50	17.02	2.78
*	.573	276.00	1878.66	4987.23	4985.00	5030.00	5010.00	3.95	22.77	6.16	1872.50	17.02	2.78
*	.573	159.00	1877.78	4988.70	4985.00	5030.00	5010.00	4.24	21.30	5.28	1872.50	10.16	1.90
*	.573	37.00	1874.80	4993.67	4985.00	5030.00	5010.00	2.36	16.33	2.30	1872.50	18.46	1.56
	.600	276.00	1878.97	4967.83	4980.00	5030.00	5059.22	.31	91.39	2.97	1876.00	20.77	2.33
	.600	276.00	1878.98	4980.00	4980.00	5030.00	5030.00	.32	50.00	2.98	1876.00	23.55	2.43
	.600	158.00	1878.03	4979.63	4980.00	5030.00	5030.89	.25	51.26	2.03	1876.00	44.02	2.38
*	.600	37.00	1876.51	4994.87	4980.00	5030.00	5018.85	1.71	23.98	.51	1876.00	498.34	3.70
*	.683	72.00	1881.76	4991.63	4970.00	5045.00	5016.74	2.78	25.11	1.26	1880.50	442.52	4.57
*	.683	72.00	1881.76	4991.62	4970.00	5045.00	5016.75	2.78	25.13	1.26	1880.50	441.14	4.56
*	.683	53.00	1881.61	4992.57	4970.00	5045.00	5014.85	3.39	22.28	1.11	1880.50	454.43	4.27
	.683	19.00	1881.78	4991.48	4970.00	5045.00	5017.04	5.27	25.56	1.28	1880.50	28.06	1.16
	.782	72.00	1888.86	4985.69	4980.00	5025.00	5013.62	7.11	27.93	2.36	1886.50	62.27	2.42
	.782	72.00	1888.86	4985.69	4980.00	5025.00	5013.62	7.10	27.92	2.36	1886.50	62.35	2.42
	.782	53.00	1888.63	4986.86	4980.00	5025.00	5011.28	7.01	24.42	2.13	1886.50	60.90	2.24
*	.782	19.00	1887.47	4993.51	4980.00	5025.00	5003.24	5.69	9.73	.97	1886.50	490.34	4.01

1

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*G	VCH
.848	72.00	1892.44	4984.53	4965.00	5015.00	5011.09	3.58	26.57	1.44	1891.00	209.53	3.57
.848	72.00	1892.44	4984.52	4965.00	5015.00	5011.10	3.58	26.58	1.44	1891.00	209.07	3.56
.848	53.00	1892.26	4986.75	4965.00	5015.00	5010.65	3.63	23.90	1.26	1891.00	227.37	3.37
.848	19.00	1892.12	4988.56	4965.00	5015.00	5010.29	4.64	21.73	1.12	1891.00	56.49	1.53
.911	72.00	1897.06	4989.43	4980.00	5050.00	5033.50	4.62	44.07	1.06	1896.00	95.56	2.31
.911	72.00	1897.06	4989.43	4980.00	5050.00	5033.50	4.62	44.07	1.06	1896.00	95.61	2.31
.911	53.00	1896.92	4990.33	4980.00	5050.00	5031.85	4.66	40.22	.92	1896.00	92.14	2.09
.911	19.00	1896.33	4996.67	4980.00	5050.00	5020.83	4.21	24.15	.33	1896.00	552.67	2.92

.985	72.00	1902.66	4963.42	4940.00	5040.00	5013.23	5.50	49.81	.66	1902.00	243.91	2.91
.985	72.00	1902.66	4963.43	4940.00	5040.00	5013.23	5.61	49.80	.66	1902.00	244.08	2.91
.985	53.00	1902.55	4965.36	4940.00	5040.00	5011.02	5.63	45.66	.55	1902.00	261.91	2.72
.985	19.00	1902.44	4967.13	4940.00	5040.00	5008.99	6.11	41.86	.44	1902.00	70.88	1.26
1.055	72.00	1908.74	4977.14	4950.00	5070.00	5030.23	6.09	53.09	1.74	1907.00	116.16	2.27
1.055	72.00	1908.74	4977.14	4950.00	5070.00	5030.24	6.07	53.10	1.74	1907.00	116.04	2.27
1.055	53.00	1908.61	4979.89	4950.00	5070.00	5026.21	6.06	46.32	1.61	1907.00	110.44	2.09
1.055	19.00	1907.85	4994.04	4950.00	5070.00	5003.96	5.41	11.92	.85	1907.00	502.21	3.74
1.116	72.00	1912.89	4955.21	4935.00	5010.00	5004.47	4.15	49.25	.89	1912.00	146.69	2.51
1.116	72.00	1912.89	4955.24	4935.00	5010.00	5004.46	4.16	49.22	.89	1912.00	147.28	2.51
1.116	53.00	1912.76	4959.66	4935.00	5010.00	5003.80	4.15	44.14	.76	1912.00	155.21	2.36
1.116	19.00	1912.57	4966.12	4935.00	5010.00	5002.83	4.72	36.71	.57	1912.00	65.10	1.30
1.175	72.00	1917.41	4977.94	4970.00	5060.00	5036.15	4.52	58.25	.91	1916.50	143.74	2.33
1.175	72.00	1917.41	4977.93	4970.00	5060.00	5036.22	4.52	58.29	.91	1916.50	143.11	2.33
1.175	53.00	1917.30	4979.35	4970.00	5060.00	5031.95	4.54	52.60	.80	1916.50	137.25	2.12
1.175	19.00	1916.87	4985.09	4970.00	5060.00	5014.72	4.30	29.63	.37	1916.50	498.57	2.61
1.234	72.00	1921.89	4986.15	4985.00	5025.00	5023.08	4.48	36.93	1.39	1920.50	147.09	2.82
1.234	72.00	1921.88	4986.16	4985.00	5025.00	5023.07	4.48	36.91	1.38	1920.50	147.44	2.82
1.234	53.00	1921.73	4987.71	4985.00	5025.00	5020.48	4.43	32.76	1.23	1920.50	151.00	2.63
1.234	19.00	1921.47	4990.31	4985.00	5025.00	5016.16	4.60	25.85	.97	1920.50	68.61	1.52

1

CIRCLE CITY - WASH 1

SUMMARY PRINTOUT TABLE 110

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
.000	1842.54	-1.46	1842.83	78.51	.00	261.01	16.99	.00	.00	4985.00	5025.00	.00
.000	1842.54	.00	1842.88	36.35	.00	279.00	.00	.22	4985.00	4985.00	5025.00	5025.00
.000	1842.10	2.10	1842.31	55.31	.00	158.28	.72	.00	.00	4985.00	5025.00	.00
.000	1841.06	3.06	1841.15	20.97	.00	33.00	.00	.00	.00	4985.00	5025.00	.00
.064	1846.01	.00	1846.17	65.21	.00	278.00	.00	.00	.00	4980.00	5045.00	.00
.064	1846.06	.05	1846.21	65.00	.00	278.00	.00	.04	4980.00	4980.00	5045.00	5045.00
.064	1845.52	.00	1845.65	54.26	.00	159.00	.00	.00	.00	4980.00	5045.00	.00
.064	1844.65	.00	1844.70	34.61	.00	33.00	.00	.00	.00	4980.00	5045.00	.00
.142	1850.66	.00	1850.80	175.46	9.43	188.12	79.45	.00	.00	4970.00	5030.00	.00
.142	1850.63	-.03	1850.80	149.39	.00	196.53	81.47	149.00	4970.00	4970.00	5030.00	5119.00
.142	1850.41	.00	1850.52	155.00	2.92	119.05	37.03	.00	.00	4970.00	5030.00	.00
.142	1850.04	.00	1850.09	123.02	.00	32.12	.97	.00	.00	4970.00	5030.00	.00
.189	1853.34	.00	1853.45	103.24	.00	278.00	.00	.00	.00	4965.00	5090.00	.00
.189	1853.36	.02	1853.46	102.80	.00	278.00	.00	105.00	4974.00	4965.00	5090.00	5079.00
.189	1853.02	.00	1853.09	93.29	.00	159.00	.00	.00	.00	4965.00	5090.00	.00
.189	1852.37	.00	1852.40	56.13	.00	33.00	.00	.00	.00	4965.00	5090.00	.00
.246	1856.03	.00	1856.24	62.81	.00	278.00	.00	.00	.00	4945.00	5005.00	.00
.246	1855.99	-.04	1856.21	59.77	.00	278.00	.00	60.00	4945.00	4945.00	5005.00	5005.00
.246	1855.56	.00	1855.71	50.02	.00	159.00	.00	.00	.00	4945.00	5005.00	.00
.246	1854.69	.00	1854.76	30.51	.00	33.00	.00	.00	.00	4945.00	5005.00	.00
.295	1858.93	.00	1859.41	48.68	12.77	261.14	4.08	.00	.00	4990.00	5010.00	.00
.295	1859.08	.15	1859.59	20.00	.00	278.00	.00	.21	4990.00	4990.00	5010.00	5010.00
.295	1858.39	.00	1858.70	31.98	1.18	157.44	.38	.00	.00	4990.00	5010.00	.00
.295	1857.23	.00	1857.32	14.98	.00	33.00	.00	.00	.00	4990.00	5010.00	.00

	.344	1862.42	.00	1862.87	53.39	1.64	273.51	2.85	.00	.00	4985.00	5010.00	.00
	.344	1862.54	.12	1862.96	25.00	.00	276.00	.00	.18	4985.00	4985.00	5010.00	5010.00
	.344	1861.78	.00	1862.11	23.28	.00	159.00	.00	.00	.00	4985.00	5010.00	.00
	.344	1860.39	.00	1860.58	12.92	.00	33.00	.00	.00	.00	4985.00	5010.00	.00
	.395	1864.95	.00	1865.17	60.90	4.84	265.42	7.75	.00	.00	4980.00	5010.00	.00
	.395	1865.03	.09	1865.27	30.00	.00	276.00	.00	.15	4980.00	4980.00	5010.00	5010.00
	.395	1864.34	.00	1864.49	41.00	.31	158.20	.49	.00	.00	4980.00	5010.00	.00
	.395	1863.12	.00	1863.17	21.16	.00	33.00	.00	.00	.00	4980.00	5010.00	.00
	.439	1867.35	.00	1867.66	84.26	2.91	275.09	.00	.00	.00	4940.00	5010.00	.00
	.439	1867.42	.07	1867.70	67.00	.00	278.00	.00	67.00	4940.00	4940.00	5010.00	5007.00
	.439	1867.01	.00	1867.27	66.13	.00	159.00	.00	.00	.00	4940.00	5010.00	.00
*	.439	1866.46	.00	1866.62	35.55	.00	33.00	.00	.00	.00	4940.00	5010.00	.00

	SECND	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.498	1871.44	.00	1871.60	60.88	.00	278.00	.00	.00	.00	4975.00	5050.00	.00
	.498	1871.37	-.07	1871.55	57.00	.00	278.00	.00	57.00	4980.00	4975.00	5050.00	5037.00
	.498	1870.97	.00	1871.07	49.02	.00	159.00	.00	.00	.00	4975.00	5050.00	.00
	.498	1869.75	.00	1869.79	21.83	.00	33.00	.00	.00	.00	4975.00	5050.00	.00
	.526	1872.50	.00	1872.77	34.97	.00	278.00	.00	50.00	4975.00	4975.00	5025.00	5025.00
	.526	1872.49	-.01	1872.76	34.89	.00	278.00	.00	50.00	4975.00	4975.00	5025.00	5025.00
	.526	1871.85	.00	1872.04	28.53	.00	159.00	.00	50.00	4975.00	4975.00	5025.00	5025.00
	.526	1870.40	.00	1870.48	13.99	.00	33.00	.00	50.00	4975.00	4975.00	5025.00	5025.00
*	.540	1874.80	.00	1874.84	101.00	2.85	272.96	2.19	35.00	4985.00	4965.00	5020.00	5020.00
*	.540	1874.80	.00	1874.84	101.00	2.85	272.96	2.19	35.00	4985.00	4965.00	5020.00	5020.00
*	.540	1872.90	.00	1872.95	30.88	.00	159.00	.00	35.00	4985.00	4965.00	5020.00	5020.00
*	.540	1870.00	.00	1870.08	20.00	.00	33.00	.00	35.00	4985.00	4965.00	5020.00	5020.00
	.564	1874.71	.00	1875.23	23.57	.00	278.00	.00	.00	.00	4985.00	5015.00	.00
	.564	1874.71	.00	1875.23	23.58	.00	278.00	.00	.00	.00	4985.00	5015.00	.00
*	.564	1873.54	.00	1874.23	17.72	.00	159.00	.00	.00	.00	4985.00	5015.00	.00
*	.564	1872.44	.00	1872.75	12.20	.00	33.00	.00	.00	.00	4985.00	5015.00	.00
*	.573	1878.66	.00	1878.78	22.77	.00	276.00	.00	25.00	4985.00	4985.00	5030.00	5010.00
*	.573	1878.66	.00	1878.78	22.77	.00	276.00	.00	25.00	4985.00	4985.00	5030.00	5010.00
*	.573	1877.78	.00	1877.84	21.30	.00	158.00	.00	25.00	4985.00	4985.00	5030.00	5010.00
*	.573	1874.80	.00	1874.84	16.33	.00	37.00	.00	25.00	4985.00	4985.00	5030.00	5010.00
	.600	1878.97	.00	1879.05	91.39	3.10	265.45	7.45	.00	.00	4980.00	5030.00	.00
	.600	1878.98	.00	1879.07	50.00	.00	276.00	.00	.12	4980.00	4980.00	5030.00	5030.00
	.600	1878.03	.00	1878.11	51.26	.00	158.00	.00	.00	.00	4980.00	5030.00	.00
*	.600	1876.51	.00	1876.73	23.98	.00	37.00	.00	.00	.00	4980.00	5030.00	.00
*	.683	1881.76	.00	1882.08	25.11	.00	72.00	.00	.00	.00	4970.00	5045.00	.00
*	.683	1881.76	.00	1882.08	25.13	.00	72.00	.00	.00	4970.00	4970.00	5045.00	5045.00
*	.683	1881.61	.00	1881.90	22.28	.00	53.00	.00	.00	.00	4970.00	5045.00	.00
	.683	1881.78	.00	1881.80	25.56	.00	13.00	.00	.00	.00	4970.00	5045.00	.00
	.782	1888.86	.00	1888.95	27.93	.00	72.00	.00	.00	.00	4980.00	5025.00	.00
	.782	1888.86	.00	1888.95	27.92	.00	72.00	.00	.00	4980.00	4980.00	5025.00	5025.00
	.782	1888.63	.00	1888.71	24.42	.00	53.00	.00	.00	.00	4980.00	5025.00	.00
*	.782	1887.47	.00	1887.72	9.73	.00	19.00	.00	.00	.00	4980.00	5025.00	.00
	.848	1892.44	.00	1892.64	26.57	.00	72.00	.00	.00	.00	4965.00	5015.00	.00
	.848	1892.44	.00	1892.64	26.58	.00	72.00	.00	.00	4965.00	4965.00	5015.00	5015.00
	.848	1892.26	.00	1892.44	23.90	.00	53.00	.00	.00	.00	4965.00	5015.00	.00
	.848	1892.12	.00	1892.15	21.73	.00	19.00	.00	.00	.00	4965.00	5015.00	.00

.911	1897.06	.00	1897.14	44.07	.00	72.00	.00	.00	.00	4980.00	5050.00	.00
.911	1897.06	.00	1897.14	44.07	.00	72.00	.00	.00	4980.00	4980.00	5050.00	5050.00
.911	1896.92	.00	1896.99	40.22	.00	53.00	.00	.00	.00	4980.00	5050.00	.00
.911	1896.33	.00	1896.46	24.15	.00	19.00	.00	.00	.00	4980.00	5050.00	.00

1

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
.985	1902.66	.00	1902.80	49.81	.00	72.00	.00	.00	.00	4940.00	5040.00	.00
.985	1902.66	.00	1902.80	49.80	.00	72.00	.00	.00	4940.00	4940.00	5040.00	5040.00
.985	1902.55	.00	1902.67	45.66	.00	53.00	.00	.00	.00	4940.00	5040.00	.00
.985	1902.44	.00	1902.47	41.86	.00	19.00	.00	.00	.00	4940.00	5040.00	.00
1.055	1908.74	.00	1908.82	53.09	.00	72.00	.00	.00	.00	4950.00	5070.00	.00
1.055	1908.74	.00	1908.82	53.10	.00	72.00	.00	.00	4950.00	4950.00	5070.00	5070.00
1.055	1908.61	.00	1908.68	46.32	.00	53.00	.00	.00	.00	4950.00	5070.00	.00
1.055	1907.85	.00	1908.07	11.92	.00	19.00	.00	.00	.00	4950.00	5070.00	.00
1.116	1912.89	.00	1912.99	49.25	.00	72.00	.00	.00	.00	4935.00	5010.00	.00
1.116	1912.89	.00	1912.99	49.22	.00	72.00	.00	.01	4935.00	4935.00	5010.00	5010.00
1.116	1912.76	.00	1912.84	44.14	.00	53.00	.00	.00	.00	4935.00	5010.00	.00
1.116	1912.57	.00	1912.59	36.71	.00	19.00	.00	.00	.00	4935.00	5010.00	.00
1.175	1917.41	.00	1917.49	58.25	.00	72.00	.00	.00	.00	4970.00	5060.00	.00
1.175	1917.41	.00	1917.49	58.29	.00	72.00	.00	.00	4970.00	4970.00	5060.00	5060.00
1.175	1917.30	.00	1917.37	52.60	.00	53.00	.00	.00	.00	4970.00	5060.00	.00
1.175	1916.87	.00	1916.97	29.63	.00	19.00	.00	.00	.00	4970.00	5060.00	.00
1.234	1921.89	.00	1922.01	36.93	.00	72.00	.00	.00	.00	4985.00	5025.00	.00
1.234	1921.88	.00	1922.01	36.91	.00	72.00	.00	.19	4985.00	4985.00	5025.00	5025.00
1.234	1921.73	.00	1921.84	32.76	.00	53.00	.00	.00	.00	4985.00	5025.00	.00
1.234	1921.47	.00	1921.51	25.85	.00	19.00	.00	.00	.00	4985.00	5025.00	.00

1

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=     .439  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .439  PROFILE= 4  MINIMUM SPECIFIC ENERGY

NOTE     SECNO=     .540  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=     .540  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=     .540  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=     .540  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=     .564  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .564  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .564  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .564  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .564  PROFILE= 4  MINIMUM SPECIFIC ENERGY

NOTE     SECNO=     .573  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=     .573  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=     .573  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=     .573  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=     .600  PROFILE= 4  CRITICAL DEPTH ASSUMED
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CAUTION SECNO= .600 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .600 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= .683 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .683 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .683 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= .683 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .683 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .683 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= .683 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .683 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .683 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= .782 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .782 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .782 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

1

FLOODWAY DATA, CIRCLE CITY - WASH 1
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.000	36.	59.	4.7	1842.5	1842.5	.0
.064	65.	89.	3.1	1846.0	1846.0	.0
.142	148.	100.	2.8	1850.7	1850.7	.0
.189	103.	108.	2.6	1853.3	1853.3	.0
.246	60.	74.	3.7	1856.0	1856.0	.0
.295	20.	49.	5.7	1859.1	1858.9	.2
.344	25.	53.	5.2	1862.5	1862.4	.1
.395	30.	71.	3.9	1865.0	1864.9	.1
.439	67.	65.	4.3	1867.4	1867.3	.1
.498	57.	83.	3.4	1871.4	1871.4	.0
.526	35.	66.	4.2	1872.5	1872.5	.0
.540	101.	187.	1.5	1874.8	1874.8	.0
.564	24.	48.	5.8	1874.7	1874.7	.0
.573	23.	99.	2.8	1878.7	1878.7	.0
.600	50.	114.	2.4	1879.0	1879.0	.0
.683	25.	16.	4.6	1881.8	1881.8	.0
.782	28.	30.	2.4	1888.9	1888.9	.0
.848	27.	20.	3.6	1892.4	1892.4	.0
.911	44.	31.	2.3	1897.1	1897.1	.0
.985	50.	25.	2.9	1902.7	1902.7	.0
1.055	53.	32.	2.3	1908.7	1908.7	.0
1.116	49.	29.	2.5	1912.9	1912.9	.0
1.175	58.	31.	2.3	1917.4	1917.4	.0
1.234	37.	26.	2.8	1921.9	1921.9	.0

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FLOODWAY DATA, CIRCLE CITY - WASH 1
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION	FLOODWAY MEAN	WATER SURFACE ELEVATION WITH	WITHOUT	DIFFERENCE

		AREA	VELOCITY	FLOODWAY	FLOODWAY	
.000	55.	45.	3.5	1842.2	1842.5	-.3
.064	54.	57.	2.9	1845.6	1846.0	-.4
.142	155.	72.	2.2	1850.6	1850.7	-.1
.189	93.	75.	2.1	1853.1	1853.3	-.2
.246	50.	51.	3.1	1855.6	1856.0	-.4
.295	32.	37.	4.3	1858.5	1858.9	-.4
.344	23.	34.	4.6	1861.9	1862.4	-.5
.395	41.	52.	3.1	1864.4	1864.9	-.5
.439	66.	39.	4.1	1867.1	1867.3	-.2
.498	49.	61.	2.6	1871.0	1871.4	-.4
.526	29.	46.	3.5	1872.0	1872.5	-.5
.540	31.	89.	1.8	1873.0	1874.8	-1.8
.564	18.	24.	6.7	1873.6	1874.7	-1.1
.573	21.	80.	2.0	1877.9	1878.7	-.8
.600	51.	66.	2.4	1878.2	1879.0	-.8
.683	22.	12.	4.3	1881.8	1881.8	.0
.782	24.	24.	2.2	1888.8	1888.9	-.1
.848	24.	16.	3.4	1892.3	1892.4	-.1
.911	40.	25.	2.1	1897.1	1897.1	.0
.985	46.	19.	2.7	1902.7	1902.7	.0
1.055	46.	25.	2.1	1908.7	1908.7	.0
1.116	44.	22.	2.4	1912.9	1912.9	.0
1.175	53.	25.	2.1	1917.4	1917.4	.0
1.234	33.	20.	2.6	1921.8	1921.9	-.1

FLOODWAY DATA, CIRCLE CITY - WASH 1
PROFILE NO. 4

	------- FLOODWAY -------			WATER SURFACE ELEVATION		
STATION	WIDTH	SECTION AREA	MEAN VELOCITY	WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.000	21.	14.	2.4	1841.1	1842.5	-1.4
.064	35.	18.	1.9	1844.7	1846.0	-1.3
.142	124.	20.	1.6	1850.2	1850.7	-.5
.189	72.	25.	1.3	1852.4	1853.3	-.9
.246	31.	16.	2.1	1854.8	1856.0	-1.2
.295	15.	13.	2.4	1857.3	1858.9	-1.6
.344	13.	9.	3.5	1860.5	1862.4	-1.9
.395	21.	17.	1.9	1863.2	1864.9	-1.7
.439	36.	11.	3.1	1866.5	1867.3	-.8
.498	22.	19.	1.7	1869.8	1871.4	-1.6
.526	14.	15.	2.2	1870.5	1872.5	-2.0
.540	20.	15.	2.2	1870.1	1874.8	-4.7
.564	12.	7.	4.5	1872.5	1874.7	-2.2
.573	16.	24.	1.6	1874.9	1878.7	-3.8
.600	24.	10.	3.7	1876.6	1879.0	-2.4
.683	26.	16.	1.2	1881.8	1881.8	.0
.782	10.	5.	4.0	1887.6	1888.9	-1.3
.848	22.	12.	1.5	1892.2	1892.4	-.2
.911	24.	7.	2.9	1896.5	1897.1	-.6
.985	42.	15.	1.3	1902.6	1902.7	-.1
1.055	12.	5.	3.7	1907.9	1908.7	-.8
1.116	37.	15.	1.3	1912.7	1912.9	-.2
1.175	30.	7.	2.6	1917.0	1917.4	-.4
1.234	26.	13.	1.5	1921.6	1921.9	-.3

PROJECT: WITTMANN ADMS

CIRCLE CITY – WASH 1

DESIGNER BKH

DATE 1-11-88

HYDROLOGIC AND CHANNEL INFORMATION

CAPACITY Q_1 = 315

ACTUAL Q_2 = 80 + 198 = 278

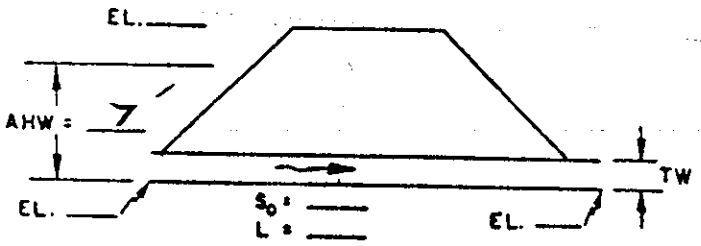
TW_1 = ____

TW_2 = ____

CULVERT CAPACITY CHECK O.K.

SKETCH

STATION: Sec. .540



ALLOWABLE OUTLET VELOCITY = ____

CULVERT TYPE	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL K_e	d_c	$\frac{d_c+D}{2}$	h_o	H	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
6'x6' BOX CULVERT	315	6'x6'	1.17	7.0	.5	4.4	5.2	5.2	1.85	.5	6.55	7.0			INLET CONTROL
100-YEAR	278	6'x6'	1.05	6.3											W.S. ELEV 1868.5 + 6.3 = 1874.8
50-YEAR	159	6'x6'	.73	4.4											W.S. ELEV 1868.5 + 4.4 = 1872.9
10-YEAR	33	6'x6'	.25	1.5											W.S. ELEV 1868.5 + 1.5 = 1870.0

SUMMARY & RECOMMENDATIONS:

W.S. ELEV AT Sec. .540 1868.5 + 6.3 = 1874.8

W.S. ELEV. AT Sec. .573 = 1878.66 FROM 100-yr. HEC 1 RUN [C22]

Figure 5

INPUT FILE: CCWASH2

OUTPUT FILE: CCWASH2.OUT

THIS RUN EXECUTED 06/08/88 10:25:27

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
*************************************************
```

1

THIS RUN EXECUTED 06/08/88 10:25:53

```
*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
*************************************************

C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - WASH 2  (MULTIPLE PROFILE)
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J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

     0.       2.       0.       0.    .000000     .00      .5       0.   1878.660    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    1.000    .000     .000     .000     .000     .000     .000     .000     .000    15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

   38.000   43.000    1.000   53.000   21.000   22.000   54.000   51.000    4.000    8.000

   42.000    5.000   26.000    .000   110.000    .000   200.000    .000     .000     .000

NC     .080     .080     .050     .300     .500     .000     .000     .000     .000     .000
QT    4.000  276.000  276.000  158.000   37.000     .000     .000     .000     .000     .000
                SECTION .000 IS EQUIVALENT TO SECTION .573 IN CIRCLE
                CITY - WASH 1.  REFER TO WASH 1 HEC-2 OUTPUT FOR
                DISCHARGES AND STARTING WATER SURFACE ELEVATION.
X1     .000    5.000 4985.000 5030.000     .000     .000     .000     .000     .000     .000
X3   10.000     .000     .000     .000     .000     .000     .000     .000     .000     .000
X5    4.000 1878.660 1878.660 1877.780 1874.800     .000     .000     .000     .000     .000
GR 1880.000 4985.000 1874.000 4995.000 1872.500 5000.000 1874.000 5010.000 1880.000 5030.000

ET     .000     .000    9.100     .000     .000     .000     .000     .000 4982.000 5036.000
X1     .074    7.000 4980.000 5055.000  360.000  390.000  390.000     .000     .000     .000
GR 1881.000 4920.000 1880.000 4980.000 1878.000 4985.000 1877.500 5000.000 1878.000 5015.000
GR 1880.000 5045.000 1882.000 5055.000     .000     .000     .000     .000     .000     .000

NC     .000     .000     .000     .100     .300     .000     .000     .000     .000     .000
QT    4.000   72.000   72.000   53.000   19.000     .000     .000     .000     .000     .000
ET     .000     .000    9.100     .000     .000     .000     .000     .000 4971.000 5018.000
X1     .131    8.000 4945.000 5030.000  280.000  320.000  300.000     .000     .000     .000
GR 1885.500 4900.000 1884.000 4945.000 1882.000 4980.000 1881.000 5000.000 1882.000 5015.000
GR 1884.000 5030.000 1884.000 5095.000 1886.000 5160.000     .000     .000     .000     .000
1
 06/08/88    10:25:52                                                                  PAGE    2

ET     .000     .000    9.100     .000     .000     .000     .000     .000 4987.000 5012.000
X1     .220    6.000 4980.000 5060.000  490.000  450.000  470.000     .000     .000     .000
GR 1889.000 4950.000 1888.000 4980.000 1886.000 5000.000 1888.000 5020.000 1888.000 5060.000
GR 1890.000 5075.000     .000     .000     .000     .000     .000     .000     .000     .000

ET     .000     .000    9.100     .000     .000     .000     .000     .000 4992.000 5010.000
X1     .326    9.000 4975.000 5020.000  560.000  560.000  560.000     .000     .000     .000
GR 1898.500 4940.000 1898.000 4975.000 1896.000 4990.000 1894.000 4995.000 1893.000 5000.000
GR 1894.000 5005.000 1896.000 5015.000 1898.000 5020.000 1899.000 5070.000     .000     .000

ET     .000     .000    9.100     .000     .000     .000     .000     .000 4981.000 5012.000
X1     .414    7.000 4975.000 5030.000  465.000  465.000  465.000     .000     .000     .000
GR 1904.000 4955.000 1902.000 4975.000 1900.000 4985.000 1900.000 5000.000 1902.000 5030.000
GR 1904.000 5065.000 1904.500 5105.000     .000     .000     .000     .000     .000     .000

ET     .000     .000    9.100     .000     .000     .000     .000     .000 4986.000 5007.000
X1     .515    8.000 4975.000 5020.000  520.000  540.000  530.000     .000     .000     .000
GR 1912.000 4910.000 1910.000 4975.000 1908.000 4985.000 1906.000 4990.000 1906.000 5000.000
GR 1908.000 5010.000 1910.000 5020.000 1911.500 5060.000     .000     .000     .000     .000

ET     .000     .000    9.100     .000     .000     .000     .000     .000 4996.000 5025.000
X1     .589    6.000 4990.000 5040.000  370.000  410.000  390.000     .000     .000     .000
GR 1915.000 4880.000 1914.000 4990.000 1912.000 5000.000 1912.000 5015.000 1914.000 5040.000
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GR   1918.000   5030.000      .000      .000      .000      .000      .000      .000      .000      .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4991.000   5013.000
X1       .661      7.000   4990.000   5015.000    410.000    390.000    390.000       .000       .000       .000
GR   1922.000   4885.000   1920.000   4980.000   1918.000   4990.000   1916.000   5000.000   1916.000   5005.000
GR   1918.000   5015.000   1920.000   5040.000       .000       .000       .000       .000       .000       .000
EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
 06/08/88    10:25:52                                                                                    PAGE    3


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORSR    TOPWID     ENDST


*PROF 1

CCHV=    .300 CEHV=    .500
*SECNO  .000
 WATER EL=X5 CARD=  1878.660

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1880.00 ELREA=     1880.00

                SECTION .000 IS EQUIVALENT TO SECTION .573 IN CIRCLE
                CITY - WASH 1.  REFER TO WASH 1 HEC-2 OUTPUT FOR
                DISCHARGES AND STARTING WATER SURFACE ELEVATION.
      .00      6.16  1878.66       .00  1878.66  1879.72       .06       .00       .00  1880.00
     276.        0.     276.        0.        0.     135.        0.        0.        0.  1880.00
      .00       .00      2.04       .00      .080      .050      .080      .000  1872.50  4987.23
  .000343        0.        0.        0.         0         0         0       .00     38.30  5025.53
0
 FLOW DISTRIBUTION FOR SECNO=        .00          CWSEL=   1878.66

STA=    4987.    5030.
  PER Q=    100.0
   AREA=    135.4
    VEL=      2.0

*SECNO  .074
      .07      1.98  1879.48       .00       .00  1879.72       .24       .91       .09  1880.00
     276.        0.     276.        0.        0.      71.        0.        1.        0.  1882.00
      .03       .00      3.90       .00      .080      .050      .080      .000  1877.50  4981.31
  .012608      360.      390.      390.         3         0         0       .00     55.33  5037.14
0
 FLOW DISTRIBUTION FOR SECNO=        .07          CWSEL=   1879.48

STA=    4981.    5055.
  PER Q=    100.0
   AREA=     70.9
    VEL=      3.9

CCHV=    .100 CEHV=    .300
*SECNO  .131
      .13      1.57  1882.57       .00       .00  1882.61       .05      2.88       .02  1884.00
      72.        0.      72.        0.        0.      41.        0.        1.        1.  1884.00
      .08       .00      1.74       .00      .080      .050      .080      .000  1881.00  4970.05
  .004314      280.      300.      320.         3         0         0       .00     49.21  5019.26
0
1
 06/08/88    10:25:52                                                                                    PAGE    4


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
```

```
   TIME     VLOB     VCH     VROB     XNL     XNCH     XNR     WTN     ELMIN     SSTA
   SLOPE    XLOBL    XLCH    XLOBR    ITRIAL   IDC     ICONT   CORAR   TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=        .13          CWSEL=   1882.57

STA=    4970.    5030.
  PER Q=    100.0
   AREA=     41.4
    VEL=      1.7

*SECNO  .220
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
      .22      1.26  1887.26  1887.26      .00  1887.50      .32     4.71      .08  1888.00
     72.        0.      72.       0.       0.      16.       0.       2.       1.   1808.00
      .10      .00     4.56      .00     .080     .050     .080     .000  1886.00  4987.44
  .044170     490.     470.     450.        5       15        0      .00    25.12  5012.56
0
 FLOW DISTRIBUTION FOR SECNO=        .22          CWSEL=   1887.26

STA=    4987.    5060.
  PER Q=    100.0
   AREA=     15.8
    VEL=      4.6

*SECNO  .326
      .33      2.36  1895.36      .00      .00  1895.40      .12     7.88      .02  1898.00
     72.        0.      72.       0.       0.      26.       0.       2.       1.   1898.00
      .16      .00     2.02      .00     .080     .050     .080     .000  1893.00  4991.60
  .006833     560.     560.     560.        6        0        0      .00    20.21  5011.80
0
 FLOW DISTRIBUTION FOR SECNO=        .33          CWSEL=   1895.36

STA=    4992.    5020.
  PER Q=    100.0
   AREA=     25.6
    VEL=      2.8

*SECNO  .414
      .41      .86  1900.86      .00      .00  1901.06      .19     5.59      .02  1902.00
     72.        0.      72.       0.       0.      20.       0.       2.       2.   1902.00
      .20      .00     3.52      .00     .080     .050     .080     .000  1900.00  4980.68
  .025963     465.     465.     465.        5        0        0      .00    32.29  5012.97
0
1
 06/08/88    10:25:52                                                                    PAGE    5


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=        .41          CWSEL=   1900.86

STA=    4981.    5030.
  PER Q=    100.0
   AREA=     20.4
    VEL=      3.5

*SECNO  .515
      .51      1.61  1907.61      .00      .00  1907.73      .12     6.67      .01  1910.00
     72.        0.      72.       0.       0.      26.       0.       2.       2.   1910.00
      .25      .00     2.80      .00     .080     .050     .080     .000  1906.00  4985.98
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 .007396    320.    330.    340.     3      0      0     .00    22.00  5000.04
0
FLOW DISTRIBUTION FOR SECNO=        .51          CWSEL=   1907.61

STA=   4906.    5020.
  PER Q=   100.0
   AREA=    25.8
    VEL=     2.8

*SECNO  .589
      .59      .83  1912.83      .00      .00  1913.06      .24     5.30      .04  1914.00
      72.       0.      72.       0.       0.      18.       0.       3.       2.   1914.00
      .28      .00     3.92      .00     .080     .050     .080     .000  1912.00  4995.86
  .032716     370.     390.     410.        3        0        0      .00    29.47  5025.34
0
FLOW DISTRIBUTION FOR SECNO=        .59          CWSEL=   1912.83

STA=   4996.    5040.
  PER Q=   100.0
   AREA=    18.4
    VEL=     3.9

*SECNO  .661
      .66     1.88  1917.88      .00      .00  1917.99      .11     4.91      .01  1920.00
      72.       0.      72.       0.       0.      27.       0.       3.       3.   1918.00
      .32      .00     2.66      .00     .080     .050     .080     .000  1916.00  4990.60
  .006875     410.     380.     350.        6        0        0      .00    23.31  5014.40
0
1
 06/08/88    10:25:52                                                                    PAGE    6

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      DSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=        .66          CWSEL=   1917.88

STA=   4991.    5015.
  PER Q=   100.0
   AREA=    27.1
    VEL=     2.7

1
PROFILE FOR STREAM  CIRCLE CITY - WASH 2  (M

PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,*-LOWER END STA

ELEVATION  1870.     1875.     1880.     1885.     1890.     1895.     1900.     1905.     1910.     1915.
   SECNO   CUMDIS

      .00      0.  C   I   .     E L     .     .     .     .     .     .     .     .
               50.  C    I  .     E LR    .     .     .     .     .     .     .     .
              100.  C     I .     E LR    .     .     .     .     .     .     .     .
              150.  C      I.     E LMR   .     .     .     .     .     .     .     .
              200.  C       I     E LMR   .     .     .     .     .     .     .     .
              250.  C        .I   WELM R  .     .     .     .     .     .     .     .
              300.  C         .   EL MR   .     .     .     .     .     .     .     .
              350.  C          .  EL M R  .     .     .     .     .     .     .     .
      .07     400.  C           . EL M R  .     .     .     .     .     .     .     .
              450.  C            . EL MR  .     .     .     .     .     .     .     .
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```
       500.  C   .   .E L M .   .   .   .   .   .   .   .   .   .
       550.  C   .  I. E L M .   .   .   .   .   .   .   .   .   .
       600.  C   .   I E L M .   .   .   .   .   .   .   .   .   .
       650.  C   .   .I E L M    .   .   .   .   .   .   .   .   .
 .13   700.  C   .   . I E L .M  .   .   .   .   .   .   .   .   .
       750.  C   .   . I E L. M  .   .   .   .   .   .   .   .   .
       800.  C   .   .  I E L M  .   .   .   .   .   .   .   .   .
       850.  C   .   .   I E .L M .   .   .   .   .   .   .   .   .
       900.  C   .   .    I E.L M .   .   .   .   .   .   .   .   .
       950.  C   .   .     I WEL M .   .   .   .   .   .   .   .   .
      1000.  C   .   .      I .WEL M .   .   .   .   .   .   .   .
      1050.  C   .   .      I. WEL M .   .   .   .   .   .   .   .
      1100.  C   .   .       .I WEL M .   .   .   .   .   .   .   .
      1150.  C   .   .       . I WEL M .   .   .   .   .   .   .   .
 .22  1200.  .   .   .       . I  EL M .   .   .   .   .   .   .   .
      1250.  C   .   .       .  I WEL M    .   .   .   .   .   .   .
      1300.  C   .   .       .   I WE LM   .   .   .   .   .   .   .
      1350.  C   .   .       .    I E.L M  .   .   .   .   .   .   .
      1400.  C   .   .       .     I WE L M .   .   .   .   .   .   .
      1450.  C   .   .       .      I. E LM .   .   .   .   .   .   .
      1500.  C   .   .       .       I WE LM .   .   .   .   .   .   .
      1550.  C   .   .       .       .I  E  LM   .   .   .   .   .   .
      1600.  C   .   .       .       . I  E  L M .   .   .   .   .   .
      1650.  C   .   .       .       .  I   E. LM .   .   .   .   .   .
      1700.  C   .   .       .       .    I  E.  LM .   .   .   .   .
 .33  1750.  C   .   .       .       .     I  .E   LM .   .   .   .   .
      1800.  C   .   .       .       .      I. E   LM .   .   .   .   .
      1850.  C   .   .       .       .       I.  E   LM.   .   .   .   .
      1900.  C   .   .       .       .        .I WE  L.M   .   .   .   .
      1950.  C   .   .       .       .        . I WE  L. M .   .   .   .
      2000.  C   .   .       .       .        .  I E L M   .   .   .   .
      2050.  C   .   .       .       .        .   I E .L M .   .   .   .
      2100.  C   .   .       .       .        .    I E. L M .   .   .   .
      2150.  C   .   .       .       .        .     I WE L M .   .   .   .
 .41  2200.  C   .   .       .       .        .      I E L  M.   .   .   .
      2250.  C   .   .       .       .        .      .I E L M.   .   .   .
      2300.  C   .   .       .       .        .      . I WE L .M .   .   .
      2350.  C   .   .       .       .        .      . I  E  L. M .   .   .
      2400.  C   .   .       .       .        .      .   I E .L  M .   .   .
      2450.  C   .   .       .       .        .      .   I E. L M .   .   .
      2500.  C   .   .       .       .        .      .    I WE L M .   .   .
      2550.  C   .   .       .       .        .      .     I .E  L M.   .   .
      2600.  C   .   .       .       .        .      .      I. E  L M.   .   .
      2650.  C   .   .       .       .        .      .       I E   L .M   .   .
      2700.  C   .   .       .       .        .      .       .I  WE  L. M .   .
 .51  2750.  C   .   .       .       .        .      .       . I E   L M .   .
      2800.  C   .   .       .       .        .      .       .  I E .L M .   .
      2850.  C   .   .       .       .        .      .       .   I E. L M .   .
      2900.  C   .   .       .       .        .      .       .    I WE L M .   .
      2950.  C   .   .       .       .        .      .       .     I .E L M .   .
      3000.  C   .   .       .       .        .      .       .      I E L M .   .
      3050.  C   .   .       .       .        .      .       .      .I WE L M.   .
      3100.  C   .   .       .       .        .      .       .       . I E L M.   .
 .59  3150.  C   .   .       .       .        .      .       .       .  I E L M   .
      3200.  C   .   .       .       .        .      .       .       .   I E RLM   .
      3250.  C   .   .       .       .        .      .       .       .    I WERL M .
      3300.  C   .   .       .       .        .      .       .       .     I  ER LM .
      3350.  C   .   .       .       .        .      .       .       .      I .ER .M .
      3400.  C   .   .       .       .        .      .       .       .       I. WE  LM .
      3450.  C   .   .       .       .        .      .       .       .        I   E  LM.
 .66  3500.  C   .   .       .       .        .      .       .       .         . I   E  L
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*****************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
*****************************************


T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - ENCROACHED
T3      CIRCLE CITY - WASH 2

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINB    Q        WSEL     FQ

      0.       3.       0.       0.   .000000      .00       .0       0.  1878.660     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC    IBW     CHNIM    ITRACE

     2.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
 06/08/88    10:25:52                                                                          PAGE    8


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


*PROF 2

CCHV=    .300 CEHV=    .500
*SECNO  .000
 WATER EL=XS CARD=  1878.660

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1880.00 ELREA=     1880.00

                SECTION .000 IS EQUIVALENT TO SECTION .573 IN CIRCLE
                CITY - WASH 1.  REFER TO WASH 1 HEC-2 OUTPUT FOR
                DISCHARGES AND STARTING WATER SURFACE ELEVATION.
     .00     6.16  1879.66      .00  1879.66  1879.72      .06      .00      .00  1880.00
    276.       0.     276.       0.       0.     135.       0.       0.       0.  1880.00
     .00      .00     2.04      .00     .090     .050     .090     .000  1872.50  4987.23
  .000943      0.       0.       0.       0        0        0      .00    38.30  5025.53
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1878.66

 STA=    4987.    5030.
   PER Q=    100.0
    AREA=    135.4
     VEL=      2.0

*SECNO  .074

3470 ENCROACHMENT STATIONS=    4982.0    5036.0  TYPE=     1  TARGET=      54.000
     .07     1.98  1879.48      .00  1879.48  1879.71      .24      .90      .09100000.00
    276.       0.     276.       0.       0.      71.       0.       1.       0. 100000.00
     .03      .00     3.91      .00     .080     .050     .080     .000  1877.50  4982.00
  .012313    360.     390.     390.        3        0        0      .00    54.00  5036.00
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1879.48

 STA=    4982.    5055.
```

```
 PER Q=     100.0
  AREA=      70.6
   VEL=       3.9

CCHV=    .100 CEHV=    .300
*SECNO  .131
1
 06/08/88    10:25:52                                                                                                PAGE    9


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST



3470 ENCROACHMENT STATIONS=    4971.0    5018.0  TYPE=     1  TARGET=      47.000
      .13      1.55  1882.55  1882.01  1882.57  1882.60      .05     2.86      .02100000.00
      72.        0.      72.       0.       0.      40.       0.       1.        1. 100000.00
      .07      .00     1.79      .00     .080     .050     .080     .000  1881.00  4971.00
  .004486     280.     300.     320.        6        8        0      .00    47.00  5018.00
0
 FLOW DISTRIBUTION FOR SECNO=        .13          CWSEL=   1882.55

 STA=    4971.    5030.
  PER Q=    100.0
   AREA=     40.3
    VEL=      1.8

 *SECNO  .220
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4987.0    5012.0  TYPE=     1  TARGET=      25.000
      .22      1.25  1887.25  1887.25  1887.26  1887.58      .33     4.85      .08100000.00
      72.        0.      72.       0.       0.      16.       0.       2.        1. 100000.00
      .10      .00     4.60      .00     .080     .050     .080     .000  1886.00  4987.49
  .044022     490.     470.     450.       10       15        0      .00    24.51  5012.00
0
 FLOW DISTRIBUTION FOR SECNO=        .22          CWSEL=   1887.25

 STA=    4987.    5060.
  PER Q=    100.0
   AREA=     15.6
    VEL=      4.6

 *SECNO  .326

 3470 ENCROACHMENT STATIONS=    4992.0    5010.0  TYPE=     1  TARGET=      18.000
      .33      2.33  1895.33      .00  1895.36  1895.46      .13     7.86      .02100000.00
      72.        0.      72.       0.       0.      25.       0.       2.        1. 100000.00
      .16      .00     2.92      .00     .080     .050     .080     .000  1893.00  4992.00
  .006813     560.     560.     560.        6        0        0      .00    18.00  5010.00
0
1
 06/08/88    10:25:52                                                                                                PAGE   10


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=        .33          CWSEL=   1895.33
```

```
STA=    4992.    5020.
  PER Q=    100.0
   AREA=     24.7
    VEL=      2.9

*SECNO  .414

3470 ENCROACHMENT STATIONS=    4981.0    5012.0  TYPE=     1  TARGET=      31.000
      .41      .84  1900.84      .00  1900.86  1901.04      .20      5.56      .02100000.00
      72.       0.      72.       0.       0.      20.       0.       2.       2. 100000.00
      .13      .00     3.59      .00     .080     .050     .080     .000  1900.00  4981.00
  .026271     465.     465.     465.        5        0        0      .00    31.00  5012.00
0
 FLOW DISTRIBUTION FOR SECNO=       .41          CWSEL=   1900.84

STA=    4981.    5030.
  PER Q=    100.0
   AREA=     20.1
    VEL=      3.6

*SECNO  .515

3470 ENCROACHMENT STATIONS=    4986.0    5007.0  TYPE=     1  TARGET=      21.000
      .51     1.59  1907.59      .00  1907.61  1907.72      .12      6.67      .01100000.00
      72.       0.      72.       0.       0.      25.       0.       2.       2. 100000.00
      .24      .00     2.84      .00     .080     .050     .080     .000  1906.00  4986.01
  .007354     520.     530.     540.        6        0        0      .00    20.99  5007.00
0
 FLOW DISTRIBUTION FOR SECNO=       .51          CWSEL=   1907.59

STA=    4986.    5020.
  PER Q=    100.0
   AREA=     25.4
    VEL=      2.8

*SECNO  .589

3470 ENCROACHMENT STATIONS=    4996.0    5025.0  TYPE=     1  TARGET=      29.000
      .59      .82  1912.82      .00  1912.83  1913.06      .24      5.31      .04100000.00
      72.       0.      72.       0.       0.      18.       0.       3.       2. 100000.00
      .27      .00     3.96      .00     .080     .050     .080     .000  1912.00  4996.00
  .033275     370.     390.     410.        5        0        0      .00    29.00  5025.00
0
1
 06/08/88    10:25:52                                                                          PAGE   11


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      GSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .59          CWSEL=   1912.82

STA=    4996.    5040.
  PER Q=    100.0
   AREA=     18.2
    VEL=      4.0

*SECNO  .661

3470 ENCROACHMENT STATIONS=    4991.0    5013.0  TYPE=     1  TARGET=      22.000
      .66     1.86  1917.86      .00  1917.88  1917.98      .11      4.90      .01100000.00
      72.       0.      72.       0.       0.      26.       0.       3.       2. 100000.00
```

```
     .31      .00      2.72      .00      .000      .000      .000      .00   [illegible]
  .006802    410.      380.      350.       6         0         0       .00    22.00  5013.00
0
 FLOW DISTRIBUTION FOR SECNO=        .66          CWSEL=   1917.06

 STA=    4991.    5015.
   PER Q=    100.0
    AREA=     26.5
     VEL=      2.7

1
 06/08/88    10:25:52                                                                          PAGE   12


                                                                    THIS RUN EXECUTED 06/08/88    10:26:36
 ***********************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ***********************************************


 T1       WITTMANN ADMS
 T2       50 YEAR STORM EVENT
 T3       CIRCLE CITY - WASH 2

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.       4.        0.        0.   .000000      .00       .5        0.   1877.780     .000

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     3.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
 06/08/88    10:25:52                                                                          PAGE   13


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


 *PROF 3

 CCHV=    .300 CEHV=    .500
 *SECNO  .000
  WATER EL=X5 CARD=  1877.780

 3435 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1880.00 ELREA=     1880.00

                SECTION .000 IS EQUIVALENT TO SECTION .573 IN CIRCLE
                CITY - WASH 1.  REFER TO WASH 1 HEC-2 OUTPUT FOR
                DISCHARGES AND STARTING WATER SURFACE ELEVATION.
      .00     5.28  1877.78      .00  1877.78  1877.82      .04      .00      .00  1880.00
     158.       0.     158.       0.       0.     104.       0.       0.       0.  1880.00
      .00      .00     1.52      .00     .000     .050     .000     .000  1972.50  4984.70
  .000638       0.       0.       0.        0        0        0      .00    33.90  5022.60
0
 FLOW DISTRIBUTION FOR SECNO=        .00          CWSEL=   1877.78

 STA=    4989.    5030.
```

```
  PER Q=    100.0
   AREA=    103.7
    VEL=      1.5

*SECNO  .074
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
      .07     1.17  1879.67  1879.67      .00  1879.06      .38      .79      .17  1880.00
     158.       0.     158.       0.       0.      32.       0.       1.       0.  1882.00
      .02      .00     4.98      .00     .080     .050     .000     .000  1877.50  4983.31
  .040757     360.     390.     390.       20       17        0      .00    41.81  5025.12
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1879.67

 STA=    4983.    5055.
  PER Q=    100.0
   AREA=     31.7
    VEL=      5.0

 CCHV=    .100 CEHV=    .300
1
  06/08/88    10:25:52                                                                    PAGE   14

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

*SECNO  .131
      .13     1.60  1882.60      .00      .00  1882.63      .02     3.53      .04  1884.00
      53.       0.      53.       0.       0.      43.       0.       1.       1.  1884.00
      .09      .00     1.23      .00     .080     .050     .000     .000  1881.00  4969.42
  .002078     280.     300.     320.        4        0        0      .00    50.12  5019.54
0
 FLOW DISTRIBUTION FOR SECNO=       .13          CWSEL=   1882.60

 STA=    4969.    5030.
  PER Q=    100.0
   AREA=     43.2
    VEL=      1.2

*SECNO  .220
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
      .22     1.11  1887.11  1887.11      .00  1887.40      .29     2.66      .09  1888.00
      53.       0.      53.       0.       0.      12.       0.       1.       1.  1888.00
      .12      .00     4.30      .00     .080     .050     .000     .000  1886.00  4988.90
  .046132     490.     470.     450.       20       19        0      .00    22.21  5011.10
0
 FLOW DISTRIBUTION FOR SECNO=       .22          CWSEL=   1887.11

 STA=    4989.    5060.
  PER Q=    100.0
   AREA=     12.3
    VEL=      4.3

*SECNO  .336
      .33     2.11  1895.11      .00      .00  1895.21      .10     7.79      .02  1898.00
      53.       0.      53.       0.       0.      21.       0.       1.       1.  1898.00
      .18      .00     2.57      .00     .080     .050     .000     .000  1893.00  4992.24
  .006611     560.     560.     560.        6        0        0      .00    18.29  5010.52
0
```

```
FLOW DISTRIBUTION FOR SECNO=        .33          CWSEL=   1898.71

STA=    4992.    5020.
  PER Q=    100.0
   AREA=     20.6
    VEL=      2.6

1
 06/09/88    10:25:52                                                                                    PAGE   15

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .414
      .41      .71  1900.71      .00      .00  1900.89      .18     5.66      .02  1902.00
      53.       0.      53.       0.       0.      16.       0.       2.       2.   1902.00
      .22      .00     3.37      .00     .000     .050     .000     .000  1900.00  4981.44
  .029413     465.     465.     465.        5        0        0      .00    29.24  5010.68
0
 FLOW DISTRIBUTION FOR SECNO=        .41          CWSEL=   1900.71

STA=    4981.    5030.
  PER Q=    100.0
   AREA=     15.7
    VEL=      3.4

*SECNO  .515
      .51     1.40  1907.40      .00      .00  1907.50      .10     6.60      .01  1910.00
      53.       0.      53.       0.       0.      21.       0.       2.       2.   1910.00
      .28      .00     2.49      .00     .080     .050     .080     .000  1906.00  4986.51
  .006838     520.     530.     540.        5        0        0      .00    20.48  5006.99
0
 FLOW DISTRIBUTION FOR SECNO=        .51          CWSEL=   1907.40

STA=    4987.    5020.
  PER Q=    100.0
   AREA=     21.3
    VEL=      2.5

*SECNO  .589
      .59      .66  1912.66      .00      .00  1912.89      .23     5.35      .04  1914.00
      53.       0.      53.       0.       0.      14.       0.       2.       2.   1914.00
      .31      .00     3.84      .00     .080     .050     .080     .000  1912.00  4996.69
  .040396     370.     390.     410.        3        0        0      .00    26.60  5023.28
0
 FLOW DISTRIBUTION FOR SECNO=        .59          CWSEL=   1912.66

STA=    4997.    5040.
  PER Q=    100.0
   AREA=     13.8
    VEL=      3.8

1
 06/09/88    10:25:52                                                                                    PAGE   16

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID     ENDST
```

```
*SECNO  .661
     .66     1.68  1917.68      .00      .00  1917.77      .09     4.86      .01  1920.00
     53.       0.       53.       0.       0.      22.       0.       2.       2.  1918.00
     .35      .00     2.36      .00     .000     .050     .000     .000  1916.00  4991.62
  .006193     410.     300.     350.        6        0        0      .00    21.76  5013.38
0
FLOW DISTRIBUTION FOR SECNO=       .66          CWSEL=   1917.68

STA=    4992.    5015.
  PER Q=    100.0
   AREA=     22.4
    VEL=      2.4

1
 06/08/88    10:25:52                                                                    PAGE   17


                                                                  THIS RUN EXECUTED 06/08/88    10:26:50
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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T1      WITTMANN ADMS
T2      10 YEAR STORM EVENT
T3      CIRCLE CITY - WASH 2

J1  ICHECK    INQ       NINV      IDIR      STRT     METRIC    HVINS     Q        WSEL      FQ

      0.        5.        0.        0.   .000000      .00       .5       0.   1874.000     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH      FN      ALLDC     IBW      CHNCK     ITRACE

    15.000     .000    -1.000     .000      .000      .000     .000      .000     .000    15.000

1
 06/08/88    10:25:52                                                                    PAGE   18


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      DSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 4

CCHV=    .300 CEHV=    .500
*SECNO  .000
 WATER EL=X5 CARD=  1874.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1800.00 ELAREA=     1800.00

                SECTION .000 IS EQUIVALENT TO SECTION .573 IN CIRCLE
                CITY - WASH 1.  REFER TO WASH 1 HEC-2 OUTPUT FOR
                DISCHARGES AND STARTING WATER SURFACE ELEVATION.
     .00     2.30  1874.80      .00  1874.80  1874.83      .03      .00      .00  1800.00
     37.       0.       37.       0.       0.      25.       0.       0.       0.  1800.00
     .00      .00     1.49      .00     .000     .050     .000     .000  1872.50  4993.67
  .001838       0.       0.       0.        0        0        0      .00    19.00  5012.67
0
```

```
FLOW DISTRIBUTION FOR SECNO=        .00          CWSEL=   1874.00

STA=    4994.    5030.
  PER Q=   100.0
   AREA=    24.9
    VEL=     1.5

*SECNO  .074
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .07      .61  1878.11  1878.11      .00  1878.29      .18     2.04      .07  1880.00
     37.       0.      37.       0.       0.      11.       0.       0.       0.  1882.00
     .03      .00     3.38      .00     .080     .050     .080     .000  1877.50  4994.72
  .054129     360.     390.     390.       20       14        0      .00    31.94  5016.67
0
FLOW DISTRIBUTION FOR SECNO=        .07          CWSEL=   1878.11

STA=    4985.    5055.
  PER Q=   100.0
   AREA=    10.9
    VEL=     3.4

CCHV=    .100 CEHV=    .300
1
 06/08/88    10:25:52                                                                    PAGE   19


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .131
     .13     1.02  1882.02      .00      .00  1882.04      .02     3.73      .02  1884.00
     19.       0.      19.       0.       0.      18.       0.       0.       0.  1884.00
     .11      .00     1.05      .00     .080     .050     .080     .000  1881.00  4979.71
  .003869     280.     300.     320.        4        0        0      .00    35.42  5015.12
0
FLOW DISTRIBUTION FOR SECNO=        .13          CWSEL=   1882.02

STA=    4980.    5030.
  PER Q=   100.0
   AREA=    18.1
    VEL=     1.1

*SECNO  .220
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .22      .74  1886.74  1886.74      .00  1886.93      .19     3.74      .05  1888.00
     19.       0.      19.       0.       0.       5.       0.       0.       1.  1888.00
     .15      .00     3.49      .00     .080     .050     .080     .000  1886.00  4992.62
  .052566     490.     470.     450.       20       19        0      .00    14.75  5007.38
0
FLOW DISTRIBUTION FOR SECNO=        .22          CWSEL=   1886.74

STA=    4993.    5060.
  PER Q=   100.0
   AREA=     5.4
    VEL=     3.5

*SECNO  .326
     .33     1.44  1894.44      .00      .00  1894.49      .06     7.53      .01  1898.00
     19.       0.      19.       0.       0.      10.       0.       0.       1.  1898.00
```

```
      .23       .00      1.89       .00      .080      .050      .000      .000   1895.00   4992.91
  .006045      560.      560.      560.         6         0         0       .00     13.26   5007.17
0
 FLOW DISTRIBUTION FOR SECNO=        .33          CWSEL=   1894.44

 STA=    4994.    5020.
   PER Q=    100.0
    AREA=     10.1
     VEL=      1.9

1
  06/08/88    10:25:52                                                                                PAGE   20

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA      LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST

 *SECNO  .414
       .41       .36  1900.36       .00       .00  1900.49       .12      5.98       .02  1902.00
       19.        0.       19.        0.        0.        7.        0.        1.        1.  1902.00
       .29       .00      2.81       .00      .080      .050      .000      .000  1900.00  4983.18
   .043756      465.      465.      465.         4         0         0       .00     22.27  5005.45
0
 FLOW DISTRIBUTION FOR SECNO=        .41          CWSEL=   1900.36

 STA=    4983.    5030.
   PER Q=    100.0
    AREA=      6.8
     VEL=      2.8

 *SECNO  .515
       .51       .85  1906.85       .00       .00  1906.89       .04      6.40       .01  1910.00
       19.        0.       19.        0.        0.       11.        0.        1.        1.  1910.00
       .36       .00      1.70       .00      .080      .050      .000      .000  1906.00  4997.88
   .005553      520.      530.      540.         6         0         0       .00     16.36  5004.24
0
 FLOW DISTRIBUTION FOR SECNO=        .51          CWSEL=   1906.85

 STA=    4988.    5020.
   PER Q=    100.0
    AREA=     11.2
     VEL=      1.7

 *SECNO  .589
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
       .59       .34  1912.34  1912.34       .00  1912.49       .15      5.00       .03  1914.00
       19.        0.       19.        0.        0.        6.        0.        1.        2.  1914.00
       .40       .00      3.09       .00      .080      .050      .000      .000  1912.00  4993.29
   .055542      370.      390.      410.         3        10         0       .00     20.99  5019.28
0
 FLOW DISTRIBUTION FOR SECNO=        .59          CWSEL=   1912.34

 STA=    4998.    5040.
   PER Q=    100.0
    AREA=      6.2
     VEL=      3.1

1
  06/08/88    10:25:52                                                                                PAGE   21

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
```

Q	QLOB	QCH	QROB	HLOB	HCH	HROB	VOL	TAP	ELEV	ELOB
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	

```
*SECNO  .661
     .66     1.08  1917.08      .00      .00  1917.13      .04     4.63      .01  1920.00
     19.       0.     19.       0.       0.     11.       0.       1.       2.  1918.00
     .46      .00     1.69      .00     .080     .050     .090     .000  1916.00  4994.60
  .005183     410.     380.     350.        7        0        0      .00    15.00  5010.40
0
 FLOW DISTRIBUTION FOR SECNO=        .66          CWSEL=   1917.08

 STA=    4995.    5015.
   PER Q=    100.0
    AREA=     11.2
     VEL=      1.7

1
  06/09/88    10:25:52                                                                    PAGE   22


                                                                THIS RUN EXECUTED 06/08/88    10:27:05
 ***********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
 ***********************************************


 NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST


 CIRCLE CITY - WASH 2  (M

 SUMMARY PRINTOUT
```

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
*	.000	276.00	1878.66	4987.23	4985.00	5030.00	5025.53	.00	38.30	6.16	1872.50	9.43	2.04
*	.000	276.00	1879.66	4987.23	4985.00	5030.00	5025.53	.00	38.30	6.16	1872.50	9.43	2.04
*	.000	158.00	1877.78	4988.70	4985.00	5030.00	5022.60	.00	33.90	5.28	1872.50	6.38	1.52
*	.000	37.00	1874.80	4993.67	4985.00	5030.00	5012.67	.00	19.00	2.30	1872.50	18.38	1.49
	.074	276.00	1879.48	4981.31	4980.00	5055.00	5037.14	.82	55.83	1.98	1877.50	126.08	3.90
	.074	276.00	1879.48	4982.00	4980.00	5055.00	5036.00	.92	54.00	1.98	1877.50	123.13	3.91
*	.074	158.00	1878.87	4983.31	4980.00	5055.00	5025.12	.89	41.81	1.17	1877.50	407.57	4.98
*	.074	37.00	1878.11	4984.72	4980.00	5055.00	5016.67	3.31	31.94	.61	1877.50	541.29	3.38
	.131	72.00	1882.57	4970.05	4945.00	5030.00	5019.26	3.08	49.21	1.57	1881.00	43.14	1.74
	.131	72.00	1882.55	4971.00	4945.00	5030.00	5018.00	3.07	47.00	1.55	1881.00	44.86	1.79
	.131	53.00	1882.60	4969.42	4945.00	5030.00	5019.54	3.93	50.12	1.60	1881.00	20.78	1.23
	.131	19.00	1882.02	4979.71	4945.00	5030.00	5015.12	3.91	35.42	1.02	1881.00	30.69	1.05
*	.220	72.00	1887.26	4987.44	4980.00	5060.00	5012.56	4.69	25.12	1.26	1886.00	441.70	4.56
*	.220	72.00	1887.25	4987.49	4980.00	5060.00	5012.00	4.71	24.51	1.25	1886.00	440.22	4.60
*	.220	53.00	1887.11	4988.90	4980.00	5060.00	5011.10	4.51	22.21	1.11	1886.00	461.32	4.30
*	.220	19.00	1886.74	4992.62	4980.00	5060.00	5007.38	4.72	14.75	.74	1886.00	525.66	3.49
	.326	72.00	1895.36	4991.60	4975.00	5020.00	5011.80	8.10	20.21	2.36	1893.00	68.33	2.82
	.326	72.00	1895.33	4992.00	4975.00	5020.00	5010.00	8.08	18.00	2.33	1893.00	68.13	2.92
	.326	53.00	1895.11	4992.24	4975.00	5020.00	5010.52	7.99	18.29	2.11	1893.00	66.11	2.57

.414	72.00	1900.86	4980.68	4975.00	5030.00	5012.97	5.50	32.29	.86	1900.00	259.63	3.52
.414	72.00	1900.84	4981.00	4975.00	5030.00	5012.00	5.52	31.00	.84	1900.00	262.71	3.59
.414	53.00	1900.71	4981.44	4975.00	5030.00	5010.68	5.61	29.24	.71	1900.00	294.13	3.37
.414	19.00	1900.36	4983.18	4975.00	5030.00	5005.45	5.93	22.27	.36	1900.00	437.56	2.81
.515	72.00	1907.61	4985.98	4975.00	5020.00	5008.04	6.74	22.05	1.61	1906.00	73.96	2.80
.515	72.00	1907.59	4986.01	4975.00	5020.00	5007.00	6.75	20.99	1.59	1906.00	73.54	2.84
.515	53.00	1907.40	4986.51	4975.00	5020.00	5006.99	6.69	20.48	1.40	1906.00	68.38	2.49
.515	19.00	1906.85	4987.88	4975.00	5020.00	5004.24	6.48	16.36	.85	1906.00	55.53	1.70

1

06/08/88 10:25:52 PAGE 23

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.589	72.00	1912.83	4995.86	4990.00	5040.00	5025.34	5.22	29.47	.83	1912.00	327.16	3.92
	.589	72.00	1912.82	4996.00	4990.00	5040.00	5025.00	5.23	29.00	.82	1912.00	332.75	3.98
	.589	53.00	1912.66	4996.69	4990.00	5040.00	5023.28	5.26	26.60	.66	1912.00	403.96	3.84
*	.589	19.00	1912.34	4998.29	4990.00	5040.00	5019.28	5.49	20.99	.34	1912.00	555.42	3.09
	.661	72.00	1917.88	4990.60	4980.00	5015.00	5014.40	5.05	23.81	1.88	1916.00	68.75	2.66
	.661	72.00	1917.86	4991.00	4980.00	5015.00	5013.00	5.04	22.00	1.86	1916.00	68.02	2.72
	.661	53.00	1917.60	4991.62	4980.00	5015.00	5013.38	5.02	21.76	1.68	1916.00	61.93	2.36
	.661	19.00	1917.00	4994.60	4980.00	5015.00	5010.40	4.74	15.80	1.08	1916.00	51.89	1.69

1

06/08/88 10:25:52 PAGE 24

CIRCLE CITY - WASH 2 (M

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	T3PWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
*	.000	1878.66	.00	1878.72	38.30	.00	276.00	.00	.00	.00	4985.00	5030.00	.00
*	.000	1878.66	.00	1878.72	38.30	.00	276.00	.00	.00	.00	4985.00	5030.00	.00
*	.000	1877.78	.00	1877.82	33.90	.00	158.00	.00	.00	.00	4985.00	5030.00	.00
*	.000	1874.80	.00	1874.83	19.00	.00	37.00	.00	.00	.00	4985.00	5030.00	.00
	.074	1879.48	.00	1879.72	55.83	.00	276.00	.00	.00	.00	4980.00	5055.00	.00
	.074	1879.48	-.01	1879.71	54.00	.00	276.00	.00	54.00	4982.00	4980.00	5055.00	5036.00
*	.074	1878.67	.00	1879.06	41.81	.00	158.00	.00	.00	.00	4980.00	5055.00	.00
*	.074	1878.11	.00	1878.29	31.94	.00	37.00	.00	.00	.00	4980.00	5055.00	.00
	.131	1882.57	.00	1882.61	49.21	.00	72.00	.00	.00	.00	4945.00	5030.00	.00
	.131	1882.55	-.02	1882.60	47.00	.00	72.00	.00	47.00	4971.00	4945.00	5030.00	5018.00
	.131	1882.60	.00	1882.63	50.12	.00	53.00	.00	.00	.00	4945.00	5030.00	.00
	.131	1882.02	.00	1882.04	35.42	.00	19.00	.00	.00	.00	4945.00	5030.00	.00
*	.220	1887.26	.00	1887.58	25.12	.00	72.00	.00	.00	.00	4980.00	5060.00	.00
*	.220	1887.25	.00	1887.58	24.51	.00	72.00	.00	25.00	4987.00	4980.00	5060.00	5012.00
*	.220	1887.11	.00	1887.40	22.21	.00	53.00	.00	.00	.00	4980.00	5060.00	.00
*	.220	1886.74	.00	1886.93	14.75	.00	19.00	.00	.00	.00	4980.00	5060.00	.00
	.326	1895.36	.00	1895.48	20.21	.00	72.00	.00	.00	.00	4975.00	5020.00	.00
	.326	1895.33	-.03	1895.46	18.00	.00	72.00	.00	18.00	4992.00	4975.00	5020.00	5010.00
	.326	1895.11	.00	1895.21	18.29	.00	53.00	.00	.00	.00	4975.00	5020.00	.00
	.326	1894.44	.00	1894.49	13.26	.00	19.00	.00	.00	.00	4975.00	5020.00	.00
	.414	1900.86	.00	1901.06	32.29	.00	72.00	.00	.00	.00	4975.00	5030.00	.00
	.414	1900.84	-.02	1901.04	31.00	.00	72.00	.00	31.00	4981.00	4975.00	5030.00	5012.00

.414	1900.36	.00	1900.49	22.27	.00	19.00	.00	.00	.00	4975.00	5030.00	.00
.515	1907.61	.00	1907.73	22.05	.00	72.00	.00	.00	.00	4975.00	5020.00	.00
.515	1907.59	-.01	1907.72	20.99	.00	72.00	.00	21.00	4986.00	4975.00	5020.00	5007.00
.515	1907.40	.00	1907.50	20.48	.00	53.00	.00	.00	.00	4975.00	5020.00	.00
.515	1906.85	.00	1906.89	16.36	.00	19.00	.00	.00	.00	4975.00	5020.00	.00
.589	1912.83	.00	1913.06	29.47	.00	72.00	.00	.00	.00	4990.00	5040.00	.00
.589	1912.82	-.01	1913.06	29.00	.00	72.00	.00	29.00	4996.00	4990.00	5040.00	5025.00
.589	1912.66	.00	1912.89	26.60	.00	53.00	.00	.00	.00	4990.00	5040.00	.00
* .589	1912.34	.00	1912.49	20.99	.00	19.00	.00	.00	.00	4990.00	5040.00	.00
.661	1917.88	.00	1917.99	23.81	.00	72.00	.00	.00	.00	4980.00	5015.00	.00
.661	1917.86	-.02	1917.98	22.00	.00	72.00	.00	22.00	4991.00	4980.00	5015.00	5013.00
.661	1917.68	.00	1917.77	21.76	.00	53.00	.00	.00	.00	4980.00	5015.00	.00
.661	1917.08	.00	1917.13	15.80	.00	19.00	.00	.00	.00	4980.00	5015.00	.00

1

SUMMARY OF ERRORS AND SPECIAL NOTES

```
NOTE     SECNO=    .000  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=    .000  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=    .000  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=    .000  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=    .074  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .074  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .074  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    .074  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .074  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .074  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=    .220  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .220  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .220  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .220  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .220  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .220  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .220  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    .220  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .220  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .220  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=    .589  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .589  PROFILE= 4  MINIMUM SPECIFIC ENERGY
```

1

FLOODWAY DATA, CIRCLE CITY - WASH 2 (M
PROFILE NO. 2

STATION	WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE

.000	38.	135.	2.0	1878.7	1878.7	.0
.074	54.	71.	3.9	1879.5	1879.5	.0
.131	47.	40.	1.0	1882.6	1882.6	.0
.220	25.	16.	4.6	1887.3	1887.3	.0
.326	18.	25.	2.9	1895.4	1895.4	.0
.414	31.	20.	3.6	1900.9	1900.9	.0
.515	21.	25.	2.8	1907.6	1907.6	.0
.589	29.	18.	4.0	1912.8	1912.8	.0
.661	22.	26.	2.7	1917.9	1917.9	.0

1

06/08/88 10:25:52 PAGE 27

FLOODWAY DATA, CIRCLE CITY - WASH 2 (M
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.000	34.	104.	1.5	1877.9	1878.7	-.8
.074	42.	32.	5.0	1878.8	1879.5	-.7
.131	50.	43.	1.2	1882.6	1882.6	.0
.220	22.	12.	4.3	1887.3	1887.3	.0
.326	18.	21.	2.6	1895.2	1895.4	-.2
.414	29.	16.	3.4	1900.8	1900.9	-.1
.515	20.	21.	2.5	1907.5	1907.6	-.1
.589	27.	14.	3.8	1912.7	1912.8	-.1
.661	22.	22.	2.4	1917.8	1917.9	-.1

1

06/08/88 10:25:52 PAGE 28

FLOODWAY DATA, CIRCLE CITY - WASH 2 (M
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.000	19.	25.	1.5	1874.9	1878.7	-3.8
.074	32.	11.	3.4	1878.2	1879.5	-1.3
.131	35.	18.	1.1	1882.2	1882.6	-.4
.220	15.	5.	3.5	1886.9	1887.3	-.4
.326	13.	10.	1.9	1894.6	1895.4	-.8
.414	22.	7.	2.9	1900.5	1900.9	-.4
.515	16.	11.	1.7	1906.9	1907.6	-.7
.589	21.	6.	3.1	1912.4	1912.8	-.4
.661	16.	11.	1.7	1917.2	1917.9	-.7

1

06/08/88 10:27:15 PAGE 1

THIS RUN EXECUTED 06/08/88 10:27:15

****
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06

INPUT FILE: CCWSH2RR

OUTPUT FILE: CCWSH2RR.OUT

THIS RUN EXECUTED 05/09/88 09:43:47

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT
T3      CIRCLE CITY - WASH 2 (FLOODPLAIN DELINEATION ALONG RAILROAD)

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .000000     .00       .5       0.  1879.460    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     1.000     .000     .000     .000     .000     .000     .000     .000     .000   15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    39.000   43.000    1.000   53.000   54.000   51.000    4.000   39.000    9.000   42.000


     5.000   26.000     .000  110.000     .000  200.000     .000     .000     .000     .000


NC      .000      .000      .050      .300      .500      .000      .000      .000      .000      .000
QT     3.000   276.000   276.000   158.000      .000      .000      .000      .000      .000      .000
ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
                THIS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR AND 50-YEAR HEC-1 MODELS.  NOTE:  NO FLOWS ARE
                DIVERTED DURING THE 10-YEAR STORM EVENT.

                THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD FROM
                CIRCLE CITY - WASH 3 TO WASH2.
X1      .074     7.000  4990.000  5055.000      .000      .000      .000      .000      .000      .000
GR   1881.000  4920.000  1880.000  4980.000  1878.000  4985.000  1877.500  5000.000  1878.000  5015.000
GR   1880.000  5045.000  1882.000  5055.000      .000      .000      .000      .000      .000      .000

NC      .000      .000      .000      .100      .300      .000      .000      .000      .000      .000
QT     3.000   200.000   200.000   105.000      .000      .000      .000      .000      .000      .000
X1      .152     7.000  4965.000  5055.000   410.000   410.000   410.000      .000      .000      .000
GR   1887.000  4780.000  1886.000  4855.000  1886.000  4965.000  1884.000  4990.000  1884.000  5010.000
GR   1886.000  5040.000  1887.500  5055.000      .000      .000      .000      .000      .000      .000

X1      .233     6.000  4970.000  5055.000   430.000   430.000   430.000      .000      .000      .000
GR   1889.000  4870.000  1888.500  4915.000  1888.000  4970.000  1886.500  5000.000  1888.000  5030.000
GR   1889.500  5055.000      .000      .000      .000      .000      .000      .000      .000      .000
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X1       .318      6.000   4960.000   5045.000    450.000    450.000    450.000       .000       .000       .000
GR   1892.000   4840.000   1890.000   4960.000   1889.500   5000.000   1890.000   5025.000   1892.000   5035.000
GR   1893.000   5045.000       .000       .000       .000       .000       .000       .000       .000       .000
EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
05/09/88    09:43:46                                                                                    PAGE    3

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 1

 CCHV=    .300 CEHV=    .500
 *SECNO  .074
                THIS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR AND 50-YEAR HEC-1 MODELS.  NOTE:  NO FLOWS ARE
                DIVERTED DURING THE 10-YEAR STORM EVENT.

                THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD FROM
                CIRCLE CITY - WASH 3 TO WASH2.
      .07     1.96  1879.46      .00  1879.46  1879.70      .24      .00      .00  1880.00
     276.       0.     276.       0.       0.      70.       0.       0.       0.  1882.00
      .00      .00     3.95      .00     .080     .050     .080     .000  1877.50  4981.35
   .013070      0.       0.       0.       0        0        0      .00    55.55  5036.90
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1879.46

 STA=    4981.    5055.
   PER Q=    100.0
    AREA=     69.9
     VEL=      3.9

 CCHV=    .100 CEHV=    .300
 *SECNO  .152
      .15     1.40  1885.40      .00      .00  1885.60      .21     5.90      .00  1886.00
     200.       0.     200.       0.       0.      55.       0.       1.       1.  1887.50
      .03      .00     3.66      .00     .080     .050     .080     .000  1884.00  4972.56
   .016563    410.     410.     410.        4        0        0      .00    58.37  5030.93
0
 FLOW DISTRIBUTION FOR SECNO=       .15          CWSEL=   1885.40

 STA=    4973.    5055.
   PER Q=    100.0
    AREA=     54.7
     VEL=      3.7

 *SECNO  .233
      .23     2.14  1888.64      .00      .00  1888.71      .07     3.09      .01  1888.00
     200.      14.     186.       0.      22.      87.       0.       1.       2.  1889.50
      .09      .61     2.15      .00     .080     .050     .080     .000  1886.50  4902.57
   .003997    430.     430.     430.        3        0        0      .00   138.06  5040.63
0
05/09/88    09:43:46                                                                                    PAGE    4

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST
```

```
 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1888.64

 STA=    4903.    4915.    4970.    5055.
   PER Q=       .1      6.7     93.2
    AREA=       .9     21.3     86.7
     VEL=       .2       .6      2.2

 *SECNO  .319
       .32     2.03  1890.53      .00      .00  1890.61      .08     1.90      .00  1890.00
      200.       5.     195.       0.       9.      85.       0.       2.       3.   1893.00
       .14      .52     2.30      .00     .080     .050     .090     .000  1888.50  4927.42
   .004468     450.     450.     450.        2        0        0      .00   100.29  5027.71
0
 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1890.53

 STA=    4927.    4960.    5045.
   PER Q=      2.3     97.7
    AREA=      8.8     84.8
     VEL=       .5      2.3

1
  05/09/88    09:43:46                                                                                                    PAGE    5



                                                                                                  THIS RUN EXECUTED 05/09/88   09:43:57
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN ADMS
 T2      100 YEAR STORM EVENT
 T3      CIRCLE CITY - WASH 2 (FLOODWAY ALONG RAILROAD)

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.       3.       0.       0.   .000000      .00       .5       0.  1879.460     .000

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      2.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
  05/09/88    09:43:46                                                                                                    PAGE    6


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 *PROF 2

 CCHV=    .300 CEHV=    .500
 *SECNO  .074
  2800 NAT Q1=     24.14  WSEL=   1879.46  ENC Q1=     61.88  WSEL=   1880.46  RATIO= -1.563)
  NAT Q1=     62.  RATIOS LOB,CH,ROB=   .0071   .9929   .0000  WSEL=   1880.46
```

```
3470 ENCROACHMENT STATIONS=
                THIS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR AND 50-YEAR HEC-1 MODELS.  NOTE:  NO FLOWS ARE
                DIVERTED DURING THE 10-YEAR STORM EVENT.

                THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD FROM
                CIRCLE CITY - WASH 3 TO WASH2.
      .07     1.96  1879.46      .00  1879.46  1879.70      .24      .00      .00  1880.00
     276.       0.     276.       0.       0.      70.       0.       0.       0.  1882.00
      .00      .00     3.95      .00     .080     .050     .080     .000  1877.50  4981.35
   .013070      0.       0.       0.        0        0        0      .00    55.55  5036.90
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1879.46

 STA=    4981.    5055.
   PER Q=    100.0
    AREA=     63.9
     VEL=      3.9

 CCHV=    .100 CEHV=    .300
 *SECNO  .152
  2800 NAT Q1=     15.54  WSEL=   1885.40  ENC Q1=     50.75  WSEL=   1886.40  RATIO= -2.2659
  NAT Q1=     56.  RATIOS LOB,CH,ROB=   .0856   .9144   .0000  WSEL=   1886.40

 3470 ENCROACHMENT STATIONS=    4965.0    5055.0  TYPE=     4  TARGET=        .086
      .15     1.40  1885.40      .00  1885.40  1885.60      .21     5.90      .00  1886.00
     200.       0.     200.       0.       0.      55.       0.       1.       1.  1887.50
      .03      .00     3.66      .00     .080     .050     .080     .000  1884.00  4972.56
   .016563     410.     410.     410.        4        0        0      .00    58.37  5030.93
0
 FLOW DISTRIBUTION FOR SECNO=       .15          CWSEL=   1885.40

 STA=    4973.    5055.
   PER Q=    100.0
    AREA=     54.7
     VEL=      3.7

1
 05/09/08    09:43:46                                                                    PAGE    7


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .233
  2800 NAT Q1=     31.64  WSEL=   1888.64  ENC Q1=     76.82  WSEL=   1889.64  RATIO= -1.4281
  NAT Q1=    101.  RATIOS LOB,CH,ROB=   .2425   .7575   .0000  WSEL=   1889.64

 3470 ENCROACHMENT STATIONS=    4970.0    5055.0  TYPE=     4  TARGET=        .242
      .23     2.19  1888.69      .00  1888.64  1888.77      .08     3.15      .01  1888.00
     200.       0.     200.       0.       0.      90.       0.       1.       1.  1889.50
      .09      .00     2.21      .00     .080     .050     .080     .000  1886.50  4970.00
   .004110     430.     430.     430.        4        0        0      .00    71.51  5041.51
0
 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1888.69

 STA=    4970.    5055.
   PER Q=    100.0
    AREA=     90.4
     VEL=      2.2

 *SECNO  .318
  2800 NAT Q1=     29.92  WSEL=   1890.53  ENC Q1=     75.59  WSEL=   1891.53  RATIO= -1.5263
  NAT Q1=     97.  RATIOS LOB,CH,ROB=   .1267   .8733   .0000  WSEL=   1891.53
```

```
3470 ENCROACHMENT STATIONS=    4960.0    5045.0  TYPE=     4  TARGET=        .127
      .32     2.08  1890.58      .00  1890.53  1890.66      .08     1.89      .00  1890.00
     200.       0.     200.       0.       0.      87.       0.       2.       2.   1893.00
      .14      .00     2.29      .00     .080     .050     .080     .000  1888.50  4960.00
   .004305     450.     450.     450.       3        0        0      .00    67.90  5027.90

FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1890.58

STA=    4960.    5045.
  PER Q=    100.0
   AREA=     87.3
    VEL=      2.3
```



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                                                                THIS RUN EXECUTED 05/09/88   09:44:03
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


T1      WITTMANN ADMS
T2      50-YEAR STORM EVENT
T3      CIRCLE CITY - WASH 2 (FLOODPLAIN ALONG RAILROAD)

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       4.       0.       0.   .000000      .00       .5       0.  1879.410     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    15.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000
```



```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


*PROF 3

CCHV=    .300 CEHV=    .500
*SECNO  .074
              THIS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
              100-YEAR AND 50-YEAR HEC-1 MODELS.  NOTE:  NO FLOWS ARE
              DIVERTED DURING THE 10-YEAR STORM EVENT.

              THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD FROM
              CIRCLE CITY - WASH 3 TO WASH2.
     .07     1.91  1879.41      .00  1879.41  1879.50      .09      .00      .00  1880.00
    158.       0.     158.       0.       0.      67.       0.       0.       0.   1882.00
     .00      .00     2.35      .00     .080     .050     .080     .000  1877.50  4981.48
   .004793      0.       0.       0.        0        0        0      .00    54.68  5036.15
```

```
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1879.41

 STA=    4981.    5055.
   PER Q=    100.0
    AREA=     67.2
     VEL=      2.4

 CCHV=    .100 CEHV=    .300
 *SECNO  .152
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
       .15      .78  1884.78  1884.78      .00  1885.08      .29     3.66      .06  1886.00
      105.       0.     105.       0.       0.      24.       0.       0.       0.   1887.50
       .03      .00     4.35      .00     .080     .050     .080     .000  1884.00  4990.19
   .044160     410.     410.     410.       20       18        0      .00    41.58  5021.77
0
 FLOW DISTRIBUTION FOR SECNO=       .15          CWSEL=   1884.78

 STA=    4980.    5055.
   PER Q=    100.0
    AREA=     24.2
     VEL=      4.3

 *SECNO  .233
       .23     1.81  1888.31      .00      .00  1888.35      .04     3.24      .03  1888.00
      105.       2.     103.       0.       5.      64.       0.       1.       1.   1889.50
       .10      .29     1.61      .00     .080     .050     .080     .000  1886.50  4936.18
   .002997     430.     430.     430.        7        0        0      .00    98.95  5035.13
0
1
 05/09/88    09:43:46                                                                    PAGE   10


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1888.31

 STA=    4936.    4970.    5055.
   PER Q=      1.4     98.6
    AREA=      5.2     64.2
     VEL=       .3      1.6

 *SECNO  .318
       .32     1.58  1890.08      .00      .00  1890.14      .06     1.79      .01  1890.00
      105.       0.     105.       0.       0.      54.       0.       2.       2.   1893.00
       .17      .16     1.94      .00     .080     .050     .080     .000  1888.50  4955.09
   .005502     450.     450.     450.        3        0        0      .00    70.32  5025.41
0
 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1890.08

 STA=    4955.    4960.    5045.
   PER Q=       .0    100.0
    AREA=       .2     54.1
     VEL=       .2      1.9

1
 05/09/88    09:43:46                                                                    PAGE   11
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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CIRCLE CITY - WASH 2 (FL

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	ENDST	DIFWSX	TOPWID	XLCH	DEPTH	ELMIN	10K*S	VCH
	.074	276.00	1879.46	4981.35	5036.90	.00	55.55	.00	1.96	1877.50	130.70	3.95
	.074	276.00	1879.46	4981.35	5036.90	.00	55.55	.00	1.96	1877.50	130.70	3.95
	.074	158.00	1879.41	4981.48	5036.15	.00	54.68	.00	1.91	1877.50	47.93	2.35
	.152	200.00	1885.40	4972.56	5030.93	5.94	58.37	410.00	1.40	1884.00	165.63	3.66
	.152	200.00	1885.40	4972.56	5030.93	5.94	58.37	410.00	1.40	1884.00	165.63	3.66
*	.152	105.00	1884.78	4980.19	5021.77	5.37	41.58	410.00	.78	1884.00	441.60	4.35
	.233	200.00	1888.64	4902.57	5040.63	3.25	138.06	430.00	2.14	1886.50	39.97	2.15
	.233	200.00	1888.69	4970.00	5041.51	3.29	71.51	430.00	2.19	1886.50	41.10	2.21
	.233	105.00	1888.31	4936.18	5035.13	3.52	98.95	430.00	1.81	1886.50	29.97	1.61
	.318	200.00	1890.53	4927.42	5027.71	1.89	100.29	450.00	2.03	1888.50	44.68	2.30
	.318	200.00	1890.58	4960.00	5027.90	1.89	67.90	450.00	2.08	1888.50	43.05	2.29
	.318	105.00	1890.08	4955.09	5025.41	1.77	70.32	450.00	1.58	1888.50	55.02	1.94

1

CIRCLE CITY - WASH 2 (FL

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.074	1879.46	.00	1879.70	55.55	.00	276.00	.00	.00	.00	4980.00	5055.00	.00
	.074	1879.46	.00	1879.70	55.55	.00	276.00	.00	.01	4980.00	4980.00	5055.00	5055.00
	.074	1879.41	.00	1879.50	54.68	.00	158.00	.00	.00	.00	4980.00	5055.00	.00
	.152	1885.40	.00	1885.60	58.37	.00	200.00	.00	.00	.00	4965.00	5055.00	.00
	.152	1885.40	.00	1885.60	58.37	.00	200.00	.00	.09	4965.00	4965.00	5055.00	5055.00
*	.152	1884.78	.00	1885.08	41.59	.00	105.00	.00	.00	.00	4965.00	5055.00	.00
	.233	1888.64	.00	1888.71	138.06	13.50	186.50	.00	.00	.00	4970.00	5055.00	.00
	.233	1888.69	.05	1888.77	71.51	.00	200.00	.00	.24	4970.00	4970.00	5055.00	5055.00
	.233	1888.31	.00	1888.35	98.95	1.52	103.48	.00	.00	.00	4970.00	5055.00	.00
	.318	1890.53	.00	1890.61	100.29	4.60	195.40	.00	.00	.00	4960.00	5045.00	.00
	.318	1890.58	.05	1890.66	67.90	.00	200.00	.00	.13	4960.00	4960.00	5045.00	5045.00
	.318	1890.08	.00	1890.14	70.32	.03	104.97	.00	.00	.00	4960.00	5045.00	.00

1

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= .152 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .152 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .152 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL

1

FLOODWAY DATA, CIRCLE CITY - WASH 2 (FL
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.074	56.	70.	3.9	1879.5	1879.5	.0
.152	58.	55.	3.7	1885.4	1885.4	.0
.233	72.	90.	2.2	1888.6	1888.6	.0
.318	68.	87.	2.3	1890.5	1890.5	.0

1

FLOODWAY DATA, CIRCLE CITY - WASH 2 (FL
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.074	55.	67.	2.4	1879.5	1879.5	.0
.152	42.	24.	4.3	1884.9	1885.4	-.5
.233	99.	69.	1.5	1888.4	1888.6	-.2
.318	70.	54.	1.9	1890.1	1890.5	-.4

1

THIS RUN EXECUTED 05/09/88 09:44:13

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HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION 1.1
****

INPUT FILE: CCWASH3

OUTPUT FILE: CCWASH3.OUT

THIS RUN EXECUTED 05/09/88 07:59:38

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - WASH 3

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.   .010400      .00       .5        0.   1834.000     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     .000      .000      .000      .000      .000      .000      .000      .000    15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    43.000     1.000    53.000    21.000    22.000    54.000    51.000     4.000     8.000


    42.000     5.000    26.000      .000   110.000      .000   200.000      .000      .000      .000


NC      .000      .000      .050      .100      .300      .000      .000      .000      .000      .000
OT     4.000   545.000   545.000   490.000   304.000      .000      .000      .000      .000      .000
ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
X1      .000     8.000  4990.000  5070.000      .000      .000      .000      .000      .000      .000
GR  1835.000  4955.000  1834.000  4990.000  1832.000  4995.000  1830.000  5000.000  1830.000  5025.000
GR  1832.000  5070.000  1834.000  5085.000  1836.000  5095.000      .000      .000      .000      .000

X1      .068     6.000  4955.000  5065.000   360.000   360.000   360.000      .000      .000      .000
GR  1838.000  4955.000  1836.000  4970.000  1834.000  4980.000  1831.500  5000.000  1832.000  5020.000
GR  1838.000  5065.000      .000      .000      .000      .000      .000      .000      .000      .000

X1      .125     7.000  4975.000  5020.000   300.000   310.000   300.000      .000      .000      .000
GR  1839.000  4945.000  1838.000  4975.000  1836.000  4990.000  1834.500  5000.000  1836.000  5010.000
GR  1838.000  5020.000  1838.500  5070.000      .000      .000      .000      .000      .000      .000

X1      .170     7.000  4985.000  5015.000   250.000   210.000   240.000      .000      .000      .000
GR  1842.000  4870.000  1840.000  4985.000  1838.000  4995.000  1837.000  5000.000  1838.000  5005.000
GR  1840.000  5015.000  1841.500  5040.000      .000      .000      .000      .000      .000      .000
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GR  1843.500  4760.000  1842.000  4980.000  1840.000  4995.000  1839.000  5000.000  1842.000  5025.000
GR  1844.000  5060.000      .000      .000      .000      .000      .000      .000      .000      .000

ET      .000      .000     9.100      .000      .000      .000      .000      .000  4950.000  5040.000
X1      .288     6.000  4945.000  5040.000   390.000   290.000   360.000      .000      .000      .000
GR  1846.000  4945.000  1844.000  4985.000  1843.500  5000.000  1844.000  5010.000  1845.000  5040.000
GR  1846.000  5170.000      .000      .000      .000      .000      .000      .000      .000      .000

ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
X1      .384     7.000  4970.000  5020.000   510.000   510.000   510.000      .000      .000      .000
GR  1851.000  4960.000  1850.000  4930.000  1848.000  4970.000  1846.500  5000.000  1848.000  5020.000
GR  1850.000  5040.000  1852.000  5035.000      .000      .000      .000      .000      .000      .000

X1      .504     6.000  4950.000  5060.000   620.000   640.000   630.000      .000      .000      .000
GR  1856.000  4930.000  1854.000  4950.000  1852.000  4980.000  1850.500  5000.000  1852.000  5030.000
GR  1858.000  5060.000      .000      .000      .000      .000      .000      .000      .000      .000

QT     4.000   330.000   330.000   286.000   187.000      .000      .000      .000      .000      .000
X1      .574     6.000  4985.000  5055.000   380.000   360.000   370.000      .000      .000      .000
X4     1.000  1858.000  4955.000      .000      .000      .000      .000      .000      .000      .000
GR  1862.000  4925.000  1856.000  4985.000  1854.500  5000.000  1856.000  5010.000  1859.000  5055.000
GR  1860.000  5065.000      .000      .000      .000      .000      .000      .000      .000      .000

X1      .669     6.000  4950.000  5075.000   500.000   500.000   500.000      .000      .000      .000
GR  1868.000  4950.000  1862.000  4985.000  1860.000  4990.000  1860.000  5010.000  1862.000  5075.000
GR  1868.000  5140.000      .000      .000      .000      .000      .000      .000      .000      .000

NH     5.000      .080  4870.000      .050  4900.000      .080  4980.000      .050  5045.000      .080
NH  5070.000      .000      .000      .000      .000      .000      .000      .000      .000      .000
X1      .718    10.000  4840.000  5070.000   260.000   270.000   260.000      .000      .000      .000
GR  1870.000  4840.000  1868.000  4860.000  1866.000  4870.000  1864.000  4900.000  1865.000  4940.000
GR  1864.000  4990.000  1863.000  5000.000  1864.000  5013.000  1866.000  5045.000  1870.000  5070.000

NC      .080      .080      .050      .000      .000      .000      .000      .000      .000      .000
X1      .809     6.000  4955.000  5070.000   520.000   490.000   480.000      .000      .000      .000
GR  1874.000  4885.000  1872.000  4955.000  1868.000  4985.000  1866.500  5000.000  1868.000  5015.000
GR  1876.000  5070.000      .000      .000      .000      .000      .000      .000      .000      .000

QT     4.000   205.000   205.000   201.000   135.000      .000      .000      .000      .000      .000
X1      .858     7.000  4980.000  5025.000   250.000   270.000   260.000      .000      .000      .000
GR  1875.000  4900.000  1874.000  4980.000  1872.000  4990.000  1870.000  5000.000  1870.000  5010.000
GR  1874.000  5025.000  1875.000  5105.000      .000      .000      .000      .000      .000      .000

X1      .932     7.000  4960.000  5030.000   390.000   390.000   390.000      .000      .000      .000
GR  1880.000  4935.000  1878.000  4945.000  1876.000  4960.000  1874.000  5000.000  1876.000  5015.000
GR  1878.000  5030.000  1880.000  5130.000      .000      .000      .000      .000      .000      .000
1
 05/09/88    07:59:38                                                                          PAGE    3


X1     1.012     4.000  4950.000  5040.000   425.000   425.000   425.000      .000      .000      .000
GR  1884.000  4950.000  1878.000  5000.000  1880.000  5010.000  1886.000  5040.000      .000      .000

X1     1.031     5.000  4940.000  5050.000   100.000   100.000   100.000      .000      .000      .000
X3      .000      .000      .000  4985.000  1886.000  5010.000  1886.000      .000      .000      .000
GR  1886.000  4940.000  1880.000  4985.000  1878.000  5000.000  1880.000  5010.000  1886.000  5050.000

                WATER SURFACE ELEVATION AT SECTION 1.054 IS BASED UPON
                CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                INLET CONTROL.
X1     1.054     9.000  4940.000  5020.000   120.000   120.000   120.000      .000      .000      .000
X3      .000      .000      .000  4980.000  1886.000  5015.000  1886.000      .000      .000      .000
X5     4.000  1885.300  1885.300  1884.700  1883.500      .000      .000      .000      .000      .000
GR  1886.000  4920.000  1884.000  4940.000  1882.000  4980.000  1880.000  4990.000  1879.500  5000.000
GR  1880.000  5000.000  1882.000  5020.000  1885.000  5050.000  1888.000  5060.000      .000      .000
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X1      1.070      6.000   4990.000   5025.000     90.000     90.000     90.000       .000       .000       .000
X3       .000       .000       .000   4990.000   1890.000   5020.000   1890.000       .000       .000       .000
GR   1890.000   4990.000   1884.000   4995.000   1882.000   5000.000   1882.000   5015.000   1886.000   5020.000
GR   1890.000   5025.000       .000       .000       .000       .000       .000       .000       .000       .000

T       4.000    422.000    422.000    320.000    139.000       .000       .000       .000       .000       .000
                 WATER SURFACE ELEVATION AT SECTION 1.079 IS BASED UPON
                 THE HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C20.
X1      1.078      6.000   4970.000   5030.000     40.000     40.000     40.000       .000       .000       .000
X3       .000       .000       .000   4990.000   1892.000   5020.000   1892.000       .000       .000       .000
X5      4.000   1890.000   1890.000   1889.580   1887.030       .000       .000       .000       .000       .000
GR   1892.000   4970.000   1886.000   4990.000   1884.000   5000.000   1884.000   5015.000   1886.000   5020.000
GR   1892.000   5030.000       .000       .000       .000       .000       .000       .000       .000       .000

X1      1.125      7.000   4975.000   5065.000    210.000    290.000    250.000       .000       .000       .000
GR   1892.500   4905.000   1892.000   4975.000   1890.000   4985.000   1888.000   5000.000   1888.000   5025.000
GR   1890.000   5065.000   1892.000   5105.000       .000       .000       .000       .000       .000       .000

NC       .000       .000       .000       .300       .500       .000       .000       .000       .000       .000
X1      1.193      7.000   4960.000   5050.000    440.000    280.000    360.000       .000       .000       .000
GR   1896.000   4915.000   1894.000   4945.000   1892.000   4960.000   1890.500   5000.000   1892.000   5030.000
GR   1894.000   5050.000   1895.000   5115.000       .000       .000       .000       .000       .000       .000

NC       .000       .000       .000       .100       .300       .000       .000       .000       .000       .000
X1      1.277      4.000   4955.000   5060.000    440.000    440.000    440.000       .000       .000       .000
GR   1900.000   4955.000   1894.000   5000.000   1894.000   5020.000   1900.000   5060.000       .000       .000

X1      1.324      6.000   4930.000   5050.000    250.000    250.000    250.000       .000       .000       .000
GR   1904.000   4930.000   1900.000   4955.000   1898.000   4960.000   1896.000   5000.000   1896.000   5015.000
GR   1904.000   5050.000       .000       .000       .000       .000       .000       .000       .000       .000

X1      1.403      5.000   4965.000   5050.000    400.000    420.000    420.000       .000       .000       .000
GR   1910.000   4930.000   1902.000   4965.000   1901.000   5000.000   1902.000   5050.000   1908.000   5090.000
1
 05/09/88    07:59:38                                                                                    PAGE    4


X1      1.492      6.000   4955.000   5025.000    510.000    410.000    470.000       .000       .000       .000
GR   1914.000   4925.000   1906.000   4955.000   1904.000   4990.000   1904.000   5000.000   1912.000   5025.000
GR   1914.000   5060.000       .000       .000       .000       .000       .000       .000       .000       .000
EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
 05/09/88    07:59:38                                                                                    PAGE    5


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


*PROF 1

CCHV=    .100 CEHV=    .300
*SECNO  .000
                 THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                 THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
     .00     2.37  1832.37     .00  1834.00  1832.65     .28     .00     .00  1834.00
    545.       0.     545.      0.       0.     128.      1.      0.      0.  1832.00
     .00     .00     4.25     .61     .080     .050    .090    .000  1830.00  4994.06
  .010238      0.       0.       0.       0        0       4     .00    78.75  5072.81
0
FLOW DISTRIBUTION FOR SECNO=      .00          CWSEL=   1832.37
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 STA=    4994.    5070.    5073.
   PER Q=     99.9       .1
    AREA=    128.3       .5
     VEL=      4.2       .6

 *SECNO  .068
      .07     3.55  1835.05      .00      .00  1835.25      .21     2.59      .01  1838.00
     545.       0.     545.       0.       0.     149.       0.       1.       1.   1838.00
      .03      .00     3.65      .00     .080     .050     .080     .000  1831.50  4974.77
  .005334     360.     360.     360.        3        0        0      .00    68.08  5042.85
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1835.05

 STA=    4975.    5065.
   PER Q=    100.0
    AREA=    149.4
     VEL=      3.6

 *SECNO  .125

 1645 INT SEC ADDED BY RAISING SEC       .13,  -1.500FT AND MULTIPLYING BY   1.410

     1.01     3.21  1836.21      .00      .00  1836.72      .50     1.37      .09  1836.50
     545.       0.     545.       0.       0.      96.       0.       2.       1.   1836.50
      .03      .00     5.70      .00     .080     .050     .080     .000  1833.00  4990.28
  .019255     150.     150.     155.        2        0        0      .00    58.48  5048.76
0
1
 05/09/88    07:59:38                                                                    PAGE    6


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1836.21

 STA=    4990.    5051.
   PER Q=    100.0
    AREA=     95.6
     VEL=      5.7


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.500FT AND MULTIPLYING BY    .709

      .13     3.96  1838.46      .00      .00  1838.89      .43     2.17      .01  1838.00
     545.       2.     535.       7.       3.     100.      10.       2.       1.   1838.00
      .04      .73     5.34      .73     .080     .050     .080     .000  1834.50  4961.46
  .011254     150.     150.     155.        3        0        0      .00   103.68  5065.14
0
 FLOW DISTRIBUTION FOR SECNO=       .13          CWSEL=   1838.46

 STA=    4961.    4975.    5020.    5065.
   PER Q=      .4     98.2      1.4
    AREA=      3.1    100.3     10.2
     VEL=      .7      5.3       .7

 *SECNO  .170
      .17     4.14  1841.14      .00      .00  1841.64      .50     2.73      .02  1840.00
     545.      52.     478.      15.      38.      79.      11.       3.       2.   1840.00
      .05     1.37     6.02     1.37     .080     .050     .080     .000  1837.00  4919.05
  .011497     250.     240.     210.        2        0        0      .00   115.07  5034.12
0
 FLOW DISTRIBUTION FOR SECNO=       .17          CWSEL=   1841.14
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 STA=    4919.    4985.    5015.    5034.
  PER Q=      9.5     87.7      2.8
   AREA=     37.8     73.4     11.0
    VEL=      1.4      6.0      1.4

 *SECNO  .220
      .22     4.19  1843.19      .00      .00  1843.37      .18     1.70      .03  1842.00
     545.      91.     443.      11.     104.     119.      12.       4.       3.  1842.00
      .08      .87     3.73      .87     .080     .050     .080     .000  1839.00  4905.01
  .004384     200.     260.     320.        2        0        0      .00   240.87  5045.88
0
1
 05/09/88    07:59:38                                                                    PAGE    7


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .22          CWSEL=   1843.19

 STA=    4805.    4980.    5025.    5046.
  PER Q=     16.7     81.3      2.0
   AREA=    104.4    118.7     12.5
    VEL=       .9      3.7       .9

 *SECNO  .288
      .29     2.25  1845.75      .00      .00  1846.01      .26     2.61      .03  1846.00
     545.       0.     503.      42.       0.     118.      36.       5.       4.  1845.00
      .10      .00     4.27     1.16     .080     .050     .080     .000  1843.50  4950.05
  .014382     390.     360.     290.        3        0        0      .00   187.13  5137.18
0
 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1845.75

 STA=    4950.    5040.    5137.
  PER Q=     92.3      7.7
   AREA=    117.9     36.3
    VEL=      4.3      1.2

 *SECNO  .384
      .38     3.29  1849.79      .00      .00  1850.00      .21     3.98      .01  1848.00
     545.      38.     488.      19.      32.     127.      16.       7.       6.  1848.00
      .14     1.20     3.86     1.20     .080     .050     .080     .000  1846.50  4934.38
  .004890     510.     510.     510.        3        0        0      .00   103.43  5037.81
0
 FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1849.79

 STA=    4934.    4970.    5020.    5038.
  PER Q=      7.0     89.5      3.5
   AREA=     31.7    126.6     15.9
    VEL=      1.2      3.9      1.2

 *SECNO  .504
      .50     3.11  1853.61      .00      .00  1853.83      .22     3.83      .00  1854.00
     545.       0.     545.       0.       0.     144.       0.       9.       7.  1858.00
      .19      .00     3.79      .00     .080     .050     .080     .000  1850.50  4955.90
  .007769     620.     630.     640.        3        0        0      .00    82.14  5038.03
0
1
 05/09/88    07:59:38                                                                    PAGE    8
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   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1853.61

 STA=    4956.    5060.
   PER Q=    100.0
    AREA=    143.7
     VEL=      3.8

 *SECNO  .574
       .57     2.76  1857.26      .00      .00  1857.56      .30     3.71      .02  1856.00
      330.      21.     309.       0.      12.      69.       0.      10.       8.  1858.00
       .21     1.76     4.51      .00     .080     .050     .080     .000  1854.50  4965.99
   .016635     380.     370.     360.        2        0        0      .00    72.52  5038.52
0
 FLOW DISTRIBUTION FOR SECNO=       .57          CWSEL=   1857.26

 STA=    4966.    4985.    5055.
   PER Q=      6.4     93.6
    AREA=     12.0     68.5
     VEL=      1.8      4.5

 *SECNO  .669
       .67     2.11  1862.11      .00      .00  1862.23      .12     4.65      .02  1868.00
      330.       0.     330.       0.       0.     120.       0.      12.       9.  1862.00
       .26      .00     2.75      .01     .080     .050     .080     .000  1860.00  4984.35
   .005929     500.     500.     500.        4        0        0      .00    91.84  5076.20
0
 FLOW DISTRIBUTION FOR SECNO=       .67          CWSEL=   1862.11

 STA=    4984.    5075.    5076.
   PER Q=    100.0       .0
    AREA=    120.0       .1
     VEL=      2.9       .0

 1490 NH CARD USED
 *SECNO  .718

 3265 DIVIDED FLOW

       .72     1.85  1864.85      .00      .00  1865.07      .22     2.81      .03  1870.00
      330.       0.     330.       0.       0.      87.       0.      12.      10.  1870.00
       .28      .00     3.00      .00     .080     .048     .080     .000  1863.00  4987.26
   .025623     260.     260.     270.        3        0        0      .00   128.44  5027.74
0
1
 05/09/98    07:59:38                                                                PAGE    9


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 FLOW DISTRIBUTION FOR SECNO=       .72          CWSEL=   1864.85

 STA=    4887.    5070.
   PER Q=    100.0
    AREA=     86.9
     VEL=      3.8

 *SECNO  .000
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      .81     3.34  1869.84      .00      .00  1870.00      .16     4.92      .01  1872.00
     330.       0.     330.       0.       0.     102.       0.      13.      11.  1876.00
      .32      .00     3.25      .00     .080     .050     .080     .000  1966.50  4971.25
   .005481     520.     480.     490.        5        0        0      .00    56.36  5027.61
0
 FLOW DISTRIBUTION FOR SECNO=       .81          CWSEL=   1869.84

 STA=    4971.    5070.
   PER Q=    100.0
    AREA=    101.7
     VEL=      3.2

 *SECNO  .858
      .86     1.89  1871.89      .00      .00  1872.44      .55     2.32      .12  1874.00
     205.       0.     205.       0.       0.      34.       0.      14.      11.  1874.00
      .33      .00     5.95      .00     .080     .050     .080     .000  1870.00  4990.57
   .028919     250.     260.     270.        3        0        0      .00    26.51  5017.07
0
 FLOW DISTRIBUTION FOR SECNO=       .86          CWSEL=   1871.89

 STA=    4991.    5025.
   PER Q=    100.0
    AREA=     34.4
     VEL=      6.0

 *SECNO  .932
      .93     2.41  1876.41      .00      .00  1876.51      .11     4.03      .04  1876.00
     205.       0.     205.       0.       1.      78.       0.      14.      11.  1878.00
      .38      .46     2.62      .00     .080     .050     .080     .000  1874.00  4956.93
   .005260     390.     390.     390.        5        0        0      .00    61.13  5018.07
0
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=       .93          CWSEL=   1876.41

 STA=    4957.    4960.    5030.
   PER Q=      .1     99.9
    AREA=      .6     78.1
     VEL=      .5      2.6

 *SECNO 1.012
     1.01     2.41  1880.41      .00      .00  1880.85      .44     4.24      .10  1884.00
     205.       0.     205.       0.       0.      38.       0.      15.      12.  1886.00
      .40      .00     5.34      .00     .080     .050     .080     .000  1878.00  4979.99
   .025668     425.     425.     425.        1        0        0      .00    32.01  5012.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1880.41

 STA=    4980.    5040.
   PER Q=    100.0
    AREA=     38.4
     VEL=      5.3

 *SECNO 1.031

 3470 ENCROACHMENT STATIONS=    4985.0    5010.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1886.00  ELENCR=   1886.00
```

```
     205.      0.     205.      0.      0.     64.      0.     15.     12.   1886.00
      .41     .00     3.23     .00    .080    .050    .080    .000  1878.00  4985.00
   .004026    100.    100.    100.      3       0       0     .00    25.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.03          CWSEL=   1881.54

 STA=    4985.    5050.
   PER Q=    100.0
    AREA=     63.6
     VEL=      3.2

 *SECNO 1.054
  WATER EL=X5 CARD=  1885.300

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      35.000
  ELENCL=   1886.00  ELENCR=   1886.00
1
  05/09/88    07:59:38                                                                                    PAGE   11


                 WATER SURFACE ELEVATION AT SECTION 1.054 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
     1.05     5.00  1885.30      .00      .00  1885.32      .02      .07      .01  1886.00
     205.      0.     205.      0.      0.     176.      0.     15.     12.   1886.00
      .43     .00     1.17     .00    .080    .050    .080    .000  1879.50  4990.00
   .000233    120.    120.    120.      0       0       0     .00    35.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.05          CWSEL=   1885.30

 STA=    4980.    5020.
   PER Q=    100.0
    AREA=    175.9
     VEL=      1.2

 *SECNO 1.070

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1890.00  ELENCR=   1890.00
     1.07     3.27  1885.27      .00      .00  1885.41      .14      .05      .04  1890.00
     205.      0.     205.      0.      0.      68.      0.     15.     12.   1890.00
      .44     .00     3.03     .00    .080    .050    .080    .000  1882.00  4993.94
   .003088     90.     90.     90.      3       0       0     .00    25.14  5019.08
0
 FLOW DISTRIBUTION FOR SECNO=      1.07          CWSEL=   1885.27

 STA=    4994.    5025.
   PER Q=    100.0
    AREA=     67.7
     VEL=      3.0

 *SECNO 1.078
  WATER EL=X5 CARD=  1890.000

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                 WATER SURFACE ELEVATION AT SECTION 1.078 IS BASED UPON
                 THE HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C20.
     1.08     6.00  1890.00      .00      .00  1890.10      .10      .06      .00  1892.00
     422.      0.     422.      0.      0.     165.      0.     15.     12.   1892.00
      .45     .00     2.56     .00    .080    .050    .080    .000  1884.00  4990.00
   .001067     40.     40.     40.      0       0       0     .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.08          CWSEL=   1890.00

 STA=    4990.    5020.
```

```
  PER Q=    100.0
   AREA=    165.0
    VEL=      2.6

1
 05/09/88    07:59:38                                                                                    PAGE   12

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 1.125
     1.13     2.47  1890.47      .00      .00  1890.60      .13      .49      .01  1892.00
     422.       0.     421.       1.       0.     143.       2.      16.      12.   1890.00
      .47      .00     2.94      .48     .080     .050     .080     .000  1888.00  4982.64
  .004684     210.     250.     290.        3        0        0      .00    91.80  5074.44
0
 FLOW DISTRIBUTION FOR SECNO=      1.13          CWSEL=   1890.47

 STA=    4983.    5065.    5074.
   PER Q=     99.7       .3
    AREA=    143.3      2.2
     VEL=      2.9       .5

 CCHV=    .300 CEHV=    .500
 *SECNO 1.193
     1.19     2.29  1892.79      .00      .00  1893.01      .22     2.37      .04  1892.00
     422.       2.     420.       0.       2.     112.       0.      17.      13.   1894.00
      .50     1.00     3.75      .00     .080     .050     .080     .000  1890.50  4953.99
  .009896     440.     360.     280.        2        0        0      .00    84.02  5038.01
0
 FLOW DISTRIBUTION FOR SECNO=      1.19          CWSEL=   1892.79

 STA=    4954.    4960.    5050.
   PER Q=       .6     99.4
    AREA=      2.4    111.8
     VEL=      1.0      3.8

 CCHV=    .100 CEHV=    .300
 *SECNO 1.277
     1.28     2.71  1896.71      .00      .00  1896.95      .25     3.94      .01  1900.00
     422.       0.     422.       0.       0.     106.       0.      19.      14.   1900.00
      .53      .00     3.97      .00     .080     .050     .080     .000  1894.00  4979.68
  .008125     440.     440.     440.        4        0        0      .00    58.38  5038.06
0
 FLOW DISTRIBUTION FOR SECNO=      1.28          CWSEL=   1896.71

 STA=    4980.    5060.
   PER Q=    100.0
    AREA=    106.2
     VEL=      4.0

1
 05/09/88    07:59:38                                                                                    PAGE   13

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 1.324
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```
      1.32     2.61  1898.61      .00      .00  1898.81      .19     1.85      .01  1904.00
      422.       0.     422.       0.       0.     119.       0.      19.      14.   1904.00
       .55      .00     3.54      .00     .080     .050     .080     .000  1896.00  4958.46
   .006762     250.     250.     250.        2        0        0      .00    67.98  5026.44
0
 FLOW DISTRIBUTION FOR SECNO=      1.32          CWSEL=   1898.61

 STA=    4958.    5050.
   PER Q=    100.0
    AREA=    119.2
     VEL=      3.5

 *SECNO 1.403
      1.40     1.69  1902.69      .00      .00  1902.96      .27     4.13      .02  1902.00
      422.       1.     419.       2.       1.     101.       2.      20.      15.   1902.00
       .58     1.12     4.16     1.13     .080     .050     .080     .000  1901.00  4962.00
   .015595     400.     420.     420.        4        0        0      .00    92.57  5054.57
0
 FLOW DISTRIBUTION FOR SECNO=      1.40          CWSEL=   1902.69

 STA=    4962.    4965.    5050.    5055.
   PER Q=       .3     99.3       .4
    AREA=      1.0    100.8      1.6
     VEL=      1.1      4.2      1.1

 *SECNO 1.492
      1.49     2.99  1906.99      .00      .00  1907.20      .21     4.24      .01  1906.00
      422.       2.     420.       0.       2.     114.       0.      21.      16.   1912.00
       .61      .87     3.70      .00     .080     .050     .080     .000  1904.00  4951.28
   .005870     510.     470.     410.        5        0        0      .00    58.07  5003.35
0
 FLOW DISTRIBUTION FOR SECNO=      1.49          CWSEL=   1906.99

 STA=    4951.    4955.    5025.
   PER Q=       .4     99.6
    AREA=      1.8    113.6
     VEL=       .9      3.7

1
 PROFILE FOR STREAM  CIRCLE CITY - WASH 3


 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


 ELEVATION  1830.     1840.     1850.     1860.     1870.     1880.     1890.     1900.     1910.     1920.
    SECNO   CUMDIS

      .00      0.  I WELM   .         .         .         .         .         .         .         .         .
              50.  I  E L   .         .         .         .         .         .         .         .         .
             100.  I  ERLM  .         .         .         .         .         .         .         .         .
             150.  CI WERL  .         .         .         .         .         .         .         .         .
             200.  CI  ERLM .         .         .         .         .         .         .         .         .
             250.  CI  E RL .         .         .         .         .         .         .         .         .
             300.  CI   E LM .        .         .         .         .         .         .         .         .
             350.  CI   E  L .        .         .         .         .         .         .         .         .
      .07    400.  C I  E  L .        .         .         .         .         .         .         .         .
             450.  C I  WE L .        .         .         .         .         .         .         .         .
             500.  C  I  EL  .        .         .         .         .         .         .         .         .
     1.01    550.  C  I  WE  .        .         .         .         .         .         .         .         .
             600.  C   I  EM .        .         .         .         .         .         .         .         .
             650.  C   I   E .        .         .         .         .         .         .         .         .
      .13    700.  C    I  WE.        .         .         .         .         .         .         .         .
             750.  C    I  LE.        .         .         .         .         .         .         .         .
```

```
     850.  C    I LWE        .         .         .         .         .         .         .         .         .
.17  900.  C     I LWE       .         .         .         .         .         .         .         .         .
     950.  C     I L E       .         .         .         .         .         .         .         .         .
    1000.  C      I .LE      .         .         .         .         .         .         .         .         .
    1050.  C      I .LWE     .         .         .         .         .         .         .         .         .
    1100.  C       I. LE     .         .         .         .         .         .         .         .         .
    1150.  C       I. LE     .         .         .         .         .         .         .         .         .
.22 1200.  C       I. LEM    .         .         .         .         .         .         .         .         .
    1250.  C        I RLE    .         .         .         .         .         .         .         .         .
    1300.  C        I  LE    .         .         .         .         .         .         .         .         .
    1350.  C        .I REM   .         .         .         .         .         .         .         .         .
    1400.  C        . I LE   .         .         .         .         .         .         .         .         .
    1450.  C        . I RE   .         .         .         .         .         .         .         .         .
    1500.  C        .  I WE  .         .         .         .         .         .         .         .         .
.29 1550.  C        .   IRE  .         .         .         .         .         .         .         .         .
    1600.  C        .   IRE  .         .         .         .         .         .         .         .         .
    1650.  C        .   I LE .         .         .         .         .         .         .         .         .
    1700.  C        .   I RE .         .         .         .         .         .         .         .         .
    1750.  C        .    IRWE .        .         .         .         .         .         .         .         .
    1800.  C        .    IRLE .        .         .         .         .         .         .         .         .
    1850.  C        .    I LEM.        .         .         .         .         .         .         .         .
    1900.  C        .     IL E.        .         .         .         .         .         .         .         .
    1950.  C        .     IRLEM        .         .         .         .         .         .         .         .
    2000.  C        .     I LWE        .         .         .         .         .         .         .         .
.38 2050.  C        .      IL EM       .         .         .         .         .         .         .         .
    2100.  C        .      ILREM       .         .         .         .         .         .         .         .
    2150.  C        .      I LWEM      .         .         .         .         .         .         .         .
    2200.  C        .      I LREM      .         .         .         .         .         .         .         .
    2250.  C        .       I LE M     .         .         .         .         .         .         .         .
    2300.  C        .       I LWEM     .         .         .         .         .         .         .         .
    2350.  C        .       I .LER     .         .         .         .         .         .         .         .
    2400.  C        .        I.LE R    .         .         .         .         .         .         .         .
    2450.  C        .        I. E R    .         .         .         .         .         .         .         .
    2500.  C        .        I. LE R   .         .         .         .         .         .         .         .
    2550.  C        .         I  E MR  .         .         .         .         .         .         .         .
    2600.  C        .         I  E M R .         .         .         .         .         .         .         .
    2650.  C        .         I  WE M R.         .         .         .         .         .         .         .
.50 2700.  C        .         .I  E M R.         .         .         .         .         .         .         .
    2750.  C        .         .I  E  MR.         .         .         .         .         .         .         .
    2800.  C        .         . I  E MR.         .         .         .         .         .         .         .
    2850.  C        .         . I  E  R.         .         .         .         .         .         .         .
    2900.  C        .         .  I LE R.         .         .         .         .         .         .         .
    2950.  C        .         .  I LE RM.        .         .         .         .         .         .         .
    3000.  C        .         .   I LERM.        .         .         .         .         .         .         .
.57 3050.  C        .         .    ILWE M        .         .         .         .         .         .         .
    3100.  C        .         .    I LE .M       .         .         .         .         .         .         .
    3150.  C        .         .     I ER. M      .         .         .         .         .         .         .
    3200.  C        .         .     I  EL M      .         .         .         .         .         .         .
    3250.  C        .         .      I ERL M     .         .         .         .         .         .         .
    3300.  C        .         .      I  E L M    .         .         .         .         .         .         .
    3350.  C        .         .       I E  L M   .         .         .         .         .         .         .
    3400.  C        .         .       I .E  L M  .         .         .         .         .         .         .
    3450.  C        .         .        I.E   L   .         .         .         .         .         .         .
    3500.  C        .         .        I. E   L  .         .         .         .         .         .         .
.67 3550.  C        .         .         I E    L .         .         .         .         .         .         .
    3600.  C        .         .         .I ER  L .         .         .         .         .         .         .
    3650.  C        .         .         .I E R  L.         .         .         .         .         .         .
    3700.  C        .         .         . I E  R L.        .         .         .         .         .         .
    3750.  C        .         .         . I E  R L         .         .         .         .         .         .
.72 3800.  C        .         .         .  I E   L         .         .         .         .         .         .
    3850.  C        .         .         .  I WE  LR        .         .         .         .         .         .
    3900.  C        .         .         .   I E  LR        .         .         .         .         .         .
    3950.  C        .         .         .   I WE .LR       .         .         .         .         .         .
    4000.  C        .         .         .   I  E .LMR      .         .         .         .         .         .
    4050.  C        .         .         .    I WE .LMR     .         .         .         .         .         .
    4100.  C        .         .         .    I  E .LMR     .         .         .         .         .         .
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```
      4150. C          .         .         .  I WE.L MR    .         .         .         .         .         .
      4200. C          .         .         .  I  E. LM R   .         .         .         .         .         .
      4250. C          .         .         .  I   E L M R  .         .         .         .         .         .
 .81  4300. C          .         .         .   I  E L M R  .         .         .         .         .         .
      4350. C          .         .         .   I  E L M R  .         .         .         .         .         .
      4400. C          .         .         .    I .E LMR   .         .         .         .         .         .
      4450. C          .         .         .    I.E L R    .         .         .         .         .         .
      4500. C          .         .         .    I.WE LM    .         .         .         .         .         .
 .86  4550. C          .         .         .     I E LM    .         .         .         .         .         .
      4600. C          .         .         .     .IWELRM   .         .         .         .         .         .
      4650. C          .         .         .     .I E LM   .         .         .         .         .         .
      4700. C          .         .         .     . I ELRM  .         .         .         .         .         .
      4750. C          .         .         .     . I WER M .         .         .         .         .         .
      4800. C          .         .         .     .  I E RM .         .         .         .         .         .
      4850. C          .         .         .     .  I WER M.         .         .         .         .         .
      4900. C          .         .         .     .   I E RM.         .         .         .         .         .
 .93  4950. C          .         .         .     .   I WER M         .         .         .         .         .
      5000. C          .         .         .     .   I  E RM         .         .         .         .         .
      5050. C          .         .         .     .    I WE RM        .         .         .         .         .
      5100. C          .         .         .     .    I  EL.R        .         .         .         .         .
      5150. C          .         .         .     .     I WEL R       .         .         .         .         .
      5200. C          .         .         .     .     I  E.LMR      .         .         .         .         .
      5250. C          .         .         .     .      I WE LMR     .         .         .         .         .
      5300. C          .         .         .     .      I  E  L R    .         .         .         .         .
 1.01 5350. C          .         .         .     .       I WE  L R   .         .         .         .         .
      5400. C          .         .         .     .       I .E  LR    .         .         .         .         .
 1.03 5450. C          .         .         .     .       I . E  L    .         .         .         .         .
      5500. C          .         .         .     .        I.  E  LM  .         .         .         .         .
      5550. C          .         .         .     .        I.    EL M .         .         .         .         .
 1.05 5600. C          .         .         .     .         I    EL M .         .         .         .         .
      5650. C          .         .         .     .         .I   E  LM.         .         .         .         .
 1.07 5700. C          .         .         .     .         . I  E   L          .         .         .         .
 1.08 5750. C          .         .         .     .          .  I    E L        .         .         .         .
      5800. C          .         .         .     .          .   I   E L        .         .         .         .
      5850. C          .         .         .     .          .    I  ERL        .         .         .         .
      5900. C          .         .         .     .          .    I  ERL        .         .         .         .
 1.13 5950. C          .         .         .     .          .      I WEL       .         .         .         .
      6000. C          .         .         .     .          .      I .EL       .         .         .         .
      6050. C          .         .         .     .          .       I.ELM      .         .         .         .
      6100. C          .         .         .     .          .       I.WEM      .         .         .         .
      6150. C          .         .         .     .          .       I. E M     .         .         .         .
      6200. C          .         .         .     .          .        I ERM     .         .         .         .
      6250. C          .         .         .     .          .        I WE M    .         .         .         .
      6300. C          .         .         .     .          .        I LERM    .         .         .         .
 1.19 6350. C          .         .         .     .          .        .ILERM    .         .         .         .
      6400. C          .         .         .     .          .        .I E RM   .         .         .         .
      6450. C          .         .         .     .          .        .I  ERM   .         .         .         .
      6500. C          .         .         .     .          .        . I ELRM  .         .         .         .
      6550. C          .         .         .     .          .        . I  ELR  .         .         .         .
      6600. C          .         .         .     .          .        . I  E LM .         .         .         .
      6650. C          .         .         .     .          .        .  I WELR .         .         .         .
      6700. C          .         .         .     .          .        .  I  E LR.         .         .         .
 1.28 6750. C          .         .         .     .          .        .   I  E  L         .         .         .
      6800. C          .         .         .     .          .        .   I  E  .L        .         .         .
      6850. C          .         .         .     .          .        .    I WE . L       .         .         .
      6900. C          .         .         .     .          .        .    I  E . L       .         .         .
      6950. C          .         .         .     .          .        .     I E .  L      .         .         .
 1.32 7000. C          .         .         .     .          .        .     I  E.   L     .         .         .
      7050. C          .         .         .     .          .        .      I E.   L     .         .         .
      7100. C          .         .         .     .          .        .      I  E   LM    .         .         .
      7150. C          .         .         .     .          .        .       I E  L M    .         .         .
      7200. C          .         .         .     .          .        .       I .E L  M   .         .         .
      7250. C          .         .         .     .          .        .        I.E L  M   .         .         .
      7300. C          .         .         .     .          .        .         I EL   M  .         .         .
      7350. C          .         .         .     .          .        .         I E    M  .         .         .
      7400. C          .         .         .     .          .        .          IWE    M
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     1.40  7450.  C        .        .        .        .        .        .        .ILE    M .        .        .
           7500.  C        .        .        .        .        .        .        .ILE     M.        .        .
           7550.  C        .        .        .        .        .        .        . ILE    M.        .        .
           7600.  C        .        .        .        .        .        .        . ILER    M        .        .
           7650.  C        .        .        .        .        .        .        . I LER   .M        .        .
           7700.  C        .        .        .        .        .        .        .  ILE R  .M        .        .
           7750.  C        .        .        .        .        .        .        .  I WE R . M       .        .
           7800.  C        .        .        .        .        .        .        .  I LE  R. M       .        .
           7850.  C        .        .        .        .        .        .        .   ILWE  .R M      .        .
     1.49  7900.  C        .        .        .        .        .        .        .   I LE  . R M     .        .
1
 05/09/88    07:59:38                                                                                    PAGE   14
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                                                                                THIS RUN EXECUTED 05/09/88   08:00:29
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN ADMS
 T2      100 YEAR STORM EVENT - ENCROACHED
 T3      CIRCLE CITY - WASH 3

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        3.        0.        0.   .000000      .00       .0        0.  1832.370     .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      2.000     .000    -1.000     .000     .000     .000     .000     .000     .000    15.000

1
 05/09/88    07:59:38                                                                                    PAGE   15


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 *PROF 2

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
  2000 NAT Q1=     53.86  WSEL=   1832.37  ENC Q1=    115.35  WSEL=   1833.37  RATIO= -1.1416
  NAT Q1=    116.  RATIOS LOB,CH,ROB=   .0000   .9912   .0088  WSEL=   1833.37

 3470 ENCROACHMENT STATIONS=    4990.0    5070.0  TYPE=     4  TARGET=        .009
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
      .00     2.37  1832.37      .00  1832.37  1832.65      .28      .00      .00  1834.00
     545.       0.     545.       0.       0.     128.       0.       0.       0.  1832.00
      .00      .00     4.26      .00     .080     .050     .080     .000  1830.00  4994.08
   .010407       0.       0.       0.       0        0        0      .00    75.93  5070.00
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1832.37
```

```
  PER Q=    100.0
   AREA=    127.9
    VEL=      4.3

 *SECNO  .068
  2000 NAT Q1=     74.62  WSEL=   1835.05  ENC Q1=    130.53  WSEL=   1836.05  RATIO=  -.7493
  NAT Q1=    131.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1836.05

 3470 ENCROACHMENT STATIONS=    4955.0    5065.0  TYPE=     4  TARGET=        .000
      .07     3.56  1835.06      .00  1835.05  1835.26      .21     2.60      .01  1838.00
     545.       0.     545.       0.       0.     150.       0.       1.       1.   1838.00
      .03      .00     3.64      .00     .000     .050     .000     .000  1831.50  4974.75
   .005310     360.     360.     360.        3        0        0      .00    68.12  5042.87
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1835.06

 STA=    4975.    5065.
  PER Q=    100.0
   AREA=    149.6
    VEL=      3.6

 *SECNO  .125
1
  05/09/98    07:59:38                                                                          PAGE   16


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


  2000 NAT Q1=     51.38  WSEL=   1838.46  ENC Q1=     93.89  WSEL=   1839.46  RATIO=  -.8275
  NAT Q1=    112.  RATIOS LOB,CH,ROB=   .0460   .8415   .1126  WSEL=   1839.46

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4975.0    5020.0  TYPE=     4  TARGET=        .159
      .13     3.34  1837.84  1837.84  1838.46  1838.71      .86     3.20      .20  1838.00
     545.       0.     545.       0.       0.      73.       0.       2.       1.   1838.00
      .04      .00     7.45      .00     .000     .050     .000     .000  1834.50  4976.17
   .031509     300.     300.     310.       10       11        0      .00    43.05  5019.22
0
 FLOW DISTRIBUTION FOR SECNO=       .13          CWSEL=   1837.84

 STA=    4976.    5020.
  PER Q=    100.0
   AREA=     73.1
    VEL=      7.5

 *SECNO  .170
  2000 NAT Q1=     50.83  WSEL=   1841.14  ENC Q1=     75.88  WSEL=   1842.14  RATIO=  -.4929
  NAT Q1=    110.  RATIOS LOB,CH,ROB=   .2412   .6871   .0717  WSEL=   1842.14
 3200 CROSS SECTION       .17 EXTENDED       .29 FEET

 3470 ENCROACHMENT STATIONS=    4985.0    5015.0  TYPE=     4  TARGET=        .313
      .17     4.79  1841.79      .00  1841.14  1842.26      .47     3.51      .04  1840.00
     545.       0.     545.       0.       0.      99.       0.       2.       1.   1840.00
      .05      .00     5.53      .00     .000     .050     .000     .000  1837.00  4985.00
   .008428     250.     240.     210.        2        0        0      .00    30.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .17          CWSEL=   1841.79
```

```
STA=    4985.    5015.
  PER Q=    100.0
   AREA=     38.6
    VEL=      5.5
```



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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .220
 2800 NAT Q1=     82.31  WSEL=   1843.19  ENC Q1=    114.34  WSEL=   1844.19  RATIO=  -.3831
 NAT Q1=    198.  RATIOS LOB,CH,ROB=   .3790   .5772   .0438  WSEL=   1844.19
3280 CROSS SECTION       .22 EXTENDED       .10 FEET


3470 ENCROACHMENT STATIONS=    4980.0    5025.0  TYPE=     4  TARGET=        .423
      .22     4.60  1843.60      .00  1843.19  1843.95      .25     1.56      .02  1842.00
     545.       0.     545.       0.       0.     137.       0.       3.       1.   1842.00
      .07      .00     3.98      .00     .080     .050     .080     .000  1839.00  4980.00
  .004510     200.     260.     320.        2        0        0      .00    45.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .22          CWSEL=   1843.60

 STA=    4980.    5025.
   PER Q=    100.0
    AREA=    136.9
     VEL=      4.0

 *SECNO  .288

 3470 ENCROACHMENT STATIONS=    4950.0    5040.0  TYPE=     1  TARGET=      90.000
      .29     2.46  1845.96      .00  1845.75  1846.20      .24     2.35      .00100000.00
     545.       0.     545.       0.       0.     137.       0.       4.       2. 100000.00
      .09      .00     3.97      .00     .080     .050     .080     .000  1843.50  4950.00
  .010318     390.     360.     290.        2        0        0      .00    90.00  5040.00
0
 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1845.96

 STA=    4950.    5040.
   PER Q=    100.0
    AREA=    137.4
     VEL=      4.0

 *SECNO  .384
 2800 NAT Q1=     77.94  WSEL=   1849.79  ENC Q1=    121.83  WSEL=   1850.79  RATIO=  -.5631
 NAT Q1=    154.  RATIOS LOB,CH,ROB=   .1407   .7906   .0687  WSEL=   1850.79

3470 ENCROACHMENT STATIONS=    4970.0    5020.0  TYPE=     4  TARGET=        .209
      .38     3.37  1849.87      .00  1849.79  1850.14      .27     3.93      .01  1848.00
     545.       0.     545.       0.       0.     131.       0.       6.       3.   1848.00
      .13      .00     4.16      .00     .080     .050     .080     .000  1846.50  4970.00
  .005977     510.     510.     510.        4        0        0      .00    50.00  5020.00
0
1
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```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
```

```
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1849.87

 STA=    4970.    5020.
   PER Q=    100.0
    AREA=    131.1
     VEL=      4.2

 *SECNO  .504
  2900 NAT Q1=     61.83  WSEL=   1853.61  ENC Q1=    127.34  WSEL=   1854.61  RATIO= -1.0594
  NAT Q1=    127.  RATIOS LOB,CH,ROB=   .0012   .9988   .0000  WSEL=   1854.61

 3470 ENCROACHMENT STATIONS=    4950.0    5060.0  TYPE=     4  TARGET=        .001
      .50     3.26  1853.76      .00  1853.61  1853.95      .19     3.80      .01  1854.00
     545.       0.     545.       0.       0.     157.       0.       8.       4.   1858.00
      .18      .00     3.48      .00     .000     .050     .000     .000  1850.50  4953.54
   .006101     620.     630.     640.        4        0        0      .00    85.28  5038.82
0
 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1853.76

 STA=    4954.    5060.
   PER Q=    100.0
    AREA=    156.8
     VEL=      3.5

 *SECNO  .574
  2800 NAT Q1=     25.59  WSEL=   1857.26  ENC Q1=     53.94  WSEL=   1858.26  RATIO= -1.3426
  NAT Q1=     68.  RATIOS LOB,CH,ROB=   .1208   .8791   .0001  WSEL=   1858.26

 3470 ENCROACHMENT STATIONS=    4985.0    5055.0  TYPE=     4  TARGET=        .121
      .57     2.60  1857.10  1856.97  1857.26  1857.57      .47     3.53      .08  1856.00
     330.       0.     330.       0.       0.      60.       0.       9.       4.   1858.00
      .20      .00     5.50      .00     .000     .050     .000     .000  1854.50  4985.00
   .027701     380.     370.     360.       13       19        0      .00    49.80  5034.80
0
 FLOW DISTRIBUTION FOR SECNO=       .57          CWSEL=   1857.10

 STA=    4985.    5055.
   PER Q=    100.0
    AREA=     60.0
     VEL=      5.5

1
 05/09/88    07:59:38                                                                    PAGE   19


   SECNO    DEPTH    CWSEL    CRTWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .669
  2800 NAT Q1=     42.86  WSEL=   1862.11  ENC Q1=    107.55  WSEL=   1863.11  RATIO= -1.5094
  NAT Q1=    108.  RATIOS LOB,CH,ROB=   .0000   .9923   .0077  WSEL=   1863.11

 3470 ENCROACHMENT STATIONS=    4950.0    5075.0  TYPE=     4  TARGET=        .008
      .67     2.21  1862.21      .00  1862.11  1862.31      .10     4.71      .04  1868.00
     330.       0.     330.       0.       0.     129.       0.      10.       5.   1862.00
      .25      .00     2.55      .00     .000     .050     .000     .000  1860.00  4983.77
   .004693     500.     500.     500.        5        0        0      .00    91.23  5075.00
0
 FLOW DISTRIBUTION FOR SECNO=       .67          CWSEL=   1862.21
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 STA=    4984.    5075.
   PER Q=    100.0
    AREA=    129.2
     VEL=      2.6

 490 NH CARD USED
 *SECNO  .718
  2800 NAT Q1=     20.62  WSEL=   1864.85  ENC Q1=     77.63  WSEL=   1865.85  RATIO= -2.7654
  NAT Q1=     78.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1865.85

 3265 DIVIDED FLOW

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4840.0    5070.0  TYPE=     4  TARGET=        .000
      .72     1.72  1864.72  1864.72  1864.85  1865.05      .33     2.70      .07  1870.00
     330.       0.     330.       0.       0.      72.       0.      10.       6.   1870.00
      .27      .00     4.60      .00     .080     .047     .080     .000  1863.00  4889.13
   .039257     260.     260.     270.       20       19        0      .00   114.71  5025.97
0
 FLOW DISTRIBUTION FOR SECNO=       .72          CWSEL=   1864.72

 STA=    4889.    5070.
   PER Q=    100.0
    AREA=     71.7
     VEL=      4.6

1
 05/09/88    07:59:38                                                                    PAGE   20

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .809
  2800 NAT Q1=     44.57  WSEL=   1869.84  ENC Q1=     86.09  WSEL=   1870.84  RATIO=  -.9313
  NAT Q1=     86.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1870.84

 3470 ENCROACHMENT STATIONS=    4955.0    5070.0  TYPE=     4  TARGET=        .000
      .81     3.43  1869.93      .00  1869.84  1870.08      .15     5.01      .02  1872.00
     330.       0.     330.       0.       0.     107.       0.      11.       7.   1876.00
      .31      .00     3.08      .00     .000     .050     .000     .000  1866.50  4970.51
   .004735     520.     480.     490.        7        0        0      .00    57.78  5028.29
0
 FLOW DISTRIBUTION FOR SECNO=       .81          CWSEL=   1869.93

 STA=    4971.    5070.
   PER Q=    100.0
    AREA=    107.3
     VEL=      3.1

 *SECNO  .858
  2800 NAT Q1=     12.05  WSEL=   1871.89  ENC Q1=     29.89  WSEL=   1872.89  RATIO= -1.3969
  NAT Q1=     29.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1872.89
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4980.0    5025.0  TYPE=     4  TARGET=        .000
      .86     1.80  1871.80  1871.80  1871.89  1872.43      .64     2.15      .15  1874.00
     205.       0.     205.       0.       0.      32.       0.      12.       7.   1874.00
      .72      .00     6.40      .00     .000     .050     .000     .000  1870.00  4921.02
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   .035267     250.     260.     270.        4       11        0      .00    25.71  5016.73
0
 FLOW DISTRIBUTION FOR SECNO=       .86          CWSEL=   1871.90

 STA=    4991.    5025.
   PER Q=    100.0
   AREA=      32.0
    VEL=       6.4

 *SECNO  .932
  2900 NAT Q1=     28.27  WSEL=   1876.41  ENC Q1=     68.60  WSEL=   1877.41  RATIO= -1.4268
  NAT Q1=     70.  RATIOS LOB,CH,ROB=   .0155   .9845   .0000  WSEL=   1877.41
1
  05/09/88    07:59:38                                                                          PAGE   21


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4960.0    5030.0  TYPE=     4  TARGET=        .016
      .93      2.44  1876.44      .00  1876.41  1876.54      .10     4.06      .05  1876.00
     205.        0.     205.       0.       0.      90.       0.      12.       7.   1878.00
      .36       .00     2.55      .00     .080     .050     .080     .000  1874.00  4960.00
   .004899     390.     390.     390.        3        0        0      .00    58.34  5018.34

 FLOW DISTRIBUTION FOR SECNO=       .93          CWSEL=   1876.44

 STA=    4960.    5030.
   PER Q=    100.0
   AREA=      80.3
    VEL=       2.6

 *SECNO 1.012
  2900 NAT Q1=     12.00  WSEL=   1880.41  ENC Q1=     32.58  WSEL=   1881.41  RATIO= -1.5461
  NAT Q1=     33.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1881.41
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL

 3470 ENCROACHMENT STATIONS=    4950.0    5040.0  TYPE=     4  TARGET=        .000
     1.01      2.35  1880.35  1880.25  1880.41  1880.83      .48     4.18      .11  1884.00
     205.        0.     205.       0.       0.      37.       0.      13.       8.   1886.00
      .39       .00     5.58      .00     .080     .050     .080     .000  1878.00  4980.43
   .028857     425.     425.     425.       21       11        0      .00    31.31  5011.74
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1880.35

 STA=    4980.    5040.
   PER Q=    100.0
   AREA=      36.8
    VEL=       5.6

 SECNO 1.031

 3470 ENCROACHMENT STATIONS=    4985.0    5010.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1886.00  ELENCR=   1886.00
     1.03      3.55  1881.55      .00  1881.54  1881.71      .16      .85      .03  1885.00
     205.        0.     205.       0.       0.      64.       0.      13.       8.   1886.00
      .39       .00     3.21      .00     .080     .050     .080     .000  1878.00  4985.00
   .003984     100.     100.     100.        3        0        0      .00    25.00  5010.00
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```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.03          CWSEL=   1881.55

 STA=    4985.    5050.
   PER Q=    100.0
    AREA=     63.8
     VEL=      3.2

 *SECNO 1.054
  WATER EL=XS CARD=  1885.300

 3470 ENCROACHMENT STATIONS=    4980.0    5015.0  TYPE=     1  TARGET=      35.000
  ELENCL=   1886.00  ELENCR=   1886.00
                 WATER SURFACE ELEVATION AT SECTION 1.054 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
     1.05     5.00  1885.30      .00  1885.30  1885.32      .02      .07      .01  1886.00
     205.       0.     205.       0.       0.     176.       0.      13.       8.   1886.00
      .42      .00     1.17      .00     .080     .050     .080     .000  1879.50  4980.00
  .000233     120.     120.     120.        0        0        0      .00    35.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.05          CWSEL=   1885.30

 STA=    4980.    5020.
   PER Q=    100.0
    AREA=    175.9
     VEL=      1.2

 *SECNO 1.070

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1890.00  ELENCR=   1890.00
     1.07     3.27  1885.27      .00  1885.27  1885.41      .14      .05      .04  1890.00
     205.       0.     205.       0.       0.      68.       0.      14.       8.   1890.00
      .43      .00     3.03      .00     .080     .050     .080     .000  1882.00  4993.94
  .003088      90.      90.      90.        2        0        0      .00    25.14  5019.08
0
 FLOW DISTRIBUTION FOR SECNO=      1.07          CWSEL=   1885.27

 STA=    4994.    5025.
   PER Q=    100.0
    AREA=     67.7
     VEL=      3.0
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 1.070
  WATER EL=XS CARD=  1890.000
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```
 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                 WATER SURFACE ELEVATION AT SECTION 1.078 IS BASED UPON
                 THE HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C20.
      1.08     6.00  1890.00      .00  1890.00  1890.10      .10      .06      .00  1892.00
     422.       0.     422.       0.       0.     165.       0.      14.       8.   1892.00
      .44      .00     2.56      .00     .080     .050     .090     .000  1884.00  4990.00
   .001067     40.      40.      40.       0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.08          CWSEL=   1890.00

 STA=    4990.    5030.
   PER Q=    100.0
    AREA=    165.0
     VEL=      2.6

 *SECNO 1.125
  2800 NAT Q1=     61.66  WSEL=   1890.47  ENC Q1=    127.87  WSEL=   1891.47  RATIO= -1.0737
  NAT Q1=    131.  RATIOS LOB,CH,ROB=   .0000   .9752   .0248  WSEL=   1891.47

 3470 ENCROACHMENT STATIONS=    4975.0    5065.0  TYPE=     4  TARGET=        .025
      1.13     2.47  1890.47      .00  1890.47  1890.60      .14      .49      .01  1892.00
     422.       0.     422.       0.       0.     143.       0.      15.       9.   1890.00
      .46      .00     2.95      .00     .080     .050     .080     .000  1888.00  4982.66
   .004769    210.     250.     290.       2        0        0      .00    82.35  5065.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.13          CWSEL=   1890.47

 STA=    4983.    5065.
   PER Q=    100.0
    AREA=    143.1
     VEL=      2.9

 CCHV=    .300 CEHV=    .500
 *SECNO 1.193
  2900 NAT Q1=     42.42  WSEL=   1892.79  ENC Q1=     97.63  WSEL=   1893.79  RATIO= -1.3014
  NAT Q1=    100.  RATIOS LOB,CH,ROB=   .0207   .9793   .0000  WSEL=   1893.79
1
 05/09/88    07:59:38                                                                    PAGE   24


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST



 3470 ENCROACHMENT STATIONS=    4960.0    5050.0  TYPE=     4  TARGET=        .021
      1.19     2.32  1892.82      .00  1892.79  1893.04      .22     2.39      .04  1892.00
     422.       0.     422.       0.       0.     113.       0.      16.       9.   1894.00
      .49      .00     3.75      .00     .080     .050     .080     .000  1890.50  4960.00
   .003898    440.     360.     280.       4        0        0      .00    78.13  5038.13
0
 FLOW DISTRIBUTION FOR SECNO=      1.19          CWSEL=   1892.82

 STA=    4960.    5050.
   PER Q=    100.0
    AREA=    112.7
     VEL=      3.7

 CCHV=    .100 CEHV=    .300
 *SECNO 1.277
  2800 NAT Q1=     46.82  WSEL=   1896.71  ENC Q1=     90.12  WSEL=   1897.71  RATIO=  -.9249
  NAT Q1=     90.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1897.71
```

```
 3470 ENCROACHMENT STATIONS=    4955.0    5060.0  TYPE=     4  TARGET=        .000
      1.28     2.72  1896.72      .00  1896.71  1896.96      .24     3.92      .01  1900.00
      422.       0.     422.       0.       0.     107.       0.      17.      10.   1900.00
       .52      .00     3.96      .00     .080     .050     .080     .000  1894.00  4979.63
   .000043     440.     440.     440.        4        0        0      .00    58.49  5039.11
0
 FLOW DISTRIBUTION FOR SECNO=      1.28          CWSEL=   1896.72

 STA=    4980.    5060.
   PER Q=    100.0
    AREA=    106.6
     VEL=      4.0

 *SECNO 1.324
  2800 NAT Q1=     51.32  WSEL=   1899.61  ENC Q1=    104.90  WSEL=   1899.61  RATIO= -1.0442
  NAT Q1=    105.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1899.61

 3470 ENCROACHMENT STATIONS=    4930.0    5050.0  TYPE=     4  TARGET=        .000
      1.32     2.62  1898.62      .00  1898.61  1898.81      .20     1.85      .00  1904.00
      422.       0.     422.       0.       0.     119.       0.      17.      10.   1904.00
       .54      .00     3.55      .00     .080     .050     .080     .000  1896.00  4958.48
   .006824     250.     250.     250.        3        0        0      .00    67.94  5026.42
0
1
 05/09/88    07:59:38                                                                    PAGE   25


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.32          CWSEL=   1898.62

 STA=    4958.    5050.
   PER Q=    100.0
    AREA=    118.9
     VEL=      3.5

 *SECNO 1.403
  2800 NAT Q1=     33.79  WSEL=   1902.69  ENC Q1=     93.50  WSEL=   1903.69  RATIO= -1.7670
  NAT Q1=     96.  RATIOS LOB,CH,ROB=   .0107   .9729   .0164  WSEL=   1903.69

 3470 ENCROACHMENT STATIONS=    4965.0    5050.0  TYPE=     4  TARGET=        .027
      1.40     1.71  1902.71      .00  1902.69  1902.97      .27     4.14      .02  1902.00
      422.       0.     422.       0.       0.     102.       0.      19.      11.   1902.00
       .56      .00     4.13      .00     .080     .050     .080     .000  1901.00  4965.00
   .015466     400.     420.     420.        3        0        0      .00    85.00  5050.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.40          CWSEL=   1902.71

 STA=    4965.    5050.
   PER Q=    100.0
    AREA=    102.1
     VEL=      4.1

 SECNO 1.492
  2800 NAT Q1=     55.08  WSEL=   1906.99  ENC Q1=    102.84  WSEL=   1907.99  RATIO=  -.8671
  NAT Q1=    104.  RATIOS LOB,CH,ROB=   .0129   .9871   .0000  WSEL=   1907.99

 3470 ENCROACHMENT STATIONS=    4955.0    5025.0  TYPE=     4  TARGET=        .013
      1.49     3.01  1907.01      .00  1906.99  1907.22      .21     4.24      .01  1906.00
      422.       0.     422.       0.       0.     115.       0.      20.      12.   1912.00
       .60      .00     3.68      .00     .080     .050     .080     .000  1904.00  4955.00
   .005007     610.     670.     610.        4        0        0      .00    56.61  5009.61
```

```
0
 FLOW DISTRIBUTION FOR SECNO=      1.49          CWSEL=   1907.01

 STA=    4955.    5025.
   PER Q=    100.0
   AREA=    114.6
    VEL=      3.7

1
  05/09/88    07:59:38                                                                                    PAGE   26


                                                                                  THIS RUN EXECUTED 05/09/88   08:01:01
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN ADMS
 T2      50 YEAR STORM EVENT
 T3      CIRCLE CITY - WASH 3

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVING     Q         WSEL      FQ

       0.        4.        0.        0.   .010400      .00       .5        0.   1830.000     .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IBW       CHNIM     ITRACE

      3.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
  05/09/88    07:59:38                                                                                    PAGE   27


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        DLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 *PROF 3

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
                 THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                 THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
      .00     2.27  1832.27      .00  1830.00  1832.52      .26      .00      .00  1834.00
     490.       0.     490.       0.       0.     120.       0.       0.       0.  1832.00
      .00      .00     4.08      .49     .090     .050     .090     .000  1830.00  4934.34
  .010295       0.       0.       0.       0        0        5      .00    77.65  5071.99
0
 FLOW DISTRIBUTION FOR SECNO=      .00          CWSEL=   1832.27

 STA=    4934.    5070.    5072.
   PER Q=    100.0      .0
   AREA=    120.0      .3
    VEL=      4.1      .5

 *SECNO  .068
```

```
     490.      0.     490.      0.      0.     139.      0.      1.      1.   1838.00
      .03     .00     3.51     .00    .000    .050    .000    .000  1831.50  4975.51
   .005230    360.    360.    360.       1       0       0     .00    66.22  5041.73
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1834.91

 STA=    4976.    5065.
   PER Q=    100.0
    AREA=    139.4
     VEL=      3.5

 *SECNO  .125

 1645 INT SEC ADDED BY RAISING SEC       .13,  -1.500FT AND MULTIPLYING BY   1.419

     1.01     3.07  1836.07     .00     .00  1836.55     .48     1.37     .09  1836.50
     490.      0.     490.      0.      0.      88.      0.      1.      1.   1836.50
      .04     .00     5.58     .00    .000    .050    .000    .000  1833.00  4992.14
   .013652    150.    150.    155.       2       0       0     .00    56.26  5048.40
0
1
 05/09/88    07:59:38                                                                PAGE   28


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORBR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1836.07

 STA=    4992.    5051.
   PER Q=    100.0
    AREA=     87.8
     VEL=      5.6


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.500FT AND MULTIPLYING BY    .705

      .13     3.84  1838.34     .00     .00  1838.74     .40     2.18     .01  1838.00
     490.      1.     486.      3.      2.      95.      5.      2.      1.   1838.00
      .04     .59     5.13     .59    .000    .050    .000    .000  1834.50  4965.15
   .011204    150.    150.    155.       3       0       0     .00    87.67  5052.82
0
 FLOW DISTRIBUTION FOR SECNO=       .13          CWSEL=   1838.34

 STA=    4965.    4975.    5020.    5053.
   PER Q=      .2     99.2      .6
    AREA=     1.6     94.8     5.4
     VEL=      .6      5.1      .6

 *SECNO  .170
      .17     4.01  1841.01     .00     .00  1841.49     .48     2.73     .02  1840.00
     490.      38.     441.     11.     30.      76.      9.      2.      2.   1840.00
      .06     1.27     5.83    1.27    .000    .050    .000    .000  1837.00  4926.40
   .011542    250.    240.    210.       2       0       0     .00   105.59  5031.99

 FLOW DISTRIBUTION FOR SECNO=       .17          CWSEL=   1841.01

 STA=    4926.    4985.    5015.    5032.
   PER Q=      7.8     90.0      2.2
    AREA=     29.9     75.6      8.7
     VEL=      1.3      5.8      1.3
```

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      .22     4.07  1843.07      .00      .00  1843.25      .19     1.72      .03  1842.00
     490.      69.     413.       8.      84.     113.      10.       3.       2.  1842.00
      .09      .82     3.65      .82     .090     .050     .080     .000  1839.00  4822.72
   .004447     200.     260.     320.        2        0        0      .00   221.05  5043.77
0
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      .22          CWSEL=   1843.07

 STA=    4823.    4980.    5025.    5044.
   PER Q=     14.1     84.3      1.7
    AREA=     84.3    113.3     10.1
     VEL=       .8      3.6       .8

 *SECNO  .288
      .29     2.16  1845.66      .00      .00  1845.92      .23     2.65      .02  1846.00
     490.       0.     459.      31.       0.     111.      29.       5.       4.  1845.00
      .10      .00     4.15     1.07     .090     .050     .080     .000  1843.50  4951.69
   .014480     390.     360.     290.        3        0        0      .00   174.79  5126.49
0
 FLOW DISTRIBUTION FOR SECNO=      .29          CWSEL=   1845.66

 STA=    4952.    5040.    5126.
   PER Q=     93.7      6.3
    AREA=    110.6     28.8
     VEL=      4.2      1.1

 *SECNO  .384
      .38     3.16  1849.66      .00      .00  1849.85      .19     3.93      .01  1848.00
     490.      31.     443.      15.      27.     120.      14.       6.       6.  1848.00
      .14     1.13     3.69     1.13     .080     .050     .080     .000  1846.50  4936.87
   .004779     510.     510.     510.        3        0        0      .00    99.70  5036.57
0
 FLOW DISTRIBUTION FOR SECNO=      .38          CWSEL=   1849.66

 STA=    4937.    4970.    5020.    5037.
   PER Q=      6.3     90.5      3.2
    AREA=     27.4    120.3     13.7
     VEL=      1.1      3.7      1.1

 *SECNO  .504
      .50     2.96  1853.46      .00      .00  1853.68      .21     3.92      .01  1854.00
     490.       0.     490.       0.       0.     132.       0.       9.       7.  1858.00
      .19      .00     3.71      .00     .080     .050     .080     .000  1850.50  4958.85
   .007927     620.     630.     640.        3        0        0      .00    79.27  5037.32
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      .50          CWSEL=   1853.46
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```
 STA=    4950.    5060.
   PER Q=    100.0
    AREA=    132.1
     VEL=      3.7

 *SECNO  .574
      .57     2.64  1857.14      .00      .00  1857.42      .28     3.73      .02  1856.00
     286.      16.     270.       0.      10.      62.       0.       9.       8.   1858.00
      .22     1.64     4.34      .00     .080     .050     .090     .000  1854.50  4967.82
  .016400     380.     370.     360.        2        0        0      .00    67.94  5035.77
0
 FLOW DISTRIBUTION FOR SECNO=       .57          CWSEL=   1857.14

 STA=    4968.    4985.    5055.
   PER Q=      5.6     94.4
    AREA=      9.8     62.1
     VEL=      1.6      4.3

 *SECNO  .669
      .67     1.99  1861.99      .00      .00  1862.10      .11     4.66      .02  1860.00
     286.       0.     286.       0.       0.     109.       0.      11.       8.   1862.00
      .27      .00     2.62      .00     .090     .050     .080     .000  1860.00  4985.02
  .006000     500.     500.     500.        4        0        0      .00    89.71  5074.73
0
 FLOW DISTRIBUTION FOR SECNO=       .67          CWSEL=   1861.99

 STA=    4985.    5075.
   PER Q=    100.0
    AREA=    109.3
     VEL=      2.6

 1490 NH CARD USED
 *SECNO  .718

 3265 DIVIDED FLOW

      .72     1.77  1864.77      .00      .00  1864.99      .22     2.85      .03  1870.00
     286.       0.     286.       0.       0.      76.       0.      11.       9.   1870.00
      .29      .00     3.79      .00     .090     .047     .090     .000  1863.00  4998.62
  .026174     260.     260.     270.        2        0        0      .00   118.45  5026.38
0
1
 05/09/98    07:59:38                                                                PAGE   31


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .72          CWSEL=   1864.77

 STA=    4989.    5070.
   PER Q=    100.0
    AREA=     75.7
     VEL=      3.8

 *SECNO  .809
      .81     3.17  1869.67      .00      .00  1869.82      .15     4.83      .01  1872.00
     286.       0.     286.       0.       0.      93.       0.      12.      10.   1876.00
      .33      .00     3.08      .00     .080     .050     .080     .000  1866.50  4972.45
  .005200     520.     480.     490.        5        0        0      .00    54.05  5026.50
0
 FLOW DISTRIBUTION FOR SECNO=       .81          CWSEL=   1869.67
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 STA=    4972.    5070.
   PER Q=    100.0
    AREA=     92.8
     VEL=      3.1

 *SECNO  .858
      .86     1.79  1871.79  1871.78      .00  1872.40      .61     2.44      .14  1874.00
     201.       0.     201.       0.       0.      32.       0.      12.      10.   1874.00
      .34      .00     6.29      .00     .080     .050     .080     .000  1870.00  4991.04
   .034107     250.     260.     270.        6       11        0      .00    25.68  5016.72
0
 FLOW DISTRIBUTION FOR SECNO=       .86          CWSEL=   1871.79

 STA=    4991.    5025.
   PER Q=    100.0
    AREA=     32.0
     VEL=      6.3

 *SECNO  .932

 1645 INT SEC ADDED BY RAISING SEC       .93,  -2.000FT AND MULTIPLYING BY    .863

     1.01     2.51  1874.51      .00      .00  1874.62      .12     2.17      .05  1874.00
     201.       0.     201.       0.       1.      72.       0.      13.      10.   1876.00
      .36      .55     2.77      .00     .080     .050     .080     .000  1872.00  4953.28
   .005454     195.     195.     195.        4        0        0      .00    54.01  5007.29
0
1
 05/09/88    07:59:38                                                                    PAGE   32


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1874.51

 STA=    4953.    4957.    5017.
   PER Q=       .2     99.8
    AREA=       .8     72.3
     VEL=       .5      2.8


 1645 INT SEC ADDED BY RAISING SEC      1.01,   2.000FT AND MULTIPLYING BY   1.159

      .93     2.04  1876.04      .00      .00  1876.23      .19     1.59      .02  1876.00
     201.       0.     201.       0.       0.      57.       0.      13.      11.   1878.00
      .38      .02     3.51      .00     .080     .050     .080     .000  1874.00  4959.70
   .013408     195.     195.     195.        3        0        0      .00    55.60  5015.30
0
 FLOW DISTRIBUTION FOR SECNO=       .93          CWSEL=   1876.04

 STA=    4960.    5030.
   PER Q=    100.0
    AREA=     57.2
     VEL=      3.5

 *SECNO 1.012
     1.01     2.96  1880.86      .00      .00  1881.07      .21     4.83      .01  1884.00
     201.       0.     201.       0.       0.      54.       0.      13.      11.   1886.00
      .41      .00     3.69      .00     .080     .050     .080     .000  1878.00  4976.19
   .009755     425.     425.     425.        4        0        0      .00    38.09  5014.28
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1880.86
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 STA=    4976.    5040.
   PER Q=    100.0
    AREA=     54.4
     VEL=      3.7

 SECNO 1.031

 3470 ENCROACHMENT STATIONS=    4985.0    5010.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1886.00  ELENCR=   1886.00
      1.03     3.51  1881.51      .00      .00  1881.67      .16      .60      .01  1886.00
      201.       0.     201.       0.       0.      63.       0.      14.      11.   1886.00
       .42      .00     3.20      .00     .080     .050     .080     .000  1879.00  4985.00
   .004025     100.     100.     100.        3        0        0      .00    25.00  5010.00
0
1
 05/09/88    07:59:38                                                                          PAGE   33


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.03          CWSEL=   1881.51

 STA=    4985.    5050.
   PER Q=    100.0
    AREA=     62.8
     VEL=      3.2

 SECNO 1.054
  WATER EL=X5 CARD=  1884.700

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      35.000
  ELENCL=   1886.00  ELENCR=   1886.00
                 WATER SURFACE ELEVATION AT SECTION 1.054 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
      1.05     5.20  1884.70      .00      .00  1884.73      .03      .10      .01  1886.00
      201.       0.     201.       0.       0.     155.       0.      14.      11.   1886.00
       .44      .00     1.30      .00     .080     .050     .080     .000  1879.50  4990.00
   .000330     120.     120.     120.        0        0        0      .00    35.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.05          CWSEL=   1884.70

 STA=    4990.    5020.
   PER Q=    100.0
    AREA=    154.9
     VEL=      1.3

 *SECNO 1.070

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1890.00  ELENCR=   1890.00
      1.07     2.64  1884.64      .00      .00  1884.87      .23      .08      .06  1890.00
      201.       0.     201.       0.       0.      52.       0.      14.      11.   1890.00
       .45      .00     3.84      .00     .080     .050     .080     .000  1882.00  4994.47
   .006381      90.      90.      90.        3        0        0      .00    23.83  5018.30
0
 FLOW DISTRIBUTION FOR SECNO=      1.07          CWSEL=   1884.64

 STA=    4994.    5025.
   PER Q=    100.0
    AREA=     52.3
```

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     VEL=      3.8

1
 05/09/88    07:59:38                                                                                PAGE   34

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *SECNO 1.078
  WATER EL=X5 CARD=  1889.580

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                 WATER SURFACE ELEVATION AT SECTION 1.078 IS BASED UPON
                 THE HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C20.
     1.08     5.58  1899.58      .00      .00  1899.65      .07      .06      .02  1892.00
     320.       0.     320.       0.       0.     152.       0.      14.      11.   1892.00
      .46      .00     2.10      .00     .080     .050     .080     .000  1884.00  4990.00
   .000776     40.      40.      40.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.08          CWSEL=   1889.58

 STA=    4990.    5030.
   PER Q=    100.0
    AREA=    152.4
     VEL=      2.1

 *SECNO 1.125
     1.13     1.97  1889.97      .00      .00  1890.12      .15      .45      .03  1892.00
     320.       0.     320.       0.       0.     102.       0.      15.      12.   1890.00
      .48      .00     3.13      .00     .080     .050     .080     .000  1888.00  4985.26
   .007903    210.     250.     290.        3        0        0      .00    79.03  5064.29
0
 FLOW DISTRIBUTION FOR SECNO=      1.13          CWSEL=   1889.97

 STA=    4985.    5065.
   PER Q=    100.0
    AREA=    102.2
     VEL=      3.1

 CCHV=    .300 CEHV=    .500
 *SECNO 1.193
     1.19     2.20  1892.70      .00      .00  1892.84      .15     2.72      .00  1892.00
     320.       1.     319.       0.       2.     104.       0.      16.      12.   1894.00
      .51      .78     3.07      .00     .080     .050     .080     .000  1890.50  4954.78
   .007205    440.     360.     280.        4        0        0      .00    82.18  5036.96
0
1
 05/09/88    07:59:38                                                                                PAGE   35

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.19          CWSEL=   1892.70

 STA=    4955.    4960.    5050.
   PER Q=      .4     99.6
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     VEL=       .8       3.1

 CCHV=    .100 CEHV=    .300
 *SECNO 1.277
      1.28     2.27  1896.27      .00      .00  1896.50      .24     3.63      .03  1900.00
      320.       0.     320.       0.       0.      82.       0.      17.      13.   1900.00
       .54      .00     3.91      .00     .080     .050     .080     .000  1894.00  4982.98
   .009557     440.     440.     440.        2        0        0      .00    52.15  5035.13
0
 FLOW DISTRIBUTION FOR SECNO=      1.28          CWSEL=   1896.27

 STA=    4983.    5060.
   PER Q=    100.0
    AREA=     81.9
     VEL=      3.9

 *SECNO 1.324
      1.32     2.33  1898.33      .00      .00  1898.49      .16     1.98      .01  1904.00
      320.       0.     320.       0.       0.     100.       0.      17.      13.   1904.00
       .56      .00     3.19      .00     .080     .050     .080     .000  1896.00  4959.17
   .006653     250.     250.     250.        2        0        0      .00    66.03  5025.20
0
 FLOW DISTRIBUTION FOR SECNO=      1.32          CWSEL=   1898.33

 STA=    4959.    5050.
   PER Q=    100.0
    AREA=    100.3
     VEL=      3.2

 *SECNO 1.403
      1.40     1.49  1902.49      .00      .00  1902.72      .22     4.21      .02  1902.00
      320.       0.     319.       1.       1.      84.       1.      18.      14.   1902.00
       .60      .92     3.81      .93     .080     .050     .080     .000  1901.00  4962.88
   .016805     400.     420.     420.        4        0        0      .00    90.35  5053.23
0
1
 05/09/88    07:59:38                                                                    PAGE   36


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    ES       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.40          CWSEL=   1902.49

 STA=    4963.    4965.    5050.    5053.
   PER Q=       .1      99.6       .2
    AREA=       .5      83.7       .8
     VEL=       .9       3.8       .9

 *SECNO 1.492
      1.49     2.70  1906.70      .00      .00  1906.87      .16     4.14      .01  1906.00
      320.       1.     319.       0.       1.      98.       0.      19.      15.   1912.00
       .64      .67     3.26      .00     .080     .050     .080     .000  1904.00  4952.37
   .005417     510.     470.     410.        5        0        0      .00    56.08  5008.45

 FLOW DISTRIBUTION FOR SECNO=      1.49          CWSEL=   1906.70

 STA=    4952.    4955.    5025.
   PER Q=       .2      99.8
    AREA=       .9      98.0
     VEL=       .7       3.3
```

THIS RUN EXECUTED 05/09/88 08:01:27

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


 T1      WITTMANN ADMS
 T2      10 YEAR STORM EVENT
 T3      CIRCLE CITY - WASH 3

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        5.        0.        0.   .010400      .00       .5        0.   1828.000     .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     15.000     .000    -1.000     .000      .000      .000      .000      .000      .000     15.000

1
 05/09/88    07:59:38                                                                          PAGE  38

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 *PROF 4

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON
                THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
      .00     1.83  1831.83      .00  1828.00  1832.01      .19      .00      .00  1834.00
     304.       0.     304.       0.       0.      87.       0.       0.       0.  1832.00
      .00      .00     3.48      .00     .080     .050     .080     .000  1830.00  4995.43
   .010412       0.       0.       0.        0        0        6      .00    70.66  5066.09
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1831.83

 STA=    4995.    5070.
   PER Q=    100.0
    AREA=     87.3
     VEL=      3.5

 *SECNO  .068
      .07     2.82  1834.32      .00      .00  1834.45      .14     2.43      .01  1838.00
     304.       0.     304.       0.       0.     103.       0.       1.       1.  1838.00
      .03      .00     2.95      .00     .080     .050     .080     .000  1831.50  4978.43
   .004734     360.     360.     360.        3        0        0      .00    58.93  5037.36
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1834.32

 STA=    4978.    5065.
   PER Q=    100.0
    AREA=     102.0
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    VEL=      3.0

 *SECNO  .125

 1645 INT SEC ADDED BY RAISING SEC       .13,  -1.500FT AND MULTIPLYING BY   1.487

     1.01     2.46  1835.46      .00      .00  1835.86      .41     1.33      .08  1836.50
     304.       0.     304.       0.       0.      59.       0.       1.       1.   1836.50
      .04      .00     5.12      .00     .080     .050     .080     .000  1833.00  5001.20
   .022198     150.     150.     155.        2        0        0      .00    47.58  5048.79
0
1
 05/09/88    07:59:38                                                                    PAGE   39


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1835.46

 STA=    5001.    5057.
   PER Q=    100.0
    AREA=     59.4
     VEL=      5.1


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.500FT AND MULTIPLYING BY    .673

      .13     3.30  1837.80      .00      .00  1838.09      .28     2.21      .01  1838.00
     304.       0.     304.       0.       0.      71.       0.       1.       1.   1838.00
      .05      .00     4.26      .00     .080     .050     .080     .000  1834.50  4976.49
   .010503     150.     150.     155.        3        0        0      .00    42.51  5019.00
0
 FLOW DISTRIBUTION FOR SECNO=       .13          CWSEL=   1837.80

 STA=    4976.    5020.
   PER Q=    100.0
    AREA=     71.3
     VEL=      4.3

 *SECNO  .170
      .17     3.45  1840.45      .00      .00  1840.84      .39     2.72      .03  1840.00
     304.       5.     238.       1.       6.      59.       2.       2.       1.   1840.00
      .07      .77     5.08      .77     .080     .050     .080     .000  1837.00  4959.83
   .012280     250.     240.     210.        2        0        0      .00    63.75  5022.58
0
 FLOW DISTRIBUTION FOR SECNO=       .17          CWSEL=   1840.45

 STA=    4959.    4985.    5015.    5023.
   PER Q=      1.5     98.1      .4
    AREA=      6.0     58.7     1.7
     VEL=       .9      5.1      .8

 *SECNO  .220
      .22     3.56  1842.56      .00      .00  1842.71      .15     1.84      .02  1842.00
     304.      13.     290.       2.      23.      90.       3.       2.       2.   1842.00
      .09      .54     3.21      .54     .080     .050     .080     .000  1839.00  4897.30
   .004650     200.     260.     320.        2        0        0      .00   137.56  5034.87
0
1
 05/09/88    07:59:38                                                                    PAGE   40
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=       .22          CWSEL=   1842.56

 STA=    4897.    4930.    5025.    5035.
   PER Q=      4.2      95.3       .5
    AREA=     23.3      90.4      2.8
     VEL=       .5       3.2       .5

 *SECNO  .288
      .29     1.82  1845.32      .00      .00  1845.53      .21     2.00      .02  1846.00
     304.       0.     300.       4.       0.      81.       7.       3.       3.  1845.00
      .12      .00     3.70      .68     .000     .050     .000     .000  1843.50  4958.66
  .015576     390.     360.     290.        3        0        0      .00   122.53  5081.20
0
 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1845.32

 STA=    4959.    5040.    5081.
   PER Q=     98.5       1.5
    AREA=     81.0       6.5
     VEL=      3.7        .7

 *SECNO  .384
      .38     2.67  1849.17      .00      .00  1849.30      .13     3.77      .01  1848.00
     304.      11.     287.       6.      14.      96.       7.       4.       4.  1848.00
      .17      .85     3.00      .85     .000     .050     .000     .000  1846.50  4946.74
  .004296     510.     510.     510.        3        0        0      .00    84.90  5031.63

FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1849.17

 STA=    4947.    4970.    5020.    5032.
   PER Q=      3.8      94.3      1.9
    AREA=     13.5      95.7      6.8
     VEL=       .8       3.0       .8

 *SECNO  .504
      .50     2.39  1852.89      .00      .00  1853.07      .18     3.75      .01  1854.00
     304.       0.     304.       0.       0.      90.       0.       6.       5.  1858.00
      .22      .00     3.37      .00     .000     .050     .000     .000  1850.50  4966.57
  .008818     620.     630.     640.        3        0        0      .00    67.91  5034.48
0
1
 05/09/88    07:59:38                                                                  PAGE   41


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1852.89

 STA=    4967.    5060.
   PER Q=    100.0
    AREA=     90.3
     VEL=      3.4

 *SECNO  .574
      .57     2.32  1856.82      .00      .00  1857.04      .22     3.96      .01  1856.00
     187.       6.     181.       0.       5.      47.       0.       6.       6.  1858.00
      .26     1.07     2.06      .00     .000     .050     .000     .000  1854.50  4973.70
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   .015362     380.     370.     360.       2       0       0     .00    55.74  5028.44
0
 FLOW DISTRIBUTION FOR SECNO=       .57          CWSEL=   1856.82

 STA=    4973.    4985.    5055.
   PER Q=      3.4     96.6
   AREA=       5.0     46.8
    VEL=       1.3      3.9

 *SECNO  .669
       .67     1.62  1861.62      .00      .00  1861.71      .09     4.65      .01  1869.00
      187.       0.     187.       0.       0.      79.       0.       7.       6.   1862.00
       .30      .00     2.38      .00     .080     .050     .080     .000  1860.00  4985.94
   .006237     500.     500.     500.       5       0       0     .00    76.86  5062.80
0
 FLOW DISTRIBUTION FOR SECNO=       .67          CWSEL=   1861.62

 STA=    4986.    5075.
   PER Q=    100.0
   AREA=      78.7
    VEL=       2.4

 1490 NH CARD USED
 *SECNO  .718

 3265 DIVIDED FLOW

       .72     1.52  1864.52      .00      .00  1864.73      .22     2.98      .04  1870.00
      187.       0.     187.       0.       0.      50.       0.       7.       7.   1870.00
       .32      .00     3.74      .00     .080     .044     .080     .000  1863.00  4892.29
   .027748     260.     260.     270.       2       0       0     .00    91.54  5022.71
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=       .72          CWSEL=   1864.52

 STA=    4892.    5070.
   PER Q=    100.0
   AREA=      50.0
    VEL=       3.7

 *SECNO  .809
       .81     2.73  1869.23      .00      .00  1869.34      .11     4.60      .01  1872.00
      187.       0.     187.       0.       0.      70.       0.       8.       8.   1876.00
       .37      .00     2.66      .00     .080     .050     .080     .000  1866.50  4975.76
   .004802     520.     480.     490.       5       0       0     .00    47.71  5023.47
0
 FLOW DISTRIBUTION FOR SECNO=       .81          CWSEL=   1869.23

 STA=    4976.    5070.
   PER Q=    100.0
   AREA=      70.4
    VEL=       2.7

 *SECNO  .858

 1645 INT SEC ADDED BY RAISING SEC       .86,  -1.750FT AND MULTIPLYING BY   1.086
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      1.01      1.85  1870.10       .00       .00  1870.41       .31      1.01       .06  1872.25
      162.        0.     161.        0.        0.     36.        0.        8.        8.  1872.25
       .38       .00      4.45       .00      .080     .050     .080      .000  1868.25  4998.57
   .016455      125.     130.      135.         2        0        0       .00     28.43  5027.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1870.10

 STA=    4999.    5036.
   PER Q=    100.0
    AREA=     36.3
     VEL=      4.4


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.750FT AND MULTIPLYING BY    .921

       .86      1.96  1871.96       .00       .00  1872.18       .22      1.75       .01  1874.00
      136.        0.     136.        0.        0.     36.        0.        8.        8.  1874.00
       .39       .00      3.74       .00      .080     .050     .080      .000  1870.00  4990.20
   .010919      125.     130.      135.         2        0        0       .00     27.15  5017.35
0
1
 05/09/88    07:59:38                                                                          PAGE   43


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=       .86          CWSEL=   1871.96

 STA=    4990.    5025.
   PER Q=    100.0
    AREA=     36.4
     VEL=      3.7

 *SECNO  .932
       .93      1.91  1875.91       .00       .00  1876.02       .11      3.94       .01  1876.00
      136.        0.     136.        0.        0.     50.        0.        9.        8.  1878.00
       .43       .00      2.71       .00      .080     .050     .080      .000  1874.00  4961.82
   .008912      390.     390.      390.         3        0        0       .00     52.50  5014.32
0
 FLOW DISTRIBUTION FOR SECNO=       .93          CWSEL=   1875.91

 STA=    4962.    5030.
   PER Q=    100.0
    AREA=     50.1
     VEL=      2.7

 *SECNO 1.012
      1.01      2.34  1880.34       .00       .00  1880.56       .21      4.50       .03  1884.00
      136.        0.     136.        0.        0.     37.        0.        9.        9.  1886.00
       .46       .00      3.71       .00      .080     .050     .080      .000  1878.00  4980.46
   .012814      425.     425.      425.         4        0        0       .00     31.26  5011.72
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1880.34

 STA=    4980.    5040.
   PER Q=    100.0
    AREA=     36.6
     VEL=      3.7

 *SECNO 1.031
```

```
 ELENCL=   1886.00  ELENCR=   1886.00
     1.03     3.06  1881.06      .00      .00  1881.16      .11      .60      .01  1886.00
     136.       0.     136.       0.       0.      51.       0.       9.       9.  1886.00
      .47      .00     2.65      .00     .080     .050     .080     .000  1878.00  4985.00
  .003439     100.     100.     100.        3        0        0      .00    25.00  5010.00
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

FLOW DISTRIBUTION FOR SECNO=      1.03          CWSEL=   1881.06

STA=    4985.    5050.
  PER Q=    100.0
   AREA=     51.4
    VEL=      2.6

*SECNO 1.054
 WATER EL=X5 CARD=  1883.500

3470 ENCROACHMENT STATIONS=    4980.0    5015.0  TYPE=     1  TARGET=      35.000
 ELENCL=   1886.00  ELENCR=   1886.00
              WATER SURFACE ELEVATION AT SECTION 1.054 IS BASED UPON
              CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
              INLET CONTROL.
     1.05     4.00  1883.50      .00      .00  1883.52      .02      .11      .01  1886.00
     136.       0.     136.       0.       0.     113.       0.      10.       9.  1886.00
      .50      .00     1.20      .00     .080     .050     .080     .000  1879.50  4980.00
  .000400     120.     120.     120.        0        0        0      .00    35.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.05          CWSEL=   1883.50

STA=    4980.    5020.
  PER Q=    100.0
   AREA=    112.9
    VEL=      1.2

*SECNO 1.070

3301 HV CHANGED MORE THAN HVINS

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
 ELENCL=   1890.00  ELENCR=   1890.00
     1.07     1.29  1883.29  1883.29      .00  1883.86      .57      .12      .16  1890.00
     136.       0.     136.       0.       0.      22.       0.      10.       9.  1890.00
      .50      .00     6.07      .00     .080     .050     .080     .000  1882.00  4996.78
  .037085      90.      90.      90.       20       17        0      .00    19.83  5016.61
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
```

```
FLOW DISTRIBUTION FOR SECNO=      1.07          CWSEL=   1883.29

STA=    4997.    5025.
  PER Q=    100.0
   AREA=     22.4
    VEL=      6.1

*SECNO 1.078
 WATER EL=XS CARD=  1887.030

3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
 ELENCL=   1892.00  ELENCR=   1892.00
                WATER SURFACE ELEVATION AT SECTION 1.078 IS BASED UPON
                THE HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C20.
     1.08     3.03  1887.03      .00      .00  1887.08      .05      .14      .05  1892.00
     139.       0.     139.       0.       0.      76.       0.      10.       9.   1892.00
      .51      .00     1.03      .00     .080     .050     .080     .000  1884.00  4990.00
  .001233      40.      40.      40.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.08          CWSEL=   1887.03

STA=    4990.    5030.
  PER Q=    100.0
   AREA=     75.9
    VEL=      1.8

*SECNO 1.125
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     1.13      .84  1888.84  1888.84      .00  1889.16      .32      .90      .08  1892.00
     139.       0.     139.       0.       0.      31.       0.      10.       9.   1890.00
      .53      .00     4.55      .00     .080     .050     .080     .000  1888.00  4993.72
  .042832     210.     250.     290.       20       14        0      .00    48.03  5041.75
0
 FLOW DISTRIBUTION FOR SECNO=      1.13          CWSEL=   1888.84

STA=    4994.    5065.
  PER Q=    100.0
   AREA=     30.6
    VEL=      4.5

1
 05/03/88    07:59:38                                                                    PAGE   46


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


CCHV=    .300 CEHV=    .500
*SECNO 1.193
     1.19     1.83  1892.33      .00      .00  1892.38      .05     3.14      .08  1892.00
     139.       0.     139.       0.       0.      76.       0.      10.      10.   1894.00
      .58      .33     1.83      .00     .080     .050     .080     .000  1890.50  4957.56
  .003641     440.     360.     280.        6        0        0      .00    75.68  5033.25
0
 FLOW DISTRIBUTION FOR SECNO=      1.19          CWSEL=   1892.33

STA=    4958.    4960.    5050.
  PER Q=       .1     99.9
   AREA=       .1     75.9
```

```
    VEL=      .3      1.8

 CCHV=    .100 CEHV=    .300
 *SECNO 1.277
      1.28     1.25  1895.25      .00      .00  1895.48      .23     3.04      .05  1900.00
      139.       0.     139.       0.       0.      36.       0.      11.      10.   1900.00
       .61      .00     3.85      .00     .080     .050     .080     .000  1894.00  4990.62
   .017914     440.     440.     440.        3        0        0      .00    37.72  5028.34
0
 FLOW DISTRIBUTION FOR SECNO=      1.28          CWSEL=   1895.25

 STA=    4991.    5060.
   PER Q=    100.0
    AREA=     36.1
     VEL=      3.9

 *SECNO 1.324
      1.32     1.63  1897.63      .00      .00  1897.77      .08     2.28      .01  1904.00
      139.       0.     139.       0.       0.      60.       0.      11.      10.   1904.00
       .64      .00     2.30      .00     .080     .050     .080     .000  1896.00  4966.14
   .005507     250.     250.     250.        4        0        0      .00    56.27  5022.41
0
 FLOW DISTRIBUTION FOR SECNO=      1.32          CWSEL=   1897.69

 STA=    4966.    5050.
   PER Q=    100.0
    AREA=     60.3
     VEL=      2.3

1
  05/09/88    07:59:38                                                                    PAGE   47

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 *SECNO 1.403
      1.40     1.02  1902.02      .00      .00  1902.17      .15     4.38      .02  1902.00
      139.       0.     139.       0.       0.      44.       0.      12.      11.   1902.00
       .68      .00     3.14      .03     .090     .050     .080     .000  1901.00  4964.91
   .026721     400.     420.     420.        4        0        0      .00    85.23  5050.14
0
 FLOW DISTRIBUTION FOR SECNO=      1.40          CWSEL=   1902.02

 STA=    4965.    5050.
   PER Q=    100.0
    AREA=     44.2
     VEL=      3.1

 *SECNO 1.492
      1.49     2.05  1906.05      .00      .00  1906.13      .07     3.95      .01  1906.00
      139.       0.     139.       0.       0.      64.       0.      12.      12.   1912.00
       .74      .01     2.18      .00     .080     .050     .080     .000  1904.00  4954.91
   .004052     510.     470.     410.        5        0        0      .00    51.60  5006.41

 FLOW DISTRIBUTION FOR SECNO=      1.49          CWSEL=   1906.05

 STA=    4955.    5025.
   PER Q=    100.0
    AREA=     63.9
     VEL=      2.2
```

THIS RUN EXECUTED 05/09/88 08:01:55

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CIRCLE CITY - WASH 3

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.000	545.00	1832.37	4994.06	4990.00	5070.00	5072.81	.00	78.75	2.37	1830.00	102.38	4.25
	.000	545.00	1832.37	4994.08	4990.00	5070.00	5070.00	.00	75.93	2.37	1830.00	104.07	4.26
	.000	490.00	1832.27	4994.34	4990.00	5070.00	5071.99	.00	77.65	2.27	1830.00	102.95	4.08
	.000	304.00	1831.83	4995.43	4990.00	5070.00	5066.09	.00	70.66	1.83	1830.00	104.12	3.48
	.068	545.00	1835.05	4974.77	4955.00	5065.00	5042.85	2.67	68.08	3.55	1831.50	53.34	3.65
	.068	545.00	1835.06	4974.75	4955.00	5065.00	5042.87	2.69	68.12	3.56	1831.50	53.10	3.64
	.068	490.00	1834.91	4975.51	4955.00	5065.00	5041.73	2.64	66.22	3.41	1831.50	52.30	3.51
	.068	304.00	1834.32	4978.43	4955.00	5065.00	5037.36	2.49	58.93	2.82	1831.50	47.34	2.95
*	.125	545.00	1838.46	4961.46	4975.00	5020.00	5065.14	2.25	103.68	3.96	1834.50	112.54	5.34
*	.125	545.00	1837.84	4976.17	4975.00	5020.00	5019.22	2.79	43.05	3.34	1834.50	315.09	7.45
*	.125	490.00	1838.34	4965.15	4975.00	5020.00	5052.82	2.27	87.67	3.84	1834.50	112.04	5.13
*	.125	304.00	1837.80	4976.49	4975.00	5020.00	5019.00	2.35	42.51	3.30	1834.50	105.03	4.26
	.170	545.00	1841.14	4919.05	4985.00	5015.00	5034.12	2.68	115.07	4.14	1837.00	114.97	6.02
	.170	545.00	1841.79	4985.00	4985.00	5015.00	5015.00	3.94	30.00	4.79	1837.00	94.28	5.53
	.170	490.00	1841.01	4926.40	4985.00	5015.00	5031.99	2.68	105.59	4.01	1837.00	115.42	5.83
	.170	304.00	1840.45	4950.83	4985.00	5015.00	5022.58	2.64	63.75	3.45	1837.00	122.80	5.08
	.220	545.00	1843.19	4805.01	4980.00	5025.00	5045.88	2.05	240.87	4.19	1839.00	43.84	3.73
	.220	545.00	1843.60	4980.00	4980.00	5025.00	5025.00	1.82	45.00	4.60	1839.00	45.10	3.98
	.220	490.00	1843.07	4822.72	4980.00	5025.00	5043.77	2.06	221.05	4.07	1839.00	44.47	3.65
	.220	304.00	1842.56	4897.30	4980.00	5025.00	5034.87	2.11	137.56	3.56	1839.00	46.50	3.21
	.288	545.00	1845.75	4950.05	4945.00	5040.00	5137.18	2.56	187.13	2.25	1843.50	143.82	4.27
	.288	545.00	1845.96	4950.00	4945.00	5040.00	5040.00	2.36	90.00	2.46	1843.50	103.18	3.97
	.288	490.00	1845.66	4951.69	4945.00	5040.00	5126.49	2.59	174.79	2.16	1843.50	144.80	4.15
	.288	304.00	1845.32	4958.66	4945.00	5040.00	5081.20	2.76	122.53	1.82	1843.50	155.76	3.70
	.384	545.00	1849.79	4934.38	4970.00	5020.00	5037.81	4.04	103.43	3.29	1846.50	48.90	3.86
	.384	545.00	1849.87	4970.00	4970.00	5020.00	5020.00	3.91	50.00	3.37	1846.50	59.77	4.16
	.384	490.00	1849.66	4936.87	4970.00	5020.00	5036.57	4.00	99.70	3.16	1846.50	47.79	3.69
	.384	304.00	1849.17	4946.74	4970.00	5020.00	5031.63	3.85	84.90	2.67	1846.50	42.96	3.00

1

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

	.504	545.00	1853.76	4953.54	4950.00	5060.00	5038.82	3.89	85.28	3.26	1850.50	61.01	3.48
	.504	490.00	1853.46	4958.05	4950.00	5060.00	5037.32	3.90	79.27	2.96	1850.50	79.27	3.71
	.504	304.00	1852.89	4966.57	4950.00	5060.00	5034.48	3.72	67.91	2.39	1850.50	88.18	3.37
	.574	330.00	1857.26	4965.99	4985.00	5055.00	5038.52	3.66	72.52	2.76	1854.50	166.35	4.51
	.574	330.00	1857.10	4985.00	4985.00	5055.00	5034.80	3.33	49.80	2.60	1854.50	277.01	5.50
	.574	286.00	1857.14	4967.82	4985.00	5055.00	5035.77	3.68	67.94	2.64	1854.50	164.08	4.34
	.574	187.00	1856.82	4972.70	4985.00	5055.00	5028.44	3.93	55.74	2.32	1854.50	153.62	3.86
	.669	330.00	1862.11	4994.35	4950.00	5075.00	5076.20	4.95	91.84	2.11	1860.00	59.29	2.75
	.669	330.00	1862.21	4983.77	4950.00	5075.00	5075.00	5.12	91.23	2.21	1860.00	46.93	2.55
	.669	286.00	1861.99	4985.02	4950.00	5075.00	5074.73	4.85	89.71	1.99	1860.00	60.00	2.62
	.669	187.00	1861.62	4985.94	4950.00	5075.00	5062.80	4.80	76.86	1.62	1860.00	62.37	2.38
	.718	330.00	1864.85	4887.26	4840.00	5070.00	5027.74	2.74	128.44	1.85	1863.00	256.23	3.80
*	.718	330.00	1864.72	4889.13	4840.00	5070.00	5025.87	2.51	114.71	1.72	1863.00	392.57	4.60
	.718	286.00	1864.77	4888.62	4840.00	5070.00	5026.38	2.77	118.45	1.77	1863.00	261.74	3.78
	.718	187.00	1864.52	4892.29	4840.00	5070.00	5022.71	2.89	91.54	1.52	1863.00	277.48	3.74
	.809	330.00	1869.84	4971.25	4955.00	5070.00	5027.61	4.99	56.36	3.34	1866.50	54.81	3.25
	.809	330.00	1869.93	4970.51	4955.00	5070.00	5028.29	5.21	57.78	3.43	1866.50	47.35	3.08
	.809	286.00	1869.67	4972.45	4955.00	5070.00	5026.50	4.91	54.05	3.17	1866.50	52.80	3.08
	.809	187.00	1869.23	4975.76	4955.00	5070.00	5023.47	4.72	47.71	2.73	1866.50	48.02	2.66
	.858	205.00	1871.89	4990.57	4980.00	5025.00	5017.07	2.05	26.51	1.89	1870.00	289.19	5.95
*	.858	205.00	1871.80	4991.02	4980.00	5025.00	5016.73	1.86	25.71	1.80	1870.00	352.67	6.40
	.858	201.00	1871.79	4991.04	4980.00	5025.00	5016.72	2.12	25.68	1.79	1870.00	341.07	6.29
*	.858	136.00	1871.96	4990.20	4980.00	5025.00	5017.35	1.85	27.15	1.96	1870.00	109.19	3.74
	.932	205.00	1876.41	4956.93	4960.00	5030.00	5018.07	4.52	61.13	2.41	1874.00	52.60	2.62
	.932	205.00	1876.44	4960.00	4960.00	5030.00	5018.34	4.64	58.34	2.44	1874.00	48.99	2.55
*	.932	201.00	1876.04	4959.70	4960.00	5030.00	5015.30	1.54	55.60	2.04	1874.00	134.08	3.51
	.932	136.00	1875.91	4961.82	4960.00	5030.00	5014.32	3.95	52.50	1.91	1874.00	89.12	2.71
	1.012	205.00	1880.41	4979.99	4950.00	5040.00	5012.00	4.00	32.01	2.41	1878.00	256.68	5.34
*	1.012	205.00	1880.35	4980.43	4950.00	5040.00	5011.74	3.91	31.31	2.35	1878.00	288.57	5.58
	1.012	201.00	1880.86	4976.19	4950.00	5040.00	5014.28	4.82	38.09	2.86	1878.00	97.55	3.69
	1.012	136.00	1880.34	4980.46	4950.00	5040.00	5011.72	4.43	31.26	2.34	1878.00	128.14	3.71
	1.031	205.00	1881.54	4985.00	4940.00	5050.00	5010.00	1.13	25.00	3.54	1878.00	40.26	3.23
	1.031	205.00	1881.55	4985.00	4940.00	5050.00	5010.00	1.20	25.00	3.55	1878.00	39.84	3.21
	1.031	201.00	1881.51	4985.00	4940.00	5050.00	5010.00	.65	25.00	3.51	1878.00	40.25	3.20
	1.031	136.00	1881.06	4985.00	4940.00	5050.00	5010.00	.71	25.00	3.06	1878.00	34.39	2.65
*	1.054	205.00	1885.30	4990.00	4940.00	5020.00	5015.00	3.76	35.00	5.80	1879.50	2.33	1.17
*	1.054	205.00	1885.30	4980.00	4940.00	5020.00	5015.00	3.75	35.00	5.80	1879.50	2.33	1.17
*	1.054	201.00	1884.70	4990.00	4940.00	5020.00	5015.00	3.19	35.00	5.20	1879.50	3.30	1.30
*	1.054	136.00	1883.50	4980.00	4940.00	5020.00	5015.00	2.44	35.00	4.00	1879.50	4.00	1.20

1

	SECND	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	1.070	205.00	1885.27	4993.94	4990.00	5025.00	5019.08	-.03	25.14	3.27	1882.00	30.88	3.03
	1.070	205.00	1885.27	4993.94	4990.00	5025.00	5019.08	-.03	25.14	3.27	1882.00	30.88	3.03
	1.070	201.00	1884.64	4994.47	4990.00	5025.00	5018.30	-.06	23.83	2.64	1882.00	63.81	3.84
*	1.070	136.00	1883.29	4996.78	4990.00	5025.00	5016.61	-.21	19.83	1.29	1882.00	370.85	6.07
*	1.078	422.00	1890.00	4990.00	4970.00	5030.00	5020.00	4.73	30.00	6.00	1884.00	10.67	2.56
*	1.078	422.00	1890.00	4990.00	4970.00	5030.00	5020.00	4.73	30.00	6.00	1884.00	10.67	2.56
*	1.078	320.00	1889.58	4990.00	4970.00	5030.00	5020.00	4.94	30.00	5.58	1884.00	7.76	2.10
*	1.078	139.00	1887.03	4990.00	4970.00	5030.00	5020.00	3.74	30.00	3.03	1884.00	12.33	1.83
	[illegible]	422.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.67	91.80	2.47	1888.00	46.84	2.96

	1.125	422.00	1890.47	4982.66	4975.00	5065.00	5065.00	.47	82.35	2.47	1888.00	47.69	2.95
	1.125	320.00	1889.97	4985.26	4975.00	5065.00	5064.29	.39	79.03	1.97	1888.00	79.03	3.13
*	1.125	139.00	1888.84	4993.72	4975.00	5065.00	5041.75	1.81	48.03	.84	1888.00	428.32	4.55
	1.193	422.00	1892.79	4953.99	4960.00	5050.00	5038.01	2.33	84.02	2.29	1890.50	98.96	3.75
	1.193	422.00	1892.82	4960.00	4960.00	5050.00	5038.13	2.35	78.13	2.32	1890.50	98.98	3.75
	1.193	320.00	1892.70	4954.78	4960.00	5050.00	5036.96	2.72	82.18	2.20	1890.50	72.05	3.07
	1.193	139.00	1892.33	4957.56	4960.00	5050.00	5033.25	3.49	75.68	1.83	1890.50	36.41	1.83
	1.277	422.00	1896.71	4979.68	4955.00	5060.00	5038.06	3.92	58.38	2.71	1894.00	81.25	3.97
	1.277	422.00	1896.72	4979.63	4955.00	5060.00	5038.11	3.90	58.48	2.72	1894.00	80.43	3.96
	1.277	320.00	1896.27	4982.98	4955.00	5060.00	5035.13	3.57	52.15	2.27	1894.00	95.57	3.91
	1.277	139.00	1895.25	4990.62	4955.00	5060.00	5028.34	2.92	37.72	1.25	1894.00	179.14	3.85
	1.324	422.00	1898.61	4958.46	4930.00	5050.00	5026.44	1.91	67.99	2.61	1896.00	67.62	3.54
	1.324	422.00	1898.62	4958.48	4930.00	5050.00	5026.42	1.90	67.94	2.62	1896.00	68.24	3.55
	1.324	320.00	1898.33	4959.17	4930.00	5050.00	5025.20	2.06	66.03	2.33	1896.00	66.53	3.19
	1.324	139.00	1897.69	4966.14	4930.00	5050.00	5022.41	2.44	56.27	1.69	1896.00	55.07	2.30
	1.403	422.00	1902.69	4962.00	4965.00	5050.00	5054.57	4.08	92.57	1.69	1901.00	155.95	4.16
	1.403	422.00	1902.71	4965.00	4965.00	5050.00	5050.00	4.09	85.00	1.71	1901.00	154.66	4.13
	1.403	320.00	1902.49	4962.38	4965.00	5050.00	5053.23	4.16	90.35	1.49	1901.00	168.05	3.81
	1.403	139.00	1902.02	4964.91	4965.00	5050.00	5050.14	4.33	85.23	1.02	1901.00	267.21	3.14
	1.492	422.00	1906.99	4951.28	4955.00	5025.00	5009.35	4.30	58.07	2.99	1904.00	58.70	3.70
	1.492	422.00	1907.01	4955.00	4955.00	5025.00	5009.41	4.30	54.41	3.01	1904.00	58.97	3.68
	1.492	320.00	1906.70	4952.37	4955.00	5025.00	5008.45	4.21	56.08	2.70	1904.00	54.17	3.26
	1.492	139.00	1906.05	4954.81	4955.00	5025.00	5006.41	4.03	51.60	2.05	1904.00	40.52	2.18

1

CIRCLE CITY - WASH 3

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.000	1832.37	-1.63	1832.65	78.75	.00	544.68	.32	.00	.00	4990.00	5070.00	.00
	.000	1832.37	.00	1832.65	75.93	.00	545.00	.00	.01	4990.00	4990.00	5070.00	5070.00
	.000	1832.27	2.27	1832.52	77.63	.00	489.87	.13	.00	.00	4990.00	5070.00	.00
	.000	1831.83	3.83	1832.01	70.66	.00	304.00	.00	.00	.00	4990.00	5070.00	.00
	.068	1835.05	.00	1835.25	68.03	.00	545.00	.00	.00	.00	4955.00	5065.00	.00
	.068	1835.06	.01	1835.26	68.12	.00	545.00	.00	.00	4955.00	4955.00	5065.00	5065.00
	.068	1834.91	.00	1835.10	66.22	.00	490.00	.00	.00	.00	4955.00	5065.00	.00
	.068	1834.32	.00	1834.45	58.93	.00	304.00	.00	.00	.00	4955.00	5065.00	.00
*	.125	1838.46	.00	1838.89	103.68	2.23	535.33	7.44	.00	.00	4975.00	5020.00	.00
*	.125	1837.84	-.61	1838.71	43.05	.00	545.00	.00	.16	4975.00	4975.00	5020.00	5020.00
*	.125	1838.34	.00	1838.74	87.67	.95	485.87	3.17	.00	.00	4975.00	5020.00	.00
*	.125	1837.80	.00	1838.03	42.51	.00	304.00	.00	.00	.00	4975.00	5020.00	.00
	.170	1841.14	.00	1841.64	115.07	51.99	477.95	15.05	.00	.00	4985.00	5015.00	.00
	.170	1841.79	.64	1842.26	30.00	.00	545.00	.00	.31	4985.00	4985.00	5015.00	5015.00
	.170	1841.01	.00	1841.49	105.59	38.02	440.98	11.01	.00	.00	4985.00	5015.00	.00
	.170	1840.45	.00	1840.84	63.75	4.57	298.11	1.32	.00	.00	4985.00	5015.00	.00
	.220	1843.19	.00	1843.37	240.87	90.98	443.18	10.84	.00	.00	4980.00	5025.00	.00
	.220	1843.60	.41	1843.85	45.00	.00	545.00	.00	.42	4980.00	4980.00	5025.00	5025.00
	.220	1843.07	.00	1843.25	221.05	68.95	412.84	8.22	.00	.00	4980.00	5025.00	.00
	.220	1842.56	.00	1842.71	137.56	12.70	289.79	1.51	.00	.00	4980.00	5025.00	.00

.288	1845.96	.21	1846.20	90.00	.00	545.00	.00	90.00	4950.00	4945.00	5040.00	5040.00
.288	1845.66	.00	1845.92	174.79	.00	459.13	30.87	.00	.00	4945.00	5040.00	.00
.288	1845.32	.00	1845.53	122.53	.00	299.57	4.43	.00	.00	4945.00	5040.00	.00
.384	1849.79	.00	1850.00	103.43	38.11	487.88	19.01	.00	.00	4970.00	5020.00	.00
.384	1849.87	.08	1850.14	50.00	.00	545.00	.00	.21	4970.00	4970.00	5020.00	5020.00
.384	1849.66	.00	1849.85	99.70	31.06	443.45	15.49	.00	.00	4970.00	5020.00	.00
.384	1849.17	.00	1849.30	84.90	11.47	286.81	5.72	.00	.00	4970.00	5020.00	.00
.504	1853.61	.00	1853.83	82.14	.00	545.00	.00	.00	.00	4950.00	5060.00	.00
.504	1853.76	.16	1853.95	85.28	.00	545.00	.00	.00	4950.00	4950.00	5060.00	5060.00
.504	1853.46	.00	1853.68	79.27	.00	490.00	.00	.00	.00	4950.00	5060.00	.00
.504	1852.89	.00	1853.07	67.91	.00	304.00	.00	.00	.00	4950.00	5060.00	.00
.574	1857.26	.00	1857.56	72.52	21.26	308.74	.00	.00	.00	4985.00	5055.00	.00
.574	1857.10	-.17	1857.57	49.80	.00	330.00	.00	.12	4985.00	4985.00	5055.00	5055.00
.574	1857.14	.00	1857.42	67.94	16.11	269.89	.00	.00	.00	4985.00	5055.00	.00
.574	1856.82	.00	1857.04	55.74	6.39	180.61	.00	.00	.00	4985.00	5055.00	.00

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	SECND	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.669	1862.11	.00	1862.23	91.84	.00	330.00	.00	.00	.00	4950.00	5075.00	.00
	.669	1862.21	.10	1862.31	91.23	.00	330.00	.00	.01	4950.00	4950.00	5075.00	5075.00
	.669	1861.99	.00	1862.10	89.71	.00	286.00	.00	.00	.00	4950.00	5075.00	.00
	.669	1861.62	.00	1861.71	76.86	.00	187.00	.00	.00	.00	4950.00	5075.00	.00
	.718	1864.85	.00	1865.07	128.44	.00	330.00	.00	.00	.00	4840.00	5070.00	.00
	.718	1864.72	-.12	1865.05	114.71	.00	330.00	.00	.00	4840.00	4840.00	5070.00	5070.00
	.718	1864.77	.00	1864.99	118.45	.00	286.00	.00	.00	.00	4840.00	5070.00	.00
	.718	1864.52	.00	1864.73	91.54	.00	187.00	.00	.00	.00	4840.00	5070.00	.00
	.809	1869.84	.00	1870.00	56.36	.00	330.00	.00	.00	.00	4955.00	5070.00	.00
	.809	1869.93	.10	1870.08	57.78	.00	330.00	.00	.00	4955.00	4955.00	5070.00	5070.00
	.809	1869.67	.00	1869.82	54.05	.00	286.00	.00	.00	.00	4955.00	5070.00	.00
	.809	1869.23	.00	1869.34	47.71	.00	187.00	.00	.00	.00	4955.00	5070.00	.00
	.858	1871.89	.00	1872.44	26.51	.00	205.00	.00	.00	.00	4980.00	5025.00	.00
*	.858	1871.80	-.09	1872.43	25.71	.00	205.00	.00	.00	4980.00	4980.00	5025.00	5025.00
	.858	1871.79	.00	1872.40	25.68	.00	201.00	.00	.00	.00	4980.00	5025.00	.00
*	.858	1871.96	.00	1872.18	27.15	.00	136.00	.00	.00	.00	4980.00	5025.00	.00
	.932	1876.41	.00	1876.51	61.13	.29	204.71	.00	.00	.00	4960.00	5030.00	.00
	.932	1876.44	.03	1876.54	58.34	.00	205.00	.00	.02	4960.00	4960.00	5030.00	5030.00
*	.932	1876.04	.00	1876.23	55.60	.00	201.00	.00	.00	.00	4960.00	5030.00	.00
	.932	1875.91	.00	1876.02	52.50	.00	136.00	.00	.00	.00	4960.00	5030.00	.00
	1.012	1880.41	.00	1880.83	32.01	.00	205.00	.00	.00	.00	4950.00	5040.00	.00
*	1.012	1880.35	-.06	1880.83	31.31	.00	205.00	.00	.00	4950.00	4950.00	5040.00	5040.00
	1.012	1880.86	.00	1881.07	38.09	.00	201.00	.00	.00	.00	4950.00	5040.00	.00
	1.012	1880.34	.00	1880.56	31.26	.00	136.00	.00	.00	.00	4950.00	5040.00	.00
	1.031	1881.54	.00	1881.70	25.00	.00	205.00	.00	25.00	4985.00	4940.00	5050.00	5010.00
	1.031	1881.55	.01	1881.71	25.00	.00	205.00	.00	25.00	4985.00	4940.00	5050.00	5010.00
	1.031	1881.51	.00	1881.67	25.00	.00	201.00	.00	25.00	4985.00	4940.00	5050.00	5010.00
	1.031	1881.06	.00	1881.16	25.00	.00	136.00	.00	25.00	4985.00	4940.00	5050.00	5010.00
*	1.054	1885.30	.00	1885.32	35.00	.00	205.00	.00	35.00	4980.00	4940.00	5020.00	5015.00
*	1.054	1885.30	.00	1885.32	35.00	.00	205.00	.00	35.00	4980.00	4940.00	5020.00	5015.00
*	1.054	1884.70	.00	1884.73	35.00	.00	201.00	.00	35.00	4980.00	4940.00	5020.00	5015.00
*	1.054	1883.50	.00	1883.52	35.00	.00	136.00	.00	35.00	4980.00	4940.00	5020.00	5015.00
	1.070	1885.07	.00	1885.41	25.16	.00	205.00	.00	30.00	4990.00	4930.00	5025.00	5020.00

	1.070	1885.27	.00	1885.41	25.14	.00	205.00	.00	30.00	4990.00	4990.00	5025.00	5020.00
	1.070	1884.64	.00	1884.87	23.83	.00	201.00	.00	30.00	4990.00	4990.00	5025.00	5020.00
*	1.070	1883.29	.00	1883.86	19.83	.00	136.00	.00	30.00	4990.00	4990.00	5025.00	5020.00
*	1.078	1890.00	.00	1890.10	30.00	.00	422.00	.00	30.00	4990.00	4970.00	5030.00	5020.00
*	1.078	1890.00	.00	1890.10	30.00	.00	422.00	.00	30.00	4990.00	4970.00	5030.00	5020.00
	1.078	1889.58	.00	1889.65	30.00	.00	320.00	.00	30.00	4990.00	4970.00	5030.00	5020.00
*	1.078	1887.03	.00	1887.08	30.00	.00	139.00	.00	30.00	4990.00	4970.00	5030.00	5020.00

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	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	1.125	1890.47	.00	1890.60	91.80	.00	420.92	1.08	.00	.00	4975.00	5065.00	.00
	1.125	1890.47	.00	1890.60	82.35	.00	422.00	.00	.02	4975.00	4975.00	5065.00	5065.00
	1.125	1889.97	.00	1890.12	79.03	.00	320.00	.00	.00	.00	4975.00	5065.00	.00
*	1.125	1888.84	.00	1889.16	48.03	.00	139.00	.00	.00	.00	4975.00	5065.00	.00
	1.193	1892.79	.00	1893.01	84.02	2.40	419.60	.00	.00	.00	4960.00	5050.00	.00
	1.193	1892.82	.03	1893.04	78.13	.00	422.00	.00	.02	4960.00	4960.00	5050.00	5050.00
	1.193	1892.70	.00	1892.84	82.18	1.41	318.59	.00	.00	.00	4960.00	5050.00	.00
	1.193	1892.33	.00	1892.38	75.68	.13	138.87	.00	.00	.00	4960.00	5050.00	.00
	1.277	1896.71	.00	1896.95	59.39	.00	422.00	.00	.00	.00	4955.00	5060.00	.00
	1.277	1896.72	.01	1896.96	58.48	.00	422.00	.00	.00	4955.00	4955.00	5060.00	5060.00
	1.277	1896.27	.00	1896.50	52.15	.00	320.00	.00	.00	.00	4955.00	5060.00	.00
	1.277	1895.25	.00	1895.48	37.72	.00	139.00	.00	.00	.00	4955.00	5060.00	.00
	1.324	1898.61	.00	1898.81	67.98	.00	422.00	.00	.00	.00	4930.00	5050.00	.00
	1.324	1898.62	.01	1898.81	67.94	.00	422.00	.00	.00	4930.00	4930.00	5050.00	5050.00
	1.324	1898.33	.00	1898.49	66.03	.00	320.00	.00	.00	.00	4930.00	5050.00	.00
	1.324	1897.69	.00	1897.77	56.27	.00	139.00	.00	.00	.00	4930.00	5050.00	.00
	1.403	1902.69	.00	1902.96	92.57	1.15	419.08	1.77	.00	.00	4965.00	5050.00	.00
	1.403	1902.71	.02	1902.97	85.00	.00	422.00	.00	.03	4965.00	4965.00	5050.00	5050.00
	1.403	1902.49	.00	1902.72	90.35	.47	318.80	.73	.00	.00	4965.00	5050.00	.00
	1.403	1902.02	.00	1902.17	85.23	.00	139.00	.00	.00	.00	4965.00	5050.00	.00
	1.492	1906.99	.00	1907.20	58.07	1.61	420.39	.00	.00	.00	4955.00	5025.00	.00
	1.492	1907.01	.01	1907.22	54.41	.00	422.00	.00	.01	4955.00	4955.00	5025.00	5025.00
	1.492	1906.70	.00	1906.87	56.00	.62	319.39	.00	.00	.00	4955.00	5025.00	.00
	1.492	1906.05	.00	1906.13	51.60	.00	139.00	.00	.00	.00	4955.00	5025.00	.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=     .125  PROFILE= 1  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .125  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .125  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .125  PROFILE= 3  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .125  PROFILE= 4  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=     .718  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .718  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=     .858  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .858  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .858  PROFILE= 4  INTERPOLATED XSECTIONS USED
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CAUTION  SECNO=     .932  PROFILE= 3  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=    1.012  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE     SECNO=    1.054  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=    1.054  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=    1.054  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=    1.054  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=    1.070  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.070  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.070  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE     SECNO=    1.078  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=    1.078  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=    1.078  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=    1.078  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=    1.125  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.125  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.125  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOODWAY DATA, CIRCLE CITY - WASH 3
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	76.	128.	4.3	1832.4	1832.4	.0
.068	68.	150.	3.6	1835.0	1835.0	.0
.125	43.	73.	7.5	1838.0	1838.5	-.5
.170	30.	99.	5.5	1841.7	1841.1	.6
.220	45.	137.	4.0	1843.6	1843.2	.4
.288	90.	137.	4.0	1845.9	1845.7	.2
.384	50.	131.	4.2	1849.9	1849.8	.1
.504	85.	157.	3.5	1853.8	1853.6	.2
.574	50.	60.	5.5	1857.2	1857.3	-.1
.669	91.	129.	2.6	1862.2	1862.1	.1
.718	137.	72.	4.6	1864.8	1864.8	.0
.809	58.	107.	3.1	1869.9	1869.8	.1
.858	26.	32.	6.4	1871.9	1871.9	.0
.932	58.	80.	2.6	1876.4	1876.4	.0
1.012	31.	37.	5.6	1880.4	1880.4	.0
1.031	25.	64.	3.2	1881.5	1881.5	.0
1.054	35.	176.	1.2	1885.3	1885.3	.0
1.070	25.	68.	3.0	1885.3	1885.3	.0
1.078	30.	165.	2.6	1890.0	1890.0	.0
1.125	82.	143.	2.9	1890.5	1890.5	.0
1.193	78.	113.	3.7	1892.8	1892.8	.0
1.277	58.	107.	4.0	1896.7	1896.7	.0
1.324	68.	119.	3.5	1898.6	1898.6	.0
1.403	85.	102.	4.1	1902.7	1902.7	.0
1.492	54.	115.	3.7	1907.0	1907.0	.0

FLOODWAY DATA, CIRCLE CITY - WASH 3
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	78.	120.	4.1	1832.4	1832.4	.0
.068	66.	139.	3.5	1835.0	1835.0	.0
.125	88.	102.	4.8	1838.5	1838.5	.0
.170	106.	114.	4.3	1841.1	1841.1	.0
.220	221.	208.	2.4	1843.2	1843.2	.0
.288	175.	139.	3.5	1845.7	1845.7	.0
.384	100.	161.	3.0	1849.8	1849.8	.0
.504	79.	132.	3.7	1853.6	1853.6	.0
.574	68.	72.	4.0	1857.3	1857.3	.0
.669	90.	109.	2.6	1862.1	1862.1	.0
.718	138.	76.	3.8	1864.8	1864.8	.0
.809	54.	93.	3.1	1869.7	1869.8	-.1
.858	26.	32.	6.3	1871.9	1871.9	.0
.932	56.	57.	3.5	1876.1	1876.4	-.3
1.012	38.	54.	3.7	1880.8	1880.4	.4
1.031	25.	63.	3.2	1881.5	1881.5	.0
1.054	35.	155.	1.3	1884.8	1885.3	-.5
1.070	24.	52.	3.8	1884.8	1885.3	-.5
1.078	30.	152.	2.1	1889.7	1890.0	-.3
1.125	79.	102.	3.1	1890.1	1890.5	-.4
1.193	82.	105.	3.0	1892.8	1892.8	.0
1.277	52.	82.	3.9	1896.4	1896.7	-.3
1.324	66.	100.	3.2	1898.4	1898.6	-.2
1.403	90.	85.	3.8	1902.6	1902.7	-.1
1.492	56.	99.	3.2	1906.8	1907.0	-.2

1

FLOODWAY DATA, CIRCLE CITY - WASH 3
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	71.	87.	3.5	1832.0	1832.4	-.4
.068	59.	103.	3.0	1834.4	1835.0	-.6
.125	43.	71.	4.3	1837.9	1838.5	-.6
.170	64.	66.	4.6	1840.5	1841.1	-.6
.220	138.	116.	2.6	1842.7	1843.2	-.5
.288	123.	88.	3.5	1845.4	1845.7	-.3
.384	85.	116.	2.6	1849.3	1849.8	-.5
.504	68.	90.	3.4	1853.0	1853.6	-.6
.574	56.	52.	3.6	1857.0	1857.3	-.3
.669	77.	79.	2.4	1861.7	1862.1	-.4
.718	130.	50.	3.7	1864.6	1864.8	-.2
.809	48.	70.	2.7	1869.3	1869.8	-.5
.858	27.	36.	3.7	1872.0	1871.9	.1
.932	52.	50.	2.7	1876.0	1876.4	-.4
1.012	31.	37.	3.7	1880.4	1880.4	.0
1.031	25.	51.	2.6	1881.1	1881.5	-.4
1.054	35.	113.	1.0	1883.6	1885.3	-1.7

1.070	20.	22.	6.1	1883.4	1885.3	-1.9
1.078	30.	76.	1.8	1887.1	1890.0	-2.9
1.125	48.	31.	4.5	1889.0	1890.5	-1.5
1.193	76.	76.	1.8	1892.4	1892.8	-.4
1.277	38.	36.	3.9	1895.3	1896.7	-1.4
1.324	56.	60.	2.3	1897.8	1898.6	-.8
1.403	85.	44.	3.1	1902.1	1902.7	-.6
1.492	52.	64.	2.2	1906.2	1907.0	-.8

1

THIS RUN EXECUTED 05/09/88 08:02:15

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
*************************************************
```

PROJECT: WITTMANN ADMS

DESIGNER BKH

DATE 1-21-88

HYDROLOGIC AND CHANNEL INFORMATION

CULVERT CAPACITY CHECK

WASH 3 Circle City

Q_1 = 282 MAX. CAPACITY 6' x 4'

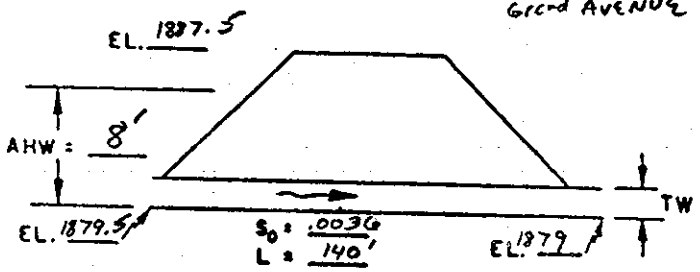
Q_2 = 205 100 yr. discharge B x h

TW_1 = ____

TW_2 = ____

SKETCH

STATION: 1.054 Grand AVENUE



ALLOWABLE OUTLET VELOCITY = ____

CULVERT TYPE	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL K_e	d_c	$\frac{d_c+D}{2}$	h_o	H	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
6'x4' BOX CULVERT	282	6'x4'	2	8'	.5	4.0	4.0	4.0	1.7	0.5	5.2	8'			inlet control
6'x4' BOX CULVERT	205	6'x4'	1.45	5.8											Q = 205 FROM HEC-1 MODEL
50-yr. FLOW	201	6'x4'	1.32	5.2											W.S. ELEV. 1879.5 + 5.2 = 1884.7
10-yr. FLOW	136	6'x4'	.99	4.0											WS ELEV. 1879.5 + 4.0 = 1883.5

SUMMARY & RECOMMENDATIONS:

Section 1.054 W.S. ELEV. = 5.8 + 1879.5 = 1885.3

Section 1.078 W.S. ELEV = 1890.00 HEC-1 100 yr EVENT [C 20] STORAGE ROUTING

Figure 5

INPUT FILE: CCWASH4

OUTPUT FILE: CCWASH4.out

THIS RUN EXECUTED 05/09/88 08:14:01

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - WASH 4

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.   .000000      .00       .5        0.   1869.840     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     .000      .000      .000      .000      .000      .000      .000      .000    15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    43.000     1.000    53.000    21.000    22.000    54.000    51.000     4.000     8.000


    42.000     5.000    26.000      .000   110.000      .000   200.000      .000      .000      .000


NC      .080      .080      .050      .100      .300      .000      .000      .000      .000      .000
QT     4.000   330.000   330.000   286.000   187.000      .000      .000      .000      .000      .000
ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED
                ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
X1      .000     6.000  4955.000  5070.000      .000      .000      .000      .000      .000      .000
GR   1874.000  4885.000  1872.000  4955.000  1868.000  4985.000  1866.500  5000.000  1868.000  5015.000
GR   1876.000  5070.000      .000      .000      .000      .000      .000      .000      .000      .000

QT     4.000   125.000   125.000    85.000    51.000      .000      .000      .000      .000      .000
X1      .042     5.000  4960.000  5030.000   270.000   100.000   220.000      .000      .000      .000
GR   1876.000  4960.000  1870.000  4980.000  1869.500  5000.000  1870.000  5010.000  1876.000  5030.000

X1      .086     6.000  4950.000  5030.000   230.000   230.000   230.000      .000      .000      .000
GR   1880.000  4950.000  1876.000  4975.000  1874.000  4995.000  1873.000  5000.000  1874.000  5015.000
GR   1880.000  5030.000      .000      .000      .000      .000      .000      .000      .000      .000

X1      .154     5.000  4975.000  5050.000   320.000   400.000   360.000      .000      .000      .000
GR   1884.000  4975.000  1880.000  4990.000  1878.000  5000.000  1878.000  5015.000  1884.000  5050.000
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QT     4.000    78.000    78.000    65.000    41.000      .000      .000      .000      .000      .000
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X3      .000      .000      .000     4945.000  1888.000  5045.000  1888.000      .000      .000      .000
GR   1888.000  4945.000  1882.000  4980.000  1892.000  5015.000  1886.000  5045.000  1887.500  5095.000

                 WATER SURFACE ELEVATION AT SECTION .228 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
X1      .228      9.000  4975.000  5020.000   140.000   140.000   140.000      .000      .000      .000
X3      .000      .000      .000     4980.000  1890.000  5010.000  1890.000      .000      .000      .000
X5     4.000  1889.000  1889.000  1887.700  1886.000      .000      .000      .000      .000      .000
GR   1890.000  4830.000  1888.000  4950.000  1886.000  4975.000  1884.000  4980.000  1882.500  5000.000
GR   1884.000  5010.000  1886.000  5020.000  1888.000  5060.000  1889.000  5130.000      .000      .000

X1      .239      7.000  4935.000  5100.000    60.000    60.000    60.000      .000      .000      .000
X3      .000      .000      .000     4980.000  1892.000  5025.000  1892.000      .000      .000      .000
X4     3.000  1886.000  5025.000  1884.000  4990.000  1884.000  5010.000      .000      .000      .000
GR   1892.000  4930.000  1890.000  4935.000  1888.000  4950.000  1886.000  4980.000  1888.000  5070.000
GR   1890.000  5100.000  1892.000  5110.000      .000      .000      .000      .000      .000      .000

QT     4.000   132.000   132.000    94.000    45.000      .000      .000      .000      .000      .000
                 WATER SURFACE ELEVATION AT SECTION .257 IS BASED UPON THE
                 HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C19.
X1      .257      7.000  4965.000  5115.000    95.000    95.000    95.000      .000      .000      .000
X3      .000      .000      .000     4990.000  1892.000  5020.000  1892.000      .000      .000      .000
X5     4.000  1890.210  1890.210  1889.280  1887.330      .000      .000      .000      .000      .000
GR   1892.000  4965.000  1886.000  4990.000  1894.500  5000.000  1886.000  5020.000  1888.000  5095.000
GR   1890.000  5115.000  1890.500  5170.000      .000      .000      .000      .000      .000      .000

QT     4.000   123.000   123.000    94.000    45.000      .000      .000      .000      .000      .000
X1      .285      5.000  4970.000  5020.000   150.000   150.000   150.000      .000      .000      .000
GR   1894.000  4970.000  1888.000  4990.000  1888.000  5010.000  1892.000  5020.000  1894.000  5060.000

X1      .380      8.000  4965.000  5030.000   500.000   500.000   500.000      .000      .000      .000
GR   1900.000  4935.000  1898.000  4965.000  1896.000  4990.000  1894.000  4990.000  1894.000  5010.000
GR   1896.000  5020.000  1898.000  5030.000  1900.000  5075.000      .000      .000      .000      .000

X1      .471      9.000  4955.000  5025.000   480.000   480.000   480.000      .000      .000      .000
GR   1905.000  4890.000  1904.000  4920.000  1902.000  4955.000  1902.000  4990.000  1900.000  4990.000
GR   1898.000  5000.000  1900.000  5005.000  1904.000  5025.000  1905.000  5030.000      .000      .000

X1      .590     10.000  4975.000  5050.000   630.000   630.000   630.000      .000      .000      .000
GR   1913.000  4910.000  1912.000  4950.000  1910.000  4975.000  1908.000  4990.000  1906.000  5000.000
GR   1906.000  5015.000  1908.000  5030.000  1910.000  5050.000  1912.000  5080.000  1914.000  5105.000
EJ      .000      .000      .000      .000      .000      .000      .000      .000      .000      .000
1
 05/09/88    08:14:01                                                                          PAGE    3


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 1

CCHV=    .100 CEHV=    .300
*SECNO  .000
                 THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED
                 ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
     .00     3.34  1869.84      .00  1869.84  1870.00      .16      .00      .00  1872.00
    330.       0.     330.       0.       0.     102.       0.       0.       0.  1876.00
     .00      .00     3.23      .00     .000     .050     .080     .000  1866.50  4971.20
  .005430       0.       0.       0.       0        0        0      .00    56.45  5027.65
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1869.84
```

```
 STA=    4971.    5070.
   PER Q=    100.0
    AREA=    102.0
     VEL=      3.2

 *SECNO  .042
      .04     1.64  1871.14      .00      .00  1871.26      .11     1.25      .00  1876.00
     125.       0.     125.       0.       0.      46.       0.       0.       0.   1876.00
      .02      .00     2.71      .00     .000     .050     .000     .000  1869.50  4976.19
  .006417     270.     220.     100.        3        0        0      .00    37.62  5013.81
0
 FLOW DISTRIBUTION FOR SECNO=       .04          CWSEL=   1871.14

 STA=    4976.    5030.
   PER Q=    100.0
    AREA=     46.1
     VEL=      2.7

 *SECNO  .086

 1645 INT SEC ADDED BY RAISING SEC       .03,  -1.750FT AND MULTIPLYING BY   1.407

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.01     1.36  1872.61  1872.61      .00  1872.99      .38     1.53      .08  1878.25
     125.       0.     125.       0.       0.      25.       0.       0.       0.   1878.25
      .03      .00     4.94      .00     .000     .050     .000     .000  1871.25  5008.27
  .041972     115.     115.     115.        1       15        0      .00    34.45  5042.72
0
1
 05/09/98    08:14:01                                                                    PAGE    4

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1872.61

 STA=    5008.    5063.
   PER Q=    100.0
    AREA=     25.3
     VEL=      4.9

 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.750FT AND MULTIPLYING BY    .711

      .09     2.03  1875.03      .00      .00  1875.20      .17     2.19      .02  1880.00
     125.       0.     125.       0.       0.      37.       0.       1.       0.   1880.00
      .04      .00     3.34      .00     .000     .050     .000     .000  1873.00  4984.65
  .010842     115.     115.     115.        2        0        0      .00    32.94  5017.59
0
 FLOW DISTRIBUTION FOR SECNO=       .09          CWSEL=   1875.03

 STA=    4985.    5030.
   PER Q=    100.0
    AREA=     37.4
     VEL=      3.3

 *SECNO  .154
      .15     1.46  1879.46      .00      .00  1879.68      .22     4.46      .01  1884.00
     125.       0.     125.       0.       0.      33.       0.       1.       1.   1884.00
      .07      .00     3.74      .00     .000     .050     .000     .000  1878.00  4992.70
  .014706     230.     201.     400.        4        0        0      .00    30.02  5022.52
```

```
0
 FLOW DISTRIBUTION FOR SECNO=       .15          CWSEL=   1879.46

 STA=    4993.    5050.
   PER Q=    100.0
   AREA=     33.5
    VEL=      3.7

 *SECNO  .201

 3470 ENCROACHMENT STATIONS=    4945.0    5045.0  TYPE=     1  TARGET=     100.000
  ELENCL=   1888.00  ELENCR=   1888.00
      .20      .79  1882.79      .00      .00  1882.98      .09     3.19      .01  1888.00
      78.       0.      78.       0.       0.      32.       0.       1.       1.   1888.00
      .09      .00     2.43      .00     .090     .050     .090     .000  1882.00  4975.35
   .010716     250.     250.     250.        3        0        0      .00    45.62  5020.97
0
1
 05/09/88    08:14:01                                                                          PAGE    5


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .20          CWSEL=   1882.79

 STA=    4975.    5045.
   PER Q=    100.0
   AREA=     32.1
    VEL=      2.4

 *SECNO  .228
  WATER EL=X5 CARD=  1889.000

 3470 ENCROACHMENT STATIONS=    4980.0    5010.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1890.00  ELENCR=   1890.00
                 WATER SURFACE ELEVATION AT SECTION .228 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
      .23     6.50  1889.00      .00      .00  1889.00      .00      .02      .01  1890.00
      78.       0.      78.       0.       0.     172.       0.       1.       1.   1890.00
      .18      .00      .45      .00     .090     .050     .090     .000  1882.50  4990.00
   .000033     140.     140.     140.        0        0        0      .00    30.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1889.00

 STA=    4980.    5020.
   PER Q=    100.0
   AREA=    172.5
    VEL=       .5

 *SECNO  .239

 3470 ENCROACHMENT STATIONS=    4980.0    5025.0  TYPE=     1  TARGET=      45.000
  ELENCL=   1892.00  ELENCR=   1892.00
      .24     5.00  1889.00      .00      .00  1889.01      .00      .00      .00  1892.00
      78.       0.      78.       0.       0.     200.       0.       2.       1.   1892.00
      .22      .00      .39      .00     .090     .050     .090     .000  1884.00  4990.00
   .000028      60.      60.      60.        2        0        0      .00    45.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .24          CWSEL=   1889.00

 STA=    4990.    5100.
```

```
  PER Q=    100.0
   AREA=    200.1
    VEL=       .4

1
 05/09/98    08:14:01                                                                                                PAGE    6

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .257
  WATER EL=X5 CARD=  1890.210

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                 WATER SURFACE ELEVATION AT SECTION .257 IS BASED UPON THE
                 HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C19.
      .26     5.71  1890.21      .00      .00  1890.22      .01      .01      .00  1892.00
     132.       0.     132.       0.       0.     149.       0.       2.       1.   1892.00
      .25      .00      .89      .00     .080     .050     .080     .000  1884.50  4990.00
  .000147      95.      95.      95.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1890.21

 STA=    4990.    5115.
  PER Q=    100.0
   AREA=    148.8
    VEL=       .9

 *SECNO  .285
      .29     2.23  1890.23      .00      .00  1890.29      .07      .05      .02  1894.00
     123.       0.     123.       0.       0.      59.       0.       2.       1.   1892.00
      .27      .00     2.09      .00     .080     .050     .080     .000  1888.00  4992.58
  .002340     150.     150.     150.        3        0        0      .00    32.98  5015.56
0
 FLOW DISTRIBUTION FOR SECNO=       .28          CWSEL=   1890.23

 STA=    4983.    5020.
  PER Q=    100.0
   AREA=     53.0
    VEL=      2.1

 *SECNO  .380
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .38      .97  1894.97  1894.97      .00  1895.37      .41     3.03      .10  1898.00
     123.       0.     123.       0.       0.      24.       0.       3.       2.   1898.00
      .30      .00     5.13      .00     .080     .050     .080     .000  1894.00  4995.17
  .039792     500.     500.     500.       20       14        0      .00    29.66  5014.83
0
1
 05/09/98    08:14:01                                                                                                PAGE    7

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .28          CWSEL=   1894.97
```

```
 STA=    4985.    5030.
   PER Q=    100.0
    AREA=     24.0
     VEL=      5.1

 *SECNO  .471
       .47     3.25  1901.25      .00      .00  1901.39      .14     5.98      .03  1902.00
      123.       0.     123.       0.       0.      41.       0.       3.       2.   1904.00
       .34      .00     2.97      .00     .080     .050     .080     .000  1898.00  4983.78
   .006007     480.     480.     480.        7        0        0      .00    27.44  5011.22
0
 FLOW DISTRIBUTION FOR SECNO=       .47          CWSEL=   1901.25

 STA=    4984.    5025.
   PER Q=    100.0
    AREA=     41.4
     VEL=      3.0

 *SECNO  .590
       .59     1.33  1907.33      .00      .00  1907.57      .25     6.16      .03  1910.00
      123.       0.     123.       0.       0.      31.       0.       4.       2.   1910.00
       .39      .00     3.98      .00     .080     .050     .080     .000  1906.00  4993.36
   .018621     630.     630.     630.        5        0        0      .00    31.59  5024.95
0
 FLOW DISTRIBUTION FOR SECNO=       .59          CWSEL=   1907.33

 STA=    4993.    5050.
   PER Q=    100.0
    AREA=     30.9
     VEL=      4.0


 PROFILE FOR STREAM  CIRCLE CITY - WASH 4


 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


 ELEVATION  1865.     1870.     1875.     1880.     1885.     1890.     1895.     1900.     1905.     1910.
    SECNO   CUMDIS

      .00      0.  C I     E  L   M . R      .         .         .         .         .         .         .         .
               50.  C  I    WE   L  M. R      .         .         .         .         .         .         .         .
              100.  C    I  .E     L M R      .         .         .         .         .         .         .         .
              150.  C     I  .WE     L.MR      .         .         .         .         .         .         .         .
              200.  C      I . E      .LR      .         .         .         .         .         .         .         .
      .04     250.  C       I. WE     . L      .         .         .         .         .         .         .         .
              300.  C        .I  E    .  L     .         .         .         .         .         .         .         .
     1.01     350.  .        .  I WE  .     L  .         .         .         .         .         .         .         .
              400.  C        .   I  WE .     L .         .         .         .         .         .         .         .
      .09     450.  C        .    I  E        L         .         .         .         .         .         .         .
              500.  C        .     I  .WE      .L        .         .         .         .         .         .         .
              550.  C        .       I.  E     . L       .         .         .         .         .         .         .
              600.  C        .        I  E    . L       .         .         .         .         .         .         .
              650.  C        .        . I  E   .  L      .         .         .         .         .         .         .
              700.  C        .        .  I  WE .    L    .         .         .         .         .         .         .
              750.  C        .        .   I  WE .     L  .         .         .         .         .         .         .
              800.  C        .        .    I  E.      L .         .         .         .         .         .         .
      .15     850.  C        .        .    I  E.      L .         .         .         .         .         .         .
              900.  C        .        .      I WE      ML         .         .         .         .         .         .
              950.  C        .        .       I. E      .L        .         .         .         .         .         .
             1000.  C        .        .        .I E     . ML      .         .         .         .         .         .
             1050.  C        .        .        . I E    .  L      .         .         .         .         .         .
      .23    1100.  C                                I E       M
```

```
        1150.  C      .      .      .  I    E    ML .      .      .      .      .      .
   .23  1200.  C      .      .      .  I    .      E L      .      .      .      .      .
        1250.  C      .      .      .     I .      E .  L   .      .      .      .      .
   .24  1300.  C      .      .      .     I .      E .   L  .      .      .      .      .
        1350.  C      .      .      .      I.       E. M L  .      .      .      .      .
   .26  1400.  C      .      .      .      I.        EM  L  .      .      .      .      .
        1450.  C      .      .      .       .I       E  MRL .      .      .      .      .
        1500.  C      .      .      .       .  I     WE  R ML .      .      .      .      .
   .28  1550.  C      .      .      .       .   I   WE  R  L .      .      .      .      .
        1600.  C      .      .      .       .    I .WE  R  L.      .      .      .      .
        1650.  C      .      .      .       .     I . WE  R  L      .      .      .      .
        1700.  C      .      .      .       .       I  WE   R L M  .      .      .      .
        1750.  C      .      .      .       .       .I  WE   R.L M .      .      .      .
        1800.  C      .      .      .       .       . I  WE   R L M .      .      .      .
        1850.  C      .      .      .       .       .  I  WE  .R L M .      .      .      .
        1900.  C      .      .      .       .       .   I  WE . R L M .      .      .      .
        1950.  C      .      .      .       .       .     I WE.   L   M .      .      .      .
        2000.  C      .      .      .       .       .      I WE   L   M.      .      .      .
   .38  2050.  .      .      .      .       .       .       I WE   L   M      .      .      .
        2100.  C      .      .      .       .       .        I.WE   L  .M      .      .      .
        2150.  C      .      .      .       .       .         I  E   LR. M     .      .      .
        2200.  C      .      .      .       .       .         .I  E   LR  M    .      .      .
        2250.  C      .      .      .       .       .         .I   WE  L.R  M  .      .      .
        2300.  C      .      .      .       .       .         . I   WE  L R  M .      .      .
        2350.  C      .      .      .       .       .         .  I   E .L  R M .      .      .
        2400.  C      .      .      .       .       .         .   I   WE L  R M .      .      .
        2450.  C      .      .      .       .       .         .    I   WE L  R M.      .      .
   .47  2500.  C      .      .      .       .       .         .     I  . WEL   R M      .      .
        2550.  C      .      .      .       .       .         .      I .  WEL   R.M     .      .
        2600.  C      .      .      .       .       .         .       I.   WE L  R  M   .      .
        2650.  C      .      .      .       .       .         .        I   WE L .R  M   .      .
        2700.  C      .      .      .       .       .         .        .I   WE L. R  M  .      .
        2750.  C      .      .      .       .       .         .        . I   WE L  R  M .      .
        2800.  C      .      .      .       .       .         .         .  I  WE. L R  M .      .
        2850.  C      .      .      .       .       .         .         .  I  WE  L R  M.      .
        2900.  C      .      .      .       .       .         .         .   I  WE  L R  M      .
        2950.  C      .      .      .       .       .         .         .    I .WE  L R .M     .
        3000.  C      .      .      .       .       .         .         .     I. WE  LR .  M   .
        3050.  C      .      .      .       .       .         .         .      I  WE  L .  M   .
        3100.  C      .      .      .       .       .         .         .      .I  WE  L.   M  .
   .59  3150.  C      .      .      .       .       .         .         .      . I  E   L    M .
```

1

THIS RUN EXECUTED 05/09/88 08:14:30

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************
```

T1 WITTMANN ADMS
T2 100 YEAR STORM EVENT - ENCROACHED
T3 CIRCLE CITY - WASH 4

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	3.	0.	0.	.000000	.00	.0	0.	1869.840	.000

MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS

```
     2.000      .000    -1.000      .000      .000      .000      .000      .000      .000    15.000

1
 05/09/88    08:14:01                                                                                PAGE    9

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 2

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
  2800 NAT Q1=     44.78  WSEL=   1869.84  ENC Q1=     86.32  WSEL=   1870.84  RATIO=  -.9276
  NAT Q1=     86.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1870.84

 3470 ENCROACHMENT STATIONS=    4955.0    5070.0  TYPE=     4  TARGET=        .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED
                ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
      .00     3.34  1869.84      .00  1869.84  1870.00      .16      .00      .00  1872.00
     330.       0.     330.       0.       0.     102.       0.       0.       0.   1876.00
      .00      .00     3.23      .00     .080     .050     .080     .000  1866.50  4971.20
   .005430       0.       0.       0.       0        0        0      .00    56.45  5027.65
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1869.84

 STA=    4971.    5070.
   PER Q=    100.0
    AREA=    102.0
     VEL=      3.2

 *SECNO  .042
  2800 NAT Q1=     15.60  WSEL=   1871.14  ENC Q1=     40.22  WSEL=   1872.14  RATIO= -1.5775
  NAT Q1=     40.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1872.14

 3470 ENCROACHMENT STATIONS=    4960.0    5030.0  TYPE=     4  TARGET=        .000
      .04     1.64  1871.14      .00  1871.14  1871.26      .11     1.25      .00  1876.00
     125.       0.     125.       0.       0.      46.       0.       0.       0.   1876.00
      .02      .00     2.71      .00     .080     .050     .080     .000  1869.50  4976.19
   .006423     270.     220.     100.       3        0        0      .00    37.61  5013.81
0
 FLOW DISTRIBUTION FOR SECNO=       .04          CWSEL=   1871.14

 STA=    4976.    5030.
   PER Q=    100.0
    AREA=     46.1
     VEL=      2.7

 *SECNO  .086
1
 05/09/88    08:14:01                                                                                PAGE   10

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


  2800 NAT Q1=     12.00  WSEL=   1875.03  ENC Q1=     31.79  WSEL=   1876.03  RATIO= -1.6483
  NAT Q1=     32.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1876.03
```

```
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    4950.0    5030.0  TYPE=     4  TARGET=        .000
      .09      1.57  1874.57  1874.57  1875.03  1875.01      .44      3.01      .10  1880.00
     125.        0.     125.       0.       0.      23.       0.        1.       0.   1880.00
      .03       .00     5.34      .00     .080     .050     .080     .000  1873.00  4989.31
   .039839     230.     230.     230.        9       11        0      .00    27.11  5016.42
0
FLOW DISTRIBUTION FOR SECNO=       .09          CWSEL=   1874.57

STA=    4989.    5030.
  PER Q=    100.0
   AREA=     23.4
    VEL=      5.3

*SECNO  .154
 2800 NAT Q1=     10.44  WSEL=   1879.46  ENC Q1=     29.19  WSEL=   1880.46  RATIO= -1.7952
 NAT Q1=     29.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1880.46

3470 ENCROACHMENT STATIONS=    4975.0    5050.0  TYPE=     4  TARGET=        .000
      .15      1.78  1879.78      .00  1879.46  1879.91      .13      4.86      .03  1884.00
     125.        0.     125.       0.       0.      44.       0.        1.       1.   1884.00
      .07       .00     2.85      .00     .080     .050     .080     .000  1878.00  4991.10
   .006718     320.     360.     400.        6        0        0      .00    34.27  5025.38
0
FLOW DISTRIBUTION FOR SECNO=       .15          CWSEL=   1879.78

STA=    4991.    5050.
  PER Q=    100.0
   AREA=     43.8
    VEL=      2.9

*SECNO  .201

3470 ENCROACHMENT STATIONS=    4945.0    5045.0  TYPE=     1  TARGET=     100.000
 ELENCL=   1880.00  ELENCR=   1880.00
      .20       .53  1882.53      .00  1882.79  1882.75      .22      2.82      .03  1888.00
      78.        0.      78.       0.       0.      21.       0.        1.       1.   1888.00
      .03       .00     3.74      .00     .080     .050     .080     .000  1882.00  4976.85
   .040511     250.     250.     250.        4        0        0      .00    42.21  5019.06
0
1
 05/09/88    08:14:01                                                                    PAGE   11


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=       .20          CWSEL=   1882.53

STA=    4977.    5045.
  PER Q=    100.0
   AREA=     20.9
    VEL=      3.7

*SECNO  .220
 WATER EL=XS CARD=  1889.000

3470 ENCROACHMENT STATIONS=    4980.0    5010.0  TYPE=     1  TARGET=      30.000
 ELENCL=   1890.00  ELENCR=   1890.00
                 WATER SURFACE ELEVATION AT SECTION .220 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL
```

```
      .23     6.50  1889.00      .00  1889.00  1889.00      .00      .02      .02  1890.00
      78.       0.      78.       0.       0.     172.       0.       1.       1.  1890.00
      .17      .00      .45      .00     .080     .050     .080     .000  1882.50  4980.00
   .000033     140.     140.     140.        0        0        0      .00    30.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1889.00

 STA=    4980.    5020.
   PER Q=    100.0
    AREA=    172.5
     VEL=       .5

 *SECNO  .239

 3470 ENCROACHMENT STATIONS=    4980.0    5025.0  TYPE=     1  TARGET=      45.000
  ELENCL=   1892.00  ELENCR=   1892.00
      .24     5.00  1889.00      .00  1889.00  1889.01      .00      .00      .00  1892.00
      78.       0.      78.       0.       0.     200.       0.       2.       1.  1892.00
      .22      .00      .39      .00     .080     .050     .090     .000  1884.00  4980.00
   .000028      60.      60.      60.        2        0        0      .00    45.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .24          CWSEL=   1889.00

 STA=    4980.    5100.
   PER Q=    100.0
    AREA=    200.1
     VEL=       .4

1
 05/09/88    09:14:01                                                                    PAGE   12

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST

 *SECNO  .257
  WATER EL=X5 CARD=  1890.210

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                 WATER SURFACE ELEVATION AT SECTION .257 IS BASED UPON THE
                 HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C19.
      .26     5.71  1890.21      .00  1890.21  1890.22      .01      .01      .00  1892.00
     132.       0.     132.       0.       0.     149.       0.       2.       1.  1892.00
      .25      .00      .89      .00     .080     .050     .080     .000  1884.50  4990.00
   .000147      95.      95.      95.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1890.21

 STA=    4990.    5115.
   PER Q=    100.0
    AREA=    148.8
     VEL=       .9

 SECNO  .285
 2800 NAT Q1=     25.43  WSEL=   1890.23  ENC Q1=     50.21  WSEL=   1891.23  RATIO=  -.9745
  NAT Q1=     50.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1891.23

 3470 ENCROACHMENT STATIONS=    4970.0    5020.0  TYPE=     4  TARGET=        .000
      .28     2.23  1890.23      .00  1890.23  1890.29      .07      .05      .02  1894.00
     123.       0.     123.       0.       0.      59.       0.       2.       1.  1892.00
      .27      .00     2.09      .00     .080     .050     .080     .000  1888.00  4982.58
```

```
0
 FLOW DISTRIBUTION FOR SECNO=       .28          CWSEL=   1890.23

 STA=    4983.    5020.
   PER Q=    100.0
   AREA=     53.0
    VEL=      2.1

 *SECNO  .380
  2800 NAT Q1=      6.17  WSEL=   1894.97  ENC Q1=     22.43  WSEL=   1895.97  RATIO= -2.6466
  NAT Q1=     22.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1895.97
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
1
  05/09/88    08:14:01                                                                                    PAGE   13


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4965.0    5030.0  TYPE=     4  TARGET=        .000
       .38      .96  1894.96  1894.96  1894.97  1895.37      .41     3.04      .10  1898.00
      123.       0.     123.       0.       0.      24.       0.       3.       2.   1898.00
       .29      .00     5.14      .00     .000     .050     .000     .000  1894.00  4985.18
   .040059     500.     500.     500.       20       14        0      .00    29.65  5014.82
0
 FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1894.96

 STA=    4985.    5030.
   PER Q=    100.0
   AREA=     23.9
    VEL=      5.1

 *SECNO  .471
  2800 NAT Q1=     15.87  WSEL=   1901.25  ENC Q1=     28.07  WSEL=   1902.25  RATIO=  -.7687
  NAT Q1=     28.  RATIOS LOB,CH,ROB=   .0009   .9991   .0000  WSEL=   1902.25

 3470 ENCROACHMENT STATIONS=    4955.0    5025.0  TYPE=     4  TARGET=        .001
       .47     3.25  1901.25      .00  1901.25  1901.38      .14     5.98      .03  1902.00
      123.       0.     123.       0.       0.      41.       0.       3.       2.   1904.00
       .34      .00     2.97      .00     .000     .050     .000     .000  1898.00  4983.77
   .005989     480.     480.     480.        6        0        0      .00    27.46  5011.23
0
 FLOW DISTRIBUTION FOR SECNO=       .47          CWSEL=   1901.25

 STA=    4984.    5025.
   PER Q=    100.0
   AREA=     41.5
    VEL=      3.0

 *SECNO  .590
  2800 NAT Q1=      9.01  WSEL=   1907.33  ENC Q1=     26.86  WSEL=   1909.33  RATIO= -1.9797
  NAT Q1=     27.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1908.33

 3470 ENCROACHMENT STATIONS=    4975.0    5050.0  TYPE=     4  TARGET=        .000
       .59     1.33  1907.33      .00  1907.33  1907.58      .25     6.16      .03  1910.00
      123.       0.     123.       0.       0.      31.       0.       4.       2.   1910.00
       .38      .00     3.99      .00     .000     .050     .000     .000  1906.00  4993.38
   .018759     630.     630.     630.        3        0        0      .00    31.56  5024.93
0
```

```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=       .59          CWSEL=   1907.33

STA=    4993.    5050.
  PER Q=    100.0
   AREA=     30.8
    VEL=      4.0
```



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                                                                THIS RUN EXECUTED 05/09/88   08:14:45
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


T1      WITTMANN ADMS
T2      50-YEAR STORM EVENT
T3      CIRCLE CITY - WASH 4

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       4.       0.       0.   .000000     .00       .5       0.  1869.670    .000

MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     3.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000
```



```
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


*PROF 3

CCHV=    .100 CEHV=    .300
 SECNO  .000
              THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED
              ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
     .00     3.17  1869.67     .00  1869.67  1869.82     .15     .00     .00  1972.00
    286.       0.     286.      0.       0.     93.       0.      0.      0.  1876.00
     .00     .00     3.09     .00     .090    .050     .080    .000  1866.50  4972.47
  .005303      0.       0.      0.       0        0        0     .00    54.01  5026.48
0
FLOW DISTRIBUTION FOR SECNO=       .04          CWSEL=   1869.67
```

```
 STA=    4972.    5070.
   PER Q=    100.0
    AREA=     92.6
     VEL=      3.1

 SECNO  .042
      .04     1.42  1870.92      .00      .00  1871.00      .08     1.17      .01  1876.00
      85.       0.      85.       0.       0.      38.       0.       0.       0.   1876.00
      .03      .00     2.24      .00     .080     .050     .080     .000  1869.50  4976.94
   .005407     270.     220.     100.        3        0        0      .00    36.13  5013.06
0
 FLOW DISTRIBUTION FOR SECNO=       .04          CWSEL=   1870.92

 STA=    4977.    5030.
   PER Q=    100.0
    AREA=     37.9
     VEL=      2.2

 *SECNO  .086
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .09     1.33  1874.33  1874.33      .00  1874.71      .37     2.70      .09  1880.00
      85.       0.      85.       0.       0.      17.       0.       0.       0.   1880.00
      .04      .00     4.89      .00     .080     .050     .080     .000  1873.00  4991.66
   .042484     230.     230.     230.       20       11        0      .00    24.18  5015.84
0
1
 05/09/88    08:14:01                                                                    PAGE   17

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST

 FLOW DISTRIBUTION FOR SECNO=       .09          CWSEL=   1874.33

 STA=    4992.    5030.
   PER Q=    100.0
    AREA=     17.4
     VEL=      4.9

 *SECNO  .154
      .15     1.47  1879.47      .00      .00  1879.57      .10     4.83      .03  1884.00
      85.       0.      85.       0.       0.      34.       0.       1.       1.   1884.00
      .08      .00     2.52      .00     .080     .050     .080     .000  1878.00  4992.66
   .006494     320.     360.     400.        5        0        0      .00    30.90  5023.56
0
 FLOW DISTRIBUTION FOR SECNO=       .15          CWSEL=   1879.47

 STA=    4993.    5050.
   PER Q=    100.0
    AREA=     33.7
     VEL=      2.5

 *SECNO  .201

 3470 ENCROACHMENT STATIONS=    4945.0    5045.0  TYPE=     1  TARGET=     100.000
  ELENCL=   1888.00  ELENCR=   1888.00
      .20      .46  1882.46  1882.46      .00  1882.67      .21     3.07      .03  1888.00
      65.       0.      65.       0.       0.      18.       0.       1.       1.   1888.00
      .10      .00     3.68      .00     .080     .050     .080     .000  1882.00  4977.30
```

```
0
 FLOW DISTRIBUTION FOR SECNO=       .20          CWSEL=   1892.46

 STA=    4977.    5045.
   PER Q=    100.0
   AREA=     17.7
    VEL=      3.7

 *SECNO  .228
  WATER EL=X5 CARD=  1887.700

 3470 ENCROACHMENT STATIONS=    4980.0    5010.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1890.00  ELENCR=   1890.00
1
  05/09/88    08:14:01                                                                                                    PAGE   18


                 WATER SURFACE ELEVATION AT SECTION .228 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
      .23     5.20  1887.70      .00      .00  1887.70      .00      .03      .02  1890.00
      65.       0.      65.       0.       0.     133.       0.       1.       1.   1890.00
      .18      .00      .49      .00     .080     .050     .080     .000  1882.50  4980.00
   .000049     140.     140.     140.        0        0        0      .00    30.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1887.70

 STA=    4980.    5020.
   PER Q=    100.0
   AREA=    133.5
    VEL=       .5

 *SECNO  .239

 3470 ENCROACHMENT STATIONS=    4990.0    5025.0  TYPE=     1  TARGET=      45.000
  ELENCL=   1892.00  ELENCR=   1892.00
      .24     3.70  1887.70      .00      .00  1887.71      .00      .00      .00  1892.00
      65.       0.      65.       0.       0.     142.       0.       1.       1.   1892.00
      .22      .00      .46      .00     .090     .050     .090     .000  1884.00  4990.00
   .000057     60.      60.      60.        2        0        0      .00    45.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .24          CWSEL=   1887.70

 STA=    4990.    5100.
   PER Q=    100.0
   AREA=    141.7
    VEL=       .5

 *SECNO  .257
  WATER EL=X5 CARD=  1889.280

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                 WATER SURFACE ELEVATION AT SECTION .257 IS BASED UPON THE
                 HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C19.
      .26     4.78  1889.28      .00      .00  1889.29      .01      .01      .00  1892.00
      94.       0.      94.       0.       0.     121.       0.       2.       1.   1892.00
      .25      .00      .78      .00     .080     .050     .090     .000  1884.50  4990.00
   .000140     95.      95.      95.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1889.28

 STA=    4990.    5115.
   PER Q=    100.0
   AREA=    120.9
```

```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .285
      .28     1.24  1889.24      .00      .00  1889.40      .16      .07      .04  1894.00
      94.       0.      94.       0.       0.      29.       0.       2.       1.   1892.00
      .26      .00     3.20      .00     .080     .050     .080     .000  1888.00  4985.85
   .010668    150.     150.     150.        4        0        0      .00    27.26  5013.11
0
 FLOW DISTRIBUTION FOR SECNO=      .28          CWSEL=   1889.24

 STA=    4986.    5020.
   PER Q=    100.0
    AREA=     29.4
     VEL=      3.2

 *SECNO  .380
      .38     1.14  1895.14      .00      .00  1895.30      .16     5.89      .00  1898.00
      94.       0.      94.       0.       0.      29.       0.       2.       2.   1898.00
      .31      .00     3.22      .00     .080     .050     .080     .000  1894.00  4984.32
   .013099    500.     500.     500.        4        0        0      .00    31.35  5015.68
0
 FLOW DISTRIBUTION FOR SECNO=      .38          CWSEL=   1895.14

 STA=    4984.    5030.
   PER Q=    100.0
    AREA=     29.1
     VEL=      3.2

 *SECNO  .471
      .47     2.68  1900.68      .00      .00  1900.86      .18     5.56      .01  1902.00
      94.       0.      94.       0.       0.      27.       0.       2.       2.   1904.00
      .34      .00     3.44      .00     .080     .050     .080     .000  1898.00  4986.65
   .010308    480.     480.     480.        4        0        0      .00    21.71  5008.35
0
 FLOW DISTRIBUTION FOR SECNO=      .47          CWSEL=   1900.68

 STA=    4987.    5025.
   PER Q=    100.0
    AREA=     27.3
     VEL=      3.4
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .590
      .59     1.33  1907.33      .00      .00  1907.48      .14     6.61      .00  1910.00
      94.       0.      94.       0.       0.      31.       0.       3.       2.   1910.00
      .40      .00     3.02      .00     .080     .050     .080     .000  1906.00  4993.33
   .010679    630.     630.     630.        3        0        0      .00    31.67  5025.00
```

```
FLOW DISTRIBUTION FOR SECNO=       .59          CWSEL=   1907.33

STA=    4993.    5050.
  PER Q=    100.0
   AREA=     31.1
    VEL=      3.0

1
 05/09/88    08:14:01                                                                                    PAGE   21


                                                                                  THIS RUN EXECUTED 05/09/88   08:14:58
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
*************************************************


T1      WITTMANN ADMS
T2      10-YEAR STORM EVENT
T3      CIRCLE CITY - WASH 4

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        5.        0.        0.   .000000      .00       .5        0.   1869.230     .000

MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    15.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
 05/09/88    08:14:01                                                                                    PAGE   22


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 4

CCHV=    .100 CEHV=    .300
*SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED
                ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
     .00     2.73  1869.23      .00  1869.23  1869.34      .11      .00      .00  1872.00
    187.       0.     187.       0.       0.      70.       0.       0.       0.  1876.00
     .00      .00     2.66      .00     .030     .050     .080     .000  1866.50  4975.78
  .004823      0.       0.       0.        0        0        0      .00    47.68  5023.46
0
FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1869.23

STA=    4976.    5070.
  PER Q=    100.0
   AREA=     70.3
    VEL=      2.7

*SECNO  .042
     .04      .98  1870.48      .00      .00  1870.56      .08     1.22      .00  1876.00
```

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      .03      .00     2.28      .00     .080     .050     .080     .000  1869.50  4978.43
   .010061     270.     220.     100.        3        0        0      .00    33.13  5011.57
0
 FLOW DISTRIBUTION FOR SECNO=       .04          CWSEL=   1870.48

 STA=    4978.    5030.
   PER Q=    100.0
    AREA=     22.3
     VEL=      2.3

 *SECNO  .086
      .09     1.16  1874.16      .00      .00  1874.39      .22     3.79      .04  1880.00
      51.       0.      51.       0.       0.      13.       0.       0.       0.   1880.00
      .04      .00     3.79      .00     .080     .050     .080     .000  1873.00  4993.35
   .031671     230.     230.     230.        4        0        0      .00    22.06  5015.41
0
 FLOW DISTRIBUTION FOR SECNO=       .09          CWSEL=   1874.16

 STA=    4993.    5030.
   PER Q=    100.0
    AREA=     13.5
     VEL=      3.8

1
  05/09/88    08:14:01                                                                    PAGE   23


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .154
      .15     1.09  1879.09      .00      .00  1879.17      .08     4.77      .01  1884.00
      51.       0.      51.       0.       0.      23.       0.       0.       1.   1884.00
      .09      .00     2.25      .00     .080     .050     .080     .000  1878.00  4994.57
   .007228     320.     360.     400.        4        0        0      .00    26.76  5021.33
0
 FLOW DISTRIBUTION FOR SECNO=       .15          CWSEL=   1879.09

 STA=    4995.    5050.
   PER Q=    100.0
    AREA=     22.7
     VEL=      2.3

 *SECNO  .201

 3470 ENCROACHMENT STATIONS=    4945.0    5045.0  TYPE=     1  TARGET=     100.000
  ELENCL=   1888.00  ELENCR=   1888.00
      .20      .36  1882.36      .00      .00  1882.50      .14     3.32      .02  1888.00
      41.       0.      41.       0.       0.      14.       0.       1.       1.   1888.00
      .11      .00     3.00      .00     .080     .050     .080     .000  1882.00  4977.87
   .042539     250.     250.     250.        4        0        0      .00    39.87  5017.74
0
 FLOW DISTRIBUTION FOR SECNO=       .20          CWSEL=   1882.36

 STA=    4978.    5045.
   PER Q=    100.0
    AREA=     13.7
     VEL=      3.0

 *SECNO  .228
  WATER EL=X5 CARD=  1886.000

 3470 ENCROACHMENT STATIONS=    4990.0    5010.0  TYPE=     1  TARGET=     20.000
```

```
 ELENCL=   1890.00  ELENCR=   1890.00
                WATER SURFACE ELEVATION AT SECTION .228 IS BASED UPON
                CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                INLET CONTROL.
      .23     3.50  1886.00      .00      .00  1886.00      .00      .04      .01  1890.00
      41.       0.      41.       0.       0.      82.       0.       1.       1.   1890.00
      .19      .00      .50      .00     .080     .050     .080     .000  1892.50  4990.00
   .000086     140.     140.     140.       0        0        0      .00    30.00  5010.00
0
1
 05/09/88    08:14:01                                                                    PAGE   24


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1886.00

 STA=    4990.    5020.
   PER Q=    100.0
    AREA=     82.5
     VEL=       .5

 *SECNO  .239

 3470 ENCROACHMENT STATIONS=    4980.0    5025.0  TYPE=     1  TARGET=      45.000
  ELENCL=   1892.00  ELENCR=   1892.00
      .24     2.01  1886.01      .00      .00  1886.01      .01      .01      .00  1892.00
      41.       0.      41.       0.       0.      65.       0.       1.       1.   1892.00
      .22      .00      .63      .00     .080     .050     .080     .000  1884.00  4990.00
   .000274     60.      60.      60.       2        0        0      .00    45.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .24          CWSEL=   1886.01

 STA=    4980.    5100.
   PER Q=    100.0
    AREA=     65.3
     VEL=       .6

 *SECNO  .257
  WATER EL=X5 CARD=  1887.330

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                WATER SURFACE ELEVATION AT SECTION .257 IS BASED UPON THE
                HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C19.
      .26     2.83  1887.33      .00      .00  1887.34      .01      .02      .00  1892.00
      45.       0.      45.       0.       0.      62.       0.       1.       1.   1892.00
      .25      .00      .72      .00     .080     .050     .080     .000  1884.50  4990.00
   .000250     95.      95.      95.       0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1887.33

 STA=    4990.    5115.
   PER Q=    100.0
    AREA=     62.4
     VEL=       .7

1
 05/09/88    08:14:01                                                                    PAGE   25
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    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *SECNO  .285
 685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
       .28      .52  1888.52  1888.52      .00  1888.77      .25      .13      .07  1894.00
       45.       0.      45.       0.       0.      11.       0.       1.       1.  1892.00
       .26      .00     4.00      .00     .080     .050     .080     .000  1888.00  4988.26
   .047680     150.     150.     150.       20       21        0      .00    23.05  5011.31
0
 FLOW DISTRIBUTION FOR SECNO=       .28          CWSEL=   1888.52

 STA=    4988.    5020.
   PER Q=    100.0
    AREA=     11.2
     VEL=      4.0

 *SECNO  .380
       .38      .95  1894.95      .00      .00  1895.01      .06     6.22      .02  1898.00
       45.       0.      45.       0.       0.      24.       0.       1.       1.  1898.00
       .34      .00     1.91      .00     .080     .050     .080     .000  1894.00  4985.24
   .005609     500.     500.     500.        5        0        0      .00    29.52  5014.76
0
 FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1894.95

 STA=    4985.    5030.
   PER Q=    100.0
    AREA=     23.6
     VEL=      1.9

 *SECNO  .471
       .47     1.72  1899.72      .00      .00  1899.98      .26     4.91      .05  1902.00
       45.       0.      45.       0.       0.      11.       0.       1.       2.  1904.00
       .37      .00     4.07      .00     .080     .050     .080     .000  1898.00  4991.41
   .024175     480.     480.     480.        4        0        0      .00    12.88  5004.29
0
 FLOW DISTRIBUTION FOR SECNO=       .47          CWSEL=   1899.72

 STA=    4991.    5025.
   PER Q=    100.0
    AREA=     11.1
     VEL=      4.1

1
 05/09/88    08:14:01                                                                    PAGE   26


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 SECNO  .590
       .59     1.02  1907.02      .00      .00  1907.09      .06     7.09      .02  1910.00
       45.       0.      45.       0.       0.      22.       0.       2.       2.  1910.00
       .45      .00     2.04      .00     .080     .050     .080     .000  1906.00  4994.85
   .006487     630.     630.     630.        5        0        0      .00    27.86  5022.72
0
 FLOW DISTRIBUTION FOR SECNO=       .59          CWSEL=   1907.02
```

PER Q= 100.0
AREA= 22.1
VEL= 2.0

1

THIS RUN EXECUTED 05/09/88 08:15:12

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CIRCLE CITY - WASH 4

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.000	330.00	1869.84	4971.20	4955.00	5070.00	5027.65	.00	56.45	3.34	1866.50	54.30	3.23
	.000	330.00	1869.84	4971.20	4955.00	5070.00	5027.65	.00	56.45	3.34	1866.50	54.30	3.23
	.000	286.00	1869.67	4972.47	4955.00	5070.00	5026.48	.00	54.01	3.17	1866.50	53.03	3.09
	.000	187.00	1869.23	4975.78	4955.00	5070.00	5023.46	.00	47.68	2.73	1866.50	48.23	2.66
	.042	125.00	1871.14	4976.19	4960.00	5030.00	5013.81	1.30	37.62	1.64	1869.50	64.17	2.71
	.042	125.00	1871.14	4976.19	4960.00	5030.00	5013.81	1.30	37.61	1.64	1869.50	64.23	2.71
	.042	85.00	1870.92	4976.94	4960.00	5030.00	5013.06	1.25	36.13	1.42	1869.50	54.07	2.24
	.042	51.00	1870.48	4978.43	4960.00	5030.00	5011.57	1.25	33.13	.98	1869.50	100.61	2.28
*	.086	125.00	1875.03	4984.65	4950.00	5030.00	5017.59	2.42	32.94	2.03	1873.00	108.42	3.34
*	.086	125.00	1874.57	4989.31	4950.00	5030.00	5016.42	3.43	27.11	1.57	1873.00	338.38	5.34
*	.086	85.00	1874.33	4991.66	4950.00	5030.00	5015.84	3.42	24.18	1.33	1873.00	424.84	4.89
	.086	51.00	1874.16	4993.35	4950.00	5030.00	5015.41	3.69	22.06	1.16	1873.00	316.71	3.79
	.154	125.00	1879.46	4992.70	4975.00	5050.00	5023.52	4.43	30.82	1.46	1878.00	143.26	3.74
	.154	125.00	1879.78	4991.10	4975.00	5050.00	5025.39	5.21	34.27	1.78	1878.00	67.18	2.85
	.154	85.00	1879.47	4992.66	4975.00	5050.00	5023.56	5.13	30.90	1.47	1878.00	64.94	2.52
	.154	51.00	1879.09	4994.57	4975.00	5050.00	5021.33	4.93	26.76	1.09	1878.00	72.28	2.25
	.201	78.00	1882.79	4975.35	4945.00	5045.00	5020.97	3.32	45.62	.79	1882.00	107.16	2.43
	.201	78.00	1882.53	4976.85	4945.00	5045.00	5019.06	2.75	42.21	.53	1882.00	405.11	3.74
	.201	65.00	1882.46	4977.30	4945.00	5045.00	5018.48	3.00	41.18	.46	1882.00	475.80	3.68
	.201	41.00	1882.36	4977.87	4945.00	5045.00	5017.74	3.27	39.87	.36	1882.00	425.39	3.00
*	.228	78.00	1889.00	4980.00	4975.00	5020.00	5010.00	6.21	30.00	6.50	1882.50	.33	.45
*	.228	78.00	1889.00	4980.00	4975.00	5020.00	5010.00	6.47	30.00	6.50	1882.50	.33	.45
*	.228	65.00	1887.70	4980.00	4975.00	5020.00	5010.00	5.24	30.00	5.20	1882.50	.49	.49
	.228	41.00	1886.00	4980.00	4975.00	5020.00	5010.00	3.64	30.00	3.50	1882.50	.86	.50
	.239	78.00	1889.00	4980.00	4935.00	5100.00	5025.00	.00	45.00	5.00	1884.00	.28	.39
	.239	78.00	1889.00	4980.00	4935.00	5100.00	5025.00	.00	45.00	5.00	1884.00	.28	.39
	.239	65.00	1887.70	4980.00	4935.00	5100.00	5025.00	.00	45.00	3.70	1884.00	.57	.46
	.239	41.00	1886.01	4980.00	4935.00	5100.00	5025.00	.01	45.00	2.01	1884.00	2.74	.63

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	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
*	.257	132.00	1890.21	4990.00	4965.00	5115.00	5020.00	1.21	30.00	5.71	1884.50	1.47	.89
*	.257	132.00	1890.21	4990.00	4965.00	5115.00	5020.00	1.21	30.00	5.71	1884.50	1.47	.89
	.257	94.00	1889.28	4990.00	4965.00	5115.00	5020.00	1.58	30.00	4.78	1884.50	1.40	.78
*	.257	45.00	1887.33	4990.00	4965.00	5115.00	5020.00	1.32	30.00	2.83	1884.50	2.50	.72
	.285	123.00	1890.23	4982.58	4970.00	5020.00	5015.56	.02	32.98	2.23	1888.00	23.40	2.09
	.285	123.00	1890.23	4982.58	4970.00	5020.00	5015.56	.02	32.98	2.23	1888.00	23.42	2.09
	.285	94.00	1889.24	4985.85	4970.00	5020.00	5013.11	-.04	27.26	1.24	1888.00	106.68	3.20
*	.285	45.00	1888.52	4988.26	4970.00	5020.00	5011.31	1.19	23.05	.52	1888.00	476.80	4.00
*	.380	123.00	1894.97	4985.17	4965.00	5030.00	5014.83	4.74	29.66	.97	1894.00	397.92	5.13
*	.380	123.00	1894.96	4985.18	4965.00	5030.00	5014.82	4.74	29.65	.96	1894.00	400.59	5.14
	.380	94.00	1895.14	4984.32	4965.00	5030.00	5015.68	5.89	31.35	1.14	1894.00	130.99	3.22
	.380	45.00	1894.95	4985.24	4965.00	5030.00	5014.76	6.43	29.52	.95	1894.00	56.09	1.91
	.471	123.00	1901.25	4993.78	4955.00	5025.00	5011.22	6.28	27.44	3.25	1898.00	60.07	2.97
	.471	123.00	1901.25	4993.77	4955.00	5025.00	5011.23	6.28	27.46	3.25	1898.00	59.89	2.97
	.471	94.00	1900.68	4996.65	4955.00	5025.00	5008.35	5.54	21.71	2.68	1898.00	103.08	3.44
	.471	45.00	1899.72	4991.41	4955.00	5025.00	5004.29	4.77	12.88	1.72	1898.00	241.75	4.07
	.590	123.00	1907.33	4993.36	4975.00	5050.00	5024.95	6.08	31.59	1.33	1906.00	186.21	3.98
	.590	123.00	1907.33	4993.38	4975.00	5050.00	5024.93	6.08	31.56	1.33	1906.00	187.59	3.99
	.590	94.00	1907.33	4993.33	4975.00	5050.00	5025.00	6.66	31.67	1.33	1906.00	106.79	3.02
	.590	45.00	1907.02	4994.85	4975.00	5050.00	5022.72	7.31	27.86	1.02	1906.00	64.87	2.04

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CIRCLE CITY - WASH 4

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.000	1869.84	.00	1870.00	56.45	.00	330.00	.00	.00	.00	4955.00	5070.00	.00
	.000	1869.84	.00	1870.00	56.45	.00	330.00	.00	.00	4955.00	4955.00	5070.00	5070.00
	.000	1869.67	.00	1869.82	54.01	.00	286.00	.00	.00	.00	4955.00	5070.00	.00
	.000	1869.23	.00	1869.34	47.68	.00	187.00	.00	.00	.00	4955.00	5070.00	.00
	.042	1871.14	.00	1871.26	37.62	.00	125.00	.00	.00	.00	4960.00	5030.00	.00
	.042	1871.14	.00	1871.26	37.61	.00	125.00	.00	.00	4960.00	4960.00	5030.00	5030.00
	.042	1870.92	.00	1871.00	36.13	.00	85.00	.00	.00	.00	4960.00	5030.00	.00
	.042	1870.48	.00	1870.56	33.13	.00	51.00	.00	.00	.00	4960.00	5030.00	.00
*	.086	1875.03	.00	1875.20	32.94	.00	125.00	.00	.00	.00	4950.00	5030.00	.00
*	.086	1874.57	-.46	1875.01	27.11	.00	125.00	.00	.00	4950.00	4950.00	5030.00	5030.00
*	.086	1874.33	.00	1874.71	24.18	.00	85.00	.00	.00	.00	4950.00	5030.00	.00
	.086	1874.16	.00	1874.39	22.06	.00	51.00	.00	.00	.00	4950.00	5030.00	.00
	.154	1879.46	.00	1879.68	30.82	.00	125.00	.00	.00	.00	4975.00	5050.00	.00
	.154	1879.78	.32	1879.91	34.27	.00	125.00	.00	.00	4975.00	4975.00	5050.00	5050.00
	.154	1879.47	.00	1879.57	30.90	.00	85.00	.00	.00	.00	4975.00	5050.00	.00
	.154	1879.09	.00	1879.17	26.76	.00	51.00	.00	.00	.00	4975.00	5050.00	.00
	.201	1882.79	.00	1882.88	45.62	.00	78.00	.00	100.00	4945.00	4945.00	5045.00	5045.00
	.201	1882.53	-.26	1882.75	42.21	.00	78.00	.00	100.00	4945.00	4945.00	5045.00	5045.00
	.201	1882.46	.00	1882.67	41.18	.00	65.00	.00	100.00	4945.00	4945.00	5045.00	5045.00
	.201	1882.36	.00	1882.50	39.87	.00	41.00	.00	100.00	4945.00	4945.00	5045.00	5045.00
*	.230	1883.00	.00	1883.00	39.00	.00	39.00	.00	39.00	4990.00	4975.00	5030.00	5010.00

*	.228	1889.00	.00	1889.00	30.00	.00	78.00	.00	30.00	4980.00	4975.00	5020.00	5010.00
*	.228	1887.70	.00	1887.70	30.00	.00	65.00	.00	30.00	4980.00	4975.00	5020.00	5010.00
*	.228	1886.00	.00	1886.00	30.00	.00	41.00	.00	30.00	4980.00	4975.00	5020.00	5010.00
	.239	1889.00	.00	1889.01	45.00	.00	78.00	.00	45.00	4980.00	4935.00	5100.00	5025.00
	.239	1889.00	.00	1889.01	45.00	.00	78.00	.00	45.00	4980.00	4935.00	5100.00	5025.00
	.239	1887.70	.00	1887.71	45.00	.00	65.00	.00	45.00	4980.00	4935.00	5100.00	5025.00
	.239	1886.01	.00	1886.01	45.00	.00	41.00	.00	45.00	4980.00	4935.00	5100.00	5025.00
*	.257	1890.21	.00	1890.22	30.00	.00	132.00	.00	30.00	4990.00	4965.00	5115.00	5020.00
*	.257	1890.21	.00	1890.22	30.00	.00	132.00	.00	30.00	4990.00	4965.00	5115.00	5020.00
*	.257	1889.28	.00	1889.29	30.00	.00	94.00	.00	30.00	4990.00	4965.00	5115.00	5020.00
*	.257	1887.33	.00	1887.34	30.00	.00	45.00	.00	30.00	4990.00	4965.00	5115.00	5020.00
	.285	1890.23	.00	1890.29	32.98	.00	123.00	.00	.00	.00	4970.00	5020.00	.00
	.285	1890.23	.00	1890.29	32.98	.00	123.00	.00	.00	4970.00	4970.00	5020.00	5020.00
	.285	1889.24	.00	1889.40	27.26	.00	94.00	.00	.00	.00	4970.00	5020.00	.00
*	.285	1888.52	.00	1888.77	23.05	.00	45.00	.00	.00	.00	4970.00	5020.00	.00

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	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
*	.380	1894.97	.00	1895.37	29.66	.00	123.00	.00	.00	.00	4965.00	5030.00	.00
*	.380	1894.96	.00	1895.37	29.65	.00	123.00	.00	.00	4965.00	4965.00	5030.00	5030.00
	.380	1895.14	.00	1895.30	31.35	.00	94.00	.00	.00	.00	4965.00	5030.00	.00
	.380	1894.95	.00	1895.01	29.52	.00	45.00	.00	.00	.00	4965.00	5030.00	.00
	.471	1901.25	.00	1901.38	27.44	.00	123.00	.00	.00	.00	4955.00	5025.00	.00
	.471	1901.25	.00	1901.38	27.46	.00	123.00	.00	.00	4955.00	4955.00	5025.00	5025.00
	.471	1900.68	.00	1900.86	21.71	.00	94.00	.00	.00	.00	4955.00	5025.00	.00
	.471	1899.72	.00	1899.98	12.88	.00	45.00	.00	.00	.00	4955.00	5025.00	.00
	.590	1907.33	.00	1907.57	31.59	.00	123.00	.00	.00	.00	4975.00	5050.00	.00
	.590	1907.33	.00	1907.58	31.56	.00	123.00	.00	.00	4975.00	4975.00	5050.00	5050.00
	.590	1907.33	.00	1907.48	31.67	.00	94.00	.00	.00	.00	4975.00	5050.00	.00
	.590	1907.02	.00	1907.09	27.86	.00	45.00	.00	.00	.00	4975.00	5050.00	.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=     .086  PROFILE= 1  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .086  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .086  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .086  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .086  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .086  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE     SECNO=     .228  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=     .228  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=     .228  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=     .228  PROFILE= 4  WSEL BASED ON X5 CARD

NOTE     SECNO=     .257  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=     .257  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=     .257  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=     .257  PROFILE= 4  WSEL BASED ON X5 CARD
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CAUTION  SECNO=     .285  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .285  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .285  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=     .380  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .380  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .380  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .380  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .380  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .380  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
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1

FLOODWAY DATA, CIRCLE CITY - WASH 4
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	56.	102.	3.2	1869.8	1869.8	.0
.042	38.	46.	2.7	1871.1	1871.1	.0
.086	27.	23.	5.3	1874.6	1875.0	-.4
.154	34.	44.	2.9	1879.8	1879.5	.3
.201	42.	21.	3.7	1882.6	1882.8	-.2
.228	30.	172.	.5	1889.0	1889.0	.0
.239	45.	200.	.4	1889.0	1889.0	.0
.257	30.	149.	.9	1890.2	1890.2	.0
.285	33.	59.	2.1	1890.2	1890.2	.0
.380	30.	24.	5.1	1895.0	1895.0	.0
.471	27.	41.	3.0	1901.2	1901.2	.0
.590	32.	31.	4.0	1907.3	1907.3	.0

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FLOODWAY DATA, CIRCLE CITY - WASH 4
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	54.	93.	3.1	1869.7	1869.8	-.1
.042	36.	38.	2.2	1871.0	1871.1	-.1
.086	24.	17.	4.9	1874.4	1875.0	-.6
.154	31.	34.	2.5	1879.5	1879.5	.0
.201	41.	18.	3.7	1882.6	1882.8	-.2
.228	30.	133.	.5	1887.8	1889.0	-1.2
.239	45.	142.	.5	1887.8	1889.0	-1.2
.257	30.	121.	.8	1889.4	1890.2	-.8
.285	27.	29.	3.2	1889.3	1890.2	-.9
.380	31.	29.	3.2	1895.2	1895.0	.2
.471	22.	27.	3.4	1900.7	1901.2	-.5
.590	32.	31.	3.0	1907.3	1907.3	.0

1

FLOODWAY DATA, CIRCLE CITY - WASH 4
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	48.	70.	2.7	1869.3	1869.8	-.5
.042	33.	22.	2.3	1870.5	1871.1	-.6
.086	22.	13.	3.8	1874.2	1875.0	-.8
.154	27.	23.	2.3	1879.2	1879.5	-.3
.201	40.	14.	3.0	1882.5	1882.8	-.3
.228	30.	82.	.5	1886.1	1889.0	-2.9
.239	45.	65.	.6	1886.1	1889.0	-2.9
.257	30.	62.	.7	1887.4	1890.2	-2.8
.285	23.	11.	4.0	1888.6	1890.2	-1.6
.380	30.	24.	1.9	1895.0	1895.0	.0
.471	13.	11.	4.1	1899.8	1901.2	-1.4
.590	28.	22.	2.0	1907.1	1907.3	-.2

1

THIS RUN EXECUTED 05/09/88 08:15:22

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
**************************************************
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PROJECT: WITTMANN ADMS

DESIGNER: BKH

DATE: 1-21-88

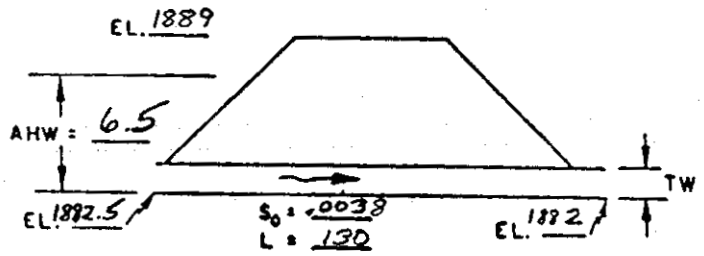
HYDROLOGIC AND CHANNEL INFORMATION

CIRCLE CITY – WASH 4
GRAND AVENUE

Q_{MAX} Q_1 = 80 CULVERT CAPACITY CHECK
Q_2 = 78 Actual Q from HEC-1 [C19]
TW_1 = ____
TW_2 = ____

SKETCH

STATION: 0.228
GRAND AVENUE



ALLOWABLE OUTLET VELOCITY = ____

CULVERT TYPE	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL K_e	d_c	$\frac{d_c+D}{2}$	h_o	H	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
CMP	80	36"	2.2	6.5	.5	2.6	2.8	2.8	1.7	.5	4.0	6.5			INLET CONTROL
CMP	78≈80	36"	2.2	6.5											
50-YR. FLOOD	65	36"	1.72	5.2											W.S. ELEV. 1882.5 + 5.2 = 1887.7
10-YR. FLOOD	41	36"	1.15	3.5											W.S. ELEV. 1882.5 + 3.5 = 1886

SUMMARY & RECOMMENDATIONS:

Section 0.228 W.S. ELEV. 6.5 + 1882.5 = 1889.0

Section 0.257 WS ELEV. = 1890.21 FROM HEC-1 100 yr EVENT [C19]

Figure 5

INPUT FILE: CCWSH4RR

OUTPUT FILE: CCWSH4RR.OUT

THIS RUN EXECUTED 05/09/88 09:57:16

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT
T3      CIRCLE CITY - WASH 4 (FLOODPLAIN DELINEATION ALONG RAILROAD)

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .000000     .00      .5       0.  1890.210    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     1.000    .000     .000     .000     .000     .000     .000     .000     .000    15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000   43.000    1.000   53.000   54.000   51.000    4.000   39.000    8.000   42.000


     5.000   26.000     .000  110.000     .000  200.000     .000     .000     .000     .000


NC      .080      .080      .050      .300      .500      .000      .000      .000      .000      .000
QT     4.000   132.000   132.000    94.000    45.000      .000      .000      .000      .000      .000
                KNOWN WATER SURFACE ELEVATION IS FROM THE HEC-1 MODEL AT C18
                BASED ON THE STORAGE-ROUTING ROUTINE

                THIS IS A MULTIPLE PROFILE RUN. ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.

                THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD
                FROM CIRCLE CITY - WASH 3 TO WASH 4.
X1      .257     7.000  4965.000  5115.000     .000     .000     .000     .000     .000     .000
X3      .000     .000     .000  4990.000  1892.000  5020.000  1892.000     .000     .000     .000
GR   1892.000  4965.000  1886.000  4990.000  1884.500  5000.000  1886.000  5020.000  1888.000  5035.000
GR   1890.000  5115.000  1890.500  5170.000     .000     .000     .000     .000     .000     .000

NC      .000     .000     .000     .100     .300     .000     .000     .000     .000     .000
QT     4.000   179.000   179.000    54.000   28.000     .000     .000     .000     .000     .000
QT      .000     .000    10.400     .000     .000     .000     .000     .000     .000     .000
X1      .316     6.000  4960.000  5030.000  310.000  310.000  310.000     .000     .000     .000
X5     1.000  1890.940     .000     .000     .000     .000     .000     .000     .000     .000
GR   1896.000  4870.000  1894.000  4925.000  1892.000  4960.000  1890.000  4985.000  1890.000  5010.000
GR   1896.000  5030.000     .000     .000     .000     .000     .000     .000     .000     .000
```

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 X1       .364      6.000   4965.000   5030.000    255.000    255.000    255.000       .000       .000       .000
 GR   1896.500   4915.000   1896.000   4940.000   1894.000   4965.000   1893.500   5000.000   1894.000   5015.000
 GR   1898.000   5030.000       .000       .000       .000       .000       .000       .000       .000       .000

 X1       .417      5.000   4970.000   5025.000    280.000    280.000    280.000       .000       .000       .000
 GR   1900.000   4915.000   1898.000   4970.000   1896.500   5000.000   1898.000   5015.000   1900.000   5025.000
 EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
 05/09/88    09:57:15                                                                                    PAGE    3


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 1

 CCHV=    .300 CEHV=    .500
 *SECNO  .257

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                 KNOWN WATER SURFACE ELEVATION IS FROM THE HEC-1 MODEL AT C19
                 BASED ON THE STORAGE-ROUTING ROUTINE

                 THIS IS A MULTIPLE PROFILE RUN. ALL DISCHARGES ARE BASED ON THE
                 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.

                 THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD
                 FROM CIRCLE CITY - WASH 5 TO WASH 4.
      .26     5.71  1890.21      .00  1890.21  1890.22      .01      .00      .00  1892.00
     132.       0.     132.       0.       0.     149.       0.       0.       0.   1892.00
      .00      .00      .89      .00     .080     .050     .080     .000  1884.50  4990.00
   .000147       0.       0.       0.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1890.21

 STA=    4990.    5115.
   PER Q=    100.0
    AREA=    148.8
     VEL=       .9

 CCHV=    .100 CEHV=    .300
 *SECNO  .316
  WATER EL=X5 CARD=  1890.940
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .32     1.04  1891.04  1891.04      .00  1891.46      .42      .22      .12  1892.00
     179.       0.     179.       0.       0.      34.       0.       1.       0.   1896.00
      .02      .00     5.19      .00     .090     .050     .080     .000  1890.00  4972.02
   .039182     310.     310.     310.        0       21        0      .00    41.44  5013.46
0
 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1891.04

 STA=    4972.    5030.
   PER Q=    100.0
    AREA=     34.5
     VEL=      5.2

1
 05/09/88    09:57:15                                                                                    PAGE    4
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```
    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 SECNO  .364
       .36     1.46  1894.96      .00      .00  1895.08      .12     3.59      .03  1894.00
      179.       6.     173.       0.       6.      62.       0.       1.       1.   1898.00
       .04      .96     2.78      .00     .080     .050     .080     .000  1893.50  4952.97
   .007180     255.     255.     255.        4        0        0      .00    65.64  5018.61
0
 FLOW DISTRIBUTION FOR SECNO=       .36          CWSEL=   1894.96

 STA=    4953.    4965.    5030.
   PER Q=      3.1      96.9
    AREA=      5.8      62.4
     VEL=      1.0       2.8

 *SECNO  .417
       .42     1.68  1898.18      .00      .00  1899.46      .28     3.33      .05  1898.00
      179.       0.     179.       0.       0.      42.       0.       1.       1.   1900.00
       .06      .57     4.27      .00     .080     .050     .080     .000  1896.50  4965.11
   .023465     280.     280.     280.        4        0        0      .00    50.78  5015.89
0
 FLOW DISTRIBUTION FOR SECNO=       .42          CWSEL=   1898.18

 STA=    4965.    4970.    5025.
   PER Q=       .1      99.9
    AREA=       .4      41.8
     VEL=       .6       4.3
```



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                                                                THIS RUN EXECUTED 05/09/88   09:57:27
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN ADMS
 T2      100 YEAR STORM EVENT
 T3      CIRCLE CITY - WASH 4 (FLOODWAY ALONG RAILROAD)

 J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.       3.       0.       0.   .000000     .00      .5       0.   1890.210    .000

 J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLOC    IBW      CHNIM    ITRACE

     2.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
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```
    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
```

```
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 2

 CCHV=    .300 CEHV=    .500
 SECNO  .257

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1892.00  ELENCR=   1892.00
                KNOWN WATER SURFACE ELEVATION IS FROM THE HEC-1 MODEL AT C18
                BASED ON THE STORAGE-ROUTING ROUTINE

                THIS IS A MULTIPLE PROFILE RUN. ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.

                THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD
                FROM CIRCLE CITY - WASH 5 TO WASH 4.
      .26     5.71  1890.21      .00  1890.21  1890.22      .01      .00      .00  1892.00
     132.       0.     132.       0.       0.     149.       0.       0.       0.   1892.00
      .00      .00      .89      .00     .090     .050     .000     .000  1884.50  4990.00
   .000147      0.       0.       0.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1890.21

 STA=    4990.    5115.
   PER Q=    100.0
    AREA=    148.8
     VEL=       .9

 CCHV=    .100 CEHV=    .300
 *SECNO  .316
 2000 NAT Q1=      9.04  WSEL=   1891.04  ENC Q1=     32.16  WSEL=   1892.04  RATIO= -2.5367
  NAT Q1=     32.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1892.04
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4960.0    5030.0  TYPE=     4  TARGET=        .000
      .32     1.04  1891.04  1891.04  1891.04  1891.46      .42      .22      .12  1892.00
     179.       0.     179.       0.       0.      34.       0.       1.       0.   1896.00
      .02      .00     5.19      .00     .080     .050     .080     .000  1890.00  4972.02
   .039182     310.     310.     310.       20       21        0      .00    41.44  5013.46
0
1
 05/03/88    09:57:15                                                                PAGE    7


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1891.04

 STA=    4972.    5030.
   PER Q=    100.0
    AREA=     34.5
     VEL=      5.2

 *SECNO  .364
 2000 NAT Q1=     21.12  WSEL=   1894.96  ENC Q1=     56.36  WSEL=   1895.96  RATIO= -1.6677
 NAT Q1=     61.  RATIOS LOB,CH,ROB=   .0724   .9276   .0000  WSEL=   1895.96
```

```
      .36     1.49  1894.99      .00  1894.96  1895.11      .12     3.62      .03  1894.00
     173.       0.     179.       0.       0.      64.       0.       1.       1.   1898.00
      .04      .00     2.80      .00     .080     .050     .080     .000  1893.50  4965.00
   .007277     255.     255.     255.        4        0        0      .00    53.71  5018.71
0
 FLOW DISTRIBUTION FOR SECNO=       .36          CWSEL=   1894.99

 STA=    4965.    5030.
   PER Q=    100.0
    AREA=     63.8
     VEL=      2.8

 *SECNO  .417
  2800 NAT Q1=     11.69  WSEL=   1899.18  ENC Q1=     39.17  WSEL=   1899.18  RATIO= -2.3517
  NAT Q1=     42.  RATIOS LOB,CH,ROB=   .0598   .9402   .0000  WSEL=   1899.18

 3470 ENCROACHMENT STATIONS=    4970.0    5025.0  TYPE=     4  TARGET=        .060
      .42     1.69  1898.19      .00  1898.18  1898.47      .28     3.31      .05  1898.00
     173.       0.     179.       0.       0.      43.       0.       1.       1.   1900.00
      .06      .00     4.21      .00     .080     .050     .080     .000  1896.50  4970.00
   .022475     280.     280.     280.        4        0        0      .00    45.96  5015.96
0
 FLOW DISTRIBUTION FOR SECNO=       .42          CWSEL=   1898.19

 STA=    4970.    5025.
   PER Q=    100.0
    AREA=     42.5
     VEL=      4.2

1
 05/09/88    09:57:15                                                                    PAGE    8


                                                                  THIS RUN EXECUTED 05/09/88    09:57:35
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN ADMS
 T2      50-YEAR STORM EVENT
 T3      CIRCLE CITY - WASH 4 (FLOODPLAIN ALONG RAILROAD)

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.       4.       0.       0.   .000000      .00       .5       0.  1889.280     .000

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IBW       CHNIM     ITRACE

      3.000     .000    -1.000     .000     .000     .000     .000     .000     .000    15.000

1
 05/09/88    09:57:15                                                                    PAGE    9


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       BLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
```

```
*PROF 3

CCHV=    .300 CEHV=    .500
*SECNO  .257

3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
ELENCL=   1892.00  ELENCR=   1892.00
                KNOWN WATER SURFACE ELEVATION IS FROM THE HEC-1 MODEL AT C10
                BASED ON THE STORAGE-ROUTING ROUTINE

                THIS IS A MULTIPLE PROFILE RUN. ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.

                THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD
                FROM CIRCLE CITY - WASH 5 TO WASH 4.
      .26     4.78  1889.28      .00  1889.28  1889.29      .01      .00      .00  1892.00
      94.       0.      94.       0.       0.     121.       0.       0.       0.   1892.00
      .00      .00      .78      .00     .080     .050     .080     .000  1884.50  4990.00
   .000140      0.       0.       0.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1889.28

 STA=    4990.    5115.
   PER Q=    100.0
    AREA=    120.9
     VEL=       .8

 CCHV=    .100 CEHV=    .300
 *SECNO  .316
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .32      .50  1890.50  1890.50      .00  1890.72      .22      .10      .06  1892.00
      54.       0.      54.       0.       0.      14.       0.       0.       0.   1896.00
      .02      .00     3.77      .00     .080     .050     .080     .000  1890.00  4978.80
   .048717     310.     310.     310.       20       24        0      .00    32.85  5011.65
0
 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1890.50

 STA=    4979.    5030.
   PER Q=    100.0
    AREA=     14.3
     VEL=      3.9

1
 05/09/88    09:57:15                                                                    PAGE   10


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .364
      .36      .86  1894.36      .00      .00  1894.41      .05     3.68      .02  1894.00
      54.       0.      54.       0.       1.      31.       0.       1.       0.   1898.00
      .06      .49     1.74      .00     .080     .050     .080     .000  1893.50  4960.49
   .006800     255.     255.     255.        5        0        0      .00    55.86  5016.35
0
 FLOW DISTRIBUTION FOR SECNO=       .36          CWSEL=   1894.36

 STA=    4960.    4965.    5030.
   PER Q=       .7     99.3
    AREA=       .8     30.8
     VEL=       .5      1.7
```

```
*SECNO  .417
      .42     1.08  1897.58      .00      .00  1897.73      .15     3.29      .03  1898.00
      54.       0.      54.       0.       0.      17.       0.       1.       1.  1900.00
      .03      .00     3.11      .00     .080     .050     .080     .000  1896.50  4978.48
  .025077     280.     280.     280.        3        0        0      .00    32.29  5010.76

 FLOW DISTRIBUTION FOR SECNO=       .42          CWSEL=   1897.58

 STA=    4978.    5025.
   PER Q=    100.0
    AREA=     17.4
     VEL=      3.1

1
 05/09/88    09:57:15                                                                    PAGE   11


                                                                  THIS RUN EXECUTED 05/09/88   09:57:42
 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1994
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ***************************************************


 T1      WITTMANN ADMS
 T2      10-YEAR STORM EVENT
 T3      CIRCLE CITY - WASH 4 (FLOODPLAIN ALONG RAILROAD)

 J1  ICHECK    ING       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        5.        0.        0.   .000000      .00       .5        0.  1887.330      .000

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     15.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
 05/09/88    09:57:15                                                                    PAGE   12


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 4

 CCHV=    .300 CEHV=    .500
 *SECNO  .257

 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     1  TARGET=      30.000
 ELENCL=   1892.00  ELENCR=   1892.00
                KNOWN WATER SURFACE ELEVATION IS FROM THE HEC-1 MODEL AT C18
                BASED ON THE STORAGE-ROUTING ROUTINE

                THIS IS A MULTIPLE PROFILE RUN. ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.

                THIS MODEL SIMULATES THE DIVERTED FLOWS ALONG THE RAILROAD
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```
      .26     2.83  1887.33      .00  1887.33  1887.34      .01      .00      .00  1892.00
      45.       0.      45.       0.       0.      62.       0.       0.       0.  1892.00
      .00      .00      .72      .00     .000     .050     .090     .000  1894.50  4990.00
  .000250       0.       0.       0.        0        0        0      .00    30.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1887.33

 STA=    4990.    5115.
   PER Q=    100.0
    AREA=     62.4
     VEL=       .7

 CCHV=    .100 CEHV=    .300
 *SECNO  .316
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .32      .33  1890.33  1890.33      .00  1890.48      .15      .19      .04  1892.00
      28.       0.      28.       0.       0.       9.       0.       0.       0.  1896.00
      .03      .00     3.11      .00     .080     .050     .080     .000  1890.00  4980.92
  .054825     310.     310.     310.       20       20        0      .00    30.17  5011.09
0
 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1890.33

 STA=    4981.    5030.
   PER Q=    100.0
    AREA=      9.0
     VEL=      3.1

1
 05/09/88    09:57:15                                                                    PAGE   13

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .364
      .36      .67  1894.17      .00      .00  1894.20      .03     3.71      .01  1894.00
      28.       0.      28.       0.       0.      21.       0.       0.       0.  1898.00
      .08      .29     1.34      .00     .080     .050     .080     .000  1893.50  4962.91
  .006597     255.     255.     255.        6        0        0      .00    52.71  5015.63
0
 FLOW DISTRIBUTION FOR SECNO=       .36          CWSEL=   1894.17

 STA=    4963.    4965.    5030.
   PER Q=       .2     99.8
    AREA=       .2     20.9
     VEL=       .3      1.3

 *SECNO  .417
      .42      .85  1897.35      .00      .00  1897.46      .11     3.23      .02  1898.00
      28.       0.      28.       0.       0.      11.       0.       0.       1.  1900.00
      .11      .00     2.64      .00     .080     .050     .080     .000  1896.50  4983.19
  .025221     280.     280.     280.        3        0        0      .00    25.21  5008.40

 FLOW DISTRIBUTION FOR SECNO=       .42          CWSEL=   1897.35

 STA=    4983.    5025.
   PER Q=    100.0
    AREA=     10.6
     VEL=      2.6
```

THIS RUN EXECUTED 05/09/88 09:57:49

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
*************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CIRCLE CITY - WASH 4 (FL

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	ENDST	DIFWSX	TOPWID	XLCH	DEPTH	ELMIN	10K*S	VCH
	.257	132.00	1890.21	4990.00	5020.00	.00	30.00	.00	5.71	1884.50	1.47	.89
	.257	132.00	1890.21	4990.00	5020.00	.00	30.00	.00	5.71	1884.50	1.47	.89
	.257	94.00	1889.28	4990.00	5020.00	.00	30.00	.00	4.78	1884.50	1.40	.78
	.257	45.00	1887.33	4990.00	5020.00	.00	30.00	.00	2.83	1884.50	2.50	.72
*	.316	179.00	1891.04	4972.02	5013.46	.83	41.44	310.00	1.04	1890.00	391.82	5.19
*	.316	179.00	1891.04	4972.02	5013.46	.83	41.44	310.00	1.04	1890.00	391.82	5.19
*	.316	54.00	1890.50	4978.80	5011.65	1.22	32.85	310.00	.50	1890.00	487.17	3.77
*	.316	28.00	1890.33	4980.92	5011.09	3.00	30.17	310.00	.33	1890.00	548.25	3.11
	.364	179.00	1894.96	4952.97	5018.61	3.92	65.64	255.00	1.46	1893.50	71.80	2.78
	.364	179.00	1894.99	4965.00	5018.71	3.95	53.71	255.00	1.49	1893.50	72.77	2.80
	.364	54.00	1894.36	4960.49	5016.35	3.87	55.86	255.00	.86	1893.50	68.00	1.74
	.364	28.00	1894.17	4962.91	5015.63	3.84	52.71	255.00	.67	1893.50	65.97	1.34
	.417	179.00	1898.18	4965.11	5015.89	3.22	50.78	280.00	1.68	1896.50	234.65	4.27
	.417	179.00	1898.19	4970.00	5015.96	3.20	45.96	280.00	1.69	1896.50	224.75	4.21
	.417	54.00	1897.58	4978.48	5010.76	3.22	32.29	280.00	1.08	1896.50	250.77	3.11
	.417	28.00	1897.35	4983.19	5008.40	3.18	25.21	280.00	.85	1896.50	252.21	2.64

1

CIRCLE CITY - WASH 4 (FL

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.257	1890.21	.00	1890.22	30.00	.00	132.00	.00	30.00	4990.00	4965.00	5115.00	5020.00
	.257	1890.21	.00	1890.22	30.00	.00	132.00	.00	30.00	4990.00	4965.00	5115.00	5020.00
	.257	1889.28	.00	1889.29	30.00	.00	94.00	.00	30.00	4990.00	4965.00	5115.00	5020.00
	.257	1887.33	.00	1887.34	30.00	.00	45.00	.00	30.00	4990.00	4965.00	5115.00	5020.00
*	.316	1891.04	.00	1891.46	41.44	.00	179.00	.00	.00	.00	4960.00	5030.00	.00
*	.316	1891.04	.00	1891.46	41.44	.00	179.00	.00	.00	4960.00	4960.00	5030.00	5030.00
*	.316	1890.50	.00	1890.72	32.85	.00	54.00	.00	.00	.00	4960.00	5030.00	.00
*	.316	1890.33	.00	1890.48	30.17	.00	28.00	.00	.00	.00	4960.00	5030.00	.00
	.364	1894.96	.00	1895.00	[illegible]	[illegible]	173.41	.00	.00	.00	4965.00	5020.00	.00

.364	1894.99	.03	1895.11	53.71	.00	179.00	.00	.07	4965.00	4965.00	5030.00	5030.00
.364	1894.36	.00	1894.41	55.86	.40	53.60	.00	.00	.00	4965.00	5030.00	.00
.364	1894.17	.00	1894.20	52.71	.05	27.95	.00	.00	.00	4965.00	5030.00	.00
.417	1898.18	.00	1898.46	50.78	.25	178.75	.00	.00	.00	4970.00	5025.00	.00
.417	1898.19	.01	1898.47	45.96	.00	179.00	.00	.06	4970.00	4970.00	5025.00	5025.00
.417	1897.58	.00	1897.73	32.29	.00	54.00	.00	.00	.00	4970.00	5025.00	.00
.417	1897.35	.00	1897.46	25.21	.00	28.00	.00	.00	.00	4970.00	5025.00	.00

1

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION  SECNO=     .316  PROFILE= 1  CRITICAL DEPTH ASSUMED
NOTE     SECNO=     .316  PROFILE= 1  WSEL BASED ON XS CARD
CAUTION  SECNO=     .316  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .316  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .316  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .316  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .316  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .316  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .316  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .316  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .316  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .316  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOODWAY DATA, CIRCLE CITY - WASH 4 (FL
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.257	30.	149.	.9	1890.2	1890.2	.0
.316	41.	34.	5.2	1891.0	1891.0	.0
.364	54.	64.	2.8	1895.0	1895.0	.0
.417	46.	43.	4.2	1898.2	1898.2	.0

1

FLOODWAY DATA, CIRCLE CITY - WASH 4 (FL
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.257	30.	121.	.8	1889.4	1890.2	-.8
.316	33.	14.	3.8	1890.6	1891.0	-.4
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

.417	32.	17.	3.1	1897.7	1898.2	-.5

1

FLOODWAY DATA, CIRCLE CITY - WASH 4 (FL
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.257	30.	62.	.7	1887.4	1890.2	-2.8
.316	30.	9.	3.1	1890.4	1891.0	-.6
.364	53.	21.	1.3	1894.3	1895.0	-.7
.417	25.	11.	2.6	1897.5	1898.2	-.7

1

THIS RUN EXECUTED 05/09/88 09:57:53

****
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION 1.1
****

INPUT FILE: CCWASH5

OUTPUT FILE: CCWASH5.OUT

THIS RUN EXECUTED 05/09/88 09:01:42

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - WASH 5

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .000000     .00      .5       0.  1879.230     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     1.000     .000     .000     .000     .000     .000     .000     .000     .000   15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000   43.000    1.000   53.000   21.000   22.000   54.000   51.000    4.000    5.000


    42.000    5.000   26.000     .000  110.000     .000  200.000     .000     .000     .000


NC      .080      .080      .050      .100      .300      .000      .000      .000      .000      .000
GT     4.000   199.000   199.000   196.000   117.000      .000      .000      .000      .000      .000
ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
                SECTION .000 IS EQUIVALENT TO SECTION .485 IN CIRCLE
                CITY - WASH 6 FOR STARTING WATER SURFACE ELEVATION AND
                CROSS-SECTION DATA.
X1      .000     9.000  4950.000  5045.000      .000      .000      .000      .000      .000      .000
GR   1888.000  4930.000  1886.000  4950.000  1880.000  4975.000  1876.000  5000.000  1876.000  5005.000
GR   1878.000  5010.000  1882.000  5020.000  1884.000  5045.000  1888.000  5105.000      .000      .000

GT     4.000    85.000    85.000    85.000    30.000      .000      .000      .000      .000      .000
X1      .061     5.000  4990.000  5010.000   320.000   320.000   320.000      .000      .000      .000
GR   1890.000  4955.000  1882.000  4990.000  1881.500  5000.000  1882.000  5010.000  1890.000  5050.000

X1      .112     6.000  4950.000  5065.000   320.000   220.000   270.000      .000      .000      .000
GR   1894.000  4950.000  1888.000  4995.000  1887.000  5000.000  1888.000  5005.000  1890.000  5025.000
GR   1894.000  5065.000      .000      .000      .000      .000      .000      .000      .000      .000
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X1      .144     4.000  4970.000  5075.000   170.000   170.000   170.000      .000      .000      .000
X1      .000      .000      .000  5080.000  1895.000  5030.000  1895.000      .000      .000      .000
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GR   1896.000   4970.000   1890.000   5000.000   1894.000   5020.000   1896.000   5075.000       .000       .000

QT      4.000    101.000    101.000     93.000     30.000       .000       .000       .000       .000       .000
                 WATER SURFACE ELEVATION AT SECTION .159 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.

                 THE INFLOW FROM THE RAILROAD CULVERT EQUALS 101 CFS.
                 THE GRAND AVENUE CULVERT AT SECTION .159 CONVEYS 85 CFS
                 AT CAPACITY BEFORE SPILLING, THUS 16 CFS IS EITHER DIVERTED
                 ALONG THE NORTH SIDE OF GRAND AVENUE OR CROSSES GRAND AVENUE
                 THROUGH A SMALL DIP SECTION.
X1       .159      6.000   4980.000   5020.000     90.000     80.000     90.000       .000       .000       .000
X3     10.000       .000       .000       .000       .000       .000       .000       .000       .000       .000
X4      1.000   1896.000   4980.000       .000       .000       .000       .000       .000       .000       .000
X5      4.000   1898.000   1898.000   1897.800   1894.000       .000       .000       .000       .000       .000
GR   1898.000   4910.000   1892.000   4995.000   1891.500   5000.000   1892.000   5005.000   1896.000   5020.000
GR   1898.000   5090.000       .000       .000       .000       .000       .000       .000       .000       .000

X1       .176      4.000   4990.000   5025.000     90.000     90.000     90.000       .000       .000       .000
X3     10.000       .000       .000       .000       .000       .000       .000       .000       .000       .000
GR   1893.000   4990.000   1894.000   4995.000   1894.000   5005.000   1898.000   5025.000       .000       .000

QT      4.000    309.000    309.000    176.000     33.000       .000       .000       .000       .000       .000
                 WATER SURFACE ELEVATION AT SECTION .189 IS BASED UPON
                 HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C17.
X1       .189     13.000   4935.000   5060.000     70.000     70.000     70.000       .000       .000       .000
X3       .000       .000       .000   4970.000   1902.000   5010.000   1902.000       .000       .000       .000
X5      4.000   1901.460   1901.460   1899.540   1896.620       .000       .000       .000       .000       .000
GR   1902.000   4710.000   1900.500   4740.000   1900.000   4800.000   1898.000   4935.000   1896.000   4970.000
GR   1895.000   5000.000   1896.000   5010.000   1900.000   5060.000   1901.000   5115.000   1900.000   5200.000
GR   1898.500   5240.000   1900.000   5270.000   1902.000   5345.000       .000       .000       .000       .000

QT      4.000     84.000     84.000     65.000     33.000       .000       .000       .000       .000       .000
X1       .227      7.000   4980.000   5060.000    200.000    200.000    200.000       .000       .000       .000
GR   1904.000   4910.000   1902.000   4950.000   1900.000   4990.000   1898.000   4995.000   1898.000   5010.000
GR   1904.000   5060.000   1906.000   5160.000       .000       .000       .000       .000       .000       .000

X1       .276     10.000   4975.000   5050.000    300.000    210.000    260.000       .000       .000       .000
GR   1908.000   4865.000   1906.000   4930.000   1904.000   4975.000   1902.000   4990.000   1902.000   5000.000
GR   1904.000   5010.000   1905.000   5050.000   1904.000   5090.000   1904.000   5100.000   1908.000   5190.000

X1       .363      7.000   4975.000   5015.000    460.000    460.000    460.000       .000       .000       .000
GR   1914.000   4835.000   1912.000   4890.000   1910.000   4975.000   1908.000   4985.000   1908.000   5000.000
GR   1910.000   5015.000   1914.000   5120.000       .000       .000       .000       .000       .000       .000
EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
 05/09/88    09:01:42                                                                                    PAGE    3


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 1

CCHV=    .100 CEHV=    .300
*SECNO  .000
                 THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES BASED ON THE
                 100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
                 SECTION .000 IS EQUIVALENT TO SECTION .485 IN CIRCLE
                 CITY - WASH 6 FOR STARTING WATER SURFACE ELEVATION AND
                 CROSS-SECTION DATA.
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```
      199.      0.     199.      0.      0.     62.      0.      0.      0.   1884.00
       .00     .00     3.22     .00    .080    .050    .080    .000  1876.00  4979.81
   .005323      0.      0.      0.       0       0       0     .00    33.26  5013.08
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1879.23

 STA=    4980.    5045.
   PER Q=    100.0
    AREA=     61.8
     VEL=      3.2

 *SECNO  .061
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
       .06     1.07  1882.57  1882.57     .00  1882.95     .38     2.57     .07  1882.00
       85.       1.      83.       1.      1.      16.      1.       0.       0.   1882.00
       .02     1.53     5.03     1.54    .080    .050    .080    .000  1891.50  4997.50
   .037352     320.     320.     320.      20      17       0     .00    25.35  5012.86
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1882.57

 STA=    4988.    4990.    5010.    5013.
   PER Q=      1.3     97.2      1.5
    AREA=       .7     16.4       .8
     VEL=      1.5      5.0      1.5

 *SECNO  .112
       .11     2.04  1889.04     .00     .00  1889.22     .18     6.25     .02  1894.00
       85.       0.      85.       0.      0.      25.      0.       0.       0.   1894.00
       .04      .00     3.41     .00    .080    .050    .080    .000  1887.00  4987.18
   .015741     320.     270.     220.       5       0       0     .00    28.25  5015.43

1
 05/09/88    09:01:42                                                                PAGE    4


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .11          CWSEL=   1889.04

 STA=    4987.    5065.
   PER Q=    100.0
    AREA=     25.0
     VEL=      3.4

 *SECNO  .144

 3470 ENCROACHMENT STATIONS=    5000.0    5020.0  TYPE=     1  TARGET=      20.000
  ELENCL=   1896.00  ELENCR=   1896.00
       .14     2.52  1892.52     .00     .00  1892.97     .45     3.67     .08  1896.00
       85.       0.      85.       0.      0.      16.      0.       1.       0.   1896.00
       .05      .00     5.37     .00    .080    .050    .080    .000  1890.00  5000.00
   .031359     170.     170.     170.       3       0       0     .00    12.58  5012.58

 FLOW DISTRIBUTION FOR SECNO=       .14          CWSEL=   1892.52

 STA=    5000.    5075.
   PER Q=    100.0
    AREA=     15.8
     VEL=      5.4
```

```
*SECNO  .159
 WATER EL=X5 CARD=  1898.000
                WATER SURFACE ELEVATION AT SECTION .159 IS BASED UPON
                CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                INLET CONTROL.

                THE INFLOW FROM THE RAILROAD CULVERT EQUALS 101 CFS.
                THE GRAND AVENUE CULVERT AT SECTION .159 CONVEYS 85 CFS
                AT CAPACITY BEFORE SPILLING, THUS 16 CFS IS EITHER DIVERTED
                ALONG THE NORTH SIDE OF GRAND AVENUE OR CROSSES GRAND AVENUE
                THROUGH A SMALL DIP SECTION.
      .16     6.50  1898.00      .00      .00  1898.00      .00      .01      .04  1896.00
     101.       8.      86.       8.      70.     183.      70.       1.       1.   1896.00
      .10      .11      .47      .11     .080     .050     .080     .000  1891.50  4910.00
  .000034      80.      80.      80.        0        0        0      .00   180.00  5090.00
0
 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1898.00

 STA=    4910.    4980.    5020.    5090.
   PER Q=      7.5     84.9      7.5
    AREA=     70.0    182.5     70.0
     VEL=       .1       .5       .1

1
  05/09/88    09:01:42                                                                                                PAGE    5


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .176
 3280 CROSS SECTION       .18 EXTENDED       .00 FEET

      .18     4.00  1898.00      .00      .00  1898.01      .01      .01      .00  1898.00
     101.       0.     101.       0.       0.     110.       0.       1.       1.   1898.00
      .13      .00      .92      .00     .080     .050     .080     .000  1894.00  4980.00
  .000297      90.      90.      90.        2        0        0      .00    45.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .18          CWSEL=   1898.00

 STA=    4980.    5025.
   PER Q=    100.0
    AREA=    110.1
     VEL=       .9

 *SECNO  .189
  WATER EL=X5 CARD=  1901.460

 3470 ENCROACHMENT STATIONS=    4970.0    5010.0  TYPE=     1  TARGET=      40.000
  ELENCL=   1902.00  ELENCR=   1902.00
                WATER SURFACE ELEVATION AT SECTION .189 IS BASED UPON
                HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C17.
      .19     6.46  1901.46      .00      .00  1901.49      .03      .02      .00  1902.00
     309.       0.     309.       0.       0.     238.       0.       2.       1.   1902.00
      .14      .00     1.30      .00     .090     .050     .090     .000  1895.00  4970.00
  .000243      70.      70.      70.        0        0        0      .00    40.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .19          CWSEL=   1901.46

 STA=    4970.    5060.
   PER Q=    100.0
    AREA=    238.4
```

```
*SECNO  .227
      .23      3.52  1901.52      .00      .00  1901.53      .00      .04      .00  1900.00
      84.        3.       81.       0.      17.     142.       0.       2.       1.   1904.00
      .24       .17       .57      .00     .090     .050     .080     .000  1898.00  4957.21
  .000116      200.      200.     200.        2        0        0      .00    82.12  5039.33
1
 05/09/88    09:01:42                                                                          PAGE    6

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST

 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1901.52

 STA=    4957.    4980.    5060.
   PER Q=      3.4      96.6
    AREA=     17.3     142.2
     VEL=       .2        .6

 *SECNO  .276
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .28      1.04  1903.04  1903.04      .00  1903.41      .37      .11      .11  1904.00
      84.        0.       84.       0.       0.      17.       0.       3.       2.   1905.00
      .26       .00      4.90      .00     .080     .050     .080     .000  1902.00  4982.20
  .040502      300.      260.     210.       20       14        0      .00    23.00  5005.20

 FLOW DISTRIBUTION FOR SECNO=       .28          CWSEL=   1903.04

 STA=    4982.    5050.
   PER Q=    100.0
    AREA=     17.2
     VEL=      4.9

 *SECNO  .363
      .36      1.43  1909.43      .00      .00  1909.52      .09     6.08      .03  1910.00
      84.        0.       84.       0.       0.      34.       0.       3.       2.   1910.00
      .31       .00      2.45      .00     .080     .050     .080     .000  1908.00  4977.94
  .006478      460.      460.     460.        4        0        0      .00    32.91  5010.74
0
 FLOW DISTRIBUTION FOR SECNO=       .36          CWSEL=   1909.43

 STA=    4978.    5015.
   PER Q=    100.0
    AREA=     34.3
     VEL=      2.4

1
 PROFILE FOR STREAM  CIRCLE CITY - WASH 5


 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


 ELEVATION  1875.     1880.     1885.     1890.     1895.     1900.     1905.     1910.     1915.     1920.
    SECNO   CUMDIS

      .00      0.  C I     WE.       R . L   M  .         .         .         .         .         .         .         .
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```
      40. C I    WE      R .L    M .       .       .       .       .       .       .       .
      60. C  I    E     R .L    M .       .       .       .       .       .       .       .
      80. C   I   WE    R L     M .       .       .       .       .       .       .       .
     100. C   I  .E    R L     M .       .       .       .       .       .       .       .
     120. C    I  .E    R L.     M .       .       .       .       .       .       .       .
     140. C     I .WE   R L.     M .       .       .       .       .       .       .       .
     160. C      I . E  R L .     M .       .       .       .       .       .       .       .
     180. C      I . WE R L .     M .       .       .       .       .       .       .       .
     200. C       I.  E RL .      M.       .       .       .       .       .       .       .
     220. C        I WER L .      M.       .       .       .       .       .       .       .
     240. C        I WERL  .      M.       .       .       .       .       .       .       .
     260. C        .I  WEL .      M.       .       .       .       .       .       .       .
     280. C        . I WE  .       M       .       .       .       .       .       .       .
     300. C        . I RE  .       M       .       .       .       .       .       .       .
.06  320. .         .  ILWE .       M       .       .       .       .       .       .       .
     340. C         .  I WE .       .M      .       .       .       .       .       .       .
     360. C         .   I WE .      .M      .       .       .       .       .       .       .
     380. C         .   I  WE.      . M     .       .       .       .       .       .       .
     400. C         .    I  WEL     . M     .       .       .       .       .       .       .
     420. C         .     I  WE L   . M     .       .       .       .       .       .       .
     440. C         .      I .E  L  .  M    .       .       .       .       .       .       .
     460. C         .       I. E  L  .  M    .       .       .       .       .       .       .
     480. C         .        I E   L .   M   .       .       .       .       .       .       .
     500. C         .        I  E    L   M   .       .       .       .       .       .       .
     520. C         .        .I  E   . L  M  .       .       .       .       .       .       .
     540. C         .        . I  E  .  L M  .       .       .       .       .       .       .
     560. C         .        .  I  E .   L M .       .       .       .       .       .       .
     580. C         .        .  I  E .     LM.       .       .       .       .       .       .
.11  600. C         .        .  I  E .      L.       .       .       .       .       .       .
     620. C         .        .   I  E.      L.       .       .       .       .       .       .
     640. C         .        .   I   E       L.      .       .       .       .       .       .
     660. C         .        .    I  .E      L.      .       .       .       .       .       .
     680. C         .        .     I .WE      L      .       .       .       .       .       .
     700. C         .        .      I . WE    L      .       .       .       .       .       .
     720. C         .        .      I .  WE   .L      .       .       .       .       .       .
     740. C         .        .       I.  WE   .L      .       .       .       .       .       .
.14  760. C         .        .        I   WE  . L     .       .       .       .       .       .
     780. C         .        .        .I     E . LM   .       .       .       .       .       .
     800. C         .        .        . I      .EL M  .       .       .       .       .       .
     820. C         .        .        . I      . LE M .       .       .       .       .       .
.16  840. C         .        .        .  I     . L  E .       .       .       .       .       .
     860. C         .        .        .  I     . L  E .       .       .       .       .       .
     880. C         .        .        .   I    .  L E .       .       .       .       .       .
     900. C         .        .        .    I   .   LE .       .       .       .       .       .
     920. C         .        .        .     I  .    E .       .       .       .       .       .
.18  940. C         .        .        .      I .    E .       .       .       .       .       .
     960. C         .        .        .       I.      E.       .       .       .       .       .
     980. C         .        .        .       I.       EL      .       .       .       .       .
.19 1000. C         .        .        .        I        . EL   .       .       .       .       .
    1020. C         .        .        .        .I       . EL   .       .       .       .       .
    1040. C         .        .        .        .I       . E R  .       .       .       .       .
    1060. C         .        .        .        . I      . E R  .       .       .       .       .
    1080. C         .        .        .        . I      . LE  R .       .       .       .       .
    1100. C         .        .        .        .  I     . LE  R .       .       .       .       .
    1120. C         .        .        .        .   I    . LE  R .       .       .       .       .
    1140. C         .        .        .        .   I    .L E  R .       .       .       .       .
    1160. C         .        .        .        .    I   .L E  R .       .       .       .       .
    1180. C         .        .        .        .    I   L  E   R.       .       .       .       .
.23 1200. C         .        .        .        .     I  L  E   R.       .       .       .       .
    1220. C         .        .        .        .      I .L E   RM.       .       .       .       .
    1240. C         .        .        .        .      I .L  E  RM.       .       .       .       .
    1260. C         .        .        .        .       I. L E  R M       .       .       .       .
    1280. C         .        .        .        .       I. L E   RM       .       .       .       .
    1300. C         .        .        .        .        I.  LWE  R.M     .       .       .       .
    1320. C         .        .        .        .         I  WE  R. M     .       .       .       .
    1340. C         .        .        .        .         I  WE  R. M     .       .       .       .
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        1360.  C     .     .     .     .     .I  E  R. M     .     .     .     .
        1380.  C     .     .     .     .     . I WE R.  M    .     .     .     .
        1400.  C     .     .     .     .     . I WE  R  M    .     .     .     .
        1420.  C     .     .     .     .     . I EL  R   M   .     .     .     .
        1440.  C     .     .     .     .     . I WE  R   M   .     .     .     .
   .28  1460.  .     .     .     .     .     . I WEL R    M  .     .     .     .
        1480.  C     .     .     .     .     .  I E LR     M .     .     .     .
        1500.  C     .     .     .     .     .  I WEL.R    M .     .     .     .
        1520.  C     .     .     .     .     .   I E LR     M.     .     .     .
        1540.  C     .     .     .     .     .   I WEL R    M.     .     .     .
        1560.  C     .     .     .     .     .    I E.LR     M.     .     .     .
        1580.  C     .     .     .     .     .    I WEL R    M.     .     .     .
        1600.  C     .     .     .     .     .     I WELR     M     .     .     .
        1620.  C     .     .     .     .     .     I .ELR     M     .     .     .
        1640.  C     .     .     .     .     .      I.WELR    .M    .     .     .
        1660.  C     .     .     .     .     .      I. ELR    .M    .     .     .
        1680.  C     .     .     .     .     .       I WELR   . M   .     .     .
        1700.  C     .     .     .     .     .       I  ELR   . M   .     .     .
        1720.  C     .     .     .     .     .       .I WELR  .  M  .     .     .
        1740.  C     .     .     .     .     .       .I  ELR  .  M  .     .     .
        1760.  C     .     .     .     .     .       . I WELR .   M .     .     .
        1780.  C     .     .     .     .     .       . I  ELR .   M .     .     .
        1800.  C     .     .     .     .     .       .  I  EL .    M .     .     .
        1820.  C     .     .     .     .     .       .  I  ELR .   M .     .     .
        1840.  C     .     .     .     .     .       .   I  EL .    M .     .     .
        1860.  C     .     .     .     .     .       .   I  ELR.    M .     .     .
        1880.  C     .     .     .     .     .       .    I  EL.    M .     .     .
        1900.  C     .     .     .     .     .       .    I  WER    M .     .     .
   .36  1920.  C     .     .     .     .     .       .     I  EL     M.     .     .
1
 05/09/88    09:01:42                                                          PAGE    7
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                                                          THIS RUN EXECUTED 05/09/88   09:02:13
 ************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN ADMS
 T2      100 YEAR STORM EVENT - ENCROACHED
 T3      CIRCLE CITY - WASH 5

 J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVING    Q        WSEL     FQ

       0.       3.       0.       0.   .000000     .00      .0       0.  1879.230    .000

 J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     2.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
 05/09/88    09:01:42                                                          PAGE    8

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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*PROF 2

CCHV=    .100 CEHV=    .300
*SECNO  .000
 2000 NAT Q1=     27.28  WSEL=   1879.23  ENC Q1=     51.88  WSEL=   1880.23  RATIO=  -.9019
 NAT Q1=     52.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1880.23

3470 ENCROACHMENT STATIONS=    4950.0    5045.0  TYPE=     4  TARGET=        .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
                SECTION .000 IS EQUIVALENT TO SECTION .485 IN CIRCLE
                CITY - WASH 6 FOR STARTING WATER SURFACE ELEVATION AND
                CROSS-SECTION DATA.
      .00     3.23  1879.23      .00  1879.23  1879.39      .16      .00      .00  1886.00
     199.       0.     199.       0.       0.      62.       0.       0.       0.   1884.00
      .00      .00     3.22      .00     .080     .050     .080     .000  1876.00  4979.81
   .005323      0.       0.       0.        0        0        0      .00    33.26  5013.08
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1879.23

 STA=    4980.    5045.
   PER Q=    100.0
    AREA=     61.8
     VEL=      3.2

 *SECNO  .061
  2000 NAT Q1=      4.40  WSEL=   1882.57  ENC Q1=     16.13  WSEL=   1883.57  RATIO= -2.6676
  NAT Q1=     18.  RATIOS LOB,CH,ROB=   .0468   .8995   .0537  WSEL=   1883.57
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4990.0    5010.0  TYPE=     4  TARGET=        .101
      .06     1.07  1882.57  1882.57  1882.57  1882.99      .42     2.62      .08  1882.00
      85.       0.      85.       0.       0.      16.       0.       0.       0.   1882.00
      .02      .00     5.18      .00     .080     .050     .080     .000  1881.50  4990.00
   .042654     320.     320.     320.       20       17        0      .00    20.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1882.57

 STA=    4990.    5010.
   PER Q=    100.0
    AREA=     16.4
     VEL=      5.2

1
 05/09/88    09:01:42                                                                    PAGE    9


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .112
  2000 NAT Q1=      6.77  WSEL=   1889.04  ENC Q1=     22.42  WSEL=   1890.04  RATIO= -2.3096
  NAT Q1=     22.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1890.04

 3470 ENCROACHMENT STATIONS=    4950.0    5065.0  TYPE=     4  TARGET=        .000
      .11     2.07  1889.07      .00  1889.04  1889.24      .17     6.23      .02  1894.00
      85.       0.      85.       0.       0.      26.       0.       0.       0.   1894.00
      .04      .00     3.29      .00     .080     .050     .080     .000  1887.00  4986.95
   .014430     320.     270.     220.        5        0        0      .00    28.77  5015.73
0
 FLOW DISTRIBUTION FOR SECNO=       .11          CWSEL=   1889.07
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 STA=    4987.    5065.
   PER Q=    100.0
    AREA=     25.8
     VEL=      3.3

 SECNO  .144

 3470 ENCROACHMENT STATIONS=    5000.0    5020.0  TYPE=     1  TARGET=      20.000
  ELENCL=   1896.00  ELENCR=   1896.00
       .14     2.47  1892.47      .00  1892.52  1892.95      .48     3.61      .09  1896.00
       85.       0.      85.       0.       0.      15.       0.       0.       0.   1896.00
       .05      .00     5.56      .00     .080     .050     .090     .000  1890.00  5000.00
   .034394     170.     170.     170.        3        0        0      .00    12.36  5012.36
0
 FLOW DISTRIBUTION FOR SECNO=       .14          CWSEL=   1892.47

 STA=    5000.    5075.
   PER Q=    100.0
    AREA=     15.3
     VEL=      5.6

 *SECNO  .159
  WATER EL=X5 CARD=  1898.000
  2800 NAT Q1=    172.54  WSEL=   1898.00  ENC Q1=    203.90  WSEL=   1899.00  RATIO=  -.1017
  NAT Q1=    286.  RATIOS LOB,CH,ROB=   .1431   .7138   .1431  WSEL=   1899.00

 3470 ENCROACHMENT STATIONS=    4980.0    5020.0  TYPE=     4  TARGET=       .286
                WATER SURFACE ELEVATION AT SECTION .159 IS BASED UPON
                CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
1
 05/09/88    09:01:42                                                                    PAGE   10


                INLET CONTROL.

                THE INFLOW FROM THE RAILROAD CULVERT EQUALS 101 CFS.
                THE GRAND AVENUE CULVERT AT SECTION .159 CONVEYS 85 CFS
                AT CAPACITY BEFORE SPILLING, THUS 16 CFS IS EITHER DIVERTED
                ALONG THE NORTH SIDE OF GRAND AVENUE OR CROSSES GRAND AVENUE
                THROUGH A SMALL DIP SECTION.
       .16     6.50  1898.00      .00  1898.00  1898.00      .00      .01      .05  1896.00
      101.       0.     101.       0.       0.     183.       0.       1.       0.   1896.00
       .09      .00      .55      .00     .080     .050     .080     .000  1891.50  4980.00
   .000054      90.      90.      90.        0        0        0      .00    40.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1898.00

 STA=    4980.    5020.
   PER Q=    100.0
    AREA=    182.5
     VEL=       .6

 *SECNO  .176
  2800 NAT Q1=     58.62  WSEL=   1898.00  ENC Q1=    100.75  WSEL=   1899.00  RATIO=  -.7186
  NAT Q1=    101.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1899.00
 3280 CROSS SECTION       .10 EXTENDED       .01 FEET

 3470 ENCROACHMENT STATIONS=    4980.0    5025.0  TYPE=     4  TARGET=       .000
       .18     4.00  1898.00      .00  1898.00  1898.02      .01      .01      .00  1898.00
      101.       0.     101.       0.       0.     110.       0.       1.       1.   1898.00
       .12      .00      .92      .00     .080     .050     .090     .000  1894.00  4980.00
   .000295      90.      90.      90.        0        0        0      .00    45.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .18          CWSEL=   1898.00
```

```
 STA=    4980.    5025.
   PER Q=    100.0
   AREA=    110.3
    VEL=       .9

 SECNO  .189
  WATER EL=X5 CARD=  1901.460

 3470 ENCROACHMENT STATIONS=    4970.0    5010.0  TYPE=     1  TARGET=      40.000
  ELENCL=   1902.00  ELENCR=   1902.00
                 WATER SURFACE ELEVATION AT SECTION .189 IS BASED UPON
                 HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C17.
      .19     6.46  1901.46      .00  1901.46  1901.49      .03      .02      .00  1902.00
     309.       0.     309.       0.       0.     238.       0.       1.       1.  1902.00
      .13      .00     1.30      .00     .080     .050     .080     .000  1895.00  4970.00
   .000243     70.      70.      70.        0        0        0      .00    40.00  5010.00
0
1
 05/09/88    09:01:42                                                                          PAGE   11


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .19          CWSEL=   1901.46

 STA=    4970.    5060.
   PER Q=    100.0
   AREA=    238.4
    VEL=      1.3

 *SECNO  .227
  2000 NAT Q1=     78.07  WSEL=   1901.52  ENC Q1=    129.04  WSEL=   1902.52  RATIO=  -.6400
  NAT Q1=    139.  RATIOS LOB,CH,ROB=   .0820   .9180   .0000  WSEL=   1902.52

 3470 ENCROACHMENT STATIONS=    4980.0    5060.0  TYPE=     4  TARGET=       .082
      .23     3.52  1901.52      .00  1901.52  1901.53      .01      .04      .00  1900.00
      84.       0.      84.       0.       0.     142.       0.       2.       1.  1904.00
      .23      .00      .59      .00     .080     .050     .080     .000  1898.00  4980.00
   .000128    200.     200.     200.        2        0        0      .00    59.37  5039.37
0
 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1901.52

 STA=    4980.    5060.
   PER Q=    100.0
   AREA=    142.5
    VEL=       .6

 *SECNO  .276
  2000 NAT Q1=      4.17  WSEL=   1903.04  ENC Q1=     16.07  WSEL=   1904.04  RATIO= -2.8512
  NAT Q1=     16.  RATIOS LOB,CH,ROB=   .0000   .9995   .0005  WSEL=   1904.04
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4975.0    5050.0  TYPE=     4  TARGET=       .001
      .28     1.04  1903.04  1903.04  1903.04  1903.41      .38      .12      .11  1904.00
      84.       0.      84.       0.       0.      17.       0.       3.       1.  1905.00
      .24      .00     4.92      .00     .080     .050     .080     .000  1902.00  4982.23
   .041174    300.     260.     210.       20       17        0      .00    22.94  5005.18
0
 FLOW DISTRIBUTION FOR SECNO=       .28          CWSEL=   1903.04
```

```
STA=    4982.    5050.
  PER Q=    100.0
   AREA=     17.1
    VEL=      4.9
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .363
 2900 NAT Q1=     10.44  WSEL=  1909.43  ENC Q1=     31.61  WSEL=   1910.43  RATIO= -2.0292
 NAT Q1=     32.  RATIOS LOB,CH,ROB=   .0091   .9859   .0050  WSEL=   1910.43

3470 ENCROACHMENT STATIONS=    4975.0    5015.0  TYPE=     4  TARGET=        .014
     .36     1.43  1909.43     .00  1909.43  1909.53     .09     6.09     .03  1910.00
     84.      0.      84.      0.       0.      34.      0.       3.       1.   1910.00
     .29     .00     2.44     .00     .080     .050     .080     .000  1908.00  4977.83
   .006442   460.     460.     460.       7        0        0     .00    32.93  5010.76
0
 FLOW DISTRIBUTION FOR SECNO=       .36          CWSEL=   1909.43

STA=    4978.    5015.
  PER Q=    100.0
   AREA=     34.4
    VEL=      2.4
```

1

THIS RUN EXECUTED 05/09/88 09:02:28

```
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
*************************************************


T1      WITTMANN ADMS
T2      50-YEAR STORM EVENT
T3      CIRCLE CITY - WASH S

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       4.       0.       0.   .000000     .00      .5       0.  1879.090     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLOC    IBW      CHNIM    ITRACE

    3.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000
```

1


```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
```

```
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


  *PROF 3

  CHV=    .100 CEHV=    .300
  *SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
                SECTION .000 IS EQUIVALENT TO SECTION .485 IN CIRCLE
                CITY - WASH 6 FOR STARTING WATER SURFACE ELEVATION AND
                CROSS-SECTION DATA.
      .00     3.09  1879.09      .00  1879.09  1879.27      .18      .00      .00  1886.00
     196.       0.     196.       0.       0.      57.       0.       0.       0.  1884.00
      .00      .00     3.43      .00     .080     .050     .080     .000  1876.00  4980.69
   .006344      0.       0.       0.        0        0        0      .00    32.04  5012.73
 0
  FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1879.09

  STA=    4981.    5045.
    PER Q=    100.0
     AREA=     57.2
      VEL=      3.4

  *SECNO  .061
  3685 20 TRIALS ATTEMPTED WSEL,CWSEL
  3693 PROBABLE MINIMUM SPECIFIC ENERGY
  3720 CRITICAL DEPTH ASSUMED
      .06     1.07  1882.57  1882.57      .00  1882.95      .39     3.01      .06  1882.00
      85.       1.      83.       1.       1.      16.       1.       0.       0.  1882.00
      .02     1.53     5.04     1.54     .080     .050     .080     .000  1881.50  4987.51
   .037641     320.     320.     320.       20       22        0      .00    25.34  5012.85
 0
  FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1882.57

  STA=    4988.    4990.    5010.    5013.
    PER Q=      1.3     97.3      1.5
     AREA=       .7     16.4       .8
      VEL=      1.5      5.0      1.5

  *SECNO  .112
      .11     2.05  1889.05      .00      .00  1889.22      .18     6.25      .02  1894.00
      85.       0.      85.       0.       0.      25.       0.       0.       0.  1894.00
      .04      .00     3.40      .00     .080     .050     .080     .000  1887.00  4987.16
   .015662     320.     270.     220.        5        0        0      .00    28.28  5015.45
 0
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  05/09/88    09:01:42                                                                    PAGE   15


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


  FLOW DISTRIBUTION FOR SECNO=       .11          CWSEL=   1889.05

  STA=    4987.    5065.
    PER Q=    100.0
     AREA=     25.0
      VEL=      3.4

  *SECNO  .144
```

```
 3470 ENCROACHMENT STATIONS=    5000.0    5020.0  TYPE=     1  TARGET=      20.000
  ELENCL=   1896.00  ELENCR=   1896.00
      .14      2.52  1892.52      .00      .00  1892.97      .45      3.66      .08  1896.00
      85.        0.      85.       0.       0.      16.       0.        0.       0.   1896.00
      .05      .00      5.38      .00     .080     .050     .080     .000  1890.00  5000.00
   .031540     170.     170.     170.        3        0        0      .00    12.56  5012.56

 FLOW DISTRIBUTION FOR SECNO=       .14          CWSEL=   1892.52

 STA=    5000.    5075.
   PER Q=    100.0
    AREA=     15.8
     VEL=      5.4

 *SECNO  .159
  WATER EL=X5 CARD=  1897.000
                 WATER SURFACE ELEVATION AT SECTION .159 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.

                 THE INFLOW FROM THE RAILROAD CULVERT EQUALS 101 CFS.
                 THE GRAND AVENUE CULVERT AT SECTION .159 CONVEYS 85 CFS
                 AT CAPACITY BEFORE SPILLING, THUS 16 CFS IS EITHER DIVERTED
                 ALONG THE NORTH SIDE OF GRAND AVENUE OR CROSSES GRAND AVENUE
                 THROUGH A SMALL DIP SECTION.
      .16      6.30  1897.80      .00      .00  1897.80      .00      .01      .04  1896.00
      93.        6.      81.       6.      57.     175.      57.       1.       1.   1896.00
      .10      .10      .47      .10     .080     .050     .080     .000  1891.50  4917.00
   .000036     80.      80.      80.        0        0        0      .00   166.00  5083.00
0
 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1897.80

 STA=    4917.    4980.    5020.    5083.
   PER Q=      6.3     87.4      6.3
    AREA=     56.7    174.5     56.7
     VEL=       .1       .5       .1

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  05/09/88    09:01:42                                                                                                PAGE   16


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .176

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1898.00 ELREA=     1898.00

      .18      3.80  1897.80      .00      .00  1897.81      .01      .01      .00  1898.00
      93.        0.      93.       0.       0.     101.       0.        1.       1.   1898.00
      .13      .00      .92      .00     .080     .050     .080     .000  1894.00  4980.74
   .000315     90.      90.      90.        2        0        0      .00    43.27  5024.01
0
 FLOW DISTRIBUTION FOR SECNO=       .18          CWSEL=   1897.80

 STA=    4981.    5025.
   PER Q=    100.0
    AREA=    101.3
     VEL=       .9

 *SECNO  .189
  WATER EL=X5 CARD=  1899.540
```

```
 3470 ENCROACHMENT STATIONS=    4970.0    5010.0  TYPE=     1  TARGET=      40.000
  ELENCL=   1902.00  ELENCR=   1902.00
                 WATER SURFACE ELEVATION AT SECTION .189 IS BASED UPON
                 HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C17.
      .19     4.54  1899.54      .00      .00  1899.56      .02      .02      .00  1902.00
     176.       0.     176.       0.       0.     162.       0.       1.       1.   1902.00
      .15      .00     1.09      .00     .080     .050     .080     .000  1895.00  4970.00
   .000260     70.      70.      70.        0        0        0      .00    40.00  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .19          CWSEL=   1899.54

 STA=    4970.    5060.
   PER Q=    100.0
    AREA=    161.6
     VEL=      1.1

 *SECNO  .227
      .23     1.61  1899.61      .00      .00  1899.64      .03      .08      .00  1900.00
      65.       0.      65.       0.       0.      45.       0.       2.       1.   1904.00
      .18      .00     1.46      .00     .080     .050     .080     .000  1898.00  4982.95
   .002135    200.     200.     200.        3        0        0      .00    40.44  5023.39
0
1
  05/09/88    09:01:42                                                                          PAGE   17


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1899.61

 STA=    4983.    5060.
   PER Q=    100.0
    AREA=     44.5
     VEL=      1.5

 *SECNO  .276
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .28      .90  1902.90  1902.90      .00  1903.23      .33     1.48      .09  1904.00
      65.       0.      65.       0.       0.      14.       0.       2.       1.   1905.00
      .20      .00     4.63      .00     .080     .050     .080     .000  1902.00  4983.26
   .042528    300.     260.     210.       20       11        0      .00    21.24  5004.49
0
 FLOW DISTRIBUTION FOR SECNO=       .28          CWSEL=   1902.90

 STA=    4983.    5050.
   PER Q=    100.0
    AREA=     14.0
     VEL=      4.6

 *SECNO  .363
      .36     1.26  1909.26      .00      .00  1909.34      .08     6.08      .03  1910.00
      65.       0.      65.       0.       0.      29.       0.       2.       2.   1910.00
      .26      .00     2.26      .00     .080     .050     .080     .000  1908.00  4978.70
   .006350    460.     460.     460.        4        0        0      .00    30.74  5009.44
0
 FLOW DISTRIBUTION FOR SECNO=       .36          CWSEL=   1909.26

 STA=    4979.    5015.
   PER Q=    100.0
```

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     VEL=      2.3

1
  05/09/88    09:01:42                                                                                    PAGE   18

                                                                                  THIS RUN EXECUTED 05/09/88   09:02:42
 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ***************************************************


 T1      WITTMANN ADMS
 T2      10-YEAR STORM EVENT
 T3      CIRCLE CITY - WASH 5

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        5.        0.        0.   .000000      .00       .5        0.   1878.440     .000

 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     15.000     .000    -1.000     .000      .000      .000      .000      .000      .000     15.000

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  05/09/88    09:01:42                                                                                    PAGE   19

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 *PROF 4

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
                SECTION .000 IS EQUIVALENT TO SECTION .485 IN CIRCLE
                CITY - WASH 6 FOR STARTING WATER SURFACE ELEVATION AND
                CROSS-SECTION DATA.
      .00      2.44  1878.44      .00  1878.44  1878.59      .15      .00      .00  1886.00
    117.        0.     117.        0.       0.      38.       0.       0.       0.  1884.00
      .00      .00     3.06      .00     .090     .050     .090     .000  1876.00  4994.75
  .006664       0.       0.       0.        0        0        0      .00    26.35  5011.10
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1878.44

 STA=    4985.    5045.
   PER Q=    100.0
   AREA=      38.2
    VEL=       3.1

 *SECNO  .061
 3695 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .06       .66  1882.16  1882.16      .00  1882.37      .21     2.82      .02  1882.00
```

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      .02      .04     3.69      .04     .000     .050     .090     .000  1881.50  4989.32
   .051363     320.     320.     320.       20       15        0      .00    21.46  5010.78
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1882.16

 STA=    4989.    4990.    5010.    5011.
   PER Q=       .0    100.0       .0
    AREA=       .1      8.1       .1
     VEL=       .0      3.7       .0

 *SECNO  .112
      .11     1.49  1888.49      .00      .00  1888.59      .10     6.21      .01  1894.00
      30.       0.      30.       0.       0.      12.       0.       0.       0.   1894.00
      .05      .00     2.51      .00     .080     .050     .090     .000  1887.00  4991.34
   .012380     320.     270.     220.        6        0        0      .00    18.55  5003.88
0
1
  05/09/88    09:01:42                                                                    PAGE   20


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .11          CWSEL=   1888.49

 STA=    4991.    5065.
   PER Q=    100.0
    AREA=     12.0
     VEL=      2.5

 *SECNO  .144

 3470 ENCROACHMENT STATIONS=    5000.0    5020.0  TYPE=     1  TARGET=      20.000
  ELENCL=   1896.00  ELENCR=   1896.00
      .14     1.69  1891.69      .00      .00  1891.97      .28     3.33      .05  1896.00
      30.       0.      30.       0.       0.       7.       0.       0.       0.   1896.00
      .07      .00     4.21      .00     .080     .050     .080     .000  1990.00  5000.00
   .032848     170.     170.     170.        3        0        0      .00     8.44  5008.44
0
 FLOW DISTRIBUTION FOR SECNO=       .14          CWSEL=   1891.69

 STA=    5000.    5075.
   PER Q=    100.0
    AREA=      7.1
     VEL=      4.2

 *SECNO  .159
  WATER EL=X5 CARD=  1894.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1896.00 ELREA=     1896.00

                WATER SURFACE ELEVATION AT SECTION .159 IS BASED UPON
                CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                INLET CONTROL.

                THE INFLOW FROM THE RAILROAD CULVERT EQUALS 101 CFS.
                THE GRAND AVENUE CULVERT AT SECTION .159 CONVEYS 85 CFS
                AT CAPACITY BEFORE SPILLING, THUS 16 CFS IS EITHER DIVERTED
                ALONG THE NORTH SIDE OF GRAND AVENUE OR CROSSES GRAND AVENUE
                THROUGH A SMALL DIP SECTION.
      .16     2.50  1894.00      .00      .00  1894.01      .01      .11      .03  1896.00
      30.       0.      30.       0.       0.      39.       0.       0.       0.   1896.00
      .09      .00     4.00      .00     .080     .050     .080     .000  1891.50  4987.50
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   .000435      80.      90.      80.       0        0        0      .00    25.00  5012.50
 0
 1
  05/09/88    09:01:42                                                                    PAGE   21


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1894.00

 STA=    4988.    5020.
   PER Q=    100.0
    AREA=     37.5
     VEL=       .8

 *SECNO  .176
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1898.00 ELREA=     1898.00

      .18      .60  1894.60  1894.60      .00  1894.84      .25      .13      .07  1898.00
      30.       0.      30.       0.       0.       0.       0.       0.       0.   1898.00
      .10      .00     3.99      .00     .080     .050     .080     .000  1894.00  4992.77
   .046831      90.      90.      90.       20       14        0      .00    15.21  5007.98
 0
 FLOW DISTRIBUTION FOR SECNO=       .18          CWSEL=   1894.60

 STA=    4993.    5025.
   PER Q=    100.0
    AREA=      7.5
     VEL=      4.0

 *SECNO  .189
  WATER EL=X5 CARD=  1896.620

 3470 ENCROACHMENT STATIONS=    4970.0    5010.0  TYPE=     1  TARGET=      40.000
  ELENCL=   1902.00  ELENCR=   1902.00
                 WATER SURFACE ELEVATION AT SECTION .189 IS BASED UPON
                 HEC-1 STORAGE ROUTING COMPUTATION AT SUBWATERSHED C17.
      .19     1.62  1896.62      .00      .00  1896.63      .01      .12      .02  1902.00
      33.       0.      33.       0.       0.      45.       0.       0.       0.   1902.00
      .13      .00      .74      .00     .080     .050     .080     .000  1895.00  4970.00
   .000551      70.      70.      70.       0        0        0      .00    40.00  5010.00
 0
 FLOW DISTRIBUTION FOR SECNO=       .19          CWSEL=   1896.62

 STA=    4970.    5060.
   PER Q=    100.0
    AREA=     44.8
     VEL=       .7


  05/09/88    09:01:42                                                                    PAGE   22


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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 *SECNO  .227
 3605 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .23      .48  1898.48  1898.48      .00  1899.69      .20      .36      .06  1900.00
      33.       0.      33.       0.       0.       9.       0.       1.       1.   1904.00
      .14      .00     3.63      .00     .080     .050     .000     .000  1898.00  4991.37
   .050392     200.     200.     200.       20       17        0      .00    22.65  5014.03
0
 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1898.48

 STA=    4991.    5060.
   PER Q=    100.0
    AREA=      9.1
     VEL=      3.6

 *SECNO  .276
      .28      .97  1902.97      .00      .00  1903.04      .07     4.34      .01  1904.00
      33.       0.      33.       0.       0.      16.       0.       1.       1.   1905.00
      .19      .00     2.12      .00     .080     .050     .000     .000  1902.00  4982.74
   .008233     300.     260.     210.        5        0        0      .00    22.11  5004.84
0
 FLOW DISTRIBUTION FOR SECNO=       .28          CWSEL=   1902.97

 STA=    4983.    5050.
   PER Q=    100.0
    AREA=     15.5
     VEL=      2.1

 *SECNO  .363
      .36      .63  1908.63      .00      .00  1909.75      .12     5.69      .01  1910.00
      33.       0.      33.       0.       0.      12.       0.       1.       1.   1910.00
      .22      .00     2.76      .00     .080     .050     .000     .000  1908.00  4981.85
   .020670     460.     460.     460.        4        0        0      .00    22.88  5004.73
0
 FLOW DISTRIBUTION FOR SECNO=       .36          CWSEL=   1908.63

 STA=    4982.    5015.
   PER Q=    100.0
    AREA=     11.9
     VEL=      2.8

1
  05/09/88    09:01:42                                                                  PAGE   23


                                                                  THIS RUN EXECUTED 05/09/88   09:02:57
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************

 NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST


 CIRCLE CITY - WASH 5

 SUMMARY PRINTOUT
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	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.000	199.00	1879.23	4979.81	4950.00	5045.00	5013.08	.00	33.26	3.23	1876.00	53.23	3.22
	.000	199.00	1879.23	4979.81	4950.00	5045.00	5013.08	.00	33.26	3.23	1876.00	53.23	3.22
	.000	196.00	1879.09	4980.69	4950.00	5045.00	5012.73	.00	32.04	3.09	1876.00	63.44	3.43
	.000	117.00	1878.44	4984.75	4950.00	5045.00	5011.10	.00	26.35	2.44	1876.00	66.64	3.06
*	.061	85.00	1882.57	4987.50	4990.00	5010.00	5012.86	3.34	25.35	1.07	1881.50	373.52	5.03
*	.061	85.00	1882.57	4990.00	4990.00	5010.00	5010.00	3.34	20.00	1.07	1881.50	426.54	5.18
*	.061	85.00	1882.57	4987.51	4990.00	5010.00	5012.85	3.48	25.34	1.07	1881.50	376.41	5.04
*	.061	30.00	1882.16	4989.32	4990.00	5010.00	5010.78	3.72	21.46	.66	1881.50	513.63	3.69
	.112	85.00	1889.04	4987.18	4950.00	5065.00	5015.43	6.47	28.25	2.04	1887.00	157.41	3.41
	.112	85.00	1889.07	4986.95	4950.00	5065.00	5015.73	6.50	28.77	2.07	1887.00	144.30	3.29
	.112	85.00	1889.05	4987.16	4950.00	5065.00	5015.45	6.48	28.28	2.05	1887.00	156.62	3.40
	.112	30.00	1888.49	4991.34	4950.00	5065.00	5009.88	6.33	18.55	1.49	1887.00	129.80	2.51
	.144	85.00	1892.52	5000.00	4970.00	5075.00	5012.58	3.48	12.58	2.52	1890.00	313.59	5.37
	.144	85.00	1892.47	5000.00	4970.00	5075.00	5012.36	3.40	12.36	2.47	1890.00	343.94	5.56
	.144	85.00	1892.52	5000.00	4970.00	5075.00	5012.56	3.48	12.56	2.52	1890.00	315.40	5.38
	.144	30.00	1891.69	5000.00	4970.00	5075.00	5008.44	3.20	8.44	1.69	1890.00	328.48	4.21
*	.159	101.00	1898.00	4910.00	4980.00	5020.00	5090.00	5.48	180.00	6.50	1891.50	.34	.47
*	.159	101.00	1898.00	4980.00	4980.00	5020.00	5020.00	5.53	40.00	6.50	1891.50	.54	.55
*	.159	93.00	1897.80	4917.00	4980.00	5020.00	5083.00	5.28	166.00	6.30	1891.50	.36	.47
*	.159	30.00	1894.00	4987.50	4980.00	5020.00	5012.50	2.31	25.00	2.50	1891.50	4.35	.80
	.176	101.00	1898.00	4980.00	4980.00	5025.00	5025.00	.00	45.00	4.00	1894.00	2.97	.92
	.176	101.00	1898.00	4980.00	4980.00	5025.00	5025.00	.00	45.00	4.00	1894.00	2.95	.92
	.176	93.00	1897.80	4980.74	4980.00	5025.00	5024.01	.00	43.27	3.80	1894.00	3.15	.92
*	.176	30.00	1894.60	4992.77	4980.00	5025.00	5007.98	.60	15.21	.60	1894.00	468.31	3.99
*	.189	309.00	1901.46	4970.00	4935.00	5060.00	5010.00	3.46	40.00	6.46	1895.00	2.43	1.30
*	.189	309.00	1901.46	4970.00	4935.00	5060.00	5010.00	3.46	40.00	6.46	1895.00	2.43	1.30
*	.189	176.00	1899.54	4970.00	4935.00	5060.00	5010.00	1.74	40.00	4.54	1895.00	2.60	1.09
*	.189	33.00	1896.62	4970.00	4935.00	5060.00	5010.00	2.02	40.00	1.62	1895.00	5.51	.74

1

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.227	84.00	1901.52	4957.21	4990.00	5060.00	5039.33	.06	82.12	3.52	1898.00	1.16	.57
	.227	84.00	1901.52	4980.00	4980.00	5060.00	5039.37	.06	59.37	3.52	1898.00	1.28	.59
	.227	65.00	1899.61	4982.95	4980.00	5060.00	5023.39	.07	40.44	1.61	1898.00	21.35	1.46
*	.227	33.00	1898.48	4991.37	4980.00	5060.00	5014.03	1.86	22.65	.48	1898.00	503.92	3.63
*	.276	84.00	1903.04	4982.20	4975.00	5050.00	5005.20	1.52	23.00	1.04	1902.00	405.02	4.90
*	.276	84.00	1903.04	4982.23	4975.00	5050.00	5005.18	1.51	22.94	1.04	1902.00	411.74	4.92
*	.276	65.00	1902.90	4983.26	4975.00	5050.00	5004.49	3.29	21.24	.90	1902.00	425.28	4.63
	.276	33.00	1902.97	4982.74	4975.00	5050.00	5004.84	4.49	22.11	.97	1902.00	82.33	2.12
	.363	84.00	1909.43	4977.84	4975.00	5015.00	5010.74	6.39	32.91	1.43	1909.00	64.78	2.45
	.363	84.00	1909.43	4977.83	4975.00	5015.00	5010.76	6.40	32.93	1.43	1908.00	64.42	2.44
	.363	65.00	1909.26	4978.70	4975.00	5015.00	5009.44	6.36	30.74	1.26	1908.00	63.50	2.26
	.363	33.00	1908.63	4981.85	4975.00	5015.00	5004.73	5.66	22.88	.63	1908.00	206.70	2.76

CIRCLE CITY - WASH 5

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.000	1879.23	.00	1879.39	33.26	.00	199.00	.00	.00	.00	4950.00	5045.00	.00
	.000	1879.23	.00	1879.39	33.26	.00	199.00	.00	.00	4950.00	4950.00	5045.00	5045.00
	.000	1879.09	.00	1879.27	32.04	.00	196.00	.00	.00	.00	4950.00	5045.00	.00
	.000	1878.44	.00	1878.59	26.35	.00	117.00	.00	.00	.00	4950.00	5045.00	.00
*	.061	1882.57	.00	1882.95	25.35	1.09	82.65	1.25	.00	.00	4990.00	5010.00	.00
*	.061	1882.57	.00	1882.99	20.00	.00	85.00	.00	.10	4990.00	4990.00	5010.00	5010.00
*	.061	1882.57	.00	1882.95	25.34	1.09	82.66	1.25	.00	.00	4990.00	5010.00	.00
*	.061	1882.16	.00	1882.37	21.46	.00	29.99	.00	.00	.00	4990.00	5010.00	.00
	.112	1889.04	.00	1889.22	28.25	.00	85.00	.00	.00	.00	4950.00	5065.00	.00
	.112	1889.07	.03	1889.24	28.77	.00	85.00	.00	.00	4950.00	4950.00	5065.00	5065.00
	.112	1889.05	.00	1889.22	28.28	.00	85.00	.00	.00	.00	4950.00	5065.00	.00
	.112	1888.49	.00	1888.59	18.55	.00	30.00	.00	.00	.00	4950.00	5065.00	.00
	.144	1892.52	.00	1892.97	12.58	.00	85.00	.00	20.00	5000.00	4970.00	5075.00	5020.00
	.144	1892.47	-.05	1892.95	12.36	.00	85.00	.00	20.00	5000.00	4970.00	5075.00	5020.00
	.144	1892.52	.00	1892.97	12.56	.00	85.00	.00	20.00	5000.00	4970.00	5075.00	5020.00
	.144	1891.69	.00	1891.97	8.44	.00	30.00	.00	20.00	5000.00	4970.00	5075.00	5020.00
*	.159	1898.00	.00	1898.00	180.00	7.61	85.78	7.61	.00	.00	4980.00	5020.00	.00
*	.159	1898.00	.00	1898.00	40.00	.00	101.00	.00	.29	4980.00	4980.00	5020.00	5020.00
*	.159	1897.80	.00	1897.80	166.00	5.87	81.27	5.87	.00	.00	4980.00	5020.00	.00
*	.159	1894.00	.00	1894.01	25.00	.00	30.00	.00	.00	.00	4980.00	5020.00	.00
	.176	1898.00	.00	1898.01	45.00	.00	101.00	.00	.00	.00	4980.00	5025.00	.00
	.176	1898.00	.00	1898.02	45.00	.00	101.00	.00	.00	4980.00	4980.00	5025.00	5025.00
	.176	1897.80	.00	1897.81	43.27	.00	93.00	.00	.00	.00	4980.00	5025.00	.00
*	.176	1894.60	.00	1894.94	15.21	.00	30.00	.00	.00	.00	4980.00	5025.00	.00
*	.189	1901.46	.00	1901.49	40.00	.00	309.00	.00	40.00	4970.00	4935.00	5060.00	5010.00
*	.189	1901.46	.00	1901.49	40.00	.00	309.00	.00	40.00	4970.00	4935.00	5060.00	5010.00
*	.189	1899.54	.00	1899.56	40.00	.00	176.00	.00	40.00	4970.00	4935.00	5060.00	5010.00
*	.189	1896.62	.00	1896.63	40.00	.00	33.00	.00	40.00	4970.00	4935.00	5060.00	5010.00
	.227	1901.52	.00	1901.53	82.12	2.88	81.12	.00	.00	.00	4980.00	5060.00	.00
	.227	1901.52	.00	1901.53	59.37	.00	84.00	.00	.08	4980.00	4980.00	5060.00	5060.00
	.227	1899.61	.00	1899.64	40.44	.00	65.00	.00	.00	.00	4980.00	5060.00	.00
*	.227	1898.48	.00	1898.69	22.65	.00	33.00	.00	.00	.00	4980.00	5060.00	.00
*	.276	1903.04	.00	1903.41	23.00	.00	84.00	.00	.00	.00	4975.00	5050.00	.00
*	.276	1903.04	.00	1903.41	22.94	.00	84.00	.00	.00	4975.00	4975.00	5050.00	5050.00
*	.276	1902.90	.00	1903.23	21.24	.00	65.00	.00	.00	.00	4975.00	5050.00	.00
	.276	1902.97	.00	1903.04	22.11	.00	33.00	.00	.00	.00	4975.00	5050.00	.00

1

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.363	1909.43	.00	1909.52	32.91	.00	94.00	.00	.00	.00	4975.00	5015.00	.00
	.363	1909.43	.01	1909.53	32.93	.00	84.00	.00	.01	4975.00	4975.00	5015.00	5015.00
	.363	1909.26	.00	1909.34	30.74	.00	65.00	.00	.00	.00	4975.00	5015.00	.00
	.363	1908.63	.00	1908.75	22.88	.00	33.00	.00	.00	.00	4975.00	5015.00	.00

1

.363	33.	34.	2.4	1909.4	1909.4	.0

1

FLOODWAY DATA, CIRCLE CITY - WASH 5
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	32.	57.	3.4	1879.2	1879.2	.0
.061	25.	18.	4.7	1882.6	1882.6	.0
.112	28.	25.	3.4	1889.0	1889.0	.0
.144	13.	16.	5.4	1892.5	1892.5	.0
.159	166.	288.	.3	1897.9	1898.0	-.1
.176	43.	101.	.9	1897.9	1898.0	-.1
.189	40.	162.	1.1	1899.7	1901.5	-1.8
.227	40.	45.	1.5	1899.7	1901.5	-1.8
.276	21.	14.	4.6	1903.0	1903.0	.0
.363	31.	23.	2.3	1909.3	1909.4	-.1

1

FLOODWAY DATA, CIRCLE CITY - WASH 5
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	26.	38.	3.1	1878.5	1879.2	-.7
.061	21.	8.	3.6	1882.3	1882.6	-.3
.112	19.	12.	2.5	1888.5	1889.0	-.5
.144	8.	7.	4.2	1891.8	1892.5	-.7
.159	25.	38.	.8	1894.1	1898.0	-3.9
.176	15.	8.	4.0	1894.7	1898.0	-3.3
.189	40.	45.	.7	1896.8	1901.5	-4.7
.227	23.	9.	3.6	1898.6	1901.5	-2.9
.276	22.	16.	2.1	1903.0	1903.0	.0
.363	23.	12.	2.8	1909.7	1909.4	-.7

1

THIS RUN EXECUTED 05/09/88 09:03:06

****
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION 1.1
****

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CAUTION  SECNO=     .061  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .061  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .061  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .061  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .061  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .061  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .061  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .061  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .061  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .061  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .061  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .061  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE     SECNO=     .159  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=     .159  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=     .159  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=     .159  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=     .176  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .176  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .176  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE     SECNO=     .189  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=     .189  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=     .189  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=     .189  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=     .227  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .227  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .227  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=     .276  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .276  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .276  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .276  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .276  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .276  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .276  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .276  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .276  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOODWAY DATA, CIRCLE CITY - WASH 5
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.000	33.	62.	3.2	1879.2	1879.2	.0
.061	20.	16.	5.2	1882.6	1882.6	.0
.112	29.	26.	3.3	1889.0	1889.0	.0
.144	12.	15.	5.6	1892.5	1892.5	.0
.159	40.	183.	.6	1898.0	1898.0	.0
.176	45.	110.	.9	1898.0	1898.0	.0
.189	40.	238.	1.3	1901.5	1901.5	.0
.227	59.	142.	.6	1901.5	1901.5	.0
.276	23.	17.	6.9	1903.0	1903.0	.0

PROJECT: WITTMANN ADMS

DESIGNER BKH

DATE 1-24-88

HYDROLOGIC AND CHANNEL INFORMATION

CIRCLE CITY — WASH 5
GRAND AVENUE CULVERT
100 YEAR STORM EVENT

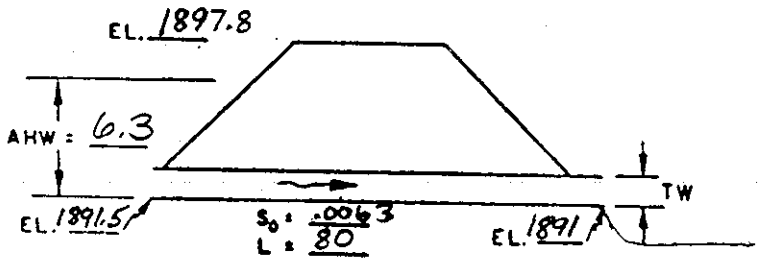
MAX Q_1 = 85
Q_2 = ____
TW_1 = ____
TW_2 = ____

CULVERT CAPACITY CHECK FROM HEC-1 100 YR RUN

[C17]

SKETCH

STATION: .159



ALLOWABLE OUTLET VELOCITY = ____

CULVERT TYPE	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL K_e	d_c	$\frac{d_c+D}{2}$	h_o	H	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
42" CMP	95	3.5'	1.8	6.3	.5	3.0	3.25	3.25	4.5	.5	7.3	7.3			
" "	90	3.5'	1.8	6.3	.5	2.9	3.2	3.2	4.0	.5	6.7	6.7			
" "	85	3.5'	1.8	6.3	.5	2.75	3.1	3.1	3.6	.5	6.2	6.3			EXCESS FLOW OF 101-85=16 CFS
50-YR. FLOW	85	3.5'	1.8	6.3											1891.5+6.3= 1897.8
10-YR. FLOW	30	3.5'	.7	2.5											1891.5+2.5 = 1894.0

SUMMARY & RECOMMENDATIONS:

SECTION .159

SECTION .189

THE INFLOW TO THIS CULVERT = 101 CFS. CAPACITY BEFORE RELEASE OF EXCESS EQUALS 85 CFS. 16 CFS IS DIVERTED ACROSS GRAND AVENUE OR DOWN THE DITCH BETWEEN GRAND AVENUE AND THE RAILROAD.

W.S. ELEVATION 1901.46 FROM HEC-1 100-yr RUN [C17]

Figure 5

INPUT FILE: CCWASH6

OUTPUT FILE: CCWASH6.OUT

THIS RUN EXECUTED 05/09/88 08:44:25

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - WASH 6

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.   .000000      .00       .5        0.   1853.620     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     .000      .000      .000      .000      .000      .000      .000      .000    15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    43.000     1.000    53.000    21.000    22.000    54.000    51.000     4.000     8.000


    42.000     5.000    26.000      .000   110.000      .000   200.000      .000      .000      .000


NC      .080      .080      .050      .100      .300      .000      .000      .000      .000      .000
GT     4.000   545.000   545.000   490.000   304.000      .000      .000      .000      .000      .000
ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
X1      .000     6.000  4950.000  5060.000      .000      .000      .000      .000      .000      .000
GR   1856.000  4930.000  1854.000  4950.000  1852.000  4990.000  1850.500  5000.000  1852.000  5030.000
GR   1858.000  5060.000      .000      .000      .000      .000      .000      .000      .000      .000

GT     4.000   199.000   199.000   196.000   117.000      .000      .000      .000      .000      .000
X1      .057     6.000  4960.000  5065.000   300.000   250.000   300.000      .000      .000      .000
GR   1859.000  4950.000  1858.000  4960.000  1856.000  4985.000  1854.000  5000.000  1856.000  5040.000
GR   1860.000  5065.000      .000      .000      .000      .000      .000      .000      .000      .000

X1      .123     8.000  4960.000  5045.000   360.000   290.000   350.000      .000      .000      .000
GR   1864.000  4920.000  1862.000  4940.000  1860.000  4960.000  1858.000  4990.000  1857.500  5000.000
GR   1859.000  5010.000  1862.000  5045.000  1864.000  5115.000      .000      .000      .000      .000

X1      .203     7.000  4980.000  5045.000   350.000   420.000   420.000      .000      .000      .000
GR   1868.000  4945.000  1866.000  4990.000  1862.000  4995.000  1861.000  5000.000  1862.000  5005.000
GR   1864.000  5045.000  1868.000  5090.000      .000      .000      .000      .000      .000      .000
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X1       .264      9.000   4980.000   5040.000    320.000    280.000    320.000       .000       .000       .000
GR   1872.000   4900.000   1870.000   4950.000   1868.000   4990.000   1866.000   4990.000   1864.000   5000.000
GR   1866.000   5020.000   1868.000   5030.000   1870.000   5040.000   1872.000   5055.000       .000       .000

X1       .324     10.000   4960.000   5030.000    280.000    300.000    320.000       .000       .000       .000
GR   1879.000   4870.000   1878.000   4920.000   1876.000   4940.000   1874.000   4960.000   1870.000   4980.000
GR   1868.000   5000.000   1868.000   5015.000   1870.000   5050.000   1876.000   5090.000   1877.000   5140.000

X1       .409      5.000   4950.000   5025.000    450.000    460.000    450.000       .000       .000       .000
GR   1880.000   4900.000   1878.000   4950.000   1874.000   4990.000   1872.000   5000.000   1880.000   5025.000

X1       .485      9.000   4950.000   5045.000    400.000    400.000    400.000       .000       .000       .000
GR   1888.000   4930.000   1886.000   4950.000   1880.000   4975.000   1876.000   5000.000   1876.000   5005.000
GR   1878.000   5010.000   1882.000   5020.000   1884.000   5045.000   1888.000   5105.000       .000       .000

QT       4.000    114.000    114.000    111.000     87.000       .000       .000       .000       .000       .000
X1       .523      7.000   4965.000   5050.000    200.000    200.000    200.000       .000       .000       .000
GR   1892.000   4940.000   1890.000   4965.000   1880.000   4990.000   1879.000   5000.000   1880.000   5010.000
GR   1882.000   5050.000   1890.000   5100.000       .000       .000       .000       .000       .000       .000

X1       .591      6.000   4995.000   5020.000    360.000    220.000    360.000       .000       .000       .000
GR   1888.000   4915.000   1884.000   4985.000   1882.000   4995.000   1881.500   5000.000   1882.000   5005.000
GR   1890.000   5020.000       .000       .000       .000       .000       .000       .000       .000       .000

X1       .648      8.000   4960.000   5070.000    200.000    400.000    300.000       .000       .000       .000
GR   1895.000   4940.000   1894.000   4960.000   1886.000   4995.000   1885.000   5000.000   1886.000   5005.000
GR   1888.000   5035.000   1890.000   5070.000   1896.000   5120.000       .000       .000       .000       .000

X1       .682      7.000   4925.000   5090.000    180.000    180.000    180.000       .000       .000       .000
X3       .000       .000       .000   4980.000   1896.000   5010.000   1896.000       .000       .000       .000
GR   1896.000   4925.000   1892.000   4940.000   1890.000   4980.000   1888.000   4995.000   1888.000   5000.000
GR   1890.000   5010.000   1898.000   5090.000       .000       .000       .000       .000       .000       .000

                WATER SURFACE ELEVATION AT SECTION .697 IS BASED UPON
                CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                INLET CONTROL.
X1       .697      7.000   4930.000   5090.000     90.000     90.000     90.000       .000       .000       .000
X3       .000       .000       .000   4985.000   1900.000   5015.000   1900.000       .000       .000       .000
X5      4.000   1892.500   1892.500   1892.400   1891.900       .000       .000       .000       .000       .000
GR   1900.000   4930.000   1890.000   4985.000   1889.000   5000.000   1890.000   5015.000   1892.000   5040.000
GR   1896.000   5090.000   1900.000   5130.000       .000       .000       .000       .000       .000       .000

X1       .724      5.000   4945.000   5035.000    140.000    140.000    140.000       .000       .000       .000
X3       .000       .000       .000   4990.000   1900.000   5015.000   1900.000       .000       .000       .000
GR   1900.000   4945.000   1894.000   4990.000   1892.000   5000.000   1894.000   5005.000   1900.000   5035.000

QT       4.000    479.000    479.000    361.000    167.000       .000       .000       .000       .000       .000
                WATER SURFACE ELEVATION AT SECTION .741 IS BASED UPON
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                HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C16.
X1       .741      9.000   4940.000   5085.000     90.000     90.000     90.000       .000       .000       .000
X3       .000       .000       .000   4990.000   1904.000   5015.000   1904.000       .000       .000       .000
X4      1.000   1902.000   4940.000       .000       .000       .000       .000       .000       .000       .000
X5      4.000   1903.680   1903.680   1903.330   1900.390       .000       .000       .000       .000       .000
GR   1904.000   4865.000   1898.000   4970.000   1894.000   4990.000   1892.500   5000.000   1894.000   5015.000
GR   1896.000   5050.000   1900.000   5085.000   1902.000   5120.000   1904.000   5175.000       .000       .000

NC       .080       .080       .080       .000       .000       .000       .000       .000       .000       .000
X1       .781      9.000   4885.000   5050.000    240.000    160.000    210.000       .000       .000       .000
GR   1908.000   4855.000   1906.000   4885.000   1900.000   4915.000   1898.000   4980.000   1897.500   5000.000
GR   1898.000   5015.000   1904.000   5050.000   1906.000   5125.000   1906.500   5160.000       .000       .000
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 GR   1912.000   4805.000   1910.000   4860.000   1902.000   4920.000   1901.000   5000.000   1902.000   5110.000
 GR   1908.000   5205.000       .000       .000       .000       .000       .000       .000       .000       .000
 EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 1

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
      .00     3.12  1853.62      .00  1853.62  1853.64      .22      .00      .00  1854.00
     545.       0.     545.       0.       0.     145.       0.       0.       0.   1858.00
      .00      .00     3.77      .00     .080     .050     .080     .000  1850.50  4955.70
   .007610       0.       0.       0.       0        0        0      .00    82.40  5038.10
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1853.62

 STA=    4956.    5060.
   PER Q=    100.0
    AREA=    144.7
     VEL=      3.8

 *SECNO  .057
      .06     2.14  1856.14      .00      .00  1856.29      .15     2.45      .01  1858.00
     199.       0.     199.       0.       0.      63.       0.       1.       0.   1860.00
      .03      .00     3.15      .00     .080     .050     .080     .000  1854.00  4983.18
   .009393     300.     300.     250.        2        0        0      .00    57.73  5040.91
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1856.14

 STA=    4983.    5065.
   PER Q=    100.0
    AREA=     63.2
     VEL=      3.1

 *SECNO  .123
      .12     2.03  1859.53      .00      .00  1859.69      .15     3.39      .00  1860.00
     199.       0.     199.       0.       0.      64.       0.       1.       1.   1862.00
      .06      .00     3.12      .00     .080     .050     .080     .000  1857.50  4966.94
   .009402     360.     350.     290.        3        0        0      .00    56.51  5023.45
0
 FLOW DISTRIBUTION FOR SECNO=       .12          CWSEL=   1859.53

 STA=    4967.    5045.
   PER Q=    100.0
    AREA=     63.8
     VEL=      3.1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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 *SECNO  .203
      .20     2.75  1863.75      .00      .00  1863.93      .18     4.24      .01  1866.00
     199.       0.     199.       0.       0.      59.       0.       2.       1.   1864.00
      .09      .00     3.37      .00     .080     .050     .090     .000  1861.00  4988.42
   .010852     350.     420.     420.        4        0        0      .00    51.68  5040.10

 FLOW DISTRIBUTION FOR SECNO=       .20          CWSEL=   1863.75

 STA=    4988.    5045.
   PER Q=    100.0
    AREA=     59.1
     VEL=      3.4

 *SECNO  .264
      .26     2.78  1866.78      .00      .00  1866.97      .19     3.04      .01  1868.00
     199.       0.     199.       0.       0.      56.       0.       2.       2.   1870.00
      .12      .00     3.52      .00     .080     .050     .080     .000  1864.00  4986.10
   .008372     320.     320.     280.        2        0        0      .00    37.80  5023.90
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1866.78

 STA=    4986.    5040.
   PER Q=    100.0
    AREA=     56.5
     VEL=      3.5

 *SECNO  .324
      .32     1.71  1869.71      .00      .00  1869.85      .14     2.88      .01  1874.00
     199.       0.     199.       0.       0.      66.       0.       3.       2.   1876.00
      .15      .00     3.03      .00     .080     .050     .080     .000  1868.00  4982.34
   .009668     280.     320.     300.        4        0        0      .00    61.92  5044.86

 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1869.71

 STA=    4983.    5090.
   PER Q=    100.0
    AREA=     65.6
     VEL=      3.0

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 05/09/88    08:44:24                                                                    PAGE    6


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .409
      .41     3.13  1875.13      .00      .00  1875.47      .33     5.56      .06  1878.00
     199.       0.     199.       0.       0.      43.       0.       3.       3.   1880.00
      .17      .00     4.64      .00     .080     .050     .080     .000  1872.00  4978.73
   .016334     450.     450.     460.        4        0        0      .00    31.04  5009.77
0
 FLOW DISTRIBUTION FOR SECNO=       .41          CWSEL=   1875.13

 STA=    4979.    5025.
   PER Q=    100.0
    AREA=     42.9
     VEL=      4.6

 *SECNO  .485
      .49     3.12  1879.12      .00      .00  1879.30      .18     3.92      .02  1886.00
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      .21      .00     3.42      .00     .080     .050     .080     .000  1876.00  4990.50
   .006251     400.     400.     400.       2        0        0      .00    32.30  5012.80
0
 FLOW DISTRIBUTION FOR SECNO=       .49          CWSEL=   1879.12

 STA=    4980.    5045.
   PER Q=    100.0
    AREA=     58.2
     VEL=      3.4

 *SECNO  .523
      .52     1.90  1880.90      .00      .00  1880.98      .18     1.68      .00  1890.00
     114.       0.     114.       0.       0.      33.       0.       4.       3.   1882.00
      .22      .00     3.43      .00     .080     .050     .080     .000  1879.00  4988.00
   .016115     200.     200.     200.       3        0        0      .00    38.01  5026.01
0
 FLOW DISTRIBUTION FOR SECNO=       .52          CWSEL=   1890.80

 STA=    4988.    5050.
   PER Q=    100.0
    AREA=     33.2
     VEL=      3.4

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  05/09/88    08:44:24                                                                    PAGE    7


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .591
      .59     2.58  1884.08      .00      .00  1884.21      .14     3.23      .00  1884.00
     114.       0.     114.       0.       0.      38.       0.       4.       3.   1890.00
      .26      .01     3.00      .00     .080     .050     .080     .000  1881.50  4983.68
   .005702     360.     360.     220.       4        0        0      .00    25.21  5008.89
0
 FLOW DISTRIBUTION FOR SECNO=       .59          CWSEL=   1884.08

 STA=    4984.    4985.    5020.
   PER Q=       .0    100.0
    AREA=       .0     38.0
     VEL=       .0      3.0

 *SECNO  .648
      .65     2.08  1887.08      .00      .00  1887.36      .27     3.10      .04  1894.00
     114.       0.     114.       0.       0.      27.       0.       4.       4.   1890.00
      .28      .00     4.20      .00     .080     .050     .080     .000  1885.00  4990.27
   .024201     200.     300.     400.       3        0        0      .00    30.94  5021.21
0
 FLOW DISTRIBUTION FOR SECNO=       .65          CWSEL=   1887.08

 STA=    4990.    5070.
   PER Q=    100.0
    AREA=     27.1
     VEL=      4.2

 *SECNO  .682

 3470 ENCROACHMENT STATIONS=    4980.0    5010.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1896.00  ELENCR=   1896.00
      .68     1.97  1889.97      .00      .00  1890.14      .17     2.78      .01  1896.00
     114.       0.     114.       0.       0.      34.       0.       5.       4.   1898.00
      .30      .00     3.26      .00     .080     .050     .080     .000  1888.00  4990.34
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   .010675     180.     180.     180.       3        0        0      .00    23.61  5009.84
0
 FLOW DISTRIBUTION FOR SECNO=       .69          CWSEL=   1889.97

 STA=    4980.    5090.
   PER Q=    100.0
   AREA=      34.1
    VEL=       3.3

1
  05/09/88    08:44:24                                                                          PAGE    8


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .697
  WATER EL=XS CARD=  1892.500

 3470 ENCROACHMENT STATIONS=    4985.0    5015.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1900.00  ELENCR=   1900.00
                 WATER SURFACE ELEVATION AT SECTION .697 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
      .70     3.50  1892.50      .00      .00  1892.52      .02      .11      .01  1900.00
     114.       0.     114.       0.       0.      90.       0.       5.       4.   1900.00
      .31      .00     1.27      .00     .080     .050     .080     .000  1889.00  4985.00
  .000517      80.      80.      80.        0        0        0      .00    30.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .70          CWSEL=   1892.50

 STA=    4985.    5090.
   PER Q=    100.0
   AREA=      90.0
    VEL=       1.3

 *SECNO  .724

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1900.00  ELENCR=   1900.00
      .72     2.22  1894.22  1894.22      .00  1894.81      .59      .23      .17  1900.00
     114.       0.     114.       0.       0.      18.       0.       5.       4.   1900.00
      .31      .00     6.16      .00     .080     .050     .080     .000  1892.00  4990.00
  .038273     140.     140.     140.       20       14        0      .00    16.12  5006.12
0
 FLOW DISTRIBUTION FOR SECNO=       .72          CWSEL=   1894.22

 STA=    4990.    5035.
   PER Q=    100.0
   AREA=      18.5
    VEL=       6.2

1
  05/09/88    08:44:24                                                                          PAGE    9
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    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *SECNO  .741
  WATER EL=XS CARD=  1903.680

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1904.00  ELENCR=   1904.00
                 WATER SURFACE ELEVATION AT SECTION .741 IS BASED UPON
                 HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C16.
      .74    11.18  1903.68      .00      .00  1903.73      .05      .05      .05  1904.00
     479.       0.     479.       0.       0.     261.       0.       5.       4.   1904.00
      .33      .00     1.84      .00     .000     .050     .000     .000  1892.50  4990.00
   .000362     90.      90.      90.        0        0        0      .00    25.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .74          CWSEL=   1903.68

 STA=    4990.    5085.
   PER Q=    100.0
    AREA=    260.8
     VEL=      1.8

 *SECNO  .781
      .78     6.29  1903.79      .00      .00  1903.80      .01      .06      .00  1906.00
     479.       0.     479.       0.       0.     656.       0.       7.       4.   1904.00
      .41      .00      .73      .00     .000     .000     .000     .000  1897.50  4896.06
   .000223    240.     210.     160.        3        0        0      .00   152.70  5048.76
0
 FLOW DISTRIBUTION FOR SECNO=       .78          CWSEL=   1903.79

 STA=    4896.    5050.
   PER Q=    100.0
    AREA=    656.1
     VEL=       .7

 *SECNO  .826
      .83     2.89  1903.88      .00      .00  1903.90      .01      .10      .00  1910.00
     479.       0.     479.       0.       0.     494.       0.      11.       5.   1908.00
      .48      .00      .97      .00     .000     .000     .000     .000  1901.00  4905.88
   .001007    240.     240.     240.        3        0        0      .00   233.92  5139.80
0
 FLOW DISTRIBUTION FOR SECNO=       .83          CWSEL=   1903.88

 STA=    4906.    5205.
   PER Q=    100.0
    AREA=    494.0
     VEL=      1.0

1
 PROFILE FOR STREAM  CIRCLE CITY - WASH 6



 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


 ELEVATION  1850.     1860.     1870.     1880.     1890.     1900.     1910.     1920.     1930.     1940.
    SECNO   CUMDIS

      .00      0.  CI  E M R .        .         .         .         .         .         .         .         .
              50.  CI  EL MR .        .         .         .         .         .         .         .         .
             100.  C I WE M R.        .         .         .         .         .         .         .         .
             150.  C I  EL MR.        .         .         .         .         .         .         .         .
             200.  C I E LMR
```

```
      250.  C  I  EL MR        .         .         .         .         .         .         .         .         .
.06   300.  C   I E LMR        .         .         .         .         .         .         .         .         .
      350.  C    I EL R        .         .         .         .         .         .         .         .         .
      400.  C    I E LMR       .         .         .         .         .         .         .         .         .
      450.  C     I EL.R       .         .         .         .         .         .         .         .         .
      500.  C     I EL.RM      .         .         .         .         .         .         .         .         .
      550.  C      I E.R M     .         .         .         .         .         .         .         .         .
      600.  C      I EL RM     .         .         .         .         .         .         .         .         .
.12   650.  C       I E R M    .         .         .         .         .         .         .         .         .
      700.  C       I ELR M    .         .         .         .         .         .         .         .         .
      750.  C       I .ER  M   .         .         .         .         .         .         .         .         .
      800.  C        I.ELR M   .         .         .         .         .         .         .         .         .
      850.  C        I. EL  M  .         .         .         .         .         .         .         .         .
      900.  C         I ERL M  .         .         .         .         .         .         .         .         .
      950.  C         I  EL  M .         .         .         .         .         .         .         .         .
     1000.  C         I  ERL M .         .         .         .         .         .         .         .         .
     1050.  C         .I  E L M.         .         .         .         .         .         .         .         .
.20  1100.  C         .I  E L M.         .         .         .         .         .         .         .         .
     1150.  C         .I  ERL  M.        .         .         .         .         .         .         .         .
     1200.  C         . I  ERL M.        .         .         .         .         .         .         .         .
     1250.  C         . I  E L  M        .         .         .         .         .         .         .         .
     1300.  C         .  I  ELR .M       .         .         .         .         .         .         .         .
     1350.  C         .  I  E LR.M       .         .         .         .         .         .         .         .
.26  1400.  C         .   I  EL R M      .         .         .         .         .         .         .         .
     1450.  C         .    I E L.R M     .         .         .         .         .         .         .         .
     1500.  C         .    I  E L R M    .         .         .         .         .         .         .         .
     1550.  C         .     I E .L RM    .         .         .         .         .         .         .         .
     1600.  C         .      I E. L RM   .         .         .         .         .         .         .         .
     1650.  C         .      I E.  L RM  .         .         .         .         .         .         .         .
     1700.  C         .       I E  L RM  .         .         .         .         .         .         .         .
.32  1750.  C         .       I E  L RM  .         .         .         .         .         .         .         .
     1800.  C         .       I E  L RM  .         .         .         .         .         .         .         .
     1850.  C         .        I.E  L RM .         .         .         .         .         .         .         .
     1900.  C         .        I. E  L RM .        .         .         .         .         .         .         .
     1950.  C         .         I E  L R .         .         .         .         .         .         .         .
     2000.  C         .         I  E  L RM.        .         .         .         .         .         .         .
     2050.  C         .         .I WE  L R.        .         .         .         .         .         .         .
     2100.  C         .         .I  E  L R.        .         .         .         .         .         .         .
     2150.  C         .         . I  E  L R        .         .         .         .         .         .         .
.41  2200.  C         .         . I  E  L R        .         .         .         .         .         .         .
     2250.  C         .         .  I  E  L.R       .         .         .         .         .         .         .
     2300.  C         .         .  I  E  LRM       .         .         .         .         .         .         .
     2350.  C         .         .   I  E .LRM      .         .         .         .         .         .         .
     2400.  C         .         .   I  E . L M     .         .         .         .         .         .         .
     2450.  C         .         .    I  E.  L M    .         .         .         .         .         .         .
     2500.  C         .         .    I  E.  RL M   .         .         .         .         .         .         .
     2550.  C         .         .     I  E.   RL M .         .         .         .         .         .         .
.49  2600.  C         .         .     I  E.   R L M.         .         .         .         .         .         .
     2650.  C         .         .      I  E   R  L M.        .         .         .         .         .         .
     2700.  C         .         .       I E  R   LM.         .         .         .         .         .         .
     2750.  C         .         .       I WE R    LM         .         .         .         .         .         .
.52  2800.  C         .         .        I.ER      L         .         .         .         .         .         .
     2850.  C         .         .        I.E R    LM         .         .         .         .         .         .
     2900.  C         .         .         I E R  LM.         .         .         .         .         .         .
     2950.  C         .         .         I E  R LM.         .         .         .         .         .         .
     3000.  C         .         .         I  E  RL.M.        .         .         .         .         .         .
     3050.  C         .         .         .I E  L RM.        .         .         .         .         .         .
     3100.  C         .         .         .I  EL  MR.        .         .         .         .         .         .
.59  3150.  C         .         .         . I E   M R        .         .         .         .         .         .
     3200.  C         .         .         . I  EL  MR        .         .         .         .         .         .
     3250.  C         .         .         .  I E L  R        .         .         .         .         .         .
     3300.  C         .         .         .  I  E  LR M      .         .         .         .         .         .
     3350.  C         .         .         .   I E   RL M     .         .         .         .         .         .
     3400.  C         .         .         .   I  E  R L M    .         .         .         .         .         .
.65  3450.  C         .         .         .    I E  R  LM    .         .         .         .         .         .
     3500.  C                                   I E  R LM
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        3550.  C        .        .        .      I E.   RL M .        .        .        .        .        .
   .68  3600.  C        .        .        .      I E    L R .        .        .        .        .        .
        3650.  C        .        .        .      I. E     L.         .        .        .        .        .
   .70  3700.  C        .        .        .      I.  E     L         .        .        .        .        .
        3750.  C        .        .        .      I  E     L         .        .        .        .        .
        3800.  C        .        .        .      .I  E    L         .        .        .        .        .
   .72  3850.  .        .        .        .      . I WE   L         .        .        .        .        .
        3900.  C        .        .        .      . I     WE L       .        .        .        .        .
   .74  3950.  C        .        .        .      .  I     .  E      .        .        .        .        .
        4000.  C        .        .        .      .   I    .  EM     .        .        .        .        .
        4050.  C        .        .        .      .    I   .  EL     .        .        .        .        .
        4100.  C        .        .        .      .     I  .  ELM    .        .        .        .        .
   .78  4150.  C        .        .        .      .       I .  E LM  .        .        .        .        .
        4200.  C        .        .        .      .       I .  ER L  .        .        .        .        .
        4250.  C        .        .        .      .        I.  E RML .        .        .        .        .
        4300.  C        .        .        .      .         I  E  R L.        .        .        .        .
        4350.  C        .        .        .      .         I  E  RML.        .        .        .        .
   .83  4400.  C        .        .        .      .         .I E   R L        .        .        .        .
1
 05/09/88    08:44:24                                                                                PAGE   10
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                                                                                THIS RUN EXECUTED 05/09/88   08:45:01

**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************

T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - ENCROACHED
T3      CIRCLE CITY - WASH 6

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       3.       0.       0.   .000000     .00      .0       0.   1853.620    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLOC    IBW      CHNIM    ITRACE

    2.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
 05/09/88    08:44:24                                                                                PAGE   11

   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

*PROF 2

CHV=    .100 CEHV=    .300
*SECND  .000
 2000 NAT Q1=     62.47  WSEL=   1853.62  ENC Q1=    128.42  WSEL=   1854.62  RATIO= -1.0526
 NAT Q1=    129.  RATIOS LOB,CH,ROB=   .0013   .9987   .0000  WSEL=   1854.62

3470 ENCROACHMENT STATIONS=    4950.0    5060.0  TYPE=     4  TARGET=        .001
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
```

```
      545.      0.     545.      0.      0.     145.      0.      0.      0.   1850.00
       .00     .00     3.77     .00    .080    .050    .080    .000  1850.50  4955.70
   .007610      0.      0.      0.       0       0       0     .00    82.40  5038.10
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1853.62

 STA=    4956.    5060.
   PER Q=    100.0
    AREA=    144.7
     VEL=      3.8

 *SECNO  .057
  2800 NAT Q1=     19.91  WSEL=   1856.14  ENC Q1=     54.84  WSEL=   1857.14  RATIO= -1.7546
  NAT Q1=     55.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1857.14

 3470 ENCROACHMENT STATIONS=    4960.0    5065.0  TYPE=     4  TARGET=        .000
       .06     2.14  1856.14  1855.66  1856.14  1856.30     .16     2.45     .01  1858.00
      199.      0.     199.      0.       0.      63.      0.       1.      0.   1860.00
       .03     .00     3.16     .00    .080    .050    .080    .000  1854.00  4983.23
   .010092     300.     300.     250.      10      11       0     .00    57.66  5040.99
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1856.14

 STA=    4983.    5065.
   PER Q=    100.0
    AREA=     63.0
     VEL=      3.2

 *SECNO  .123
1
 05/09/88    08:44:24                                                                    PAGE   12

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

  2800 NAT Q1=     20.52  WSEL=   1859.53  ENC Q1=     56.96  WSEL=   1860.53  RATIO= -1.7754
  NAT Q1=     57.  RATIOS LOB,CH,ROB=   .0019   .9981   .0000  WSEL=   1860.53

 3470 ENCROACHMENT STATIONS=    4960.0    5045.0  TYPE=     4  TARGET=        .002
       .12     2.04  1859.54  1859.02  1859.53  1859.69     .15     3.39     .00  1860.00
      199.      0.     199.      0.       0.      64.      0.       1.      1.   1862.00
       .06     .00     3.11     .00    .080    .050    .080    .000  1857.50  4966.98
   .009304     360.     350.     290.      13      19       0     .00    56.61  5023.49
0
 FLOW DISTRIBUTION FOR SECNO=       .12          CWSEL=   1859.54

 STA=    4967.    5045.
   PER Q=    100.0
    AREA=     64.1
     VEL=      3.1

 *SECNO  .203
  2800 NAT Q1=     19.10  WSEL=   1863.75  ENC Q1=     53.67  WSEL=   1864.75  RATIO= -1.8093
  NAT Q1=     54.  RATIOS LOB,CH,ROB=   .0000   .9943   .0057  WSEL=   1864.75

 3470 ENCROACHMENT STATIONS=    4980.0    5045.0  TYPE=     4  TARGET=        .006
       .20     2.75  1863.75  1863.26  1863.75  1863.92     .18     4.23     .01  1866.00
      199.      0.     199.      0.       0.      59.      0.       2.      1.   1864.00
       .09     .00     3.37     .00    .080    .050    .080    .000  1861.00  4988.43
   .010916     350.     420.     420.      16       8       0     .00    51.62  5040.05
0
 FLOW DISTRIBUTION FOR SECNO=       .20          CWSEL=   1863.75
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 STA=    4988.    5045.
   PER Q=    100.0
    AREA=     53.0
     VEL=      3.4

 SECNO  .264
  2800 NAT Q1=     21.75  WSEL=   1866.78  ENC Q1=     47.57  WSEL=   1867.78  RATIO= -1.1870
  NAT Q1=     48.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1867.78

 3470 ENCROACHMENT STATIONS=    4980.0    5040.0  TYPE=     4  TARGET=       .000
      .26     2.78  1866.78      .00  1866.78  1866.97      .19     3.04      .00  1868.00
     199.       0.     199.       0.       0.      56.       0.       2.       2.  1870.00
      .12      .00     3.52      .00     .080     .050     .080     .000  1864.00  4986.10
   .008368     320.     320.     280.        4        0        0      .00    37.81  5023.90
0
1
 05/09/08    09:44:24                                                                          PAGE   13


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1866.78

 STA=    4986.    5040.
   PER Q=    100.0
    AREA=     56.5
     VEL=      3.5

 *SECNO  .324
  2800 NAT Q1=     20.24  WSEL=   1869.71  ENC Q1=     59.45  WSEL=   1870.71  RATIO= -1.9373
  NAT Q1=     59.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1870.71

 3470 ENCROACHMENT STATIONS=    4960.0    5090.0  TYPE=     4  TARGET=       .000
      .32     1.71  1869.71  1869.22  1869.71  1869.85      .14     2.87      .01  1874.00
     199.       0.     199.       0.       0.      66.       0.       3.       2.  1876.00
      .15      .00     3.03      .00     .080     .050     .080     .000  1868.00  4982.92
   .009631     280.     320.     300.       12       14        0      .00    61.96  5044.88
0
 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1869.71

 STA=    4983.    5090.
   PER Q=    100.0
    AREA=     65.7
     VEL=      3.0

 *SECNO  .409
  2800 NAT Q1=     15.57  WSEL=   1875.13  ENC Q1=     35.40  WSEL=   1876.13  RATIO= -1.2732
  NAT Q1=     35.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1876.13

 3470 ENCROACHMENT STATIONS=    4950.0    5025.0  TYPE=     4  TARGET=       .000
      .41     3.13  1875.13  1874.72  1875.13  1875.46      .33     5.55      .06  1878.00
     199.       0.     199.       0.       0.      43.       0.       3.       3.  1880.00
      .17      .00     4.64      .00     .080     .050     .080     .000  1872.00  4978.75
   .016382     450.     450.     460.       17       14        0      .00    31.02  5009.77
0
 FLOW DISTRIBUTION FOR SECNO=       .41          CWSEL=   1875.13

 STA=    4979.    5025.
   PER Q=    100.0
    AREA=     42.8
     VEL=      4.5
```

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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *SECNO  .485
  2800 NAT Q1=     25.17  WSEL=   1879.12  ENC Q1=     49.58  WSEL=   1880.12  RATIO=  -.9302
  NAT Q1=     49.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1880.12

 3470 ENCROACHMENT STATIONS=    4950.0    5045.0  TYPE=     4  TARGET=        .000
      .49     3.12  1879.12      .00  1879.12  1879.30      .18     3.82      .02  1886.00
     199.       0.     199.       0.       0.      58.       0.       4.       3.   1884.00
      .21      .00     3.42      .00     .080     .050     .080     .000  1876.00  4980.50
   .006258    400.     400.     400.        4        0        0      .00    32.30  5012.90
0
 FLOW DISTRIBUTION FOR SECNO=       .49          CWSEL=   1879.12

 STA=    4981.    5045.
   PER Q=    100.0
    AREA=     58.2
     VEL=      3.4

 *SECNO  .523
  2800 NAT Q1=      8.98  WSEL=   1880.00  ENC Q1=     29.94  WSEL=   1881.00  RATIO= -2.3339
  NAT Q1=     30.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1881.00

 3470 ENCROACHMENT STATIONS=    4965.0    5050.0  TYPE=     4  TARGET=        .000
      .52     1.00  1880.00  1880.52  1880.00  1880.98      .18     1.68      .00  1890.00
     114.       0.     114.       0.       0.      33.       0.       4.       3.   1882.00
      .22      .00     3.43      .00     .080     .050     .080     .000  1879.00  4988.00
   .016151    200.     200.     200.        5       11        0      .00    37.99  5025.99
0
 FLOW DISTRIBUTION FOR SECNO=       .52          CWSEL=   1880.00

 STA=    4988.    5050.
   PER Q=    100.0
    AREA=     33.2
     VEL=      3.4

 *SECNO  .591
  2800 NAT Q1=     15.10  WSEL=   1884.08  ENC Q1=     33.00  WSEL=   1885.08  RATIO= -1.1861
  NAT Q1=     34.  RATIOS LOB,CH,ROB=   .0362   .9638   .0000  WSEL=   1885.08

 3470 ENCROACHMENT STATIONS=    4985.0    5020.0  TYPE=     4  TARGET=        .036
      .59     2.57  1884.07      .00  1884.08  1884.21      .14     3.22      .00  1884.00
     114.       0.     114.       0.       0.      38.       0.       4.       3.   1890.00
      .26      .00     2.99      .00     .080     .050     .080     .000  1881.50  4985.00
   .005685    360.     360.     220.        4        0        0      .00    23.90  5008.90
0
1
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST
```

```
 STA=    4995.    5020.
   PER Q=    100.0
    AREA=     38.1
     VEL=      3.0

 SECNO  .648
  2000 NAT Q1=      7.33  WSEL=   1887.08  ENC Q1=     24.36  WSEL=   1888.08  RATIO= -2.3236
  NAT Q1=     24.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1888.08
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL

 3470 ENCROACHMENT STATIONS=    4960.0    5070.0  TYPE=     4  TARGET=       .000
      .65     2.07  1887.07  1886.91  1887.08  1887.35      .27     3.10      .04  1894.00
     114.       0.     114.       0.       0.      27.       0.       4.       4.   1890.00
      .28      .00     4.21      .00     .000     .050     .000     .000  1885.00  4990.27
   .024235     200.     300.     400.       20       19        0      .00    30.93  5021.21
0
 FLOW DISTRIBUTION FOR SECNO=       .65          CWSEL=   1887.07

 STA=    4990.    5070.
   PER Q=    100.0
    AREA=     27.1
     VEL=      4.2

 *SECNO  .682

 3470 ENCROACHMENT STATIONS=    4980.0    5010.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1896.00  ELENCR=   1896.00
      .68     1.97  1889.97      .00  1889.97  1890.15      .17     2.79      .01  1896.00
     114.       0.     114.       0.       0.      34.       0.       5.       4.   1898.00
      .29      .00     3.36      .00     .000     .050     .000     .000  1998.00  4980.26
   .010748     180.     180.     180.        3        0        0      .00    29.57  5009.83

 FLOW DISTRIBUTION FOR SECNO=       .68          CWSEL=   1889.97

 STA=    4980.    5090.
   PER Q=    100.0
    AREA=     34.0
     VEL=      3.4

1
 05/09/88    08:44:24                                                                    PAGE   16


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .697
  WATER EL=X5 CARD=  1892.500

 3470 ENCROACHMENT STATIONS=    4995.0    5015.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1900.00  ELENCR=   1900.00
                 WATER SURFACE ELEVATION AT SECTION .697 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
      .70     3.50  1892.50      .00  1892.50  1892.52      .02      .11      .01  1900.00
     114.       0.     114.       0.       0.      90.       0.       5.       4.   1900.00
      .31      .00     1.27      .00     .000     .050     .000     .000  1893.00  4995.00
   .000517      80.      80.      80.        0        0        0      .00    30.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .70          CWSEL=   1892.50
```

```
 STA=    4990.    5050.
   PER Q=    100.0
    AREA=     90.0
     VEL=      1.3

 *SECNO  .724

 3301 HV CHANGED MORE THAN HVING

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1900.00  ELENCR=   1900.00
      .72      2.22  1894.22  1894.22  1894.22  1894.81      .59      .23      .17  1900.00
     114.       0.     114.       0.       0.      18.       0.       5.       4.   1900.00
      .31      .00     6.16      .00     .080     .050     .080     .000  1892.00  4990.00
   .038273     140.     140.     140.       20       14        0      .00    16.12  5006.12
0
 FLOW DISTRIBUTION FOR SECNO=       .72          CWSEL=   1894.22

 STA=    4990.    5035.
   PER Q=    100.0
    AREA=     18.5
     VEL=      6.2

1
 05/09/88    08:44:24                                                                    PAGE   17


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 *SECNO  .741
  WATER EL=X5 CARD=  1903.680

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1904.00  ELENCR=   1904.00
                 WATER SURFACE ELEVATION AT SECTION .741 IS BASED UPON
                 HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C16.
      .74     11.18  1903.68      .00  1903.68  1903.73      .05      .05      .05  1904.00
     479.       0.     479.       0.       0.     261.       0.       5.       4.   1904.00
      .33      .00     1.84      .00     .080     .050     .080     .000  1892.50  4990.00
   .000362     90.      90.      90.        0        0        0      .00    25.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .74          CWSEL=   1903.68

 STA=    4990.    5085.
   PER Q=    100.0
    AREA=    260.8
     VEL=      1.8

 *SECNO  .781
  2800 NAT Q1=    320.90  WSEL=   1903.79  ENC Q1=    445.82  WSEL=   1904.79  RATIO=  -.3897
  NAT Q1=    447.  RATIOS LOB,CH,ROB=   .0000   .9974   .0026  WSEL=   1904.79

 3470 ENCROACHMENT STATIONS=    4885.0    5050.0  TYPE=     4  TARGET=        .003
      .78      6.29  1903.79      .00  1903.79  1903.80      .01      .06      .00  1906.00
     479.       0.     479.       0.       0.     656.       0.       7.       4.   1904.00
      .41      .00      .73      .00     .080     .080     .080     .000  1897.50  4896.06
   .000223     240.     210.     160.        2        0        0      .00   152.69  5048.76
0
 FLOW DISTRIBUTION FOR SECNO=       .78          CWSEL=   1903.79
```

```
 STA=    4896.    5050.
   PER Q=    100.0
    AREA=    656.0
     VEL=       .7

 SECNO  .826
  2800 NAT Q1=    150.94  WSEL=   1903.88  ENC Q1=    277.48  WSEL=   1904.89  RATIO=  -.8384
  NAT Q1=    277.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1904.88

 3470 ENCROACHMENT STATIONS=    4860.0    5205.0  TYPE=     4  TARGET=        .000
1
 05/09/88    08:44:24                                                                                    PAGE   18


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


      .83     2.88  1903.88      .00  1903.88  1903.90      .01      .10      .00  1910.00
     479.       0.     479.       0.       0.     494.       0.      11.       5.   1908.00
      .48      .00      .97      .00     .080     .080     .080     .000  1901.00  4905.89
   .001007     240.     240.     240.        2        0        0      .00   233.91  5139.80
0
 FLOW DISTRIBUTION FOR SECNO=       .83          CWSEL=   1903.88

 STA=    4906.    5205.
   PER Q=    100.0
    AREA=    493.9
     VEL=      1.0

1
 05/09/88    08:44:24                                                                                    PAGE   19



                                                                                THIS RUN EXECUTED 05/09/88   08:45:25
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1994
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
*************************************************


T1      WITTMANN ADMS
T2      50-YEAR STORM EVENT
T3      CIRCLE CITY - WASH 6

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.       4.       0.       0.   .000000      .00       .5       0.  1853.460     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    3.000     .000    -1.000     .000     .000     .000     .000     .000     .000    15.000

1
 05/09/88    08:44:24                                                                                    PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
```

```
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST


 *PROF 3

 CHV=    .100 CEHV=    .300
 *SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
      .00     2.96  1853.46     .00  1853.46  1853.67     .21     .00     .00  1854.00
     490.       0.     490.      0.       0.     132.      0.      0.      0.  1858.00
      .00      .00     3.72     .00     .080     .050    .080    .000  1850.50  4958.10
   .007970      0.       0.      0.       0        0       0     .00    79.20  5037.30
0
 FLOW DISTRIBUTION FOR SECNO=      .00          CWSEL=   1853.46

 STA=    4958.    5060.
   PER Q=    100.0
    AREA=    131.8
     VEL=      3.7

 *SECNO  .057
      .06     2.11  1856.11     .00     .00  1856.27     .16    2.59     .01  1858.00
     196.       0.     196.      0.       0.     61.      0.      1.      0.  1860.00
      .03      .00     3.21     .00     .080     .050    .080    .000  1854.00  4983.64
   .010686     300.     300.    250.       3        0       0     .00    57.04  5040.68
0
 FLOW DISTRIBUTION FOR SECNO=      .06          CWSEL=   1856.11

 STA=    4984.    5065.
   PER Q=    100.0
    AREA=     61.1
     VEL=      3.2

 *SECNO  .123
      .12     2.04  1859.54     .00     .00  1859.69     .14    3.42     .00  1860.00
     196.       0.     196.      0.       0.     64.      0.      1.      1.  1862.00
      .06      .00     3.05     .00     .080     .050    .080    .000  1857.50  4966.83
   .008960     360.     350.    290.       3        0       0     .00    56.69  5023.52
0
 FLOW DISTRIBUTION FOR SECNO=      .12          CWSEL=   1859.54

 STA=    4967.    5045.
   PER Q=    100.0
    AREA=     64.2
     VEL=      3.1

1
 05/09/88    08:44:24                                                          PAGE   21


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 SECNO  .203
      .20     2.72  1863.72     .00     .00  1863.90     .19    4.21     .01  1866.00
     196.       0.     196.      0.       0.     58.      0.      2.      1.  1864.00
      .09      .00     3.40     .00     .080     .050    .080    .000  1861.00  4988.53
   .011263     350.     420.    420.       4        0       0     .00    50.99  5039.51
0
 FLOW DISTRIBUTION FOR SECNO=      .20          CWSEL=   1863.72
```

```
 STA=   4989.    5045.
   PER Q=    100.0
    AREA=     57.6
     VEL=      3.4

 *SECNO  .264
      .26     2.77  1866.77      .00      .00  1866.96      .19     3.05      .00  1869.00
     196.      0.     196.      0.       0.      56.       0.       2.       2.   1870.00
      .12     .00     3.48      .00     .080     .050     .080     .000  1864.00  4986.12
   .008185    320.     320.     280.       2        0        0      .00    37.76  5023.88
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1866.77

 STA=    4986.    5040.
   PER Q=    100.0
    AREA=     56.3
     VEL=      3.5

 *SECNO  .324
      .32     1.69  1869.69      .00      .00  1869.93      .14     2.87      .00  1874.00
     196.      0.     196.      0.       0.      64.       0.       3.       2.   1876.00
      .15     .00     3.04      .00     .080     .050     .080     .000  1868.00  4983.14
   .009863    280.     320.     300.       4        0        0      .00    61.38  5044.51
0
 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1869.69

 STA=    4983.    5090.
   PER Q=    100.0
    AREA=     64.4
     VEL=      3.0
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .409
      .41     3.13  1875.13      .00      .00  1875.46      .33     5.57      .05  1878.00
     196.      0.     196.      0.       0.      43.       0.       3.       3.   1880.00
      .17     .00     4.59      .00     .080     .050     .080     .000  1872.00  4978.78
   .015993    450.     450.     460.       4        0        0      .00    30.98  5009.76
0
 FLOW DISTRIBUTION FOR SECNO=       .41          CWSEL=   1875.13

 STA=    4979.    5025.
   PER Q=    100.0
    AREA=     42.7
     VEL=      4.6

 *SECNO  .485
      .49     3.09  1879.09      .00      .00  1879.27      .18     3.80      .01  1886.00
     196.      0.     196.      0.       0.      57.       0.       4.       3.   1884.00
      .21     .00     3.41      .00     .080     .050     .080     .000  1876.00  4980.65
   .006291    400.     400.     400.       2        0        0      .00    32.09  5012.74
0
 FLOW DISTRIBUTION FOR SECNO=       .49          CWSEL=   1879.09

 STA=    4981.    5045.
   PER Q=    100.0
    AREA=     57.4
```

```
*SECNO  .523
      .52     1.78  1880.78      .00      .00  1880.96      .18     1.69      .00  1890.00
     111.       0.     111.       0.       0.      32.       0.       4.       3.   1882.00
      .22      .00     3.42      .00     .080     .050     .080     .000  1879.00  4988.05
  .016201     200.     200.     200.        3        0        0      .00    37.58  5025.62

 FLOW DISTRIBUTION FOR SECNO=       .52          CWSEL=   1880.78

 STA=    4988.    5050.
   PER Q=    100.0
    AREA=     32.5
     VEL=      3.4

1
 05/09/88    09:44:24                                                                          PAGE   23

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .591
      .59     2.56  1884.06      .00      .00  1884.20      .14     3.23      .00  1884.00
     111.       0.     111.       0.       0.      37.       0.       4.       3.   1890.00
      .26      .01     2.97      .00     .080     .050     .080     .000  1881.50  4994.13
  .005689     360.     360.     220.        3        0        0      .00    24.71  5008.84
0
 FLOW DISTRIBUTION FOR SECNO=       .59          CWSEL=   1884.06

 STA=    4984.    4985.    5020.
   PER Q=       .0    100.0
    AREA=       .0     37.4
     VEL=       .0      3.0

 *SECNO  .648
      .65     2.06  1887.06      .00      .00  1887.33      .27     3.10      .04  1894.00
     111.       0.     111.       0.       0.      27.       0.       4.       4.   1890.00
      .28      .00     4.18      .00     .080     .050     .080     .000  1885.00  4990.35
  .024250     200.     300.     400.        3        0        0      .00    30.58  5020.93
0
 FLOW DISTRIBUTION FOR SECNO=       .65          CWSEL=   1887.06

 STA=    4990.    5070.
   PER Q=    100.0
    AREA=     26.6
     VEL=      4.2

 *SECNO  .682

 3470 ENCROACHMENT STATIONS=    4980.0    5010.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1896.00  ELENCR=   1896.00
      .68     1.95  1889.95      .00      .00  1890.12      .17     2.77      .01  1896.00
     111.       0.     111.       0.       0.      33.       0.       4.       4.   1898.00
      .29      .00     3.32      .00     .080     .050     .080     .000  1888.00  4980.40
  .010640     180.     180.     180.        3        0        0      .00    29.34  5009.73

 FLOW DISTRIBUTION FOR SECNO=       .68          CWSEL=   1889.95

 STA=    4980.    5090.
   PER Q=    100.0
    AREA=     33.4
     VEL=      3.3
```

```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .697
  WATER EL=X5 CARD=  1892.400

 3470 ENCROACHMENT STATIONS=    4985.0    5015.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1900.00  ELENCR=   1900.00
                 WATER SURFACE ELEVATION AT SECTION .697 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
      .70     3.40  1892.40      .00      .00  1892.43      .03      .12      .01  1900.00
     111.       0.     111.       0.       0.      87.       0.       5.       4.   1900.00
      .31      .00     1.28      .00     .080     .050     .080     .000  1889.00  4985.00
  .000545      80.      80.      80.        0        0        0      .00    30.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .70          CWSEL=   1892.40

 STA=    4985.    5090.
   PER Q=    100.0
    AREA=     87.0
     VEL=      1.3

 *SECNO  .724

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1900.00  ELENCR=   1900.00
      .72     2.20  1894.20  1894.20      .00  1894.78      .58      .24      .17  1900.00
     111.       0.     111.       0.       0.      18.       0.       5.       4.   1900.00
      .32      .00     6.12      .00     .090     .050     .080     .000  1892.00  4990.00
  .038263     140.     140.     140.       20       14        0      .00    16.02  5006.02
0
 FLOW DISTRIBUTION FOR SECNO=       .72          CWSEL=   1894.20

 STA=    4990.    5035.
   PER Q=    100.0
    AREA=     18.2
     VEL=      6.1
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .741
  WATER EL=X5 CARD=  1903.330

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      25.000
```

```
 ELENCL=   1904.00  ELENCR=   1904.00
                WATER SURFACE ELEVATION AT SECTION .741 IS BASED UPON
                HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C16.
      .74    10.83  1903.33      .00      .00  1903.36      .03      .03      .05  1904.00
     361.       0.     361.       0.       0.     252.       0.       5.       4.   1904.00
      .33      .00     1.43      .00     .080     .050     .090     .000  1892.50  4990.00
  .000226      90.      90.      90.        0        0        0      .00    25.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .74          CWSEL=   1903.33

 STA=    4990.    5085.
   PER Q=    100.0
    AREA=    252.0
     VEL=      1.4

 *SECNO  .781
      .78     5.90  1903.40      .00      .00  1903.40      .01      .04      .00  1906.00
     361.       0.     361.       0.       0.     598.       0.       7.       4.   1904.00
      .43      .00      .60      .00     .080     .080     .080     .000  1897.50  4898.00
  .000166     240.     210.     160.        3        0        0      .00   148.49  5046.50
0
 FLOW DISTRIBUTION FOR SECNO=       .78          CWSEL=   1903.40

 STA=    4898.    5050.
   PER Q=    100.0
    AREA=    597.6
     VEL=       .6

 *SECNO  .826
      .83     2.48  1903.48      .00      .00  1903.49      .01      .08      .00  1910.00
     361.       0.     361.       0.       0.     401.       0.      10.       5.   1908.00
      .50      .00      .90      .00     .080     .080     .080     .000  1901.00  4908.92
  .001084     240.     240.     240.        3        0        0      .00   224.46  5133.39
0
 FLOW DISTRIBUTION FOR SECNO=       .83          CWSEL=   1903.48

 STA=    4909.    5205.
   PER Q=    100.0
    AREA=    401.1
     VEL=       .9

1
 05/09/88    08:44:24                                                                    PAGE   26


                                                                  THIS RUN EXECUTED 05/09/88   08:45:42
 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ***************************************************


 T1      WITTMANN ADMS
 T2      10-YEAR STORM EVENT
 T3      CIRCLE CITY - WASH 6

 J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.       5.       0.       0.   .000000      .00       .5       0.  1852.890     .000

 J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLOC    IBW      CHNIM    ITRACE
```

```
     15.000      .000    -1.000      .000      .000      .000      .000      .000      .000    15.000

1
 05/09/88    08:44:24                                                                                PAGE   27

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *PROF 4

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR, 50-YEAR AND 10-YEAR HEC-1 MODELS.
      .00     2.39  1852.89      .00  1852.89  1853.07      .18      .00      .00  1854.00
     304.       0.     304.       0.       0.      90.       0.       0.       0.  1858.00
      .00      .00     3.38      .00     .080     .050     .080     .000  1850.50  4966.65
  .008917       0.       0.       0.        0        0        0      .00    67.80  5034.45
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1852.89

 STA=    4967.    5060.
   PER Q=    100.0
    AREA=     89.9
     VEL=      3.4

 *SECNO  .057
      .06     1.75  1855.75      .00      .00  1855.87      .12     2.90      .01  1858.00
     117.       0.     117.       0.       0.      42.       0.       0.       0.  1860.00
      .03      .00     2.78      .00     .080     .050     .080     .000  1854.00  4986.98
  .010509     300.     300.     250.        3        0        0      .00    48.11  5034.99
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1855.75

 STA=    4987.    5065.
   PER Q=    100.0
    AREA=     42.1
     VEL=      2.8

 *SECNO  .123
      .12     1.65  1859.15      .00      .00  1859.26      .11     3.39      .00  1860.00
     117.       0.     117.       0.       0.      44.       0.       1.       1.  1862.00
      .07      .00     2.67      .00     .080     .050     .080     .000  1857.50  4972.69
  .008944     360.     350.     290.        3        0        0      .00    47.41  5020.10
0
 FLOW DISTRIBUTION FOR SECNO=       .12          CWSEL=   1859.15

 STA=    4973.    5045.
   PER Q=    100.0
    AREA=     43.9
     VEL=      2.7

1
 05/09/88    08:44:24                                                                                PAGE   28

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
```

```
 *SECNO  .203
      .20     2.32  1863.32      .00      .00  1863.46      .14     4.19      .01  1866.00
     117.       0.     117.       0.       0.      39.       0.       1.       1.  1864.00
      .11      .00     3.00      .00     .080     .050     .080     .000  1861.00  4990.04
   .011220     350.     420.     420.        4        0        0      .00    41.38  5031.43
0
 FLOW DISTRIBUTION FOR SECNO=       .20          CWSEL=   1863.32

 STA=    4990.    5045.
   PER Q=    100.0
    AREA=     38.9
     VEL=      3.0

 *SECNO  .264
      .26     2.31  1866.31      .00      .00  1866.44      .14     2.38      .00  1868.00
     117.       0.     117.       0.       0.      40.       0.       1.       1.  1870.00
      .14      .00     2.95      .00     .080     .050     .080     .000  1864.00  4989.47
   .007846     320.     320.     280.        2        0        0      .00    33.06  5021.53
0
 FLOW DISTRIBUTION FOR SECNO=       .26          CWSEL=   1866.31

 STA=    4988.    5040.
   PER Q=    100.0
    AREA=     39.7
     VEL=      3.0

 *SECNO  .324
      .32     1.29  1869.29      .00      .00  1869.41      .12     2.97      .00  1874.00
     117.       0.     117.       0.       0.      42.       0.       2.       2.  1876.00
      .17      .00     2.78      .00     .080     .050     .080     .000  1868.00  4987.12
   .011125     280.     320.     300.        4        0        0      .00    50.42  5037.54
0
 FLOW DISTRIBUTION FOR SECNO=       .32          CWSEL=   1869.29

 STA=    4987.    5090.
   PER Q=    100.0
    AREA=     42.1
     VEL=      2.8

1
 05/09/88    08:44:24                                                                    PAGE   29


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .409
      .41     2.69  1874.69      .00      .00  1874.92      .23     5.47      .03  1878.00
     117.       0.     117.       0.       0.      31.       0.       2.       2.  1880.00
      .20      .00     3.83      .00     .080     .050     .080     .000  1872.00  4993.12
   .013359     450.     450.     460.        5        0        0      .00    25.28  5008.40
0
 FLOW DISTRIBUTION FOR SECNO=       .41          CWSEL=   1874.69

 STA=    4993.    5025.
   PER Q=    100.0
    AREA=     30.5
     VEL=      3.8

 *SECNO  .485
      .49     2.44  1878.44      .00      .00  1878.59      .15     3.66      .01  1886.00
     117.       0.     117.       0.       0.      38.       0.       2.       2.  1884.00
```

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   .006662     400.     400.     400.       4        0        0      .00    26.35  5011.10
0
 FLOW DISTRIBUTION FOR SECNO=       .49          CWSEL=   1878.44

 STA=    4985.    5045.
   PER Q=    100.0
    AREA=     38.3
     VEL=      3.1

 *SECNO  .523
       .52     1.50  1880.50      .00      .00  1880.73      .22     2.12      .02  1890.00
       87.       0.      87.       0.       0.      23.       0.       3.       3.   1882.00
       .25      .00     3.81      .00     .080     .050     .080     .000  1879.00  4988.75
   .025141     200.     200.     200.       3        0        0      .00    31.28  5020.03
0
 FLOW DISTRIBUTION FOR SECNO=       .52          CWSEL=   1880.50

 STA=    4989.    5050.
   PER Q=    100.0
    AREA=     22.9
     VEL=      3.8

1
  05/09/88    08:44:24                                                                    PAGE   30


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 *SECNO  .591
       .59     2.40  1883.90      .00      .00  1884.00      .10     3.26      .01  1884.00
       87.       0.      87.       0.       0.      34.       0.       3.       3.   1890.00
       .29      .00     2.56      .00     .080     .050     .080     .000  1881.50  4985.49
   .004630     360.     360.     220.       4        0        0      .00    23.07  5008.56
0
 FLOW DISTRIBUTION FOR SECNO=       .59          CWSEL=   1883.90

 STA=    4985.    5020.
   PER Q=    100.0
    AREA=     33.9
     VEL=      2.6

 *SECNO  .648
       .65     1.78  1886.78      .00      .00  1887.12      .34     3.04      .07  1894.00
       87.       0.      87.       0.       0.      19.       0.       3.       3.   1890.00
       .31      .00     4.68      .00     .080     .050     .080     .000  1885.00  4991.60
   .037416     200.     300.     400.       4        0        0      .00    25.04  5016.65
0
 FLOW DISTRIBUTION FOR SECNO=       .65          CWSEL=   1886.78

 STA=    4992.    5070.
   PER Q=    100.0
    AREA=     18.6
     VEL=      4.7

 *SECNO  .682

 3470 ENCROACHMENT STATIONS=    4990.0    5010.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1896.00  ELENCR=   1896.00
       .68     1.94  1889.84      .00      .00  1889.96      .13     2.83      .02  1896.00
       87.       0.      87.       0.       0.      30.       0.       3.       3.   1898.00
       .33      .00     2.88      .00     .080     .050     .080     .000  1888.00  4991.24
   .000502     100.     100.     100.       3        0        0      .00    27.93  5018.17
```

```
0
 FLOW DISTRIBUTION FOR SECNO=       .60          CWSEL=   1889.84

 STA=    4981.    5090.
   PER Q=    100.0
    AREA=     30.2
     VEL=      2.9

1
  05/09/88    08:44:24                                                                                    PAGE   31


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .697
  WATER EL=X5 CARD=  1891.900

 3470 ENCROACHMENT STATIONS=    4985.0    5015.0  TYPE=     1  TARGET=      30.000
  ELENCL=   1900.00  ELENCR=   1900.00
                 WATER SURFACE ELEVATION AT SECTION .697 IS BASED UPON
                 CULVERT HEADWATER COMPUTATIONS USING BPR CHARTS WITH
                 INLET CONTROL.
      .70     2.90  1891.90      .00      .00  1891.92      .02      .12      .01  1900.00
     87.       0.      87.       0.       0.      72.       0.       3.       3.   1900.00
     .34      .00     1.21      .00     .080     .050     .080     .000  1889.00  4985.00
  .000605     80.      80.      80.       0        0        0      .00    30.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .70          CWSEL=   1891.90

 STA=    4985.    5090.
   PER Q=    100.0
    AREA=     72.0
     VEL=      1.2

 *SECNO  .724
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      25.000
  ELENCL=   1900.00  ELENCR=   1900.00
      .72     2.00  1894.00  1894.00      .00  1894.52      .52      .27      .15  1900.00
     87.       0.      87.       0.       0.      15.       0.       3.       3.   1900.00
     .35      .00     5.78      .00     .080     .050     .080     .000  1892.00  4990.00
  .039648    140.     140.     140.       20       19        0      .00    15.02  5005.02
0
 FLOW DISTRIBUTION FOR SECNO=       .72          CWSEL=   1894.00

 STA=    4990.    5035.
   PER Q=    100.0
    AREA=     15.1
     VEL=      5.8

 SECNO  .741

  05/09/88    08:44:24                                                                                    PAGE   32


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
```

```
 WATER EL=X5 CARD=  1900.390

3470 ENCROACHMENT STATIONS=    4990.0    5015.0  TYPE=     1  TARGET=      25.000
 ELENCL=   1904.00  ELENCR=   1904.00
                WATER SURFACE ELEVATION AT SECTION .741 IS BASED UPON
                HEC-1 STORAGE ROUTING COMPUTATIONS AT SUBWATERSHED C16.
      .74     7.89  1900.39      .00      .00  1900.40      .01      .02      .05  1904.00
     167.       0.     167.       0.       0.     178.       0.       4.       3.   1904.00
      .38      .00      .94      .00     .080     .050     .080     .000  1892.50  4990.00
  .000126      90.      90.      90.        0        0        0      .00    25.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .74          CWSEL=   1900.39

 STA=    4990.    5085.
   PER Q=    100.0
    AREA=    178.5
     VEL=       .9

 *SECNO  .781
      .78     2.95  1900.45      .00      .00  1900.46      .01      .06      .00  1906.00
     167.       0.     167.       0.       0.     207.       0.       4.       4.   1904.00
      .45      .00      .81      .00     .080     .080     .080     .000  1897.50  4912.75
  .000884     240.     210.     160.        3        0        0      .00   116.54  5029.29
0
 FLOW DISTRIBUTION FOR SECNO=       .78          CWSEL=   1900.45

 STA=    4913.    5050.
   PER Q=    100.0
    AREA=    206.7
     VEL=       .8

 *SECNO  .826

 3235 SLOPE TOO STEEP,EXCEEDS       .10

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .83      .72  1901.72  1901.72      .00  1901.90      .18      .73      .05  1910.00
     167.       0.     167.       0.       0.      49.       0.       5.       4.   1908.00
      .47      .00     3.41      .00     .080     .080     .080     .000  1901.00  4942.55
  .131957     240.     240.     240.       20       14        0      .00   136.45  5079.00
0
1
 05/09/88    08:44:24                                                                PAGE   33


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


FLOW DISTRIBUTION FOR SECNO=       .83          CWSEL=   1901.72

STA=    4943.    5205.
  PER Q=    100.0
   AREA=     49.0
    VEL=      3.4

1
 05/09/88    08:44:24                                                                PAGE   34
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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CIRCLE CITY - WASH 6

SUMMARY PRINTOUT

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
.000	545.00	1853.62	4955.70	4950.00	5060.00	5038.10	.00	82.40	3.12	1850.50	76.10	3.77
.000	545.00	1853.62	4955.70	4950.00	5060.00	5038.10	.00	82.40	3.12	1850.50	76.10	3.77
.000	490.00	1853.46	4958.10	4950.00	5060.00	5037.30	.00	79.20	2.96	1850.50	79.70	3.72
.000	304.00	1852.89	4966.65	4950.00	5060.00	5034.45	.00	67.80	2.39	1850.50	89.17	3.38
.057	199.00	1856.14	4983.18	4960.00	5065.00	5040.91	2.52	57.73	2.14	1854.00	99.93	3.15
.057	199.00	1856.14	4983.23	4960.00	5065.00	5040.89	2.52	57.66	2.14	1854.00	100.92	3.16
.057	196.00	1856.11	4983.64	4960.00	5065.00	5040.68	2.65	57.04	2.11	1854.00	106.86	3.21
.057	117.00	1855.75	4986.88	4960.00	5065.00	5034.99	2.86	48.11	1.75	1854.00	105.09	2.78
.123	199.00	1859.53	4966.94	4960.00	5045.00	5023.45	3.40	56.51	2.03	1857.50	94.02	3.12
.123	199.00	1859.54	4966.88	4960.00	5045.00	5023.49	3.40	56.61	2.04	1857.50	93.04	3.11
.123	196.00	1859.54	4966.83	4960.00	5045.00	5023.52	3.43	56.69	2.04	1857.50	89.60	3.05
.123	117.00	1859.15	4972.69	4960.00	5045.00	5020.10	3.40	47.41	1.65	1857.50	89.44	2.67
.203	199.00	1863.75	4988.42	4980.00	5045.00	5040.10	4.22	51.68	2.75	1861.00	108.52	3.37
.203	199.00	1863.75	4988.43	4980.00	5045.00	5040.05	4.21	51.62	2.75	1861.00	109.16	3.37
.203	196.00	1863.72	4988.53	4980.00	5045.00	5039.51	4.18	50.99	2.72	1861.00	112.63	3.40
.203	117.00	1863.32	4990.04	4980.00	5045.00	5031.43	4.17	41.38	2.32	1861.00	112.20	3.00
.264	199.00	1866.78	4986.10	4980.00	5040.00	5023.90	3.03	37.80	2.78	1864.00	83.72	3.52
.264	199.00	1866.78	4986.10	4980.00	5040.00	5023.90	3.03	37.81	2.78	1864.00	83.68	3.52
.264	196.00	1866.77	4986.12	4980.00	5040.00	5023.88	3.05	37.76	2.77	1864.00	81.85	3.48
.264	117.00	1866.31	4988.47	4980.00	5040.00	5021.53	2.98	33.06	2.31	1864.00	78.46	2.95
.324	199.00	1869.71	4982.94	4960.00	5090.00	5044.86	2.93	61.92	1.71	1868.00	96.68	3.03
.324	199.00	1869.71	4982.92	4960.00	5090.00	5044.88	2.92	61.96	1.71	1868.00	96.31	3.03
.324	196.00	1869.69	4983.14	4960.00	5090.00	5044.51	2.92	61.38	1.69	1868.00	98.63	3.04
.324	117.00	1869.29	4987.12	4960.00	5090.00	5037.54	2.94	50.42	1.29	1868.00	111.25	2.78
.409	199.00	1875.13	4978.73	4950.00	5025.00	5009.77	5.42	31.04	3.13	1872.00	163.34	4.64
.409	199.00	1875.13	4978.75	4950.00	5025.00	5009.77	5.42	31.02	3.13	1872.00	163.82	4.64
.409	196.00	1875.13	4978.78	4950.00	5025.00	5009.76	5.44	30.98	3.13	1872.00	159.93	4.59
.409	117.00	1874.69	4983.12	4950.00	5025.00	5008.40	5.40	25.28	2.69	1872.00	133.59	3.83

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
.485	199.00	1879.12	4980.50	4950.00	5045.00	5012.80	3.99	32.30	3.12	1876.00	62.51	3.42
.485	199.00	1879.12	4980.50	4950.00	5045.00	5012.80	3.99	32.30	3.12	1876.00	62.58	3.42
.485	196.00	1879.09	4980.65	4950.00	5045.00	5012.74	3.96	32.09	3.09	1876.00	62.91	3.41
.485	117.00	1878.66	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1876.00	[illegible]	[illegible]

	.523	114.00	1880.80	4988.00	4965.00	5050.00	5026.01	1.68	38.01	1.90	1879.00	161.15	3.43
	.523	114.00	1880.80	4988.00	4965.00	5050.00	5025.99	1.68	37.99	1.80	1879.00	161.51	3.43
	.523	111.00	1880.78	4988.05	4965.00	5050.00	5025.62	1.69	37.58	1.78	1879.00	162.01	3.42
	.523	87.00	1880.50	4988.75	4965.00	5050.00	5020.03	2.06	31.28	1.50	1879.00	251.41	3.81
	.591	114.00	1884.08	4983.69	4985.00	5020.00	5008.89	3.28	25.21	2.58	1881.50	57.02	3.00
	.591	114.00	1884.07	4985.00	4985.00	5020.00	5008.90	3.27	23.90	2.57	1881.50	56.85	2.99
	.591	111.00	1884.06	4984.13	4985.00	5020.00	5008.84	3.28	24.71	2.56	1881.50	56.89	2.97
	.591	87.00	1883.90	4985.49	4985.00	5020.00	5008.56	3.40	23.07	2.40	1881.50	46.30	2.56
	.648	114.00	1887.08	4990.27	4960.00	5070.00	5021.21	3.01	30.94	2.08	1885.00	242.01	4.20
*	.648	114.00	1887.07	4990.27	4960.00	5070.00	5021.21	3.00	30.93	2.07	1885.00	242.35	4.21
	.648	111.00	1887.06	4990.35	4960.00	5070.00	5020.93	3.00	30.58	2.06	1885.00	242.50	4.18
	.648	87.00	1886.78	4991.60	4960.00	5070.00	5016.65	2.87	25.04	1.78	1885.00	374.16	4.68
	.682	114.00	1889.97	4990.24	4925.00	5090.00	5009.84	2.99	29.61	1.97	1888.00	106.75	3.35
	.682	114.00	1889.97	4990.26	4925.00	5090.00	5009.83	2.90	29.57	1.97	1888.00	107.48	3.36
	.682	111.00	1889.95	4990.40	4925.00	5090.00	5009.73	2.93	29.34	1.95	1888.00	106.40	3.32
	.682	87.00	1889.84	4991.24	4925.00	5090.00	5009.17	3.06	27.93	1.84	1888.00	85.92	2.88
*	.697	114.00	1892.50	4985.00	4930.00	5090.00	5015.00	2.53	30.00	3.50	1889.00	5.17	1.27
*	.697	114.00	1892.50	4985.00	4930.00	5090.00	5015.00	2.53	30.00	3.50	1889.00	5.17	1.27
*	.697	111.00	1892.40	4985.00	4930.00	5090.00	5015.00	2.45	30.00	3.40	1889.00	5.45	1.28
*	.697	87.00	1891.90	4985.00	4930.00	5090.00	5015.00	2.06	30.00	2.90	1889.00	6.05	1.21
*	.724	114.00	1894.22	4990.00	4945.00	5035.00	5006.12	1.72	16.12	2.22	1892.00	382.73	6.16
*	.724	114.00	1894.22	4990.00	4945.00	5035.00	5006.12	1.72	16.12	2.22	1892.00	382.73	6.16
*	.724	111.00	1894.20	4990.00	4945.00	5035.00	5006.02	1.90	16.02	2.20	1892.00	382.63	6.12
*	.724	87.00	1894.00	4990.00	4945.00	5035.00	5005.02	2.10	15.02	2.00	1892.00	396.48	5.78
*	.741	479.00	1903.68	4990.00	4940.00	5085.00	5015.00	9.46	25.00	11.18	1892.50	3.62	1.84
	.741	479.00	1903.68	4990.00	4940.00	5085.00	5015.00	9.46	25.00	11.18	1892.50	3.62	1.84
*	.741	361.00	1903.33	4990.00	4940.00	5085.00	5015.00	9.13	25.00	10.83	1892.50	2.26	1.43
*	.741	167.00	1900.39	4990.00	4940.00	5085.00	5015.00	6.39	25.00	7.89	1892.50	1.26	.94
	.781	479.00	1903.79	4896.06	4885.00	5050.00	5048.76	.11	152.70	6.29	1897.50	2.23	.73
	.781	479.00	1903.79	4896.06	4885.00	5050.00	5048.76	.11	152.69	6.29	1897.50	2.23	.73
	.781	361.00	1903.40	4898.00	4885.00	5050.00	5046.50	.07	148.49	5.90	1897.50	1.66	.60
	.781	167.00	1900.45	4912.75	4885.00	5050.00	5029.29	.06	116.54	2.95	1897.50	8.84	.81
	.826	479.00	1903.88	4905.88	4860.00	5205.00	5139.00	.09	233.92	2.88	1901.00	10.07	.97
	.826	479.00	1903.88	4905.89	4860.00	5205.00	5139.00	.09	233.91	2.88	1901.00	10.07	.97
	.826	361.00	1903.48	4908.92	4860.00	5205.00	5133.39	.08	224.46	2.48	1901.00	10.84	.90
*	.826	167.00	1901.72	4942.55	4860.00	5205.00	5079.00	1.27	136.45	.72	1901.00	1319.57	3.41

1

CIRCLE CITY - WASH 6

SUMMARY PRINTOUT TABLE 110

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
.000	1853.62	.00	1853.84	82.40	.00	545.00	.00	.00	.00	4950.00	5060.00	.00
.000	1853.62	.00	1853.84	82.40	.00	545.00	.00	.00	4950.00	4950.00	5060.00	5060.00
.000	1853.46	.00	1853.67	79.20	.00	490.00	.00	.00	.00	4950.00	5060.00	.00
.000	1852.89	.00	1853.07	67.80	.00	304.00	.00	.00	.00	4950.00	5060.00	.00
.057	1856.14	.00	1856.29	57.73	.00	199.00	.00	.00	.00	4960.00	5065.00	.00
.057	1856.14	.00	1856.30	57.66	.00	199.00	.00	.00	4950.00	4960.00	5065.00	5065.00
.057	1856.11	.00	1856.27	57.04	.00	196.00	.00	.00	.00	4960.00	5065.00	.00
.057	1855.75	.00	1855.97	49.11	.00	117.00	.00	.00	.00	4960.00	5065.00	.00

.123	1859.53	.00	1859.69	56.51	.00	199.00	.00	.00	.00	4960.00	5045.00	.00
.123	1859.54	.01	1859.69	56.61	.00	199.00	.00	.00	4960.00	4960.00	5045.00	5045.00
.123	1859.54	.00	1859.69	56.69	.00	196.00	.00	.00	.00	4960.00	5045.00	.00
.123	1859.15	.00	1859.26	47.41	.00	117.00	.00	.00	.00	4960.00	5045.00	.00
.203	1863.75	.00	1863.93	51.68	.00	199.00	.00	.00	.00	4980.00	5045.00	.00
.203	1863.75	-.01	1863.92	51.62	.00	199.00	.00	.01	4980.00	4980.00	5045.00	5045.00
.203	1863.72	.00	1863.90	50.99	.00	196.00	.00	.00	.00	4980.00	5045.00	.00
.203	1863.32	.00	1863.46	41.38	.00	117.00	.00	.00	.00	4980.00	5045.00	.00
.264	1866.78	.00	1866.97	37.80	.00	199.00	.00	.00	.00	4980.00	5040.00	.00
.264	1866.78	.00	1866.97	37.81	.00	199.00	.00	.00	4980.00	4980.00	5040.00	5040.00
.264	1866.77	.00	1866.96	37.76	.00	196.00	.00	.00	.00	4980.00	5040.00	.00
.264	1866.31	.00	1866.44	33.06	.00	117.00	.00	.00	.00	4980.00	5040.00	.00
.324	1869.71	.00	1869.85	61.92	.00	199.00	.00	.00	.00	4960.00	5090.00	.00
.324	1869.71	.00	1869.85	61.96	.00	199.00	.00	.00	4960.00	4960.00	5090.00	5090.00
.324	1869.69	.00	1869.83	61.38	.00	196.00	.00	.00	.00	4960.00	5090.00	.00
.324	1869.29	.00	1869.41	50.42	.00	117.00	.00	.00	.00	4960.00	5090.00	.00
.409	1875.13	.00	1875.47	31.04	.00	199.00	.00	.00	.00	4950.00	5025.00	.00
.409	1875.13	-.01	1875.46	31.02	.00	199.00	.00	.00	4950.00	4950.00	5025.00	5025.00
.409	1875.13	.00	1875.46	30.98	.00	196.00	.00	.00	.00	4950.00	5025.00	.00
.409	1874.69	.00	1874.92	25.28	.00	117.00	.00	.00	.00	4950.00	5025.00	.00
.485	1879.12	.00	1879.30	32.30	.00	199.00	.00	.00	.00	4950.00	5045.00	.00
.485	1879.12	.00	1879.30	32.30	.00	199.00	.00	.00	4950.00	4950.00	5045.00	5045.00
.485	1879.09	.00	1879.27	32.09	.00	196.00	.00	.00	.00	4950.00	5045.00	.00
.485	1879.44	.00	1879.59	26.35	.00	117.00	.00	.00	.00	4950.00	5045.00	.00
.523	1880.00	.00	1880.98	38.01	.00	114.00	.00	.00	.00	4965.00	5050.00	.00
.523	1880.00	.00	1880.99	37.99	.00	114.00	.00	.00	4965.00	4965.00	5050.00	5050.00
.523	1880.78	.00	1880.96	37.58	.00	111.00	.00	.00	.00	4965.00	5050.00	.00
.523	1880.50	.00	1880.73	31.28	.00	87.00	.00	.00	.00	4965.00	5050.00	.00

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	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.591	1884.08	.00	1884.21	25.21	.00	114.00	.00	.00	.00	4985.00	5020.00	.00
	.591	1884.07	.00	1884.21	23.90	.00	114.00	.00	.04	4985.00	4985.00	5020.00	5020.00
	.591	1884.06	.00	1884.20	24.71	.00	111.00	.00	.00	.00	4985.00	5020.00	.00
	.591	1883.90	.00	1884.00	23.07	.00	87.00	.00	.00	.00	4985.00	5020.00	.00
	.648	1887.08	.00	1887.36	30.94	.00	114.00	.00	.00	.00	4960.00	5070.00	.00
*	.648	1887.07	-.01	1887.35	30.93	.00	114.00	.00	.00	4960.00	4960.00	5070.00	5070.00
	.648	1887.06	.00	1887.33	30.58	.00	111.00	.00	.00	.00	4960.00	5070.00	.00
	.648	1886.78	.00	1887.12	25.04	.00	87.00	.00	.00	.00	4960.00	5070.00	.00
	.682	1889.97	.00	1890.14	29.61	.00	114.00	.00	30.00	4980.00	4925.00	5090.00	5010.00
	.682	1889.97	.00	1890.15	29.57	.00	114.00	.00	30.00	4980.00	4925.00	5090.00	5010.00
	.682	1889.95	.00	1890.12	29.34	.00	111.00	.00	30.00	4980.00	4925.00	5090.00	5010.00
	.682	1889.84	.00	1889.96	27.93	.00	87.00	.00	30.00	4980.00	4925.00	5090.00	5010.00
	.697	1892.50	.00	1892.52	30.00	.00	114.00	.00	30.00	4985.00	4930.00	5090.00	5015.00
*	.697	1892.50	.00	1892.52	30.00	.00	114.00	.00	30.00	4985.00	4930.00	5090.00	5015.00
*	.697	1892.40	.00	1892.43	30.00	.00	111.00	.00	30.00	4985.00	4930.00	5090.00	5015.00
*	.697	1891.90	.00	1891.92	30.00	.00	87.00	.00	30.00	4985.00	4930.00	5090.00	5015.00
*	.724	1894.22	.00	1894.81	16.12	.00	114.00	.00	25.00	4990.00	4945.00	5035.00	5015.00
*	.724	1894.22	.00	1894.81	16.12	.00	114.00	.00	25.00	4990.00	4945.00	5035.00	5015.00
*	.724	1894.20	.00	1894.78	16.02	.00	111.00	.00	25.00	4990.00	4945.00	5035.00	5015.00
*	.724	1894.00	.00	1894.52	15.22	.00	87.00	.00	25.00	4990.00	4945.00	5035.00	5015.00

*	.741	1903.68	.00	1903.73	25.00	.00	479.00	.00	25.00	4990.00	4940.00	5085.00	5015.00
*	.741	1903.68	.00	1903.73	25.00	.00	479.00	.00	25.00	4990.00	4940.00	5085.00	5015.00
*	.741	1903.33	.00	1903.36	25.00	.00	361.00	.00	25.00	4990.00	4940.00	5085.00	5015.00
*	.741	1900.39	.00	1900.40	25.00	.00	167.00	.00	25.00	4990.00	4940.00	5085.00	5015.00
	.781	1903.79	.00	1903.80	152.70	.00	479.00	.00	.00	.00	4885.00	5050.00	.00
	.781	1903.79	.00	1903.80	152.69	.00	479.00	.00	.00	4885.00	4885.00	5050.00	5050.00
	.781	1903.40	.00	1903.40	148.49	.00	361.00	.00	.00	.00	4885.00	5050.00	.00
	.781	1900.45	.00	1900.46	116.54	.00	167.00	.00	.00	.00	4885.00	5050.00	.00
	.826	1903.88	.00	1903.90	233.92	.00	479.00	.00	.00	.00	4860.00	5205.00	.00
	.826	1903.88	.00	1903.90	233.91	.00	479.00	.00	.00	4860.00	4860.00	5205.00	5205.00
	.826	1903.48	.00	1903.49	224.46	.00	361.00	.00	.00	.00	4860.00	5205.00	.00
*	.826	1901.72	.00	1901.90	136.45	.00	167.00	.00	.00	.00	4860.00	5205.00	.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=    .648  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE     SECNO=    .697  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=    .697  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=    .697  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=    .697  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=    .724  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .724  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .724  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    .724  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .724  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .724  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    .724  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .724  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .724  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    .724  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .724  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .724  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE     SECNO=    .741  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=    .741  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=    .741  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=    .741  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=    .826  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    .826  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    .826  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    .826  PROFILE= 4  SLOPE TOO STEEP
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1

FLOODWAY DATA, CIRCLE CITY - WASH 6
PROFILE NO. 2

	------- FLOODWAY -------			WATER SURFACE ELEVATION		
STATION	WIDTH	SECTION	MEAN	WITH	WITHOUT	DIFFERENCE

		AREA	VELOCITY	FLOODWAY	FLOODWAY	
.000	82.	145.	3.8	1853.6	1853.6	.0
.057	58.	63.	3.2	1856.1	1856.1	.0
.123	57.	64.	3.1	1859.5	1859.5	.0
.203	52.	59.	3.4	1863.8	1863.8	.0
.264	38.	56.	3.5	1866.8	1866.8	.0
.324	62.	66.	3.0	1869.7	1869.7	.0
.409	31.	43.	4.6	1875.1	1875.1	.0
.485	32.	58.	3.4	1879.1	1879.1	.0
.523	38.	33.	3.4	1880.8	1880.8	.0
.591	24.	38.	3.0	1884.1	1884.1	.0
.648	31.	27.	4.2	1887.1	1887.1	.0
.682	30.	34.	3.4	1890.0	1890.0	.0
.697	30.	90.	1.3	1892.5	1892.5	.0
.724	16.	18.	6.2	1894.2	1894.2	.0
.741	25.	261.	1.8	1903.7	1903.7	.0
.781	153.	656.	.7	1903.8	1903.8	.0
.826	234.	494.	1.0	1903.9	1903.9	.0

1

FLOODWAY DATA, CIRCLE CITY - WASH 6
PROFILE NO. 3

STATION	------- FLOODWAY ------- WIDTH	SECTION AREA	MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.000	79.	132.	3.7	1853.5	1853.6	-.1
.057	57.	61.	3.2	1856.1	1856.1	.0
.123	57.	64.	3.1	1859.5	1859.5	.0
.203	51.	58.	3.4	1863.8	1863.8	.0
.264	38.	56.	3.5	1866.8	1866.8	.0
.324	61.	64.	3.0	1869.7	1869.7	.0
.409	31.	43.	4.6	1875.1	1875.1	.0
.485	32.	57.	3.4	1879.1	1879.1	.0
.523	38.	32.	3.4	1880.8	1880.8	.0
.591	25.	37.	3.0	1884.1	1884.1	.0
.648	31.	27.	4.2	1887.1	1887.1	.0
.682	29.	33.	3.3	1890.0	1890.0	.0
.697	30.	87.	1.3	1892.5	1892.5	.0
.724	16.	18.	6.1	1894.2	1894.2	.0
.741	25.	252.	1.4	1903.4	1903.7	-.3
.781	149.	598.	.6	1903.5	1903.8	-.3
.826	224.	401.	.9	1903.6	1903.9	-.3

1

LOODWAY DATA, CIRCLE CITY - WASH 6
PROFILE NO. 4

STATION	------- FLOODWAY ------- WIDTH	SECTION AREA	MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE

.057	48.	42.	2.8	1855.8	1856.1	-.3
.123	47.	44.	2.7	1859.2	1859.5	-.3
.203	41.	39.	3.0	1863.5	1863.8	-.3
.264	33.	40.	3.0	1866.4	1866.8	-.4
.324	50.	42.	2.8	1869.4	1869.7	-.3
.409	25.	31.	3.8	1874.8	1875.1	-.3
.485	26.	38.	3.1	1878.5	1879.1	-.6
.523	31.	23.	3.8	1880.6	1880.8	-.2
.591	23.	34.	2.6	1884.0	1884.1	-.1
.648	25.	19.	4.7	1886.9	1887.1	-.2
.682	28.	30.	2.9	1890.0	1890.0	.0
.697	30.	72.	1.2	1892.0	1892.5	-.5
.724	15.	15.	5.8	1894.1	1894.2	-.1
.741	25.	178.	.9	1900.5	1903.7	-3.2
.781	117.	207.	.8	1900.6	1903.8	-3.2
.826	136.	49.	3.4	1901.8	1903.9	-2.1

1

THIS RUN EXECUTED 05/09/88 08:46:15

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************
```

PROJECT: WITTMANN ADMS

DESIGNER: BKH

DATE: 1-24-88

HYDROLOGIC AND CHANNEL INFORMATION

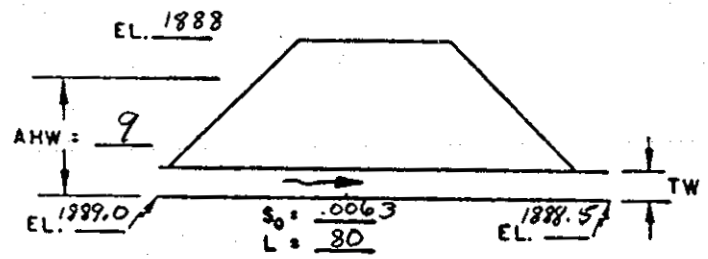
CIRCLE CITY – WASH 6
GRAND AVENUE CULVERT [C16]

MAX Q_1 = 408
Q_2 = 114
TW_1 = ____
TW_2 = ____

CULVERT CAPACITY CHECK FROM HEC-1 [C16]

SKETCH

STATION: .697



ALLOWABLE OUTLET VELOCITY = ____

CULVERT TYPE	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL K_e	d_c	$\frac{d_c+D}{2}$	h_o	H	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
BOX CULVERT	408	6'x6'	1.5	9	.5	5.2	5.6	5.6	1.6	.5	6.7	9			INLET CONTROL
100-YEAR	114	6'x6'	.58	3.5											1892.5
50-YEAR	111	6'x6'	.57	3.4											1892.4
10-YEAR	87	6'x6'	.48	2.9											1891.9

SUMMARY & RECOMMENDATIONS:

SECTION .697 W.S. ELEVATION = 3.5 + 1889.0 = 1892.5

SECTION .741 W.S ELEVATION = 1903.68 From HEC-1 [C16]

Figure 5

INPUT FILE: CCWASH7

OUTPUT FILE: CCWASH7.OUT

THIS RUN EXECUTED 05/09/88 09:15:44

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - WASH 7

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .012100     .00      .5       0.  1848.000     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     1.000     .000     .000     .000     .000     .000     .000     .000     .000   15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000   43.000    1.000   53.000   21.000   22.000   54.000   51.000    4.000    8.000


    42.000    5.000   26.000     .000  110.000     .000  200.000     .000     .000     .000


NC      .080      .080      .050      .100      .300      .000      .000      .000      .000      .000
GT     4.000   215.000   215.000   192.000   183.000      .000      .000      .000      .000      .000
ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR , 50-YEAR AND 10-YEAR HEC-1 MODELS.
                SUBWATERSHED C15.  THE STORAGE ROUTING COMPUTATION INDICATED
                THAT 215 CFS IS CONVEYED THROUGH THE RAILROAD AND
                GRAND AVENUE CULVERTS.
X1      .000     9.000  4985.000  5035.000      .000      .000      .000      .000      .000      .000
GR  1849.000  4810.000  1848.000  4925.000  1846.000  4985.000  1845.000  5000.000  1846.000  5035.000
GR  1845.500  5075.000  1845.000  5140.000  1846.000  5165.000  1848.000  5210.000      .000      .000

ET      .000      .000     9.100      .000      .000      .000      .000      .000  4970.000  5035.000
X1      .108    11.000  4970.000  5010.000   570.000   570.000   570.000      .000      .000      .000
GR  1855.000  4815.000  1854.000  4870.000  1852.000  4890.000  1852.000  4970.000  1850.000  5000.000
GR  1852.000  5010.000  1852.000  5030.000  1852.000  5100.000  1852.000  5115.000  1854.000  5155.000
GR  1855.000  5195.000      .000      .000      .000      .000      .000      .000      .000      .000

ET      .000      .000     9.100      .000      .000      .000      .000      .000  4975.000  5030.000
X1      .214    10.000  4970.000  5010.000   560.000   560.000   560.000      .000      .000      .000
GR  1863.000  4830.000  1862.000  4915.000  1860.000  4935.000  1858.000  4970.000  1856.000  5000.000
GR  1856.000  5010.000  1858.000  5100.000  1860.000  5125.000  1862.000  5165.000  1863.000  5210.000
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```
ET      .000      .000     9.100      .000      .000      .000      .000      .000   4980.000   5025.000
X1      .328      8.000  4980.000   5000.000   680.000   550.000   600.000      .000      .000      .000
GR   1868.000   4840.000  1866.000   4880.000  1864.000  4940.000  1864.000  4980.000  1863.500  5000.000
GR   1864.000   5040.000  1866.000   5070.000  1868.000  5115.000      .000      .000      .000      .000

C       .080      .080      .080      .000      .000      .000      .000      .000      .000      .000
ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
X1      .442      5.000  4840.000   5155.000   580.000   620.000   600.000      .000      .000      .000
GR   1880.000   4840.000  1870.000   4965.000  1869.000  5000.000  1870.000  5050.000  1880.000  5155.000

NH      3.000      .080  4980.000      .050  5005.000      .080  5125.000      .000      .000      .000
X1      .498      7.000  4960.000   5125.000   300.000   300.000   300.000      .000      .000      .000
GR   1880.000   4885.000  1878.000   4360.000  1874.000  4980.000  1872.000  4990.000  1872.000  5005.000
GR   1874.000   5080.000  1882.000   5125.000      .000      .000      .000      .000      .000      .000

NH      3.000      .080  4980.000      .050  5000.000      .080  5240.000      .000      .000      .000
X1      .579      8.000  4920.000   5185.000   430.000   430.000   430.000      .000      .000      .000
GR   1888.000   4870.000  1886.000   4920.000  1878.000  4980.000  1876.000  4990.000  1876.000  5000.000
GR   1878.000   5110.000  1886.000   5185.000  1888.000  5240.000      .000      .000      .000      .000

NH      3.000      .080  4990.000      .050  5010.000      .080  5170.000      .000      .000      .000
X1      .638      9.000  4890.000   5170.000   310.000   260.000   310.000      .000      .000      .000
GR   1890.000   4890.000  1882.000   4930.000  1880.000  4940.000  1880.000  4990.000  1878.000  5000.000
GR   1880.000   5010.000  1884.000   5045.000  1884.000  5085.000  1890.000  5170.000      .000      .000

NH      3.000      .080  4960.000      .050  5010.000      .080  5130.000      .000      .000      .000
X1      .732      8.000  4790.000   5130.000   500.000   500.000   500.000      .000      .000      .000
GR   1896.000   4790.000  1888.000   4835.000  1886.000  4960.000  1884.000  5000.000  1894.000  5010.000
GR   1894.000   5050.000  1896.000   5080.000  1898.000  5130.000      .000      .000      .000      .000

NH      3.000      .080  4990.000      .050  5015.000      .080  5180.000      .000      .000      .000
X1      .813      6.000  4920.000   5180.000   350.000   420.000   430.000      .000      .000      .000
GR   1900.000   4920.000  1890.000   4970.000  1888.000  4990.000  1888.000  5015.000  1896.000  5145.000
GR   1902.000   5180.000      .000      .000      .000      .000      .000      .000      .000      .000

NH      3.000      .080  4985.000      .050  5015.000      .080  5080.000      .000      .000      .000
X1      .904      5.000  4910.000   5080.000   500.000   400.000   480.000      .000      .000      .000
GR   1906.000   4910.000  1894.000   4985.000  1893.000  5000.000  1894.000  5015.000  1906.000  5080.000
EJ      .000      .000      .000      .000      .000      .000      .000      .000      .000      .000
1
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SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA      LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST


*PROF 1

CCHV=    .100 CEHV=    .300
*SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR , 50-YEAR AND 10-YEAR HEC-1 MODELS.
                SUBWATERSHED C15.  THE STORAGE ROUTING COMPUTATION INDICATED
                THAT 215 CFS IS CONVEYED THROUGH THE RAILROAD AND
                GRAND AVENUE CULVERTS.
     .00     1.11  1846.11      .00  1848.00  1846.17      .06      .00      .00  1846.00
    215.       0.       73.     142.       0.       31.      86.       0.       0.  1846.00
     .00      .30     2.36     1.65     .080     .050     .080     .000  1845.00  4981.55
  .012109       0.       0.       0.       0        0        5      .00   186.03  5167.58
0
 FLOW DISTRIBUTION FOR SECNO=      .00          CWSEL=   1846.11
```

```
 STA=    4982.    4985.    5035.    5075.    5140.    5165.    5168.
   PER Q=       .0      33.8       7.1      48.5      10.6       .0
    AREA=       .2      30.7      14.6      56.2      15.4       .1
     VEL=       .3       2.4       1.0       1.9       1.5       .3

 *SECNO  .100
      .11      2.27  1852.27       .00       .00  1852.42       .15      6.22       .03  1852.00
     215.       17.      176.       22.       22.       51.       29.       1.        3.   1852.00
      .05       .77      3.45       .77      .000      .050      .000     .000  1850.00  4887.29
  .009887      570.      570.      570.         5         0         0      .00   233.14  5120.43
0
 FLOW DISTRIBUTION FOR SECNO=       .11          CWSEL=   1852.27

 STA=    4887.    4890.    4970.    5010.    5030.    5100.    5115.    5120.
   PER Q=       .1       7.8      81.7       2.0       6.8       1.5       .2
    AREA=       .4      21.7      50.9       5.4      19.0       4.1       .7
     VEL=       .5       .8       3.5       .8        .8        .8        .5

 *SECNO  .214
      .21      1.68  1857.68       .00       .00  1857.77       .09      5.35       .01  1858.00
     215.        0.      114.      101.        0.       38.       64.       3.        5.   1856.00
      .12       .00      3.00      1.59      .000      .050      .000     .000  1856.00  4974.79
  .009226      560.      560.      560.         4         0         0      .00   110.85  5085.64
0
1
 05/09/88    09:15:44                                                                          PAGE    4


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .21          CWSEL=   1857.68

 STA=    4975.    5010.    5086.
   PER Q=      53.0      47.0
    AREA=      38.0      63.6
     VEL=       3.0       1.6

 *SECNO  .330
      .33      1.19  1864.69       .00       .00  1864.79       .11      7.02       .00  1864.00
     215.       59.       68.       89.       35.       19.       41.       4.        7.   1863.50
      .19      1.69      3.60      2.16      .080      .050      .000     .000  1863.50  4919.33
  .015973      680.      600.      550.         5         0         0      .00   131.01  5050.34
0
 FLOW DISTRIBUTION FOR SECNO=       .33          CWSEL=   1864.69

 STA=    4919.    4940.    4980.    5000.    5040.    5050.
   PER Q=       3.8      23.5      31.5      39.3       1.9
    AREA=       7.1      27.6      18.8      37.6       3.6
     VEL=       1.2       1.8       3.6       2.3       1.2

 *SECNO  .442
      .44      1.86  1870.86       .00       .00  1870.90       .05      6.10       .01  1880.00
     215.        0.       215.        0.        0.      124.        0.       6.        8.   1880.00
      .28       .00      1.74       .00      .080      .080      .000     .000  1869.00  4954.30
  .007014      580.      600.      620.         4         0         0      .00   104.70  5058.99
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1870.86

 STA=    4954.    5155.
   PER Q=     100.0
    AREA=     123.7
     VEL=       1.7
```

```
1490 NH CARD USED
*SECNO  .498
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3710 WSEL ASSUMED BASED ON MIN DIFF
      .50      1.98  1873.98  1873.14      .00  1874.04      .06      3.21      2.43  1878.00
     215.        0.     215.       0.       0.     113.       0.        6.        9.   1882.00
      .33      .00     1.90      .00     .080     .115     .080     .000  1872.00  4980.10
   .018343     300.     300.     300.       20       14        0      .00     99.12  5079.22
0
1
 05/09/88    09:15:44                                                                          PAGE    5


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1873.98

 STA=    4980.    5125.
   PER Q=    100.0
    AREA=    112.9
     VEL=      1.9

 1490 NH CARD USED
 *SECNO  .579
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3710 WSEL ASSUMED BASED ON MIN DIFF
      .58      2.01  1878.01  1877.10      .00  1878.05      .04      3.39     17.01  1886.00
     215.        0.     215.       0.       0.     142.       0.        8.       10.   1886.00
      .40      .00     1.52      .00     .080     .068     .080     .000  1876.00  4979.91
   .004353     430.     430.     430.       20       11        0      .00    130.20  5110.11
0
 FLOW DISTRIBUTION FOR SECNO=       .58          CWSEL=   1878.01

 STA=    4980.    5185.
   PER Q=    100.0
    AREA=    141.6
     VEL=      1.5

 1490 NH CARD USED
 *SECNO  .638
      .64      2.49  1880.49      .00      .00  1880.72      .23      2.61      .06  1890.00
     215.        0.     215.       0.       0.      56.       0.        8.       11.   1890.00
      .43      .00     3.84      .00     .080     .047     .080     .000  1878.00  4937.55
   .022776     310.     310.     260.        3        0        0      .00     76.73  5014.28
0
 FLOW DISTRIBUTION FOR SECNO=       .64          CWSEL=   1880.49

 STA=    4938.    5170.
   PER Q=    100.0
    AREA=     55.9
     VEL=      3.8

 490 NH CARD USED
 *SECNO  .732
      .73      2.53  1886.53      .00      .00  1886.68      .15      5.96      .01  1896.00
     215.        0.     215.       0.       0.      69.       0.        9.       12.   1898.00
      .47      .00     3.12      .00     .080     .044     .080     .000  1884.00  4942.79
   .007310     500.     500.     500.        3        0        0      .00     59.74  5002.53
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=      .73          CWSEL=   1886.53

 STA=    4943.    5130.
   PER Q=    100.0
    AREA=     68.9
     VEL=      3.1

 1490 NH CARD USED
 *SECNO  .813
      .81     1.87  1889.87      .00      .00  1889.96      .08     3.26      .01  1900.00
     215.       0.     215.       0.       0.      93.       0.      10.      12.   1902.00
      .52      .00     2.32      .00     .080     .066     .080     .000  1888.00  4971.29
  .007890     350.     430.     420.        4        0        0      .00    74.11  5045.40
0
 FLOW DISTRIBUTION FOR SECNO=      .81          CWSEL=   1889.87

 STA=    4971.    5180.
   PER Q=    100.0
    AREA=     92.7
     VEL=      2.3

 1490 NH CARD USED
 *SECNO  .904
      .90     1.96  1894.96      .00      .00  1895.26      .30     5.24      .06  1906.00
     215.       0.     215.       0.       0.      49.       0.      11.      13.   1906.00
      .55      .00     4.39      .00     .080     .048     .080     .000  1893.00  4979.03
  .016061     500.     480.     400.        3        0        0      .00    41.15  5020.18
0
 FLOW DISTRIBUTION FOR SECNO=      .90          CWSEL=   1894.96

 STA=    4979.    5000.
   PER Q=    100.0
    AREA=     49.0
     VEL=      4.4

1
 PROFILE FOR STREAM  CIRCLE CITY - WASH 7


 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


ELEVATION  1840.     1850.     1860.     1870.     1880.     1890.     1900.     1910.     1920.     1930.
   SECNO   CUMDIS

     .00      0.  C    IE M .        .         .         .         .         .         .         .         .
             50.  C    I E M.        .         .         .         .         .         .         .         .
            100.  C     IE M.        .         .         .         .         .         .         .         .
            150.  C     I E M        .         .         .         .         .         .         .         .
            200.  C      IE M        .         .         .         .         .         .         .         .
            250.  C      I E.M       .         .         .         .         .         .         .         .
            300.  C       IE. M      .         .         .         .         .         .         .         .
            350.  C       I E M      .         .         .         .         .         .         .         .
            400.  C        IWE M     .         .         .         .         .         .         .         .
            450.  C        I.E  M    .         .         .         .         .         .         .         .
            500.  C        I.LE M    .         .         .         .         .         .         .         .
            550.  C        I.E  M
```

```
.11  600.  C        I E  M   .         .         .         .         .         .         .         .         .
     650.  C        .IRE  M  .         .         .         .         .         .         .         .         .
     700.  C        .I E  M  .         .         .         .         .         .         .         .         .
     750.  C        . IRE  M .         .         .         .         .         .         .         .         .
     800.  C        . IRE   M.         .         .         .         .         .         .         .         .
     850.  C        .  IRE   M.        .         .         .         .         .         .         .         .
     900.  C        .  IRE   M.        .         .         .         .         .         .         .         .
     950.  C        .   IRE   M        .         .         .         .         .         .         .         .
    1000.  C        .   IRE   .M       .         .         .         .         .         .         .         .
    1050.  C        .    I E  .M       .         .         .         .         .         .         .         .
    1100.  C        .    IRE  . M      .         .         .         .         .         .         .         .
.21 1150.  C        .     I E .  M     .         .         .         .         .         .         .         .
    1200.  C        .      IEL.  M     .         .         .         .         .         .         .         .
    1250.  C        .      I E.   M    .         .         .         .         .         .         .         .
    1300.  C        .       IWE   M    .         .         .         .         .         .         .         .
    1350.  C        .        IE    M   .         .         .         .         .         .         .         .
    1400.  C        .        I.E   M   .         .         .         .         .         .         .         .
    1450.  C        .         IE    M  .         .         .         .         .         .         .         .
    1500.  C        .         I E   M  .         .         .         .         .         .         .         .
    1550.  C        .         .IE   M  .         .         .         .         .         .         .         .
    1600.  C        .         . IE   M .         .         .         .         .         .         .         .
    1650.  C        .         . ILE  M .         .         .         .         .         .         .         .
    1700.  C        .         .  IE   M.         .         .         .         .         .         .         .
.33 1750.  C        .         .   IE  M.         .         .         .         .         .         .         .
    1800.  C        .         .   IE   M.        .         .         .         .         .         .         .
    1850.  C        .         .   I EL  M        .         .         .         .         .         .         .
    1900.  C        .         .    IE L .M       .         .         .         .         .         .         .
    1950.  C        .         .    I E L. M      .         .         .         .         .         .         .
    2000.  C        .         .     IE  RL M     .         .         .         .         .         .         .
    2050.  C        .         .     I E . L M    .         .         .         .         .         .         .
    2100.  C        .         .      IE .  L M   .         .         .         .         .         .         .
    2150.  C        .         .      I E.    LM  .         .         .         .         .         .         .
    2200.  C        .         .       IE.     LM .         .         .         .         .         .         .
    2250.  C        .         .       I E      LM.         .         .         .         .         .         .
    2300.  C        .         .        IE        L.        .         .         .         .         .         .
.44 2350.  C        .         .        I.E        L        .         .         .         .         .         .
    2400.  C        .         .         IE        L        .         .         .         .         .         .
    2450.  C        .         .         I E      LMR       .         .         .         .         .         .
    2500.  C        .         .         .IE      LMR       .         .         .         .         .         .
    2550.  C        .         .         .I E     LMR       .         .         .         .         .         .
    2600.  C        .         .         . IWE   L M R      .         .         .         .         .         .
.50 2650.  .        .         .         . ICE   L M R      .         .         .         .         .         .
    2700.  .        .         .         . I WE   L.MR      .         .         .         .         .         .
    2750.  .        .         .         .  ICE    L MR     .         .         .         .         .         .
    2800.  .        .         .         .  I E    .L R     .         .         .         .         .         .
    2850.  .        .         .         .   ICE   . L R    .         .         .         .         .         .
    2900.  .        .         .         .   ICE   .  LRM   .         .         .         .         .         .
    2950.  .        .         .         .    ICE  .   LRM  .         .         .         .         .         .
    3000.  .        .         .         .    ICE  .    L M .         .         .         .         .         .
    3050.  .        .         .         .     ICE .    LRM .         .         .         .         .         .
.58 3100.  .        .         .         .     ICE .     L M.         .         .         .         .         .
    3150.  C        .         .         .     I E .      LM.         .         .         .         .         .
    3200.  C        .         .         .      I E.      L M.        .         .         .         .         .
    3250.  C        .         .         .      I E.       LM.        .         .         .         .         .
    3300.  C        .         .         .      I  E        L.        .         .         .         .         .
    3350.  C        .         .         .       I E        LM        .         .         .         .         .
.64 3400.  C        .         .         .       I WE        L        .         .         .         .         .
    3450.  C        .         .         .        I.E       .L        .         .         .         .         .
    3500.  C        .         .         .        I. E      .LR       .         .         .         .         .
    3550.  C        .         .         .         I WE     . L       .         .         .         .         .
    3600.  C        .         .         .         I  E     . LR      .         .         .         .         .
    3650.  C        .         .         .         .I  E    .  LR     .         .         .         .         .
    3700.  C        .         .         .         . I E    .   LR    .         .         .         .         .
    3750.  C        .         .         .         . I  E   .   L R   .         .         .         .         .
    3800.  C        .         .         .         .  I E   .    LR   .         .         .         .         .
    3850.  C        .         .         .         .   I E      L R
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      .73  3900.  C      .      .      .      .  I  E  .    L R .      .      .      .      .
           3950.  C      .      .      .      .  I  E  .    L R .      .      .      .      .
           4000.  C      .      .      .      .   I E  .     L R.      .      .      .      .
           4050.  C      .      .      .      .   I  E.     L R.      .      .      .      .
           4100.  C      .      .      .      .    I E.      L R      .      .      .      .
           4150.  C      .      .      .      .    I WE.     L R      .      .      .      .
           4200.  C      .      .      .      .     I E.      L.R     .      .      .      .
           4250.  C      .      .      .      .     I E.      L.R     .      .      .      .
      .81  4300.  C      .      .      .      .      I E      L R     .      .      .      .
           4350.  C      .      .      .      .      IWE      .LR     .      .      .      .
           4400.  C      .      .      .      .      I.E      .L R    .      .      .      .
           4450.  C      .      .      .      .      IWE      . LR    .      .      .      .
           4500.  C      .      .      .      .      I E      .  LR   .      .      .      .
           4550.  C      .      .      .      .      .I E     .  LR   .      .      .      .
           4600.  C      .      .      .      .      .I E     .   LR  .      .      .      .
           4650.  C      .      .      .      .      . I E    .   LR  .      .      .      .
           4700.  C      .      .      .      .      . I E    .    L  .      .      .      .
           4750.  C      .      .      .      .      .  I E   .    L  .      .      .      .
      .90  4800.  C      .      .      .      .      .  I E   .    L  .      .      .      .
1
 05/09/88    09:15:44                                                                    PAGE    7
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THIS RUN EXECUTED 05/09/88 09:16:15

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - ENCROACHED
T3      CIRCLE CITY - WASH 7

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        3.        0.        0.   .000000      .00       .0        0.   1846.110     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
 05/09/88    09:15:44                                                                    PAGE    8

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*PROF 2

CCHV=    .100 CEHV=    .300
*SECNO  .000
 2800 NAT Q1=     19.54  WSEL=   1846.11  ENC Q1=     33.01  WSEL=   1847.11  RATIO=  -.6895
 NAT Q1=     94.  RATIOS LOB,CH,ROB=   .0249   .3511   .6240  WSEL=   1847.11
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    4985.0    5035.0  TYPE=     4  TARGET=        .649
```

100-YEAR , 50-YEAR AND 10-YEAR HEC-1 MODELS.
SUBWATERSHED C15. THE STORAGE ROUTING COMPUTATION INDICATED
THAT 215 CFS IS CONVEYED THROUGH THE RAILROAD AND
GRAND AVENUE CULVERTS.

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      .00     1.32  1846.32  1846.32  1846.11  1846.75     .42     .00     .00  1846.00
     215.       0.     215.       0.       0.      41.       0.       0.       0.  1846.00
      .00      .00     5.23      .00     .080     .050     .080     .000  1845.00  4985.00
  .040875       0.       0.       0.        0       10        0      .00    50.00  5035.00
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1846.32

 STA=    4985.    5035.
   PER Q=    100.0
    AREA=     41.1
     VEL=      5.2

 *SECNO  .108

 3470 ENCROACHMENT STATIONS=    4970.0    5035.0  TYPE=     1  TARGET=      65.000
      .11     2.71  1852.71      .00  1852.27  1852.83     .12     6.05     .03  1852.00
     215.       0.     197.      18.       0.      68.      18.       1.       1.  1852.00
      .06      .00     2.89     1.00     .080     .050     .080     .000  1850.00  4970.00
  .004777     570.     570.     570.        8        0        0      .00    65.00  5035.00
0
 FLOW DISTRIBUTION FOR SECNO=       .11          CWSEL=   1852.71

 STA=    4970.    5010.    5030.    5035.
   PER Q=     91.8      6.7      1.5
    AREA=     68.3     14.2      3.5
     VEL=      2.9      1.0       .9
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST

 *SECNO  .214

 3470 ENCROACHMENT STATIONS=    4975.0    5030.0  TYPE=     1  TARGET=      55.000
      .21     1.51  1857.51      .00  1857.68  1857.74     .23     4.88     .03100000.00
     215.       0.     136.      79.       0.      32.      26.       2.       2.  1856.00
      .10      .00     4.23     3.05     .080     .050     .080     .000  1856.00  4977.34
  .020685     560.     560.     560.        6        0        0      .00    52.66  5030.00
0
 FLOW DISTRIBUTION FOR SECNO=       .21          CWSEL=   1857.51

 STA=    4977.    5010.    5030.
   PER Q=     63.4     36.6
    AREA=     32.2     25.8
     VEL=      4.2      3.1

 *SECNO  .328

 3470 ENCROACHMENT STATIONS=    4980.0    5025.0  TYPE=     1  TARGET=      45.000
      .33     1.81  1865.31      .00  1864.69  1865.47     .16     7.72     .01  1864.00
     215.       0.     115.     100.       0.      31.      41.       3.       2.  1863.50
      .15      .00     3.70     2.41     .080     .050     .080     .000  1863.50  4980.00
  .009301     680.     600.     550.        3        0        0      .00    45.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=       .33          CWSEL=   1865.31
```

```
 STA=    4980.    5000.    5025.
   PER Q=     53.6     46.4
    AREA=     31.2     41.4
     VEL=      3.7      2.4

 *SECNO  .442
  2800 NAT Q1=     25.67  WSEL=   1870.86  ENC Q1=     67.00  WSEL=   1871.86  RATIO= -1.6410
  NAT Q1=     68.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1871.86

 3470 ENCROACHMENT STATIONS=    4840.0    5155.0  TYPE=     4  TARGET=        .000
       .44     1.79  1870.79     .00  1870.86  1870.84     .05     5.36     .01  1880.00
      215.       0.     215.       0.       0.     116.       0.       4.      3.   1880.00
       .24     .00     1.85     .00     .080     .080     .080     .000  1869.00  4955.21
   .008472     590.     600.     620.       4        0        0      .00   103.02  5058.23
0
1
 05/09/88    09:15:44                                                                          PAGE   10


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1870.79

 STA=    4955.    5155.
   PER Q=    100.0
    AREA=    116.2
     VEL=      1.9

 1490 NH CARD USED
 *SECNO  .498
  2800 NAT Q1=     15.87  WSEL=   1873.98  ENC Q1=     78.01  WSEL=   1874.98  RATIO= -3.9647
  NAT Q1=     79.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1874.98
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3710 WSEL ASSUMED BASED ON MIN DIFF

 3470 ENCROACHMENT STATIONS=    4960.0    5125.0  TYPE=     4  TARGET=        .000
       .50     2.00  1874.00  1873.14  1873.98  1874.05     .05     3.55    -1.65  1878.00
      215.       0.     215.       0.       0.     115.       0.       5.      4.   1882.00
       .29     .00     1.87     .00     .080     .116     .080     .000  1872.00  4980.01
   .017713     300.     300.     300.      30       14        0      .00    99.93  5079.94
0
 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1874.00

 STA=    4980.    5125.
   PER Q=    100.0
    AREA=    114.8
     VEL=      1.9

 1490 NH CARD USED
 *SECNO  .579
  2800 NAT Q1=     32.59  WSEL=   1878.01  ENC Q1=     92.10  WSEL=   1879.01  RATIO= -1.8262
  NAT Q1=     92.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1879.01
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3710 WSEL ASSUMED BASED ON MIN DIFF

 3470 ENCROACHMENT STATIONS=    4920.0    5185.0  TYPE=     4  TARGET=        .000
       .58     2.01  1878.01  1877.10  1878.01  1878.04     .04     3.38    16.46  1886.00
      215.       0.     215.       0.       0.     141.       0.       6.      5.   1886.00
       .36     .00     1.53     .00     .080     .068     .080     .000  1876.00  4979.95
   .004412     430.     430.     430.      20       11        0      .00   130.12  5110.07
0
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .58          CWSEL=   1878.01

 STA=    4990.    5185.
   PER Q=    100.0
    AREA=    140.9
     VEL=      1.5

 1490 NH CARD USED
 *SECNO  .638
  2800 NAT Q1=     14.25  WSEL=   1880.49  ENC Q1=     45.34  WSEL=   1881.49  RATIO= -2.1027
  NAT Q1=     45.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1881.49

 3470 ENCROACHMENT STATIONS=    4890.0    5170.0  TYPE=     4  TARGET=        .000
      .64     2.50  1880.50  1880.35  1880.49  1880.72      .23     2.62      .06  1890.00
     215.       0.     215.       0.       0.      56.       0.       7.       6.   1890.00
      .39      .00     3.82      .00     .000     .047     .000     .000  1878.00  4937.52
   .022385     310.     310.     260.       14       11        0      .00    76.81  5014.33
0
 FLOW DISTRIBUTION FOR SECNO=       .64          CWSEL=   1880.50

 STA=    4938.    5170.
   PER Q=    100.0
    AREA=     56.3
     VEL=      3.8

 1490 NH CARD USED
 *SECNO  .732
  2800 NAT Q1=     25.15  WSEL=   1886.53  ENC Q1=     63.06  WSEL=   1887.53  RATIO= -1.5079
  NAT Q1=     63.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1887.53

 3470 ENCROACHMENT STATIONS=    4790.0    5130.0  TYPE=     4  TARGET=        .000
      .73     2.53  1886.53      .00  1886.53  1886.68      .15     5.95      .01  1896.00
     215.       0.     215.       0.       0.      69.       0.       7.       7.   1898.00
      .43      .00     3.13      .00     .000     .044     .000     .000  1884.00  4942.89
   .007361     500.     500.     500.        5        0        0      .00    59.63  5002.53
0
 FLOW DISTRIBUTION FOR SECNO=       .73          CWSEL=   1886.53

 STA=    4943.    5130.
   PER Q=    100.0
    AREA=     68.7
     VEL=      3.1

1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO  .813
  2800 NAT Q1=     24.20  WSEL=   1889.87  ENC Q1=     53.13  WSEL=   1890.87  RATIO= -1.1949
  NAT Q1=     53.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1890.87
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3470 ENCROACHMENT STATIONS=    4920.0    5180.0  TYPE=     4  TARGET=        .000
      .81      1.87  1889.87  1889.08  1889.87  1889.96      .08      3.27      .01  1900.00
     215.        0.     215.       0.       0.      93.       0.        8.       7.   1902.00
      .48       .00     2.32      .00     .080     .066     .000     .000  1888.00  4971.28
   .007866     350.     430.     420.        9       18        0      .00    74.15  5045.43

FLOW DISTRIBUTION FOR SECNO=       .81          CWSEL=   1889.87

STA=    4971.    5180.
  PER Q=    100.0
   AREA=     92.8
    VEL=      2.3

1490 NH CARD USED
*SECNO  .904
 2800 NAT Q1=     16.97  WSEL=   1894.96  ENC Q1=     42.02  WSEL=   1895.96  RATIO= -1.4766
 NAT Q1=     42.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1895.96

3470 ENCROACHMENT STATIONS=    4910.0    5080.0  TYPE=     4  TARGET=        .000
      .90      1.96  1894.96      .00  1894.96  1895.25      .30      5.23      .06  1906.00
     215.        0.     215.       0.       0.      49.       0.        9.       8.   1906.00
      .51       .00     4.39      .00     .080     .048     .080     .000  1893.00  4979.04
   .016111     500.     480.     400.        4        0        0      .00    41.13  5020.17
0
FLOW DISTRIBUTION FOR SECNO=       .90          CWSEL=   1894.96

STA=    4979.    5080.
  PER Q=    100.0
   AREA=     48.9
    VEL=      4.4
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THIS RUN EXECUTED 05/09/88 09:16:34

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
**************************************************

T1      WITTMANN ADMS
T2      50-YEAR STORM EVENT
T3      CIRCLE CITY - WASH 7

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVING    Q        WSEL     FQ

      0.       4.       0.       0.   .012100      .00       .5       0.  1845.000     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLOC    IBW      CHNIM    ITRACE

    3.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
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    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 3

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR , 50-YEAR AND 10-YEAR HEC-1 MODELS.
                SUBWATERSHED C15.  THE STORAGE ROUTING COMPUTATION INDICATED
                THAT 215 CFS IS CONVEYED THROUGH THE RAILROAD AND
                GRAND AVENUE CULVERTS.
      .00     1.07  1846.07      .00  1845.00  1846.12      .05      .00      .00  1846.00
     192.       0.     64.     128.       0.     29.      81.       0.       0.  1846.00
      .00      .02     2.25     1.59    .080    .050    .080    .000  1845.00  4982.87
   .012069      0.      0.       0.       0       0       5     .00   183.74  5166.60
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1846.07

 STA=    4983.    4985.    5035.    5075.    5140.    5165.    5167.
   PER Q=       .0     33.4      6.4     49.7     10.4       .0
    AREA=       .1     28.6     12.8     53.4     14.3       .1
     VEL=       .0      2.2      1.0      1.8      1.4       .0

 *SECNO  .100
      .11     2.22  1852.22      .00      .00  1852.37      .15     6.22      .03  1852.00
     192.      12.     164.      16.      18.      49.      24.       1.       3.  1852.00
      .05      .67     3.36      .67    .080    .050    .080    .000  1850.00  4887.90
   .009909    570.     570.     570.       5       0       0     .00   231.61  5119.41
0
 FLOW DISTRIBUTION FOR SECNO=       .11          CWSEL=   1852.22

 STA=    4888.    4890.    4970.    5010.    5030.    5100.    5115.    5119.
   PER Q=       .1      6.2     85.5      1.5      5.4      1.2       .1
    AREA=       .2     17.6     48.8      4.4     15.4      3.3       .5
     VEL=       .4       .7      3.4       .7       .7       .7       .4

 *SECNO  .214
      .21     1.61  1857.61      .00      .00  1857.70      .09     5.32      .01  1858.00
     192.       0.     103.      89.       0.      35.      58.       2.       5.  1856.00
      .12      .00     2.91     1.53    .080    .050    .080    .000  1856.00  4975.90
   .009118    560.     560.     560.       4       0       0     .00   106.39  5082.30
0
1
 05/09/98    09:15:44                                                                    PAGE   15


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .21          CWSEL=   1857.61

 STA=    4976.    5010.    5082.
   PER Q=      53.6     46.4
    AREA=      35.4     58.1
     VEL=       2.9      1.5

 *SECNO  .329
      .33     1.13  1864.63      .00      .00  1864.73      .10     7.03      .00  1864.00
     192.      51.      61.      80.      31.      18.      38.       4.       6.  1863.50
      .19     1.62     3.49     2.09    .080    .050    .080    .000  1863.50  4921.08
   .016310    600.     600.     550.       5       0       0     .00   128.38  5049.46
```

```
 FLOW DISTRIBUTION FOR SECNO=       .33          CWSEL=   1864.63

 STA=    4921.    4940.    4980.    5000.    5040.    5049.
   PER Q=      3.4     22.9     32.0     40.0      1.7
    AREA=      6.0     25.2     17.6     35.2      3.0
     VEL=      1.1      1.7      3.5      2.2      1.1

 *SECNO  .442
       .44     1.78  1870.78      .00      .00  1870.82      .04     6.08      .01  1880.00
      192.       0.     192.       0.       0.     115.       0.       5.       8.   1880.00
       .29      .00     1.66      .00     .080     .080     .080     .000  1869.00  4955.29
   .006881     580.     600.     620.        4        0        0      .00   102.86  5058.15
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1870.78

 STA=    4955.    5155.
   PER Q=    100.0
    AREA=    115.4
     VEL=      1.7

 1490 NH CARD USED
 *SECNO  .498
       .50     1.88  1873.88      .00      .00  1873.93      .05     3.11      .00  1878.00
      192.       0.     192.       0.       0.     104.       0.       6.       9.   1882.00
       .34      .00     1.85      .00     .080     .112     .080     .000  1872.00  4980.57
   .017394     300.     300.     300.        2        0        0      .00    95.19  5075.75
0
1
  05/03/08    09:15:44                                                                    PAGE   16


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1873.88

 STA=    4981.    5125.
   PER Q=    100.0
    AREA=    103.9
     VEL=      1.8

 1490 NH CARD USED
 *SECNO  .579
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3710 WSEL ASSUMED BASED ON MIN DIFF
       .58     2.02  1878.02  1877.05      .00  1878.04      .03     2.93    16.54  1886.00
      192.       0.     192.       0.       0.     142.       0.       7.      10.   1886.00
       .42      .00     1.35      .00     .080     .068     .080     .000  1876.00  4979.88
   .003426     430.     430.     430.       20       11        0      .00   130.28  5110.16
0
 FLOW DISTRIBUTION FOR SECNO=       .58          CWSEL=   1878.02

 STA=    4980.    5185.
   PER Q=    100.0
    AREA=    142.2
     VEL=      1.4

 1490 NH CARD USED
 *SECNO  .638

 1645 INT SEC ADDED BY RAISING SEC       .64,  -1.500FT AND MULTIPLYING BY   5.288
```

```
      192.      0.     192.      0.      0.      98.      0.      7.      10.   1888.50
       .43     .00     2.17     .00    .080     .050    .080    .000  1876.50  5423.31
   .006023     78.     78.     65.       2        0       0     .00    96.69  5520.01
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1878.33

STA=    5423.    6371.
  PER Q=    100.0
   AREA=     88.4
    VEL=      2.2

1
 05/09/88    09:15:44                                                                    PAGE   17

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .500FT AND MULTIPLYING BY    .730

      1.02     1.88  1878.88     .00     .00  1879.00      .12      .59      .01  1889.00
      192.      0.     192.      0.      0.      68.      0.       7.      10.   1889.00
       .44     .00     2.81     .00    .080     .050    .080    .000  1877.00  5278.16
   .009745     78.     78.     65.       2        0       0     .00    72.57  5350.72
0
 FLOW DISTRIBUTION FOR SECNO=      1.02          CWSEL=   1878.88

STA=    5278.    5970.
  PER Q=    100.0
   AREA=     68.2
    VEL=      2.8


 1645 INT SEC ADDED BY RAISING SEC      1.02,    .500FT AND MULTIPLYING BY    .630

      1.03     2.16  1879.66     .00     .00  1879.76      .10      .75      .00  1889.50
      192.      0.     192.      0.      0.      77.      0.       9.      10.   1889.50
       .45     .00     2.51     .00    .080     .033    .080    .000  1877.50  5009.50
   .009609     78.     78.     65.       2        0       0     .00   175.46  5184.95
0
 FLOW DISTRIBUTION FOR SECNO=      1.03          CWSEL=   1879.66

STA=    5009.    5570.
  PER Q=    100.0
   AREA=     76.5
    VEL=      2.5


 1645 INT SEC ADDED BY RAISING SEC      1.03,    .500FT AND MULTIPLYING BY    .412

       .64     2.54  1880.54     .00     .00  1880.70      .16      .93      .02  1890.00
      192.      0.     192.      0.      0.      60.      0.       8.      11.   1890.00
       .46     .00     3.19     .00    .080     .048    .080    .000  1878.00  4937.28
   .015340     78.     78.     65.       3        0       0     .00    77.48  5014.76
0
 FLOW DISTRIBUTION FOR SECNO=       .64          CWSEL=   1880.54

STA=    4937.    5170.
  PER Q=    100.0
   AREA=     60.1
    VEL=      3.2
```

```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 1490 NH CARD USED
 *SECNO  .732
      .73     2.35  1886.35      .00      .00  1886.52      .17     5.91      .00  1896.00
     192.       0.     192.       0.       0.      58.       0.       8.      11.   1898.00
      .50      .00     3.29      .00     .080     .045     .080     .000  1884.00  4948.86
   .009111     500.     500.     500.        4        0        0      .00    53.48  5002.34
0
 FLOW DISTRIBUTION FOR SECNO=       .73          CWSEL=   1886.35

 STA=    4949.    5130.
   PER Q=    100.0
    AREA=     58.4
     VEL=      3.3

 1490 NH CARD USED
 *SECNO  .813
      .81     1.83  1889.93      .00      .00  1889.90      .07     3.39      .01  1900.00
     192.       0.     192.       0.       0.      30.       0.       9.      12.   1902.00
      .55      .00     2.14      .00     .080     .066     .080     .000  1888.00  4971.72
   .006833     350.     430.     420.        4        0        0      .00    72.99  5044.71
0
 FLOW DISTRIBUTION FOR SECNO=       .81          CWSEL=   1889.93

 STA=    4972.    5180.
   PER Q=    100.0
    AREA=     89.6
     VEL=      2.1

 1490 NH CARD USED
 *SECNO  .904
      .90     1.79  1894.79      .00      .00  1895.11      .32     5.13      .07  1906.00
     192.       0.     192.       0.       0.      43.       0.      10.      13.   1906.00
      .58      .00     4.51      .00     .080     .048     .080     .000  1893.00  4980.03
   .019056     500.     480.     400.        2        0        0      .00    39.28  5013.31
0
 FLOW DISTRIBUTION FOR SECNO=       .90          CWSEL=   1894.79

 STA=    4980.    5080.
   PER Q=    100.0
    AREA=     42.6
     VEL=      4.5
```


THIS RUN EXECUTED 05/09/88 09:16:50

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*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
 ERROR CORR - 01,02,03,04,05,06
 MODIFICATION - 50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
*************************************************
```

```
T1      WITTMANN ADMS
T2      10-YEAR STORM EVENT
T3      CIRCLE CITY - WASH 7

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       5.       0.       0.   .012100      .00       .5       0.  1843.000     .000

MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC    IBW      CHNIM    ITRACE

    15.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
 05/09/88    09:15:44                                                                          PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 4

 CCHV=    .100 CEHV=    .300
 *SECNO  .000

 3265 DIVIDED FLOW

                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE BASED ON THE
                100-YEAR , 50-YEAR AND 10-YEAR HEC-1 MODELS.
                SUBWATERSHED C15.  THE STORAGE ROUTING COMPUTATION INDICATED
                THAT 215 CFS IS CONVEYED THROUGH THE RAILROAD AND
                GRAND AVENUE CULVERTS.
      .00      .87  1845.87      .00  1843.00  1845.90      .04      .00      .00  1846.00
     109.       0.      35.      74.       0.      13.      55.       0.       0.  1846.00
      .00      .00     1.86     1.34     .080     .050     .080     .000  1845.00  4986.97
  .011959       0.       0.       0.       0        0        5      .00   159.64  5161.72
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1845.87

 STA=    4987.    5035.    5075.    5140.    5162.
   PER Q=     32.2      3.3     54.4     10.1
   AREA=      18.3      5.4     40.2      3.4
    VEL=       1.9       .7      1.5      1.2

 *SECNO  .108
      .11     1.94  1851.94      .00      .00  1852.07      .13     6.13      .03  1852.00
     109.       0.     109.       0.       0.      38.       0.       1.       1.  1852.00
      .06      .00     2.87      .00     .080     .050     .080     .000  1850.00  4970.77
  .003738     570.     570.     570.        3        0        0      .00    38.98  5009.74
0
 FLOW DISTRIBUTION FOR SECNO=       .11          CWSEL=   1851.94

 STA=    4971.    5010.
   PER Q=    100.0
   AREA=      38.0
    VEL=       2.9

 *SECNO  .214
      .21     1.26  1857.26      .00      .00  1857.33      .07     5.26      .01  1858.00
     109.       0.      62.      47.       0.      25.      36.       1.       2.  1856.00
      .13      .00     2.53     1.30     .080     .050     .080     .000  1856.00  4981.06
```

0
1


```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        OLOB     OCH      OROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .21          CWSEL=   1857.26

 STA=    4981.    5010.    5067.
   PER Q=     57.2     42.8
    AREA=     24.6     35.9
     VEL=      2.5      1.3

 *SECNO  .328
      .33      .90  1864.40      .00      .00  1864.47      .07     7.14      .00  1854.00
     109.      23.      38.      48.      18.      13.      27.       2.       3.   1863.50
      .21     1.25     2.92     1.78     .080     .050     .080     .000  1863.50  4928.07
  .017205     680.     600.     550.        5        0        0      .00   117.90  5045.97
0
 FLOW DISTRIBUTION FOR SECNO=       .33          CWSEL=   1864.40

 STA=    4928.    4940.    4980.    5000.    5040.    5046.
   PER Q=      1.9     19.2     34.7     43.4      .9
    AREA=      2.4     15.9     13.0     25.9     1.2
     VEL=       .9      1.3      2.9      1.8      .9

 *SECNO  .442
      .44     1.43  1870.43      .00      .00  1870.46      .03     5.98      .00  1880.00
     109.       0.     109.       0.       0.      81.       0.       3.       5.   1880.00
      .34      .00     1.34      .00     .080     .080     .080     .000  1869.00  4959.64
  .006461     580.     600.     620.        4        0        0      .00    34.87  5054.51
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1870.43

 STA=    4960.    5155.
   PER Q=    100.0
    AREA=     81.1
     VEL=      1.3

 1490 NH CARD USED
 *SECNO  .498
      .50     1.38  1873.38      .00      .00  1873.43      .05     2.96      .01  1878.00
     109.       0.     109.       0.       0.      61.       0.       4.       6.   1882.00
      .38      .00     1.77      .00     .080     .096     .080     .000  1872.00  4983.08
  .016365     300.     300.     300.        2        0        0      .00    73.80  5056.88
0
1
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        OLOB     OCH      OROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1873.38

 STA=    4983.    5125.
   PER Q=    100.0
```

```
    VEL=      1.8

 1490 NH CARD USED
 *SECNO  .579
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3710 WSEL ASSUMED BASED ON MIN DIFF
      .58     1.99  1877.99  1876.81      .00  1878.00      .01     5.17    13.02  1886.00
     109.       0.     109.       0.       0.     139.       0.       5.       7.   1886.00
      .54      .00      .78      .00     .080     .188     .080     .000  1876.00  4980.04
   .008954     430.     430.     430.       20       14        0      .00   129.52  5109.56
0
 FLOW DISTRIBUTION FOR SECNO=       .58          CWSEL=   1877.99

 STA=    4980.    5185.
   PER Q=    100.0
    AREA=    139.0
     VEL=       .8

 1490 NH CARD USED
 *SECNO  .638
      .64     2.43  1880.43      .00      .00  1880.50      .07     2.48      .02  1890.00
     109.       0.     109.       0.       0.      51.       0.       5.       7.   1890.00
      .58      .00     2.13      .00     .080     .045     .080     .000  1878.00  4937.87
   .007172     310.     310.     260.        5        0        0      .00    75.87  5013.73
0
 FLOW DISTRIBUTION FOR SECNO=       .64          CWSEL=   1880.43

 STA=    4938.    5170.
   PER Q=    100.0
    AREA=     51.1
     VEL=      2.1

 1490 NH CARD USED
 *SECNO  .732
      .73     1.72  1885.72      .00      .00  1885.91      .19     5.38      .04  1896.00
     109.       0.     109.       0.       0.      31.       0.       6.       8.   1898.00
      .62      .00     3.54      .00     .080     .050     .080     .000  1884.00  4965.73
   .017872     500.     500.     500.        4        0        0      .00    35.99  5001.71
0
1
  05/09/88    09:15:44                                                                    PAGE   23


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .73          CWSEL=   1885.72

 STA=    4966.    5130.
   PER Q=    100.0
    AREA=     30.9
     VEL=      3.5

 1490 NH CARD USED
 *SECNO  .813
      .81     1.47  1889.47      .00      .00  1889.51      .04     3.59      .02  1900.00
     109.       0.     109.       0.       0.      65.       0.       6.       8.   1902.00
      .69      .00     1.68      .00     .080     .062     .080     .000  1888.00  4975.32
   .004811     350.     430.     420.        5        0        0      .00    63.54  5038.86
0
 FLOW DISTRIBUTION FOR SECNO=       .81          CWSEL=   1889.47

 STA=    4975.    5140.
```

```
  PER Q=    100.0
   AREA=     65.0
    VEL=      1.7

 1490 NH CARD USED
 *SECNO  .904
      .90     1.26  1894.26  1894.25     .00  1894.60     .34     5.00     .09  1906.00
     109.       0.     109.       0.      0.      23.      0.       7.      9.   1906.00
      .71      .00     4.70      .00    .080     .048    .080     .000  1893.00  4983.37
  .037224     500.     480.     400.       6       15       0      .00    33.04  5016.41
0
 FLOW DISTRIBUTION FOR SECNO=       .90          CWSEL=   1894.26

 STA=    4983.    5080.
   PER Q=    100.0
    AREA=     23.2
     VEL=      4.7

1
  05/09/88    09:15:44                                                                    PAGE   24


                                                                    THIS RUN EXECUTED 05/09/88   09:17:05
 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ***************************************************

 NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST


 CIRCLE CITY - WASH 7

 SUMMARY PRINTOUT


      SECNO      Q       CWSEL     SSTA      STCHL     STCHR     ENDST     DIFWSX    TOPWID    DEPTH     ELMIN     10K*S     VCH

       .000    215.00   1846.11   4981.55   4985.00   5035.00   5167.58     .00     186.03    1.11    1845.00    121.09    2.36
 *     .000    215.00   1846.32   4985.00   4985.00   5035.00   5035.00     .00      50.00    1.32    1845.00    408.75    5.23
       .000    192.00   1846.07   4982.87   4985.00   5035.00   5166.60     .00     183.74    1.07    1845.00    120.69    2.25
       .000    109.00   1845.87   4986.97   4985.00   5035.00   5161.72     .00     159.64     .87    1845.00    119.59    1.86

       .108    215.00   1852.27   4887.29   4970.00   5010.00   5120.43    6.15     233.14    2.27    1850.00     98.07    3.45
       .108    215.00   1852.71   4970.00   4970.00   5010.00   5035.00    6.38      65.00    2.71    1850.00     47.77    2.09
       .108    192.00   1852.22   4887.80   4970.00   5010.00   5119.41    6.15     231.61    2.22    1850.00     99.09    3.36
       .108    109.00   1851.94   4970.77   4970.00   5010.00   5009.74    6.07      38.98    1.94    1850.00     97.38    2.87

       .214    215.00   1857.68   4974.79   4970.00   5010.00   5085.64    5.41     110.85    1.68    1856.00     92.26    3.00
       .214    215.00   1857.51   4977.34   4970.00   5010.00   5030.00    4.98      52.66    1.51    1856.00    206.85    4.23
       .214    192.00   1857.61   4975.90   4970.00   5010.00   5082.30    5.39     106.39    1.61    1856.00     91.18    2.91
       .214    109.00   1857.26   4981.06   4970.00   5010.00   5066.03    5.32      85.77    1.26    1856.00     90.57    2.53

       .328    215.00   1864.69   4919.33   4980.00   5000.00   5050.34    7.01     131.01    1.19    1863.50    159.73    3.60
       .328    215.00   1865.31   4980.00   4980.00   5000.00   5025.00    7.00      45.00    1.81    1863.50     93.01    3.70
       .328    192.00   1864.63   4921.08   4980.00   5000.00   5049.46    7.02     128.38    1.13    1863.50    163.10    3.49
       .328    109.00   1864.40   4928.07   4980.00   5000.00   5045.97    7.13     117.90     .90    1863.50    172.05    2.92

       .442    215.00   1870.86   4954.30   4840.00   5155.00   5058.99    6.17     104.70    1.86    1869.00     70.14    1.74
       .442    215.00   1870.79   4955.21   4840.00   5155.00   5058.23    5.43     103.02    1.79    1869.00     84.72    1.85
       .442    192.00   1870.70   4955.28   4840.00   5155.00   5058.45    6.15     102.06    1.70    1869.00     58.01    1.66
```

	.442	109.00	1870.43	4959.64	4840.00	5155.00	5054.51	6.03	94.87	1.43	1869.00	64.61	1.34
*	.498	215.00	1873.98	4980.10	4960.00	5125.00	5079.22	3.12	99.12	1.98	1872.00	183.43	1.90
*	.498	215.00	1874.00	4980.01	4960.00	5125.00	5079.34	3.21	99.93	2.00	1872.00	177.13	1.87
	.498	192.00	1873.88	4980.57	4960.00	5125.00	5075.75	3.10	95.19	1.88	1872.00	173.94	1.85
	.498	109.00	1873.38	4983.08	4960.00	5125.00	5056.98	2.95	73.90	1.38	1872.00	169.65	1.77
*	.579	215.00	1878.01	4979.91	4920.00	5185.00	5110.11	4.03	130.20	2.01	1876.00	43.53	1.52
*	.579	215.00	1878.01	4979.95	4920.00	5185.00	5110.07	4.01	130.12	2.01	1876.00	44.12	1.53
*	.579	192.00	1878.02	4979.88	4920.00	5185.00	5110.16	4.14	130.28	2.02	1876.00	34.26	1.35
*	.579	109.00	1877.99	4980.04	4920.00	5185.00	5109.56	4.61	129.52	1.99	1876.00	89.54	.78

1

05/09/88 09:15:44 PAGE 25

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.638	215.00	1880.49	4937.55	4890.00	5170.00	5014.28	2.48	76.73	2.49	1878.00	227.76	3.84
	.638	215.00	1880.50	4937.52	4890.00	5170.00	5014.33	2.49	76.81	2.50	1878.00	223.65	3.82
*	.638	192.00	1880.54	4937.28	4890.00	5170.00	5014.76	.89	77.48	2.54	1878.00	153.40	3.19
	.638	109.00	1880.43	4937.87	4890.00	5170.00	5013.73	2.43	75.87	2.43	1878.00	71.72	2.13
	.732	215.00	1886.53	4942.79	4790.00	5130.00	5002.53	6.04	59.74	2.53	1884.00	73.10	3.12
	.732	215.00	1886.53	4942.89	4790.00	5130.00	5002.53	6.03	59.63	2.53	1884.00	73.61	3.13
	.732	192.00	1886.35	4948.86	4790.00	5130.00	5002.34	5.81	53.48	2.35	1884.00	91.11	3.29
	.732	109.00	1885.72	4965.73	4790.00	5130.00	5001.71	5.29	35.99	1.72	1884.00	178.72	3.54
	.813	215.00	1889.87	4971.29	4920.00	5180.00	5045.40	3.34	74.11	1.87	1888.00	78.90	2.32
	.813	215.00	1889.87	4971.28	4920.00	5180.00	5045.43	3.35	74.15	1.87	1888.00	78.66	2.32
	.813	192.00	1889.83	4971.72	4920.00	5180.00	5044.71	3.48	72.99	1.83	1888.00	68.33	2.14
	.813	109.00	1889.47	4975.32	4920.00	5180.00	5038.86	3.75	63.54	1.47	1888.00	48.11	1.68
	.904	215.00	1894.96	4979.03	4910.00	5080.00	5020.18	5.09	41.15	1.96	1893.00	150.61	4.39
	.904	215.00	1894.96	4979.04	4910.00	5080.00	5020.17	5.08	41.13	1.96	1893.00	151.11	4.39
	.904	192.00	1894.79	4980.03	4910.00	5080.00	5019.31	4.96	39.28	1.79	1893.00	190.56	4.51
	.904	109.00	1894.26	4983.37	4910.00	5080.00	5016.41	4.79	33.04	1.26	1893.00	372.24	4.70

1

05/09/88 09:15:44 PAGE 26

CIRCLE CITY - WASH 7

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.000	1846.11	-1.89	1846.17	186.03	.06	72.65	142.29	.00	.00	4985.00	5035.00	.00
*	.000	1846.32	.21	1846.75	50.00	.00	215.00	.00	.65	4985.00	4985.00	5035.00	5035.00
	.000	1846.07	1.07	1846.12	183.74	.00	64.15	127.85	.00	.00	4985.00	5035.00	.00
	.000	1845.87	2.87	1845.90	159.64	.00	35.14	73.86	.00	.00	4985.00	5035.00	.00
	.108	1852.27	.00	1852.42	233.14	16.98	175.60	22.42	.00	.00	4970.00	5010.00	.00
	.108	1852.71	.44	1852.83	65.00	.00	197.27	17.73	65.00	4970.00	4970.00	5010.00	5035.00
	.108	1852.22	.00	1852.37	231.61	11.99	164.20	15.81	.00	.00	4970.00	5010.00	.00
	.108	1851.94	.00	1852.07	38.98	.00	109.00	.00	.00	.00	4970.00	5010.00	.00
	.214	1857.68	.00	1857.77	110.85	.00	114.00	100.99	.00	.00	4970.00	5010.00	.00
	.214	1857.51	-.17	1857.74	52.66	.00	136.31	78.69	55.00	4975.00	4970.00	5010.00	5030.00
	.214	1857.61	.00	1857.70	106.39	.00	103.01	88.99	.00	.00	4970.00	5010.00	.00
	.214	1857.26	.00	1857.33	85.77	.00	62.32	46.63	.00	.00	4970.00	5010.00	.00
	.328	1864.69	.00	1864.79	131.01	58.70	67.64	88.66	.00	.00	4980.00	5000.00	.00
	.328	1865.31	.62	1865.47	65.00	.00	115.73	99.67	65.00	4980.00	4980.00	5000.00	5035.00

	.328	1864.63	.00	1864.73	128.33	50.56	61.40	80.04	.00	.00	4980.00	5000.00	.00
	.328	1864.40	.00	1864.47	117.90	22.94	37.81	48.25	.00	.00	4980.00	5000.00	.00
	.442	1870.86	.00	1870.90	104.70	.00	215.00	.00	.00	.00	4840.00	5155.00	.00
	.442	1870.79	-.07	1870.84	103.02	.00	215.00	.00	.00	4840.00	4840.00	5155.00	5155.00
	.442	1870.78	.00	1870.82	102.85	.00	192.00	.00	.00	.00	4840.00	5155.00	.00
	.442	1870.43	.00	1870.46	94.87	.00	109.00	.00	.00	.00	4840.00	5155.00	.00
*	.498	1873.98	.00	1874.04	99.12	.00	215.00	.00	.00	.00	4960.00	5125.00	.00
*	.499	1874.00	.02	1874.05	99.93	.00	215.00	.00	.00	4960.00	4960.00	5125.00	5125.00
	.498	1873.88	.00	1873.93	95.19	.00	192.00	.00	.00	.00	4960.00	5125.00	.00
	.498	1873.38	.00	1873.43	73.90	.00	109.00	.00	.00	.00	4960.00	5125.00	.00
*	.579	1878.01	.00	1878.05	130.20	.00	215.00	.00	.00	.00	4920.00	5185.00	.00
*	.579	1878.01	.00	1878.04	130.12	.00	215.00	.00	.00	4920.00	4920.00	5185.00	5185.00
*	.579	1878.02	.00	1878.04	130.28	.00	192.00	.00	.00	.00	4920.00	5185.00	.00
*	.579	1877.99	.00	1878.00	129.52	.00	109.00	.00	.00	.00	4920.00	5185.00	.00
	.638	1880.49	.00	1880.72	76.73	.00	215.00	.00	.00	.00	4890.00	5170.00	.00
	.638	1880.50	.01	1880.72	76.91	.00	215.00	.00	.00	4890.00	4890.00	5170.00	5170.00
*	.638	1880.54	.00	1880.70	77.48	.00	192.00	.00	.00	.00	4890.00	5170.00	.00
	.638	1880.43	.00	1880.50	75.87	.00	109.00	.00	.00	.00	4890.00	5170.00	.00
	.732	1886.53	.00	1886.68	59.74	.00	215.00	.00	.00	.00	4790.00	5130.00	.00
	.732	1886.53	-.01	1886.68	59.63	.00	215.00	.00	.00	4790.00	4790.00	5130.00	5130.00
	.732	1886.35	.00	1886.52	53.48	.00	192.00	.00	.00	.00	4790.00	5130.00	.00
	.732	1885.72	.00	1885.91	35.99	.00	109.00	.00	.00	.00	4790.00	5130.00	.00

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SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
.813	1889.87	.00	1889.96	74.11	.00	215.00	.00	.00	.00	4920.00	5180.00	.00
.813	1889.87	.00	1889.96	74.15	.00	215.00	.00	.00	4920.00	4920.00	5180.00	5180.00
.813	1889.83	.00	1889.90	72.99	.00	192.00	.00	.00	.00	4920.00	5180.00	.00
.813	1889.47	.00	1889.51	63.54	.00	109.00	.00	.00	.00	4920.00	5180.00	.00
.904	1894.96	.00	1895.26	41.15	.00	215.00	.00	.00	.00	4910.00	5080.00	.00
.904	1894.96	.00	1895.25	41.13	.00	215.00	.00	.00	4910.00	4910.00	5080.00	5080.00
.904	1894.79	.00	1895.11	39.28	.00	192.00	.00	.00	.00	4910.00	5080.00	.00
.904	1894.26	.00	1894.60	33.04	.00	109.00	.00	.00	.00	4910.00	5080.00	.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION  SECNO=     .000  PROFILE= 2  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=     .498  PROFILE= 1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION  SECNO=     .498  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .498  PROFILE= 2  WSEL ASSUMED BASED ON MIN DIFF
CAUTION  SECNO=     .498  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=     .579  PROFILE= 1  WSEL ASSUMED BASED ON MIN DIFF
CAUTION  SECNO=     .579  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .579  PROFILE= 2  WSEL ASSUMED BASED ON MIN DIFF
CAUTION  SECNO=     .579  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .579  PROFILE= 3  WSEL ASSUMED BASED ON MIN DIFF
CAUTION  SECNO=     .579  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION SECNO= .579 PROFILE= 4 WSEL ASSUMED BASED ON MIN DIFF
CAUTION SECNO= .579 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= .638 PROFILE= 3 INTERPOLATED XSECTIONS USED

FLOODWAY DATA, CIRCLE CITY - WASH 7
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	50.	41.	5.2	1846.3	1846.1	.2
.108	65.	86.	2.5	1852.7	1852.3	.4
.214	53.	58.	3.7	1857.6	1857.7	-.1
.328	45.	73.	3.0	1865.3	1864.7	.6
.442	103.	116.	1.9	1870.9	1870.9	.0
.498	100.	115.	1.9	1874.0	1874.0	.0
.579	130.	141.	1.5	1878.0	1878.0	.0
.638	77.	56.	3.8	1880.5	1880.5	.0
.732	60.	69.	3.1	1886.5	1886.5	.0
.813	74.	93.	2.3	1889.9	1889.9	.0
.904	41.	49.	4.4	1895.0	1895.0	.0

FLOODWAY DATA, CIRCLE CITY - WASH 7
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	184.	109.	1.8	1846.1	1846.1	.0
.108	232.	90.	2.1	1852.3	1852.3	.0
.214	106.	93.	2.1	1857.7	1857.7	.0
.328	128.	87.	2.2	1864.7	1864.7	.0
.442	103.	115.	1.7	1870.9	1870.9	.0
.498	95.	104.	1.8	1874.0	1874.0	.0
.579	130.	142.	1.4	1878.0	1878.0	.0
.638	77.	60.	3.2	1880.6	1880.5	.1
.732	53.	58.	3.3	1886.4	1886.5	-.1
.813	73.	90.	2.1	1889.9	1889.9	.0
.904	39.	43.	4.5	1894.9	1895.0	-.1

FLOODWAY DATA, CIRCLE CITY - WASH 7
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION	FLOODWAY MEAN	WATER SURFACE ELEVATION WITH	WATER SURFACE ELEVATION WITHOUT	DIFFERENCE

		AREA	VELOCITY	FLOODWAY	FLOODWAY	
.000	175.	74.	1.5	1846.0	1846.1	-.1
.108	39.	38.	2.9	1852.1	1852.3	-.2
.214	86.	60.	1.8	1857.4	1857.7	-.3
.328	118.	58.	1.9	1864.5	1864.7	-.2
.442	95.	81.	1.3	1870.6	1870.9	-.3
.498	74.	61.	1.0	1873.5	1874.0	-.5
.579	130.	139.	.8	1878.0	1878.0	.0
.638	76.	51.	2.1	1880.5	1880.5	.0
.732	36.	31.	3.5	1885.8	1886.5	-.7
.813	64.	65.	1.7	1889.6	1889.9	-.3
.904	33.	23.	4.7	1894.4	1895.0	-.6

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THIS RUN EXECUTED 05/09/88 09:17:14

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
**************************************************
```

INPUT FILE: TRILBYCC

OUTPUT FILE: TRILBYCC.OUT

INPUT FILE: TRILBYSP

OUTPUT FILE: TRILBYSP.OUT

THIS RUN EXECUTED 05/09/88 10:04:21

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - TRILBY WASH  (MULTIPLE PROFILE)

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .007700      .00      .5       0.  1844.000     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     1.000     .000     .000     .000     .000     .000     .000     .000     .000   15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000   43.000    1.000   53.000   21.000   22.000   54.000   51.000    4.000    8.000


    42.000    5.000   26.000     .000  110.000     .000  200.000     .000     .000     .000


NC      .000     .000     .050     .100     .300     .000     .000     .000     .000     .000
QT     4.000 2785.000 2785.000 2280.000 1297.000     .000     .000     .000     .000     .000
ET      .000     .000   10.400     .000     .000     .000     .000     .000     .000     .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE
                BASED ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC1 MODELS.

                NOTE:  THE FLOODWAY, 50-YEAR AND 10-YEAR RUNS ASSUMED TOTAL
                DISCHARGE IN THE MAIN CHANNEL WITH NO SPLIT FLOW.
X1      .000    11.000  4975.000  5050.000     .000     .000     .000     .000     .000     .000
GR   1846.000  4535.000  1844.000  4865.000  1844.000  4920.000  1842.000  4975.000  1840.000  4985.000
GR   1839.000  5000.000  1840.000  5025.000  1842.000  5040.000  1844.000  5050.000  1844.000  5185.000
GR   1846.000  5230.000     .000     .000     .000     .000     .000     .000     .000     .000

X1      .057    11.000  4965.000  5050.000   200.000   360.000   300.000     .000     .000     .000
GR   1848.000  4740.000  1847.000  4820.000  1846.000  4890.000  1844.000  4965.000  1842.000  4985.000
GR   1841.500  5000.000  1842.000  5010.000  1844.000  5050.000  1846.000  5166.000  1846.000  5300.000
GR   1848.000  5335.000     .000     .000     .000     .000     .000     .000     .000     .000

X1      .102    13.000  4950.000  5045.000   200.000   260.000   240.000     .000     .000     .000
GR   1850.500  4780.000  1850.000  4815.000  1849.000  4875.000  1849.000  4950.000  1848.000  4965.000
GR   1846.000  4985.000  1844.000  5000.000  1844.000  5015.000  1846.000  5025.000  1848.000  5045.000
GR   1849.000  5050.000  1850.000  5130.000  1850.500  5165.000     .000     .000     .000     .000
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NC	.000	.000	.000	.300	.500	.000	.000	.000	.000	.000
X1	.163	10.000	4960.000	5035.000	300.000	325.000	320.000	.000	.000	.000
[illegible]	1856.000	4960.000	1854.000	4975.000	1852.000	4985.000	1850.000	4990.000	1848.000	5000.000
GR	1848.000	5015.000	1850.000	5025.000	1852.000	5035.000	1852.500	5205.000	1854.000	5285.000
NC	.030	.030	.030	.000	.000	.000	.000	.000	.000	.000
		BRIDGE OPENING DATA TAKEN FROM FIELD MEASUREMENTS.								
X1	.214	11.000	4900.000	5060.000	270.000	270.000	270.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	1859.000	1859.000	.000
GR	1860.000	4870.000	1858.000	4900.000	1856.000	4905.000	1854.000	4910.000	1852.000	4930.000
GR	1850.500	5000.000	1852.000	5035.000	1854.000	5045.000	1856.000	5050.000	1858.000	5060.000
GR	1860.000	5075.000	.000	.000	.000	.000	.000	.000	.000	.000
SB	1.250	1.600	3.000	.000	140.000	9.000	1128.000	1.250	1851.000	1850.500
X1	.226	9.000	4860.000	5040.000	65.000	65.000	65.000	.000	.000	.000
X2	.000	.000	1.000	1859.000	1860.000	.000	.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	1860.000	1860.000	.000
BT	2.000	4860.000	1860.000	1859.000	5040.000	1860.000	1859.000	.000	.000	.000
GR	1860.000	4860.000	1858.000	4880.000	1854.000	4900.000	1852.000	4950.000	1851.000	5000.000
GR	1851.000	5005.000	1852.000	5010.000	1858.000	5030.000	1860.000	5040.000	.000	.000
X1	.248	9.000	4900.000	5135.000	115.000	115.000	115.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	1860.000	1858.000	.000
GR	1862.000	4890.000	1858.000	4900.000	1854.000	4955.000	1852.500	5000.000	1854.000	5030.000
GR	1856.000	5050.000	1858.000	5105.000	1860.000	5125.000	1862.000	5135.000	.000	.000
SB	1.050	1.600	3.000	.000	230.000	16.000	1284.000	.000	1853.000	1852.500
BT	4.000	2970.000	2970.000	2428.000	1380.000	.000	.000	.000	.000	.000
[illegible]	.000	.000	9.100	.000	.000	.000	.000	.000	4894.000	5056.000
X1	.254	9.000	4880.000	5110.000	30.000	30.000	30.000	.000	.000	.000
X2	.000	.000	1.000	1859.000	1862.000	.000	.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	1860.000	1860.000	.000
BT	2.000	4880.000	1862.000	1859.000	5110.000	1862.000	1859.000	.000	.000	.000
GR	1862.000	4880.000	1858.000	4885.000	1856.000	4905.000	1854.000	4965.000	1853.000	5000.000
GR	1854.000	5025.000	1856.000	5035.000	1858.000	5075.000	1862.000	5110.000	.000	.000
NC	.000	.000	.050	.100	.300	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4910.000	5110.000
X1	.315	11.000	4940.000	5045.000	350.000	270.000	320.000	.000	.000	.000
GR	1863.000	4775.000	1862.000	4825.000	1860.000	4855.000	1860.000	4900.000	1860.000	4940.000
GR	1857.500	5000.000	1860.000	5045.000	1860.000	5090.000	1861.000	5260.000	1862.000	5375.000
GR	1864.500	5440.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4830.000	5070.000
X1	.376	14.000	4925.000	5060.000	320.000	220.000	320.000	.000	.000	.000
GR	1867.000	4575.000	1866.000	4680.000	1864.000	4730.000	1862.000	4760.000	1862.000	4830.000
GR	1863.000	4875.000	1864.000	4925.000	1864.000	4955.000	1862.500	5000.000	1863.000	5060.000
GR	1862.500	5115.000	1864.000	5195.000	1866.000	5265.000	1866.500	5300.000	.000	.000

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[illegible]	.000	.000	9.100	.000	.000	.000	.000	.000	4850.000	5075.000
X1	.442	14.000	4910.000	5035.000	340.000	350.000	350.000	.000	.000	.000
GR	1870.500	4630.000	1870.000	4635.000	1869.000	4760.000	1868.000	4820.000	1866.000	4850.000
GR	1866.000	4880.000	1867.000	4910.000	1868.000	4940.000	1868.000	4960.000	1866.500	5000.000
GR	1868.000	5035.000	1868.500	5110.000	1870.000	5180.000	1871.000	5225.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4800.000	5030.000
X1	.501	15.000	4980.000	5030.000	310.000	310.000	310.000	.000	.000	.000
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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GR   1874.000   4865.000   1873.000   4915.000   1872.000   4965.000   1870.000   4980.000   1869.500   5000.000
GR   1870.000   5010.000   1872.000   5030.000   1873.000   5110.000   1874.000   5215.000   1874.500   5290.000

ET      .000       .000      9.100       .000       .000       .000       .000       .000   4750.000   5030.000
X1      .582      12.000   4970.000   5030.000    310.000    600.000    430.000       .000       .000       .000
GR   1878.500   4410.000   1878.000   4470.000   1876.500   4625.000   1877.500   4685.000   1876.500   4790.000
GR   1877.500   4865.000   1876.000   4930.000   1876.000   4970.000   1874.500   5000.000   1876.000   5030.000
GR   1878.000   5060.000   1880.000   5125.000       .000       .000       .000       .000       .000       .000

NH      3.000       .000   4950.000       .050   5110.000       .080   5495.000       .000       .000       .000
ET      .000       .000     10.400       .000       .000       .000       .000       .000       .000       .000
X1      .681      24.000   4950.000   5130.000    410.000    350.000    490.000       .000       .000       .000
GR   1882.000   4875.000   1882.000   4950.000   1880.000   4965.000   1879.000   5000.000   1880.000   5025.000
GR   1880.500   5045.000   1880.000   5060.000   1880.000   5090.000   1882.000   5110.000   1882.000   5130.000
GR   1880.000   5150.000   1880.000   5180.000   1880.000   5195.000   1882.000   5205.000   1882.500   5230.000
GR   1882.000   5250.000   1882.000   5275.000   1882.600   5300.000   1882.000   5330.000   1880.000   5390.000
GR   1881.500   5410.000   1880.000   5435.000   1882.000   5460.000   1884.000   5495.000       .000       .000

NH      3.000       .000   4900.000       .050   5100.000       .080   5450.000       .000       .000       .000
QT      4.000   2670.000   2970.000   2428.000   1380.000       .000       .000       .000       .000       .000
ET      .000       .000      9.100       .000       .000       .000       .000       .000   4950.000   5100.000
                THE SMALL SPLIT FLOW AREA BETWEEN SECTIONS .744 AND
                .904 IS INDICATED AS DIVIDED FLOW ON THE HEC-2 OUTPUT.
                THIS WAS NOT AMENDED SINCE A REASONABLE DISTRIBUTION OF
                DISCHARGE RESULTED AT EACH CROSS SECTION.
X1      .744      18.000   4910.000   5100.000    390.000    310.000    330.000       .000       .000       .000
GR   1887.000   4910.000   1887.500   4911.000   1887.500   4912.000   1886.000   4990.000   1883.000   5000.000
GR   1884.000   5015.000   1886.000   5065.000   1887.000   5100.000   1886.000   5135.000   1887.000   5150.000
GR   1886.000   5160.000   1886.000   5185.000   1888.000   5290.000   1886.500   5345.000   1886.000   5380.000
GR   1884.500   5390.000   1886.000   5400.000   1887.000   5450.000       .000       .000       .000       .000

NC      .080       .080       .050       .000       .000       .000       .000       .000       .000       .000
ET      .000       .000      9.100       .000       .000       .000       .000       .000   4825.000   5070.000
X1      .825      21.000   4935.000   5070.000    430.000    380.000    430.000       .000       .000       .000
GR   1893.500   4730.000   1893.500   4730.000   1893.500   4730.000   1893.500   4730.000   1893.500   4730.000
GR   1892.000   4790.000   1890.000   4860.000   1890.000   4880.000   1891.500   4935.000   1890.000   4960.000
GR   1888.500   5000.000   1890.000   5020.000   1892.000   5070.000   1892.000   5105.000   1890.000   5120.000
GR   1890.000   5130.000   1892.000   5155.000   1892.500   5195.000   1892.000   5230.000   1893.300   5270.000
GR   1893.500   5370.000       .000       .000       .000       .000       .000       .000       .000       .000
1
 05/09/88    10:04:20                                                                                    PAGE    4


ET      .000       .000      9.100       .000       .000       .000       .000       .000   4915.000   5095.000
X1      .904      14.000   4970.000   5045.000    380.000    420.000    415.000       .000       .000       .000
GR   1898.000   4855.000   1896.000   4915.000   1896.000   4940.000   1896.000   4970.000   1894.000   4985.000
GR   1892.500   5000.000   1894.000   5020.000   1896.000   5045.000   1897.000   5095.000   1896.000   5130.000
GR   1896.000   5160.000   1896.000   5205.000   1898.000   5230.000   1898.500   5280.000       .000       .000

ET      .000       .000      9.100       .000       .000       .000       .000       .000   4915.000   5110.000
X1     1.001      16.000   4970.000   5030.000    550.000    440.000    510.000       .000       .000       .000
GR   1904.000   4840.000   1903.000   4870.000   1902.000   4915.000   1902.000   4950.000   1902.000   4970.000
GR   1900.000   4980.000   1898.000   4990.000   1898.000   5010.000   1900.000   5025.000   1902.000   5030.000
GR   1903.000   5060.000   1902.000   5095.000   1902.000   5110.000   1903.000   5145.000   1902.500   5200.000
GR   1904.000   5300.000       .000       .000       .000       .000       .000       .000       .000       .000

NH      4.000       .060   4835.000       .080   4975.000       .050   5050.000       .080   5220.000       .000
ET      .000       .000     10.400       .000       .000       .000       .000       .000       .000       .000
X1     1.076      15.000   4910.000   5050.000    430.000    400.000    400.000       .000       .000       .000
GR   1908.500   4750.000   1908.000   4785.000   1906.000   4790.000   1904.000   4810.000   1906.000   4835.000
GR   1907.500   4910.000   1906.000   4975.000   1904.000   4990.000   1903.000   5000.000   1904.000   5010.000
GR   1906.000   5020.000   1907.000   5050.000   1906.000   5070.000   1908.000   5200.000   1908.400   5220.000

NC      .080       .080       .050       .000       .000       .000       .000       .000       .000       .000
X1     1.167      11.000   4990.000   5001.000    500.000    470.000    460.000       .000       .000       .000
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 GR   1914.500   4790.000   1912.000   4825.000   1912.000   4850.000   1913.500   4920.000   1912.000   4995.000
 GR   1910.000   4930.000   1910.000   5010.000   1912.000   5025.000   1913.500   5080.000   1914.000   5130.000
 GR   1914.500   5200.000       .000       .000       .000       .000       .000       .000       .000       .000

 ET      .000       .000      9.100       .000       .000       .000       .000       .000   4940.000   5065.000
 XI     1.219     10.000   4960.000   5015.000    280.000    310.000    290.000       .000       .000       .000
 GR   1919.500   4660.000   1918.000   4820.000   1916.000   4860.000   1916.000   4880.000   1917.000   4920.000
 GR   1916.000   4960.000   1914.000   5000.000   1916.000   5015.000   1918.000   5050.000   1920.000   5160.000

 ET      .000       .000      9.100       .000       .000       .000       .000       .000   4935.000   5080.000
 XI     1.280      7.000   4975.000   5090.000    310.000    320.000    320.000       .000       .000       .000
 GR   1923.100   4795.000   1922.000   4870.000   1920.000   4975.000   1918.000   5000.000   1920.000   5025.000
 GR   1922.000   5080.000   1923.500   5150.000       .000       .000       .000       .000       .000       .000
 EJ      .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
 05/09/88    10:04:20                                                                                    PAGE    5


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 1

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE
                BASED ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC1 MODELS.

                NOTE:  THE FLOODWAY, 50-YEAR AND 10-YEAR RUNS ASSUMED TOTAL
                DISCHARGE IN THE MAIN CHANNEL WITH NO SPLIT FLOW.
      .00     5.83  1844.83      .00  1844.00  1845.44      .61      .00      .00  1842.00
    2785.     360.    2258.     167.     202.     327.     119.       0.       0.  1844.00
      .00     1.78     6.90     1.40     .080     .050     .080     .000  1839.00  4728.48
  .007652       0.       0.       0.        0        0        5      .00   475.14  5203.62
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1844.83

 STA=    4728.    4865.    4920.    4975.    5050.    5185.    5204.
   PER Q=      1.8      2.3      8.8     81.1      5.7       .2
   AREA=      56.5     45.5    100.5    327.1    111.7      7.7
    VEL=       .9      1.4      2.4      6.9      1.4       .9

 *SECNO  .057
      .06     5.39  1846.89      .00      .00  1847.21      .32     1.74      .03  1844.00
    2785.     294.    1923.     567.     169.     362.     344.       5.       3.  1844.00
      .02     1.74     5.32     1.65     .080     .050     .080     .000  1841.50  4827.97
  .004661     200.     300.     360.        2        0        0      .00   487.53  5315.51
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1846.89

 STA=    4828.    4830.    4965.    5050.    5166.    5300.    5316.
   PER Q=       .7      9.8     63.1     15.2      5.0       .2
   AREA=      27.5    141.5    361.6    218.8    118.7      6.9
    VEL=       .7      1.9      5.3      1.9      1.2       .7

 *SECNO  .102

 1645 INT SEC ADDED BY RAISING SEC       .10,  -1.250FT AND MULTIPLYING BY   1.104


 3301 HV CHANGED MORE THAN HVINS
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID    ENDST


3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     1.01     5.29  1848.04  1848.04     .00  1849.00     1.04      .98      .22  1847.75
    2785.      28.    2673.      84.     27.     320.      41.       7.       4.  1846.75
      .02     1.04     8.36     2.06    .000     .050     .000     .000  1842.75  4965.82
  .017994     100.     120.     130.      20        8        0      .00   268.97  5134.79
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1848.04

 STA=    4866.    4885.    4968.    5072.    5122.    5135.
   PER Q=      .1       .9     96.0      3.0       .0
    AREA=     2.7     23.8    319.8     39.1      1.8
     VEL=      .7      1.1      8.4      2.1       .7


 1645 INT SEC ADDED BY RAISING SEC     1.01,   1.250FT AND MULTIPLYING BY    .906

      .10     5.98  1849.98     .00     .00  1850.63      .65     1.51      .04  1849.00
    2785.     161.    2448.     176.    102.     355.      86.       8.       5.  1848.00
      .03     1.58     6.09     2.06    .000     .050     .000     .000  1844.00  4916.41
  .009334     100.     120.     130.       3        0        0      .00   312.64  5129.06

 FLOW DISTRIBUTION FOR SECNO=      .10          CWSEL=   1849.98

 STA=    4816.    4875.    4950.    5045.    5090.    5129.
   PER Q=     1.1      4.6     87.9      5.6       .8
    AREA=    28.6     73.2    355.3     66.4     19.1
     VEL=     1.1      1.8      6.9      2.3      1.1

 CCHV=    .300 CEHV=    .500
 *SECNO  .163
      .16     5.41  1853.41     .00     .00  1854.08      .67     3.44      .01  1856.00
    2785.       0.    2464.     321.      0.     355.     150.      12.       7.  1852.00
      .04      .00     6.94     2.14    .000     .050     .000     .000  1848.00  4977.95
  .012541     300.     320.     325.       3        0        0      .00   275.64  5253.58
0
 FLOW DISTRIBUTION FOR SECNO=      .16          CWSEL=   1853.41

 STA=    4978.    5095.    5205.    5254.
   PER Q=    88.5     10.5      1.0
    AREA=   355.2    127.7     22.1
     VEL=     6.9      2.3      1.2

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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID    ENDST


 *SECNO  .214

 7605 OVERBANK AREA ASSUMED NON-EFFECTIVE ELEV=     1850.00 ELMIN=     1850.00
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BRIDGE OPENING DATA TAKEN FROM FIELD MEASUREMENTS.

.21	4.53	1855.03	.00	.00	1855.60	.57	1.49	.03	1858.00
2785.	0.	2785.	0.	0.	460.	0.	15.	8.	1858.00
.06	.00	6.05	.00	.030	.030	.030	.000	1850.50	4907.43
.003076	270.	270.	270.	3	0	0	.00	140.15	5047.57

FLOW DISTRIBUTION FOR SECNO= .21 CWSEL= 1855.03

STA= 4907. 5060.
PER Q= 100.0
AREA= 460.4
VEL= 6.0

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	3.00	.00	140.00	9.00	1128.00	1.25	1851.00	1850.50

*SECNO .226
CLASS A LOW FLOW

3420 BRIDGE W.S.= 1855.23 BRIDGE VELOCITY=, 4.55 CALCULATED CHANNEL AREA=, 576.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	1856.15	.17	0.	2785.	1128.	1128.	1859.00	1860.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 1860.00 ELREA= 1860.00

.23	4.20	1855.20	.00	.00	1856.15	.96	.56	.00	1860.00
2785.	0.	2785.	0.	0.	355.	0.	16.	9.	1860.00
.06	.00	7.85	.00	.000	.030	.000	.000	1851.00	4894.02
.006414	65.	65.	65.	0	0	0	.00	126.63	5020.65

0
FLOW DISTRIBUTION FOR SECNO= .23 CWSEL= 1855.20

STA= 4894. 5040.
PER Q= 100.0
AREA= 354.7
VEL= 7.9

1
05/09/08 10:04:20 PAGE 9

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO .248

6545 INT SEC ADDED BY RAISING SEC .25, -1.000FT AND MULTIPLYING BY 1.011

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 1860.00 ELREA= 1859.33

1.01	4.03	1855.53	1855.53	.00	1856.65	1.12	.30	.08	1857.00
2785.	0.	2785.	0.	0.	720.	0.	16.	9.	1861.00

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      .06      .00     8.50      .00     .030     .030     .030     .000  1851.50  4920.58
   .010036      38.      38.      38.        3        8        0      .00   145.81  5066.38
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1855.53

 STA=    4921.    5138.
   PER Q=    100.0
    AREA=    327.6
     VEL=      8.5


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .500FT AND MULTIPLYING BY    .995

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1858.67

     1.02     4.02  1856.02  1856.02      .00  1857.16     1.14      .39      .01  1857.50
    2785.       0.    2785.       0.       0.     325.       0.      16.       9.   1861.50
      .06      .00     8.57      .00     .030     .030     .030     .000  1852.00  4920.49
   .010205      38.      38.      38.        2        5        0      .00   144.80  5065.29
0
 FLOW DISTRIBUTION FOR SECNO=      1.02          CWSEL=   1856.02

 STA=    4920.    5136.
   PER Q=    100.0
    AREA=    325.0
     VEL=      8.6

1
 05/09/88    10:04:20                                                                    PAGE    9


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1645 INT SEC ADDED BY RAISING SEC      1.02,    .500FT AND MULTIPLYING BY    .995

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1858.00

      .25     4.04  1856.54  1856.54      .00  1857.67     1.14      .39      .00  1858.00
    2785.       0.    2785.       0.       0.     325.       0.      16.       9.   1862.00
      .06      .00     8.56      .00     .030     .030     .030     .000  1852.50  4920.12
   .010147      38.      38.      38.        2        5        0      .00   144.64  5064.76
0
 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1856.54

 STA=    4920.    5135.
   PER Q=    100.0
    AREA=    325.4
     VEL=      8.6


 SPECIAL BRIDGE

 SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.05      1.60      3.00       .00    230.00     16.00   1284.00       .00   1853.00   1852.50
```

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*SECNO  .254
CLASS A LOW FLOW

3420 BRIDGE W.S.=   1856.76 BRIDGE VELOCITY=,      3.24      CALCULATED CHANNEL AREA=,      905.

 EGPRS      EGLWC       H3       QWEIR      QLOW      BAREA   TRAPEZOID      ELLC      ELTRD
                                                                 AREA
     .00   1858.04      .53         0.     2785.     1284.     1284.     1859.00   1862.00


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1860.00

     .25      4.08  1857.08       .00       .00  1858.04       .36       .37       .00  1862.00
   2970.        0.    2970.        0.        0.     378.        0.       17.        9.  1862.00
     .06       .00     7.85       .00      .000      .030      .000      .000  1853.00  4894.18
  .000166      30.      30.       30.         0         0         0       .00   162.46  5056.64
0
1
 05/03/88    10:04:20                                                                          PAGE   10


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1857.08

STA=    4834.    5110.
 PER Q=    100.0
  AREA=    378.2
   VEL=      7.9

CCHV=    .100 CEHV=    .300
*SECNO  .315
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     .31      3.03  1861.39  1861.39       .00  1862.01       .62      3.63       .03  1860.00
   2970.      384.    2053.     534.      132.     277.      222.       20.       11.  1860.00
     .08      2.90     7.41     2.41      .000      .050      .080      .000  1857.50  4834.20
  .017109     360.     320.     270.         3        10         0       .00   470.29  5304.49
0
FLOW DISTRIBUTION FOR SECNO=       .31          CWSEL=   1861.39

STA=    4834.    4855.    4900.    4940.    5045.    5090.    5260.    5304.
  PER Q=      .9      6.3      5.6     69.1      6.3     11.4       .2
   AREA=    14.4     62.4     55.5    276.9     62.4    150.8      8.6
    VEL=     1.9      3.0      3.0      7.4      3.0      2.2       .8

*SECNO  .376
     .38      3.04  1865.04       .00       .00  1865.19       .15      3.13       .05  1864.00
   2970.     1351.     932.     687.      478.     249.      288.       26.       14.  1863.00
     .10      2.83     3.75     2.39      .000      .050      .080      .000  1862.00  4704.08
  .007036     320.     320.     220.         4         0         0       .00   527.21  5231.29
0
FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1865.04

STA=    4704.    4730.    4760.    4830.    4875.    4925.    5060.    5115.    5195.    5231.
  PER Q=      .5      5.1     23.4     11.1      5.4     31.4     11.5     11.0       .6
   AREA=    13.4     61.1    212.6    114.2     76.8    248.7    125.8    142.9     18.8
    VEL=     1.0      2.5      3.3      2.9      2.1      3.7      2.7      2.3      1.0

*SECNO  .442
     .46      7.05  1869.05       .00       .00  1869.61       .56      6.30       .12  1867.00
```

```
    2970.    1415.    1385.     170.     263.     203.      67.      32.      18.   1868.00
      .12     5.38     6.03     2.53     .000     .050     .000     .000  1866.00  4756.62
  .027757     340.     350.     350.        2        0        0      .00   379.14  5135.76
0
1
 05/03/88    10:04:20                                                                          PAGE   11

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1869.05

 STA=    4757.    4820.    4850.    4880.    4910.    5035.    5110.    5136.
   PER Q=     2.3     10.3     20.1     14.9     46.6      5.4       .3
    AREA=    33.1     61.6     91.6     76.6    202.9     60.2      7.1
     VEL=     2.1      5.0      6.5      5.8      6.8      2.7      1.3

 *SECNO  .501
      .50     4.66  1874.16      .00      .00  1874.66      .49     5.04      .01  1870.00
    2970.    1023.     1488.     459.     432.     196.     204.      37.      22.   1872.00
      .14     2.37     7.61     2.25     .000     .050     .000     .000  1869.50  4577.24
  .010661     310.     310.     310.        3        0        0      .00   661.97  5239.21
0
 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1874.16

 STA=    4577.    4620.    4735.    4845.    4865.    4915.    4965.    4980.    5030.    5110.    5215.    5239.
   PER Q=      .0      9.5      9.1       .1      1.6      7.5      6.6     50.1     12.0      3.4       .0
    AREA=     3.5    133.6    127.8      3.2     33.1     83.1     47.4    195.6    132.9     69.4      2.0
     VEL=      .4      2.1      2.1       .6      1.5      2.7      4.1      7.6      2.7      1.5       .4

 *SECNO  .582
      .58     3.88  1878.38      .00      .00  1878.68      .30     4.00      .02  1876.00
    2970.    1692.     1183.      96.     715.     188.      44.      44.      27.   1876.00
      .17     2.37     6.30     2.19     .000     .050     .000     .000  1874.50  4424.62
  .009844     310.     430.     600.        4        0        0      .00   647.67  5072.29
0
 FLOW DISTRIBUTION FOR SECNO=       .58          CWSEL=   1878.38

 STA=    4425.    4470.    4625.    4685.    4790.    4865.    4930.    4970.    5030.    5060.    5072.
   PER Q=      .2     11.8      6.4     11.1      7.9      9.1     10.5     39.8      3.2       .0
    AREA=     8.6    174.9     82.7    144.7    103.4    105.8     95.1    187.7     41.3      2.3
     VEL=      .6      2.0      2.3      2.3      2.3      2.6      3.3      6.3      2.3       .6

 1490 NH CARD USED
 *SECNO  .681

 3265 DIVIDED FLOW

      .68     3.54  1882.54      .00      .00  1882.81      .28     4.13      .00  1882.00
    2970.      10.     1930.    1030.      13.     393.     413.      53.      33.   1882.00
      .20      .73     4.91     2.49     .000     .048     .000     .000  1879.00  4899.69
  .008949     410.     490.     350.        4        0        0      .00   563.89  5463.39
0
 05/03/88    10:04:20                                                                          PAGE   12

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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FLOW DISTRIBUTION FOR SECNO=      .68          CWSEL=   1882.54

STA=    4900.    4950.    5130.    5180.    5195.    5390.    5410.    5435.    5460.    5469.
  PER Q=      .3     65.0     10.8      4.2      9.6      3.1      3.9      3.0       .1
   AREA=    13.5    392.8    106.8     38.0    147.1     35.7     44.7     38.4      2.5
    VEL=      .7      4.9      3.0      3.3      1.9      2.6      2.6      2.3       .7

1490 NH CARD USED
*SECNO  .744

1645 INT SEC ADDED BY RAISING SEC      .74,  -2.000FT AND MULTIPLYING BY   1.625


3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     1.01     3.98  1884.88  1884.88      .00  1885.40      .52     2.20      .07  1885.80
    2820.       0.    2290.     530.       0.     363.     218.      56.      35.   1885.00
      .20      .00     6.30     2.43     .000     .046     .000     .000  1881.00  4959.76
  .023612     195.     165.     155.        3        8        0      .00   606.95  5745.84
0
 FLOW DISTRIBUTION FOR SECNO=     1.01          CWSEL=   1884.88

STA=    4959.    5219.    5357.    5674.    5690.    5706.    5746.
  PER Q=     81.2      5.6      4.8      3.7      3.7      1.0
   AREA=    363.5     73.7     73.5     26.5     26.5     17.6
    VEL=      6.3      2.1      1.8      3.9      3.9      1.7


1645 INT SEC ADDED BY RAISING SEC     1.01,   2.000FT AND MULTIPLYING BY    .616


3265 DIVIDED FLOW

                THE SMALL SPLIT FLOW AREA BETWEEN SECTIONS .744 AND
                .904 IS INDICATED AS DIVIDED FLOW ON THE HEC-2 OUTPUT.
                THIS WAS NOT AMENDED SINCE A REASONABLE DISTRIBUTION OF
                DISCHARGE RESULTED AT EACH CROSS SECTION.
      .74     4.68  1887.68      .00      .00  1887.99      .31     2.57      .02  1887.80
    2670.       0.    1867.     803.       0.     366.     352.      58.      37.   1887.00
      .22      .00     5.10     2.28     .000     .048     .000     .000  1883.00  4910.38
  .011094     195.     165.     155.        4        0        0      .00   508.40  5446.82
0
1
 05/09/88    10:04:20                                                                    PAGE   13


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      .74          CWSEL=   1887.68

STA=    4910.    5100.    5135.    5185.    5273.    5380.    5390.    5400.    5447.
  PER Q=     69.9      3.4      6.8      4.9      6.0      3.2      3.2      2.6
   AREA=    366.1     41.5     71.8     74.6     76.0     24.4     24.4     39.5
    VEL=      5.1      2.2      2.5      1.7      2.1      3.5      3.5      1.7

*SECNO  .825

3265 DIVIDED FLOW
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      .82     3.94  1892.44      .00      .00  1892.79      .35     4.79      .01  1891.50
    2670.      706.     1697.      267.     247.      306.     115.      65.      42.   1892.00
      .24     2.86     5.55     2.32     .080     .050     .080     .000  1888.50  4772.36
   .011740     430.      430.      380.       4        0        0      .00   462.37  5243.57
0
 FLOW DISTRIBUTION FOR SECNO=       .82          CWSEL=   1892.44

 STA=    4772.    4790.    4860.    4880.    4935.    5070.    5105.    5120.    5130.    5155.    5181.    5230.    5244.
   PER Q=      .1      9.7      6.7      9.9     63.6       .7      2.1      3.3      3.5       .2       .2       .1
    AREA=     3.9    100.9     48.8     93.0    305.8     15.4     21.6     24.4     36.0      5.8      8.8      3.0
     VEL=      .7      2.6      3.6      2.9      5.5      1.2      2.6      3.6      2.6       .7       .7       .7

 *SECNO  .904
      .90     4.95  1897.45      .00      .00  1898.13      .68     5.24      .10  1896.00
    2670.      280.     1890.      500.     111.      245.     202.      70.      46.   1896.00
      .26     2.52     7.72     2.47     .080     .050     .080     .000  1892.50  4871.55
   .014006     380.      415.      420.       4        0        0      .00   351.56  5223.11
0
 FLOW DISTRIBUTION FOR SECNO=       .90          CWSEL=   1897.45

 STA=    4872.    4915.    4940.    4970.    5045.    5095.    5130.    5160.    5205.    5223.
   PER Q=     2.1      3.8      4.6     70.8      3.8      2.6      4.6      6.9       .9
    AREA=    31.5     36.2     43.5    244.9     47.4     33.2     43.5     65.2     13.1
     VEL=     1.8      2.8      2.8      7.7      2.1      2.1      2.8      2.8      1.8

 *SECNO 1.001
     1.00     5.46  1903.46  1903.43      .00  1904.24      .78     6.08      .03  1902.00
    2670.      281.     2059.      330.     127.      258.     189.      77.      50.   1902.00
      .28     2.21     7.98     1.75     .080     .050     .080     .000  1898.00  4856.06
   .010536     550.      510.      440.       6        8        0      .00   408.26  5264.31
0

05/09/88    10:04:20                                                                          PAGE   14


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.00          CWSEL=   1903.46

 STA=    4856.    4870.    4915.    4950.    4970.    5030.    5060.    5095.    5110.    5145.    5200.    5264.
   PER Q=      .1      3.0      4.7      2.7     77.1      2.0      2.4      2.0      2.4      2.2      1.4
    AREA=     3.2     43.4     51.3     29.3    257.9     28.9     33.8     22.0     33.8     39.3     31.0
     VEL=      .7      1.9      2.5      2.5      8.0      1.9      1.9      2.5      1.9      1.5      1.2

 1490 NH CARD USED
 *SECNO 1.076

 1645 INT SEC ADDED BY RAISING SEC      1.00,  -2.500FT AND MULTIPLYING BY    .862


 3301 HV CHANGED MORE THAN HVINS

     1.01     5.38  1905.88      .00      .00  1906.13      .25     1.84      .05  1905.00
    2670.      903.     1371.      337.     246.      237.     190.      80.      52.   1904.50
      .29     3.66     4.62     2.09     .065     .052     .080     .000  1900.50  4757.44
   .007856     215.      200.      200.       1        0        0      .00   396.70  5154.14
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1905.88

 STA=    4757.    4802.    4823.    4888.    5009.    5026.    5138.    5154.
   PER Q=    11.4     13.4      9.0     51.3      3.0     11.8       .1
    AREA=    60.4     72.0     105.2    206.5     33.4    154.7      3.1
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    VEL=     4.5     4.9     2.3     4.6     2.5     2.0      .5


 1645 INT SEC ADDED BY RAISING SEC      1.01,   2.500FT AND MULTIPLYING BY   1.160

     1.00     4.85  1907.85      .00      .00  1908.20      .35     2.04      .03  1907.50
    2670.     986.    1449.     295.     216.     271.     139.      83.      54.   1907.00
      .31     4.29     5.35     2.12     .064     .049     .000     .000  1903.00  4785.36
  .012956     215.     200.     200.        1        0        0      .00   405.24  5190.61
0
 FLOW DISTRIBUTION FOR SECNO=      1.00          CWSEL=   1907.85

 STA=    4785.    4810.    4835.    4910.    5050.    5191.
   PER Q=     12.5     15.1      7.0     54.3     11.1
    AREA=     61.4     71.4     82.9    271.0    139.0
     VEL=      5.4      5.7      2.3      5.3      2.1

1
  05/09/88    10:04:20                                                                                    PAGE   15


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        OLOB     OCH      OROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 1.163
     1.16     4.29  1914.29      .00      .00  1914.74      .44     6.51      .03  1913.50
    2670.     639.    1988.      44.     201.     336.      33.      89.      58.   1913.50
      .33     3.17     5.92     1.34     .000     .050     .000     .000  1910.00  4793.00
  .014838     500.     460.     430.        4        0        0      .00   377.05  5170.04

 FLOW DISTRIBUTION FOR SECNO=      1.16          CWSEL=   1914.29

 STA=    4793.    4825.    4850.    4920.    5080.    5130.    5170.
   PER Q=      3.4      8.4     12.1     74.5      1.5       .1
    AREA=     36.6     57.2    107.5    335.8     26.8      5.7
     VEL=      2.5      3.9      3.0      5.9      1.5       .6

 *SECNO 1.219
     1.22     4.40  1918.40      .00      .00  1919.05      .65     4.26      .06  1916.00
    2670.     887.    1523.     260.     265.     187.      95.      93.      60.   1916.00
      .35     3.34     8.13     2.75     .000     .050     .000     .000  1914.00  4776.82
  .014686     280.     290.     310.        2        0        0      .00   319.37  5096.19
0
 FLOW DISTRIBUTION FOR SECNO=      1.22          CWSEL=   1918.40

 STA=    4777.    4820.    4860.    4880.    4920.    4960.    5015.    5080.    5096.
   PER Q=       .3      5.9      7.3      9.9      9.9     57.0      9.7       .1
    AREA=      8.7     56.2     48.1     76.2     76.2    187.3     91.3      3.3
     VEL=       .8      2.8      4.0      3.5      3.5      8.1      2.8       .8

 *SECNO 1.280
     1.28     4.87  1922.87      .00      .00  1923.42      .56     4.36      .01  1920.00
    2670.     658.    1991.      21.     222.     296.      18.      97.      62.   1922.00
      .36     2.97     6.73     1.21     .000     .050     .000     .000  1918.00  4810.92
  .012900     310.     320.     320.        4        0        0      .00   309.51  5120.43

 FLOW DISTRIBUTION FOR SECNO=      1.28          CWSEL=   1922.87

 STA=    4811.    4870.    4975.    5080.    5120.
   PER Q=      1.2     23.5     74.6       .8
    AREA=     25.6    196.0    296.0     17.5
     VEL=      1.2      3.2      6.7      1.2
```

1

PROFILE FOR STREAM CIRCLE CITY - TRILBY WAS

PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

```
ELEVATION  1830.     1840.     1850.     1860.     1870.     1880.     1890.     1900.     1910.     1920.
   SECNO   CUMDIS

     .00      0.  C      I. L REM  .         .         .         .         .         .         .         .         .
             50.  C      I. L RWE  .         .         .         .         .         .         .         .         .
            100.  C       I  LR EM .         .         .         .         .         .         .         .         .
            150.  C       I  LR EM .         .         .         .         .         .         .         .         .
            200.  C       .I LR WE .         .         .         .         .         .         .         .         .
            250.  C       .I  L  EM .        .         .         .         .         .         .         .         .
     .06    300.  C       . I L  EM .        .         .         .         .         .         .         .         .
            350.  C       . I  RLWEM.        .         .         .         .         .         .         .         .
            400.  C       .  I  RLWE.        .         .         .         .         .         .         .         .
    1.01    450.  .       .  I   RWE.        .         .         .         .         .         .         .         .
            500.  C       .  I   RLWE        .         .         .         .         .         .         .         .
     .10    550.  C       .   I   RLWE       .         .         .         .         .         .         .         .
            600.  C       .    I   RLE       .         .         .         .         .         .         .         .
            650.  C       .    I   R.WE      .         .         .         .         .         .         .         .
            700.  C       .     I   R E      .         .         .         .         .         .         .         .
            750.  C       .      I  .RWE     .         .         .         .         .         .         .         .
            800.  C       .      I  .R EL    .         .         .         .         .         .         .         .
            850.  C       .       I . RWE L  .         .         .         .         .         .         .         .
     .16    900.  C       .       I . RWE L  .         .         .         .         .         .         .         .
            950.  C       .       I .  REML  .         .         .         .         .         .         .         .
           1000.  C       .        I.   WEML .         .         .         .         .         .         .         .
           1050.  C       .        I.   WE L .         .         .         .         .         .         .         .
           1100.  C       .         I    ERLM .        .         .         .         .         .         .         .
     .21   1150.  C       .         .I   WE L M         .         .         .         .         .         .         .
     .23   1200.  C       .         .I   WE   L         .         .         .         .         .         .         .
    1.01   1250.  .       .         . I   WE  .R        .         .         .         .         .         .         .
    1.02   1300.  .       .         . I   WEL . R       .         .         .         .         .         .         .
     .25   1350.  .       .         .  I   WE . R       .         .         .         .         .         .         .
     .25   1400.  C       .         .  I   WE . L       .         .         .         .         .         .         .
           1450.  C       .         .   I   WE. L       .         .         .         .         .         .         .
           1500.  C       .         .   I   WE.LM       .         .         .         .         .         .         .
           1550.  C       .         .    I   WELM       .         .         .         .         .         .         .
           1600.  C       .         .     I   WE M      .         .         .         .         .         .         .
           1650.  C       .         .      I  WE M      .         .         .         .         .         .         .
     .31   1700.  .       .         .       I LWEM      .         .         .         .         .         .         .
           1750.  C       .         .       I RLWEM     .         .         .         .         .         .         .
           1800.  C       .         .        I.L EM     .         .         .         .         .         .         .
           1850.  C       .         .         IRLWEM    .         .         .         .         .         .         .
           1900.  C       .         .         I RLEM    .         .         .         .         .         .         .
           1950.  C       .         .         .IRLE M   .         .         .         .         .         .         .
     .38   2000.  C       .         .         . IRLE M  .         .         .         .         .         .         .
           2050.  C       .         .         .  IL EM  .         .         .         .         .         .         .
           2100.  C       .         .         .  IRLE M .         .         .         .         .         .         .
           2150.  C       .         .         .   IL EM .         .         .         .         .         .         .
           2200.  C       .         .         .   I LWEM.         .         .         .         .         .         .
           2250.  C       .         .         .    ILREM.         .         .         .         .         .         .
           2300.  C       .         .         .    I LWEM         .         .         .         .         .         .
     .44   2350.  C       .         .         .     ILRWEM        .         .         .         .         .         .
           2400.  C       .         .         .      I REM        .         .         .         .         .         .
           2450.  C       .         .         .      ILR.EM       .         .         .         .         .         .
           2500.  C       .         .         .       I R E       .         .         .         .         .         .
           2550.  C       .         .         .       IL.RWE      .         .         .         .         .         .
           2600.  C       .         .         .        I.R WE     .         .         .         .         .         .
     .50   2650.  C       .         .         .         I R WE    .         .         .         .         .         .
           2700.  C
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      2750. C     .     .     .     .I N WE  .     .     .     .     .     .
      2800. C     .     .     .     .ILR  E  .     .     .     .     .     .
      2850. C     .     .     .     . ILR WE .     .     .     .     .     .
      2900. C     .     .     .     . ILR  E .     .     .     .     .     .
      2950. C     .     .     .     .  ILR E .     .     .     .     .     .
      3000. C     .     .     .     .   IL  E.     .     .     .     .     .
      3050. C     .     .     .     .   I L E.     .     .     .     .     .
 .58  3100. C     .     .     .     .    IL WE.    .     .     .     .     .
      3150. C     .     .     .     .    I L E.    .     .     .     .     .
      3200. C     .     .     .     .    I L WE    .     .     .     .     .
      3250. C     .     .     .     .     I L E    .     .     .     .     .
      3300. C     .     .     .     .     I L E    .     .     .     .     .
      3350. C     .     .     .     .      I L.E   .     .     .     .     .
      3400. C     .     .     .     .      I  LE   .     .     .     .     .
      3450. C     .     .     .     .       I LWE  .     .     .     .     .
      3500. C     .     .     .     .       I .LE  .     .     .     .     .
      3550. C     .     .     .     .        I. E  .     .     .     .     .
 .68  3600. C     .     .     .     .        I. LE .     .     .     .     .
      3650. C     .     .     .     .         I  WE .     .     .     .     .
      3700. C     .     .     .     .         I  EM .     .     .     .     .
 1.01 3750. .     .     .     .     .         .I  EL .     .     .     .     .
      3800. C     .     .     .     .         . I  E .     .     .     .     .
      3850. C     .     .     .     .         . I  RE .    .     .     .     .
 .74  3900. C     .     .     .     .          . I  RE .   .     .     .     .
      3950. C     .     .     .     .          .  I  WE.   .     .     .     .
      4000. C     .     .     .     .          .  I  RE.   .     .     .     .
      4050. C     .     .     .     .          .   I  WE   .     .     .     .
      4100. C     .     .     .     .          .    I RE   .     .     .     .
      4150. C     .     .     .     .          .    I  WE  .     .     .     .
      4200. C     .     .     .     .          .     I LEM .     .     .     .
      4250. C     .     .     .     .          .     I .LE .     .     .     .
      4300. C     .     .     .     .          .      I .LEM     .     .     .
 .82  4350. C     .     .     .     .          .       I. WEM    .     .     .
      4400. C     .     .     .     .          .       I. LEM    .     .     .
      4450. C     .     .     .     .          .       I.  LEM   .     .     .
      4500. C     .     .     .     .          .        I LWE    .     .     .
      4550. C     .     .     .     .          .        I  LEM   .     .     .
      4600. C     .     .     .     .          .        .I LWE   .     .     .
      4650. C     .     .     .     .          .        .I  LWE  .     .     .
      4700. C     .     .     .     .          .        . I L E  .     .     .
 .90  4750. C     .     .     .     .          .        .  I LWE .     .     .
      4800. C     .     .     .     .          .        .  I  LWE.     .     .
      4850. C     .     .     .     .          .        .   I L E.    .     .
      4900. C     .     .     .     .          .        .   I  LWE    .     .
      4950. C     .     .     .     .          .        .    I L WE   .     .
      5000. C     .     .     .     .          .        .    I  LWE   .     .
      5050. C     .     .     .     .          .        .     I  LWE  .     .
      5100. C     .     .     .     .          .        .     I  L E  .     .
      5150. C     .     .     .     .          .        .      I .LWE .     .
      5200. C     .     .     .     .          .        .      I .L WE .    .
 1.00 5250. .     .     .     .     .          .        .       I . LWE .   .
      5300. C     .     .     .     .          .        .        I.  LWE .  .
      5350. C     .     .     .     .          .        .        I.  RLE .  .
      5400. C     .     .     .     .          .        .         I  LWE . .
 1.01 5450. C     .     .     .     .          .        .         .I  LE . .
      5500. C     .     .     .     .          .        .         .I  RWE . .
      5550. C     .     .     .     .          .        .         . I  LE . .
      5600. C     .     .     .     .          .        .         . I  RWE . .
 1.08 5650. C     .     .     .     .          .        .         .  I  RE . .
      5700. C     .     .     .     .          .        .         .   I  LE. .
      5750. C     .     .     .     .          .        .         .   I RWE  .
      5800. C     .     .     .     .          .        .         .   I  LE  .
      5850. C     .     .     .     .          .        .         .    I  LE .
      5900. C     .     .     .     .          .        .         .     I .WE .
      5950. C     .     .     .     .          .        .         .      I .LE .
      6000. C                                                          I  LE
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          6050.  C        .        .        .        .        .        .        .        I.  WE    .        .
          6100.  C        .        .        .        .        .        .        .         I  LWE   .        .
     1.16 6150.  C        .        .        .        .        .        .        .         I   WE   .        .
          6200.  C        .        .        .        .        .        .        .        .I  LE    .        .
          6250.  C        .        .        .        .        .        .        .        .I  L E   .        .
          6300.  C        .        .        .        .        .        .        .        . I  LWE  .        .
          6350.  C        .        .        .        .        .        .        .        .  I L WE .        .
     1.22 6400.  C        .        .        .        .        .        .        .        .   I L WEW        .
          6450.  C        .        .        .        .        .        .        .        .    I L WE        .
          6500.  C        .        .        .        .        .        .        .        .    I LR EM       .
          6550.  C        .        .        .        .        .        .        .        .     I LRWE       .
          6600.  C        .        .        .        .        .        .        .        .      I LRWE      .
          6650.  C        .        .        .        .        .        .        .        .      I L.RE      .
          6700.  C        .        .        .        .        .        .        .        .       I L RE     .
     1.28 6750.  C        .        .        .        .        .        .        .        .       I L RE     .
1
 05/09/88    10:04:20                                                                                PAGE   16


                                                                                THIS RUN EXECUTED 05/09/88   10:05:35
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN ADMS
 T2      100 YEAR STORM EVENT - ENCROACHED
 T3      CIRCLE CITY - TRILBY WASH

 J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.       3.       0.       0.   .000000     .00      .0       0.  1844.830    .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      2.000    .000   -1.000    .000     .000     .000     .000     .000     .000    15.000

1
 05/09/88    10:04:20                                                                                PAGE   17


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 2

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
 2000 NAT Q1=    318.37  WSEL=   1844.83  ENC Q1=    364.14  WSEL=   1845.83  RATIO=  -.1438
 NAT Q1=    573.  RATIOS LOB,CH,ROB=   .2335   .6355   .1310  WSEL=   1845.83

 3470 ENCROACHMENT STATIONS=    4975.0    5050.0  TYPE=     4  TARGET=        .365
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE
                BASED ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC1 MODELS.

                NOTE:  THE FLOODWAY, 50-YEAR AND 10-YEAR RUNS ASSUMED TOTAL
                DISCHARGE IN THE MAIN CHANNEL WITH NO SPLIT FLOW
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      .00     5.83  1844.83      .00  1844.83  1845.95     1.12      .00      .00  1842.00
    2785.       0.    2785.       0.       0.     327.       0.       0.       0.   1844.00
      .00      .00     8.51      .00     .000     .050     .000     .000  1839.00  4975.00
   .012375       0.       0.       0.        0        0        0      .00    75.00  5050.00
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1844.83

 STA=    4975.    5050.
   PER Q=    100.0
    AREA=    327.2
     VEL=      8.5

 *SECNO  .057
  2800 NAT Q1=    407.94  WSEL=   1846.89  ENC Q1=    407.94  WSEL=   1847.89  RATIO=   .0000
  NAT Q1=    712.  RATIOS LOB,CH,ROB=   .1510   .5629   .2861  WSEL=   1847.89

 3301 HV CHANGED MORE THAN HVING


 3470 ENCROACHMENT STATIONS=    4965.0    5054.2  TYPE=     4  TARGET=       .427
      .06     6.25  1847.75      .00  1846.89  1848.37      .61     2.36      .05  1844.00
    2785.       0.    2751.      34.       0.     435.      16.       3.       1.   1844.00
      .01      .00     6.32     2.16     .000     .050     .000     .000  1841.50  4965.00
   .005437     200.     300.     350.        3        0        0      .00    89.18  5054.18
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1847.75

 STA=    4965.    5050.    5054.
   PER Q=     98.8      1.2
    AREA=    435.4     15.5
     VEL=      6.3      2.2
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .102
  2800 NAT Q1=    288.27  WSEL=   1849.98  ENC Q1=    376.10  WSEL=   1850.98  RATIO=  -.3047
  NAT Q1=    500.  RATIOS LOB,CH,ROB=   .1368   .7515   .1117  WSEL=   1850.98

 3301 HV CHANGED MORE THAN HVING


 3470 ENCROACHMENT STATIONS=    4950.0    5045.0  TYPE=     4  TARGET=       .249
      .10     5.54  1849.54      .00  1849.98  1850.77     1.23     2.22      .18  1849.00
    2785.       0.    2785.       0.       0.     313.       0.       5.       1.   1848.00
      .02      .00     8.90      .00     .000     .050     .000     .000  1844.00  4950.00
   .018962     200.     240.     260.        3        0        0      .00    95.00  5045.00
0
 FLOW DISTRIBUTION FOR SECNO=       .10          CWSEL=   1849.54

 STA=    4950.    5045.
   PER Q=    100.0
    AREA=    313.0
     VEL=      8.9

 CCHV=    .300 CEHV=    .500
 *SECNO  .163
  2800 NAT Q1=    248.69  WSEL=   1853.41  ENC Q1=    345.31  WSEL=   1854.41  RATIO=  -.3885
  NAT Q1=    430.  RATIOS LOB,CH,ROB=   .0000   .7882   .2118  WSEL=   1854.41
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3200 CROSS SECTION       .16 EXTENDED       .16 FEET


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    4960.0    5095.0  TYPE=     4  TARGET=        .212
      .16      6.16  1854.16      .00  1853.41  1854.77      .61      3.81      .19  1856.00
    2785.        0.    2785.       0.       0.     444.       0.        0.       2.   1852.00
      .03       .00     6.28      .00     .000     .050     .000      .000  1848.00  4973.84
  .000177      300.     320.     325.        4        0        0       .00   121.17  5095.00
0
 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1854.16

 STA=    4974.    5095.
   PER Q=    100.0
    AREA=    443.7
     VEL=      6.3

1
 05/03/88    10:04:20                                                                          PAGE   19


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 *SECNO  .214
  2800 NAT Q1=    502.16  WSEL=   1855.03  ENC Q1=    767.44  WSEL=   1856.03  RATIO=  -.5283
  NAT Q1=    767.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1856.03

 3470 ENCROACHMENT STATIONS=    4900.0    5060.0  TYPE=     4  TARGET=        .000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1853.00 ELREA=     1853.00

                 BRIDGE OPENING DATA TAKEN FROM FIELD MEASUREMENTS.
      .21      4.89  1855.39      .00  1855.03  1855.85      .46      1.04      .04  1858.00
    2785.        0.    2785.       0.       0.     511.       0.       11.       3.   1858.00
      .05       .00     5.45      .00     .030     .030     .030      .000  1858.50  4906.54
  .002218      270.     270.     270.        2        0        0       .00   141.93  5048.46
0
 FLOW DISTRIBUTION FOR SECNO=       .21          CWSEL=   1855.39

 STA=    4907.    5060.
   PER Q=    100.0
    AREA=    510.6
     VEL=      5.5


 SPECIAL BRIDGE

 SB  XK       XKOR     COFQ     RDLEN    BWC      BWP      BAREA    SS       ELCHU    ELCHD
     1.25     1.60     3.00      .00   140.00     9.00  1128.00     1.25  1851.00  1850.50

 *SECNO  .226
 CLASS A LOW FLOW

 3420 BRIDGE W.S.=   1855.60 BRIDGE VELOCITY=,      4.19      CALCULATED CHANNEL AREA=,      629.

  EGPRS     EGLWC     H3       QWEIR    QLOW     BAREA   TRAPEZOID     ELLC     ELTRD
                                                          AREA
       .00  1856.71     .11       0.     2785.    1128.    1128.     1859.00  1860.00
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 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1860.00

      .23     5.20  1856.20      .00  1855.20  1856.71      .51      .86      .00  1860.00
    2785.       0.    2785.       0.       0.     485.       0.      11.       3.   1860.00
      .05      .00     5.74      .00     .000     .030     .000     .000  1851.00  4889.02
  .002457      65.      65.      65.        0        0        0      .00   134.97  5023.99
0
1
 05/09/88    10:04:20                                                                          PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        GLOB     GCH      GROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1856.20

 STA=    4889.    5040.
   PER Q=    100.0
    AREA=    485.5
     VEL=      5.7

 *SECNO  .248
  2900 NAT Q1=    276.47  WSEL=   1856.54  ENC Q1=    463.75  WSEL=   1857.54  RATIO=  -.6774
  NAT Q1=    464.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1857.54

 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 7720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4900.0    5135.0  TYPE=     4  TARGET=        .000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1858.00

      .25     4.03  1856.53  1856.53  1856.54  1857.67     1.15      .51      .32  1858.00
    2785.       0.    2785.       0.       0.     324.       0.      12.       3.   1862.00
      .06      .00     8.59      .00     .030     .030     .030     .000  1852.50  4920.24
  .010243     115.     115.     115.        3       15        0      .00   144.29  5064.53
0
 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1856.53

 STA=    4920.    5135.
   PER Q=    100.0
    AREA=    324.2
     VEL=      8.6


 SPECIAL BRIDGE

 SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.05      1.60      3.00       .00    230.00     16.00   1284.00       .00   1853.00   1852.50

 *SECNO  .254
 CLASS A LOW FLOW

 3420 BRIDGE W.S.=   1856.75 BRIDGE VELOCITY=,      3.25      CALCULATED CHANNEL AREA=,      803.
1
 05/09/88    10:04:20                                                                          PAGE   21


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        GLOB     GCH      GROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
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   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


  EGPRS     EGLWC     H3      QWEIR     QLOW     BAREA   TRAPEZOID     ELLC     ELTRD
                                                          AREA
      .00   1858.04     .55       0.     2785.    1284.     1284.    1859.00   1862.00


 3470 ENCROACHMENT STATIONS=    4894.0    5056.0  TYPE=     1  TARGET=     162.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1860.00

     .25     4.08  1857.08      .00  1857.08  1858.04      .96      .37      .00100000.00
   2970.       0.    2970.       0.       0.     378.       0.      13.       3. 100000.00
     .06      .00     7.85      .00     .000     .030     .000     .000  1853.00  4894.18
  .008124     30.      30.      30.        0        0        0      .00   161.82  5056.00
0
 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1857.08

 STA=    4894.    5110.
   PER Q=    100.0
    AREA=    378.3
     VEL=      7.9

 CCHV=    .100 CEHV=    .300
 *SECNO  .315
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4910.0    5110.0  TYPE=     1  TARGET=     200.000
     .31     3.92  1861.42  1861.42  1861.39  1862.48     1.06     4.14      .03  1860.00
   2970.      151.    2492.     327.      43.     281.      91.      15.       5.  1860.00
     .07     3.54     8.88     3.57     .000     .050     .000     .000  1857.50  4910.00
  .024073     360.     320.     270.        3       11        0      .00   200.00  5110.00
0
 FLOW DISTRIBUTION FOR SECNO=       .31          CWSEL=   1861.42

 STA=    4910.    4940.    5045.    5090.    5110.
   PER Q=      5.1     83.9      7.9      3.1
    AREA=     42.7    280.8     64.1     27.3
     VEL=      3.5      8.9      3.6      3.4

1
 05/09/88    10:04:20                                                                PAGE   22


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .376

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4830.0    5070.0  TYPE=     1  TARGET=     240.000
     .38     4.04  1866.04      .00  1865.04  1866.36      .32     3.80      .07  1864.00
   2970.      928.    1955.      86.     286.     384.      31.      19.       6.  1863.00
     .09     3.25     5.10     2.80     .000     .050     .000     .000  1862.00  4830.00
  .007301     320.     320.     220.        4        0        0      .00   240.00  5070.00
```

```
 FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1866.04

 STA=    4830.    4875.    4925.    5060.    5070.
   PER Q=     18.6     12.6     65.8      2.9
    AREA=    159.2    126.9    383.8     30.8
     VEL=      3.5      3.0      5.1      2.9

 *SECNO  .442

 3470 ENCROACHMENT STATIONS=    4850.0    5075.0  TYPE=     1  TARGET=     225.000
      .44     3.59  1869.59      .00  1869.05  1870.13      .54     3.70      .07  1867.00
     2970.    1045.    1748.     177.     200.     270.      58.      24.       8.  1868.00
      .10     5.22     6.48     3.05     .080     .050     .080     .000  1866.00  4850.00
   .017101     340.     350.     350.        3        0        0      .00   225.00  5075.00
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1869.59

 STA=    4850.    4880.    4910.    5035.    5075.
   PER Q=     19.1     16.0     58.9      6.0
    AREA=    107.6     92.6    269.6     58.1
     VEL=      5.3      5.1      6.5      3.0

 *SECNO  .501
 3200 CROSS SECTION       .50 EXTENDED       .02 FEET


 3301 HV CHANGED MORE THAN HVINS

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
1
 05/09/86    10:04:20                                                                    PAGE   23


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST



 3470 ENCROACHMENT STATIONS=    4800.0    5030.0  TYPE=     1  TARGET=     230.000
      .50     5.02  1874.52  1874.52  1874.16  1875.59     1.07     5.18      .16  1870.00
     2970.     905.     2065.       0.     257.     214.       0.      28.      10. 100000.00
      .11     3.52     9.67     .00     .080     .050     .090     .000  1869.50  4800.00
   .016337     310.     310.     310.        3       11        0      .00   230.00  5030.00
0
 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1874.52

 STA=    4800.    4845.    4865.    4915.    4965.    4980.    5030.
   PER Q=      3.1       .5      4.1     12.9      9.7     69.5
    AREA=     41.9     10.5     51.1    101.1     52.8    213.6
     VEL=      2.2      1.5      2.4      3.9      5.5      9.7

 *SECNO  .582

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4750.0    5030.0  TYPE=     1  TARGET=     280.000
      .58     4.63  1879.19      .00  1878.38  1879.51      .32     3.85      .07  1876.00
     2970.    1567.    1403.       0.     550.     236.       0.      33.      12. 100000.00
      .14     2.85     5.94     .00     .080     .050     .080     .000  1874.50  4750.00
   .006885     310.     430.     600.        3        0        0      .00   280.00  5030.00
0
 FLOW DISTRIBUTION FOR SECNO=       .58          CWSEL=   1879.19
```

```
 STA=    4750.    4790.    4865.    4930.    4970.    5030.
   PER Q=      9.2     14.4     14.9     14.3     47.2
    AREA=     93.3    164.1    158.5    127.5    236.3
     VEL=      2.7      2.6      2.8      3.3      5.9

 1490 NH CARD USED
 *SECNO  .681
  2800 NAT Q1=    313.96  WSEL=   1882.54  ENC Q1=    370.67  WSEL=   1883.54  RATIO=  -.1806
  NAT Q1=    643.  RATIOS LOB,CH,ROB=   .0266   .5765   .3969  WSEL=   1883.54
 3200 CROSS SECTION       .68 EXTENDED       .24 FEET


 3470 ENCROACHMENT STATIONS=    4950.0    5130.0  TYPE=     4  TARGET=        .424
      .68     4.04  1883.04      .00  1882.54  1883.63      .58     4.04      .09  1882.00
    2970.       0.    2970.       0.       0.     484.       0.      40.      14.  1882.00
      .16      .00     6.13      .00     .000     .049     .000     .000  1879.00  4950.00
  .011084     410.     490.     350.        5        0        0      .00   180.00  5130.00
0
1
 05/09/88    10:04:20                                                                    PAGE   24


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .68          CWSEL=   1883.04

 STA=    4950.    5130.    5130.
   PER Q=    100.0       .0
    AREA=    484.2       .0
     VEL=      6.1      6.3

 1490 NH CARD USED
 *SECNO  .744
 3200 CROSS SECTION       .74 EXTENDED       .06 FEET


 3470 ENCROACHMENT STATIONS=    4950.0    5100.0  TYPE=     1  TARGET=     150.000
                THE SMALL SPLIT FLOW AREA BETWEEN SECTIONS .744 AND
                .904 IS INDICATED AS DIVIDED FLOW ON THE HEC-2 OUTPUT.
                THIS WAS NOT AMENDED SINCE A REASONABLE DISTRIBUTION OF
                DISCHARGE RESULTED AT EACH CROSS SECTION.
      .74     4.85  1887.85      .00  1887.68  1888.86     1.01     5.11      .13100000.00
    2970.       0.    2970.       0.       0.     369.       0.      43.      15. 100000.00
      .17      .00     8.06      .00     .000     .051     .000     .000  1893.00  4950.00
  .023114     390.     330.     310.        5        0        0      .00   150.00  5100.00
0
 FLOW DISTRIBUTION FOR SECNO=       .74          CWSEL=   1887.85

 STA=    4950.    5100.
   PER Q=    100.0
    AREA=    368.6
     VEL=      8.1

 *SECNO  .825

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4825.0    5070.0  TYPE=     1  TARGET=     245.000
      .82     4.79  1893.29      .00  1892.44  1893.60      .31     4.67      .07  1891.50
    2970.      471.    2992.       0.      707.     631.       0.      68.      17. 100000.00
```

```
      .20     2.87     4.99      .00     .000     .050     .000     .000  1888.50  4825.00
   .006283     430.     430.     380.        5        0        0      .00   245.00  5070.00
0
1
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      .82          CWSEL=   1893.29

STA=    4825.    4860.    4880.    4935.    5070.
  PER Q=      9.2      7.2     12.9     70.7
   AREA=     97.7     65.8    139.8    420.6
    VEL=      2.8      3.3      2.7      5.0

*SECNO  .904

3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    4915.0    5095.0  TYPE=     1  TARGET=     180.000
      .90     5.17  1897.67  1897.67  1897.45  1898.86     1.19     4.16      .26  1896.00
    2970.     327.    2477.     166.      92.     261.      58.      53.      19.   1896.00
      .21     3.57     9.48     2.84     .000     .050     .000     .000  1892.50  4915.00
  .019355     380.     415.     420.        2        8        0      .00   180.00  5095.00

FLOW DISTRIBUTION FOR SECNO=      .90          CWSEL=   1897.67

STA=    4915.    4940.    4970.    5045.    5095.
  PER Q=      4.9      6.1     83.4      5.6
   AREA=     41.7     50.1    261.4     58.4
    VEL=      3.5      3.6      9.5      2.8

*SECNO 1.001
3280 CROSS SECTION      1.00 EXTENDED      .17 FEET


3470 ENCROACHMENT STATIONS=    4915.0    5110.0  TYPE=     1  TARGET=     195.000
     1.00     6.18  1904.18      .00  1903.46  1904.31      .73     6.01      .05  1902.00
    2970.     324.    2309.     337.     120.     300.     141.      59.      21.   1902.00
      .23     2.71     7.68     2.38     .000     .050     .000     .000  1898.00  4915.00
  .007957     550.     510.     440.        4        0        0      .00   195.00  5110.00
0
FLOW DISTRIBUTION FOR SECNO=     1.00          CWSEL=   1904.18

STA=    4915.    4950.    4970.    5030.    5060.    5095.    5110.
  PER Q=      6.8      4.1     77.7      4.0      4.6      2.8
   AREA=     76.1     43.5    300.5     50.2     58.6     32.6
    VEL=      2.7      2.8      7.7      2.3      2.3      2.5
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
```

```
1490 NH CARD USED
*SECNO 1.076
 2800 NAT Q1=    234.57  WSEL=   1907.85  ENC Q1=    234.57  WSEL=   1908.85  RATIO=   .0000
 NAT Q1=    479.  RATIOS LOB,CH,ROB=   .3347   .4885   .1768  WSEL=   1908.85
3280 CROSS SECTION      1.08 EXTENDED       .32 FEET


3470 ENCROACHMENT STATIONS=    4907.8    5050.0  TYPE=     4  TARGET=        .510
     1.08     5.72  1908.72  1908.39  1907.85  1909.61      .88     4.65      .04  1907.50
    2970.       6.    2964.       0.       3.     393.       0.      64.      23.   1907.00
      .25     2.16     7.55      .00     .000     .053     .000     .000  1903.00  4907.75
  .018359     430.     400.     400.        8       10        0      .00   142.25  5050.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.08          CWSEL=   1908.72

 STA=    4908.    4910.    5050.    5050.
   PER Q=       .2     99.8       .0
    AREA=      2.8    392.7       .0
     VEL=      2.2      7.5      9.3

 *SECNO 1.163
 2800 NAT Q1=    219.19  WSEL=   1914.29  ENC Q1=    313.47  WSEL=   1915.29  RATIO=  -.4301
 NAT Q1=    463.  RATIOS LOB,CH,ROB=   .2515   .6773   .0712  WSEL=   1915.29
3280 CROSS SECTION      1.16 EXTENDED       .70 FEET


3470 ENCROACHMENT STATIONS=    4920.0    5080.0  TYPE=     4  TARGET=        .323
     1.16     5.20  1915.20      .00  1914.29  1915.79      .59     6.15      .03  1913.50
    2970.       0.    2970.       0.       0.     482.       0.      68.      24.   1913.50
      .27      .00     6.16      .00     .000     .050     .000     .000  1910.00  4920.00
  .010180     500.     460.     430.        5        0        0      .00   160.00  5080.00

 FLOW DISTRIBUTION FOR SECNO=      1.16          CWSEL=   1915.20

 STA=    4920.    5080.
   PER Q=    100.0
    AREA=    482.4
     VEL=      6.2

 *SECNO 1.219
1
 05/09/88    10:04:20                                                                    PAGE   27


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


3301 HV CHANGED MORE THAN HVINS

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    4940.0    5065.0  TYPE=     1  TARGET=     125.000
     1.22     4.82  1918.82  1918.82  1918.40  1920.28     1.46     4.21      .26  1916.00
    2970.     248.    2270.     451.      51.     210.     103.      71.      25.   1916.00
      .28     4.83    10.79     4.39     .000     .050     .000     .000  1914.00  4940.00
  .022157     290.     290.     310.        2       11        0      .00   125.00  5065.00
0
 FLOW DISTRIBUTION FOR SECNO=      1.22          CWSEL=   1918.82

 STA=    4940.    4960.    5015.    5065.
```

```
  PER Q=      8.4      76.4      15.2
   AREA=     51.5     210.3     102.7
    VEL=      4.8      10.8       4.4

*SECNO 1.280
3280 CROSS SECTION      1.28 EXTENDED       .29 FEET


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    4935.0    5080.0  TYPE=     1  TARGET=     145.000
     1.28      5.79  1923.79      .00  1922.87  1924.34      .55      3.97      .09  1920.00
    2970.      488.     2482.      0.      136.      393.      0.       74.      26. 100000.00
      .29      3.58      6.31     .00     .000     .050     .080     .000  1918.00  4935.00
  .007959      310.      320.     320.        3         0         0      .00   145.00  5080.00
0
FLOW DISTRIBUTION FOR SECNO=      1.28          CWSEL=   1923.79

STA=    4935.     4975.     5080.
  PER Q=      16.4      83.6
   AREA=     136.4     393.1
    VEL=       3.6       6.3

1
 05/09/88    10:04:20                                                                                                    PAGE   28



                                                                                                THIS RUN EXECUTED 05/09/88   10:06:12
*************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
*************************************************


T1      WITTMANN ADMS
T2      50 YEAR STORM EVENT
T3      CIRCLE CITY - TRILBY WASH

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        4.        0.        0.   .007700      .00       .5        0.  1842.000      .000

MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     3.000      .000    -1.000      .000      .000      .000      .000      .000      .000    15.000

1
 05/09/88    10:04:20                                                                                                    PAGE   29


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*PROF 3

CCHV=    .100 CEHV=    .300
*SECNO 1.000
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                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE
                BASED ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC1 MODELS.

                NOTE:  THE FLOODWAY, 50-YEAR AND 10-YEAR RUNS ASSUMED TOTAL
                DISCHARGE IN THE MAIN CHANNEL WITH NO SPLIT FLOW.
      .00     5.49  1844.49  1843.53  1842.00  1845.03      .60      .00      .00  1842.00
    2280.     216.    1995.      69.     129.     302.      63.       0.       0.   1844.00
      .00     1.68     6.61     1.01     .080     .050     .080     .000  1839.00  4784.25
   .007820      0.       0.       0.        0       14        0      .00   411.76  5196.01
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1844.49

 STA=    4784.    4865.    4920.    4975.    5050.    5185.    5196.
   PER Q=       .6      1.2      7.7     87.5      3.0       .1
    AREA=     19.8     26.9     81.9    301.7     66.1      2.7
     VEL=       .6      1.0      2.1      6.6      1.0       .6

 *SECNO  .057
      .06     5.07  1846.57      .00      .00  1846.98      .30     1.76      .03  1844.00
    2280.     208.    1691.     381.     129.     335.     262.       4.       3.   1844.00
      .02     1.61     5.05     1.45     .080     .050     .080     .000  1841.50  4849.98
   .004653     200.     300.     360.        2        0        0      .00   460.03  5310.01
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1846.57

 STA=    4850.    4890.    4965.    5050.    5166.    5300.    5310.
   PER Q=       .3      8.9     74.2     13.7      2.9       .1
    AREA=     11.4    117.9    334.9    182.3     76.6      2.9
     VEL=       .5      1.7      5.1      1.7       .9       .5

 *SECNO  .102

 1645 INT SEC ADDED BY RAISING SEC       .10,  -1.250FT AND MULTIPLYING BY   1.121


 3301 HV CHANGED MORE THAN HVING

1
 05/03/88    10:04:20                                                                    PAGE   30


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.01     4.61  1847.36  1847.36      .00  1848.59     1.23     1.11      .28  1847.75
    2280.       0.    2267.      13.       0.     254.       9.       6.       4.   1846.75
      .02      .00     8.93     1.36     .080     .050     .080     .000  1842.75  4977.18
  .026240     100.     120.     130.       20        8        0      .00   130.56  5107.73
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1847.36

 STA=    4977.    5077.    5108.
   PER Q=     99.4       .6
    AREA=    253.8      9.3
     VEL=      8.9      1.4


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.250FT AND MULTIPLYING BY    .892
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3301 HV CHANGED MORE THAN HVINS

      .10     5.74  1849.74      .00      .00  1850.29      .55     1.63      .07  1849.00
    2280.      91.    2070.     119.      72.     333.      67.       7.       4.  1848.00
      .03     1.27     6.22     1.78     .080     .050     .080     .000  1844.00  4830.61
  .000301     100.     120.     130.        3        0        0      .00   288.99  5119.59

 FLOW DISTRIBUTION FOR SECNO=       .10          CWSEL=   1849.74

 STA=    4831.    4875.    4950.    5045.    5090.    5120.
   PER Q=      .6      3.4     90.8      4.8       .4
    AREA=    16.4     55.5    332.8     55.8     10.9
     VEL=      .9      1.4      6.2      2.0       .9

 CCHV=    .300 CEHV=    .500
 *SECNO  .163
      .16     5.05  1853.05      .00      .00  1853.70      .66     3.36      .05  1856.00
    2280.       0.    2109.     171.       0.     313.      96.      10.       6.  1852.00
      .04      .00     6.74     1.79     .090     .050     .080     .000  1848.00  4979.76
  .013713     300.     320.     325.        3        0        0      .00   254.42  5234.18
0
1
  05/09/88    10:04:20                                                                          PAGE   31


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1853.05

 STA=    4990.    5095.    5205.    5234.
   PER Q=     92.5      7.2       .3
    AREA=   312.9     97.7      8.0
     VEL=     6.7      1.9       .9

 *SECNO  .214

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1859.00 ELREA=     1859.00

                BRIDGE OPENING DATA TAKEN FROM FIELD MEASUREMENTS.
      .21     4.23  1854.73      .00      .00  1855.19      .46     1.43      .06  1858.00
    2280.       0.    2280.       0.       0.     419.       0.      12.       8.  1858.00
      .06      .00     5.44      .00     .030     .030     .030     .000  1850.50  4908.17
  .002783     270.     270.     270.        3        0        0      .00   138.66  5046.83
0
 FLOW DISTRIBUTION FOR SECNO=       .21          CWSEL=   1854.73

 STA=    4908.    5060.
   PER Q=    100.0
    AREA=    418.8
     VEL=      5.4


 SPECIAL BRIDGE

 SB  XK       XKOR     COFQ     RDLEN    BWC      BWP      BAREA    SS       ELCHU    ELCHD
     1.25     1.60     3.00      .00   140.00     9.00  1128.00     1.25  1851.00  1850.50

 *SECNO  .226
 CLASS A LOW FLOW

 3420 BRIDGE W.S.=   1854.94 BRIDGE VELOCITY=,      3.99     CALCULATED CHANNEL AREA=,      536.
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  EGPRS     EGLWC      H3      QWEIR     QLOW     BAREA  TRAPEZOID     ELLC     ELTRD
                                                          AREA
     .00   1855.68     .12        0.    2280.     1128.    1128.    1859.00   1860.00


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1860.00

     .23     3.85  1854.85      .00      .00  1855.68      .83      .49      .00  1860.00
   2280.       0.    2280.       0.       0.     312.       0.      13.       8.   1860.00
     .06      .00     7.31      .00     .000     .030     .000     .000  1851.00  4895.73
  .006399     65.      65.      65.        0        0        0      .00   123.78  5019.51
0
1
 05/09/88    10:04:20                                                                    PAGE   32


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      .23          CWSEL=   1854.85

STA=    4896.    5040.
  PER Q=    100.0
   AREA=    311.9
    VEL=      7.3

*SECNO  .248

1645 INT SEC ADDED BY RAISING SEC       .25,  -1.000FT AND MULTIPLYING BY   1.027

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1859.33

    1.01     3.61  1855.11  1855.11      .00  1856.18     1.07      .31      .12  1857.00
   2280.       0.    2280.       0.       0.     275.       0.      13.       8.   1861.00
     .06      .00     8.29      .00     .030     .030     .030     .000  1851.50  4926.94
  .010413     38.      38.      38.        3       11        0      .00   130.52  5057.46
0
FLOW DISTRIBUTION FOR SECNO=     1.01          CWSEL=   1855.11

STA=    4927.    5142.
  PER Q=    100.0
   AREA=    274.9
    VEL=      8.3


1645 INT SEC ADDED BY RAISING SEC      1.01,    .500FT AND MULTIPLYING BY    .987

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1858.67

    1.02     3.64  1855.64  1855.64      .00  1856.71     1.07      .40      .00  1857.50
   2280.       0.    2280.       0.       0.     275.       0.      13.       8.   1861.50
     .06      .00     8.28      .00     .030     .030     .030     .000  1852.00  4926.02
  .010318     38.      38.      38.        2        5        0      .00   130.11  5056.13
0
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 05/09/88    10:04:20                                                                    PAGE   33
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST

FLOW DISTRIBUTION FOR SECNO=      1.02          CWSEL=   1855.64

STA=    4926.    5139.
  PER Q=    100.0
   AREA=    275.3
    VEL=      8.3


1645 INT SEC ADDED BY RAISING SEC      1.02,    .500FT AND MULTIPLYING BY    .987

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1858.00

      .25     3.67  1856.17  1856.17      .00  1857.24     1.07      .40      .00  1858.00
    2280.       0.    2280.       0.       0.     275.       0.      14.       0.   1862.00
      .06      .00     8.30      .00     .030     .030     .030     .000  1852.50  4925.21
  .010311      38.      38.      38.        2        5        0      .00   129.37  5054.58
0
 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1856.17

 STA=    4925.    5135.
   PER Q=    100.0
    AREA=    274.7
     VEL=      8.3


 SPECIAL BRIDGE

 SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.05      1.60      3.00       .00    230.00     16.00    1284.00      .00    1853.00   1852.50

 *SECNO  .254
 CLASS A LOW FLOW

 3420 BRIDGE W.S.=   1856.40 BRIDGE VELOCITY=,      2.92      CALCULATED CHANNEL AREA=,      727.

  EGPRS     EGLWC      H3       QWEIR     QLOW      BAREA   TRAPEZOID      ELLC     ELTRD
                                                             AREA
       .00   1857.60      .53       0.     2280.     1284.     1284.     1859.00   1862.00


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 05/09/88    10:04:20                                                                          PAGE   34


  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1860.00

      .25     3.70  1856.70      .00      .00  1857.60      .91      .37      .00  1862.00
    2420       0.    2420       0.       0.     310       0.      11       0.   1862.00
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      .06      .00     7.64      .00     .000     .030     .000     .000  1853.00  4938.05
   .008848      30.      30.      30.       0        0        0      .00   150.86  5048.91
0
 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1856.70

 STA=    4838.    5110.
   PER Q=    100.0
    AREA=    317.6
     VEL=      7.6

 CCHV=    .100 CEHV=    .300
 *SECNO  .315
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      .31     3.67  1861.17  1861.17      .00  1861.76      .59     3.84      .03  1860.00
    2428.     286.    1787.     355.     109.     254.     168.      17.      10.  1860.00
      .08     2.62     7.04     2.12     .080     .050     .080     .000  1857.50  4937.49
   .017314     360.     320.     270.        2        6        0      .00   441.77  5279.26
0
 FLOW DISTRIBUTION FOR SECNO=       .31          CWSEL=   1861.17

 STA=    4837.    4855.    4900.    4940.    5045.    5090.    5260.    5279.
   PER Q=      .7      5.9      5.2     73.6      5.9      8.7       .0
    AREA=     10.2     52.5     46.7    253.8     52.5    113.5      1.6
     VEL=      1.7      2.7      2.7      7.0      2.7      1.9       .5

 *SECNO  .376
      .38     2.81  1864.81      .00      .00  1864.93      .12     3.13      .05  1864.00
    2428.    1136.     741.     551.     428.     218.     249.      22.      13.  1863.00
      .11     2.65     3.40     2.21     .080     .050     .080     .000  1862.00  4709.79
   .006910     320.     320.     220.        5        0        0      .00   513.50  5223.29

 FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1864.81

 STA=    4710.    4730.    4760.    4830.    4875.    4925.    5060.    5115.    5195.    5223.
   PER Q=      .3      5.1     24.9     11.5      5.0     30.5     11.6     10.7       .4
    AREA=      8.2     54.3    196.6    103.9     65.4    217.9    113.2    124.7     11.4
     VEL=       .8      2.3      3.1      2.7      1.8      3.4      2.5      2.1       .8

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 05/09/98    10:04:20                                                                          PAGE   35


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .442
      .44     2.84  1868.84      .00      .00  1869.34      .50     4.29      .11  1867.00
    2428.    1220.    1109.      99.     231.     176.      47.      27.      17.  1868.00
      .13     5.28     6.31     2.13     .080     .050     .080     .000  1866.00  4769.89
   .028691     340.     350.     350.        2        0        0      .00   355.76  5125.64
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1868.84

 STA=    4770.    4820.    4850.    4880.    4910.    5035.    5110.    5126.
   PER Q=     1.5     10.7     22.1     16.0     45.7      4.0       .1
    AREA=    20.9     55.1     85.1     70.1    175.7     43.9      2.6
     VEL=      1.8      4.7      6.3      5.5      6.3      2.2      1.0

 *SECNO  .501

 3265 DIVIDED FLOW
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      .50     4.43  1873.93      .00      .00  1874.42      .49     5.08      .00  1870.00
    2428.     760.    1338.     330.     347.     184.     160.      31.      20.  1872.00
      .14     2.19     7.27     2.06     .080     .050     .080     .000  1869.50  4624.00
  .010571     310.     310.     310.        4        0        0      .00   556.33  5207.69
0
 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1873.93

 STA=    4624.    4735.    4841.    4915.    4965.    4980.    5030.    5110.    5208.
   PER Q=      8.2      7.9      1.0      7.1      7.0     55.1     11.4      2.1
    AREA=    107.1    102.5     21.6     71.5     44.0    184.0    114.4     45.4
     VEL=      1.9      1.9      1.1      2.4      3.9      7.3      2.4      1.1

 *SECNO  .582
      .58     3.67  1878.17      .00      .00  1878.46      .29     4.02      .02  1876.00
    2428.    1302.    1055.      72.     602.     175.      35.      38.      25.  1876.00
      .17     2.16     6.03     2.02     .080     .050     .080     .000  1874.50  4450.22
  .009905     310.     430.     600.        4        0        0      .00   615.13  5065.36
0
 FLOW DISTRIBUTION FOR SECNO=       .58          CWSEL=   1878.17

 STA=    4450.    4470.    4625.    4685.    4790.    4865.    4930.    4970.    5030.    5060.    5065.
   PER Q=      .0     10.2      5.9     10.3      7.4      8.8     11.0     43.4      2.9       .0
    AREA=      1.6    141.8     69.9    122.3     87.4     92.0     86.6    174.9     34.9       .4
     VEL=       .4      1.7      2.0      2.0      2.0      2.3      3.1      6.0      2.0       .3

1
 05/09/98    10:04:20                                                                          PAGE   36


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO  .681

 3265 DIVIDED FLOW

      .68     3.32  1882.32      .00      .00  1882.56      .24     4.10      .00  1882.00
    2428.       2.    1617.     809.       5.     354.     345.      45.      30.  1882.00
      .20      .51     4.57     2.34     .080     .048     .080     .000  1879.00  4919.97
  .008676     410.     490.     350.        4        0        0      .00   503.82  5465.61
0
 FLOW DISTRIBUTION FOR SECNO=       .68          CWSEL=   1882.32

 STA=    4920.    4950.    5130.    5180.    5195.    5390.    5410.    5435.    5466.
   PER Q=      .1     66.6     11.0      4.3      8.4      3.0      3.8      2.8
    AREA=      4.8    353.9     36.0     34.8    109.7     31.4     39.3     33.9
     VEL=       .5      4.6      2.8      3.0      1.9      2.3      2.3      2.0

 1490 NH CARD USED
 *SECNO  .744

 1645 INT SEC ADDED BY RAISING SEC       .74,  -2.000FT AND MULTIPLYING BY   1.689


 3265 DIVIDED FLOW

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.01     3.72  1884.72  1884.72      .00  1885.22      .50     2.16      .08  1885.00
    2428.       0.    2049.     379.       0.     336.     169.      47.      32.  1885.00
      .21      .00     6.10     2.24     .080     .046     .080     .000  1891.00  4973.46
  .002707     105.     165.     155.        2        0        0      .00   559.56  5771.17
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0

FLOW DISTRIBUTION FOR SECNO= 1.01 CWSEL= 1884.72

STA=	4973.	5231.	5374.	5704.	5721.	5738.	5771.
PER Q=	84.4	4.3	3.3	3.7	3.7	.7	
AREA=	335.9	56.1	51.6	24.7	24.7	12.0	
VEL=	6.1	1.9	1.5	3.6	3.6	1.4	

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

1645 INT SEC ADDED BY RAISING SEC 1.01, 2.000FT AND MULTIPLYING BY .592

3265 DIVIDED FLOW

THE SMALL SPLIT FLOW AREA BETWEEN SECTIONS .744 AND
.904 IS INDICATED AS DIVIDED FLOW ON THE HEC-2 OUTPUT.
THIS WAS NOT AMENDED SINCE A REASONABLE DISTRIBUTION OF
DISCHARGE RESULTED AT EACH CROSS SECTION.

.74	4.53	1887.53	.00	.00	1887.95	.31	2.62	.02	1887.80
2428.	0.	1736.	692.	0.	339.	307.	49.	34.	1887.00
.22	.00	5.12	2.25	.080	.047	.080	.000	1883.00	4910.86
.011931	195.	165.	155.	4	0	0	.00	491.03	5442.81

FLOW DISTRIBUTION FOR SECNO= .74 CWSEL= 1887.53

STA=	4911.	5100.	5135.	5185.	5266.	5380.	5390.	5400.	5443.
PER Q=	71.5	3.1	6.5	4.4	5.6	3.3	3.3	2.3	
AREA=	338.8	36.4	64.6	62.3	65.1	22.9	22.9	33.0	
VEL=	5.1	2.1	2.5	1.7	2.1	3.5	3.5	1.7	

*SECNO .825

3265 DIVIDED FLOW

.82	3.87	1892.37	.00	.00	1892.68	.31	4.84	.00	1891.50
2428.	635.	1559.	234.	234.	296.	103.	55.	39.	1892.00
.25	2.71	5.27	2.27	.080	.050	.080	.000	1888.50	4775.38
.011094	430.	430.	380.	4	0	0	.00	445.69	5241.25

0

FLOW DISTRIBUTION FOR SECNO= .82 CWSEL= 1892.37

STA=	4775.	4790.	4860.	4880.	4935.	5070.	5105.	5120.	5130.	5155.	5177.	5230.	5241.
PER Q=	.1	9.5	6.8	9.9	64.2	.5	2.0	3.4	3.4	.1	.2	.1	
AREA=	2.7	95.6	47.3	88.9	295.6	12.8	20.5	23.7	34.1	4.0	6.0	2.1	
VEL=	.6	2.4	3.5	2.7	5.3	1.0	2.4	3.5	2.4	.6	.6	.6	

*SECNO .904

.90	4.79	1897.29	1897.22	.00	1897.98	.69	5.19	.11	1896.00
2428.	234.	1785.	409.	97.	234.	176.	61.	42.	1896.00
.27	2.41	7.64	2.33	.080	.050	.080	.000	1892.50	4876.03
.014605	380.	415.	420.	6	11	0	.00	345.21	5221.24

0

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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=      .90          CWSEL=   1897.29

 STA=    4876.    4915.    4940.    4970.    5045.    5095.    5130.    5160.    5205.    5221.
  PER Q=     1.8      3.6      4.3     73.5      3.2      2.2      4.3      6.4       .7
   AREA=    25.3     32.5     39.0    233.7     40.0     28.0     39.0     58.5     10.5
    VEL=     1.7      2.7      2.7      7.6      1.9      1.3      2.7      2.7      1.7

 *SECNO 1.001
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.00     5.35  1903.35  1903.35      .00  1904.10      .74     6.08      .02  1902.00
    2428.     236.    1932.     260.     115.     251.     163.      67.      46.  1902.00
      .29     2.06     7.69     1.59     .080     .050     .080     .000  1898.00  4859.39
  .010124     550.     510.     440.        4        9        0      .00   397.52  5256.91
0
 FLOW DISTRIBUTION FOR SECNO=     1.00          CWSEL=   1903.35

 STA=    4859.    4870.    4915.    4950.    4970.    5030.    5060.    5095.    5110.    5145.    5200.    5257.
  PER Q=      .0      2.7      4.5      2.6     79.6      1.8      2.1      1.9      2.1      1.8      1.1
   AREA=     1.9     38.4     47.4     27.1    251.2     25.6     29.9     20.3     29.9     33.2     24.3
    VEL=      .6      1.7      2.3      2.3      7.7      1.7      1.7      2.3      1.7      1.3      1.1

 1490 NH CARD USED
 *SECNO 1.076
     1.08     4.91  1907.91      .00      .00  1908.17      .27     4.03      .05  1907.50
    2428.     840.    1311.     278.     223.     280.     148.      72.      50.  1907.00
      .32     3.76     4.69     1.88     .064     .049     .080     .000  1903.00  4785.21
  .009706     430.     400.     400.        3        0        0      .00   409.36  5194.57
0
 FLOW DISTRIBUTION FOR SECNO=     1.08          CWSEL=   1907.91

 STA=    4785.    4810.    4835.    4910.    5050.    5195.
  PER Q=    12.4     14.9      7.3     54.0     11.4
   AREA=    62.9     72.9     87.5    279.6    147.7
    VEL=     4.8      5.0      2.0      4.7      1.9

 *SECNO 1.163
     1.16     4.03  1914.03      .00      .00  1914.54      .50     6.29      .07  1913.50
    2428.     565.    1847.      16.     170.     295.      14.      78.      54.  1913.50
      .34     3.33     6.26     1.12     .080     .050     .080     .000  1910.00  4796.54
  .019658     500.     460.     430.        4        0        0      .00   338.11  5134.65
0
1
 05/09/88    10:04:20                                                                          PAGE   39


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


FLOW DISTRIBUTION FOR SECNO=     1.16          CWSEL=   1914.03

 STA=    4797.    4825.    4850.    4920.    5080.    5130.
  PER Q=     3.1      8.8     11.4     76.1       .7
   AREA=    28.9     50.8     89.8    295.3     14.2
    VEL=     2.6      4.2      3.1      6.3      1.1

 *SECNO 1.210
```

```
     1.22     4.40  1918.40      .00      .00  1918.95      .54     4.40      .01  1916.00
    2428.     806.    1386.     236.     265.     187.      94.      82.      56.   1916.00
      .36     3.04     7.41     2.50     .080     .050     .080     .000  1914.00  4777.08
  .012186     280.     290.     310.        4        0        0      .00   319.01  5096.09
0
 FLOW DISTRIBUTION FOR SECNO=      1.22          CWSEL=   1918.40

 STA=    4777.    4820.    4860.    4880.    4920.    4960.    5015.    5080.    5096.
   PER Q=      .3      5.9      7.3      9.9      9.9     57.1      9.6       .1
    AREA=     8.6     56.1     48.0     76.1     76.1    187.1     91.2      3.2
     VEL=      .7      2.6      3.7      3.1      3.1      7.4      2.6       .7

 *SECNO 1.280
     1.28     4.64  1922.64      .00      .00  1923.23      .59     4.27      .01  1920.00
    2428.     557.    1861.      10.     186.     272.       9.      85.      58.   1922.00
      .37     3.00     6.85     1.06     .080     .050     .080     .000  1918.00  4826.59
  .014964     310.     320.     320.        3        0        0      .00   283.11  5109.71
0
 FLOW DISTRIBUTION FOR SECNO=      1.28          CWSEL=   1922.64

 STA=    4827.    4870.    4975.    5080.    5110.
   PER Q=      .6     22.3     76.7       .4
    AREA=    13.8    171.8    271.8      9.5
     VEL=     1.1      3.2      6.8      1.1

1
  05/09/88    10:04:20                                                                    PAGE   40


                                                                  THIS RUN EXECUTED 05/09/88   10:06:56
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN ADMS
 T2      10 YEAR STORM EVENT
 T3      CIRCLE CITY - TRILBY WASH

 J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC    HVINS     Q        WSEL     FQ

       0.       5.       0.       0.   .007700      .00       .5       0.  1840.000     .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC     IBW      CHNIM    ITRACE

     15.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
  05/09/88    10:04:20                                                                    PAGE   41


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 4

 CONK=      100 CFWL=      700
```

```
*SECNO  .000
                THIS IS A MULTIPLE PROFILE RUN.  ALL DISCHARGES ARE
                BASED ON THE 100-YEAR, 50-YEAR AND 10-YEAR HEC1 MODELS.

                NOTE:  THE FLOODWAY, 50-YEAR AND 10-YEAR RUNS ASSUMED TOTAL
                DISCHARGE IN THE MAIN CHANNEL WITH NO SPLIT FLOW.
      .00     4.47  1843.47      .00  1840.00  1843.94      .47      .00      .00  1842.00
     1297.      40.    1257.       0.      30.     226.       0.       0.       0.   1844.00
      .00     1.33     5.56      .00     .080     .050     .080     .000  1839.00  4934.44
   .007717       0.       0.       0.        0        0        7      .00   112.93  5047.37
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1843.47

 STA=    4934.    4975.    5050.
   PER Q=      3.1     96.9
    AREA=     23.9    226.3
     VEL=      1.3      5.6

 *SECNO  .057
      .06     4.10  1845.60      .00      .00  1845.89      .29     1.93      .02  1844.00
     1297.      57.    1151.      89.      48.     252.      74.       2.       1.   1844.00
      .02     1.19     4.56     1.19     .080     .050     .090     .000  1841.50  4904.90
   .005525     200.     300.     360.        1        0        0      .00   238.04  5142.95
0
 FLOW DISTRIBUTION FOR SECNO=       .06          CWSEL=   1845.60

 STA=    4905.    4965.    5050.    5143.
   PER Q=      4.4     88.7      6.8
    AREA=     48.2    252.5     74.5
     VEL=      1.2      4.6      1.2

 *SECNO  .102

 1645 INT SEC ADDED BY RAISING SEC       .10,  -1.250FT AND MULTIPLYING BY   1.189


 3301 HV CHANGED MORE THAN HVINS

1
 05/09/88    10:04:20                                                                    PAGE   42


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


      1.01     3.68  1846.43      .00      .00  1847.25      .82     1.20      .16  1847.75
     1297.       0.    1297.       0.       0.     173.       0.       3.       2.   1846.75
      .02      .00     7.26      .00     .080     .050     .080     .000  1842.75  5003.68
   .023132     100.     120.     130.        3        0        0      .00    87.46  5091.15
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1846.43

 STA=    5004.    5095.
   PER Q=    100.0
    AREA=    178.7
     VEL=      7.3


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.250FT AND MULTIPLYING BY    .841

      .10     4.60  1848.60      .00      .00  1849.11      .51     1.83      .03  1849.00
     1297.       0.    1290.       7.       0.     226.       8.       3.       2.   1848.00
      .02      .00     5.70      .05     .080     .050     .080     .000  1844.00  4956.03
```

```
   .010903     100.     120.     130.       2        0        0      .00   115.90  5071.92
0
 FLOW DISTRIBUTION FOR SECNO=       .10          CWSEL=   1848.60

 STA=    4956.    5045.    5072.
   PER Q=     99.5       .5
   AREA=    225.5      8.1
    VEL=      5.7       .9

 CCHV=    .300 CEHV=    .500
 *SECNO  .163
       .16     4.37  1852.37      .00      .00  1852.83      .46     3.71      .02  1856.00
     1297.       0.    1286.      11.       0.     237.      15.       5.       3.  1852.00
       .05      .00     5.44      .68     .080     .050     .080     .000  1848.00  4983.12
   .012447     300.     320.     325.        3        0        0      .00   194.46  5177.58
0
 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1852.37

 STA=    4983.    5095.    5178.
   PER Q=     99.2       .8
   AREA=    236.6     15.5
    VEL=      5.4       .7

1
  05/03/88    10:04:20                                                                          PAGE   43


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .214

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1859.00 ELREA=     1859.00

                BRIDGE OPENING DATA TAKEN FROM FIELD MEASUREMENTS.
       .21     3.38  1853.88      .00      .00  1854.17      .29     1.29      .05  1858.00
     1297.       0.    1297.       0.       0.     303.       0.       7.       4.  1858.00
       .06      .00     4.28      .00     .030     .030     .030     .000  1850.50  4911.15
   .002496     270.     270.     270.        3        0        0      .00   133.28  5044.43
0
 FLOW DISTRIBUTION FOR SECNO=       .21          CWSEL=   1853.88

 STA=    4911.    5060.
   PER Q=    100.0
   AREA=    303.4
    VEL=      4.3


 SPECIAL BRIDGE

 SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     1.25      1.60      3.00       .00    140.00      9.00   1128.00      1.25   1851.00   1850.50

 *SECNO  .226
 CLASS A LOW FLOW

 3420 BRIDGE W.S.=   1854.11 BRIDGE VELOCITY=,      2.85      CALCULATED CHANNEL AREA=,      420.

  EGPRS     EGLWC      H3       QWEIR     QLOW      BAREA   TRAPEZOID      ELLC     ELTRD
                                                            AREA
       .00  1854.58      .07       0.     1297.     1128.     1128.     1859.00   1860.00
```

```
3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1860.00

      .23     2.95  1853.95      .00      .00  1854.58      .63      .41      .00  1860.00
     1297.      0.    1297.       0.       0.     203.       0.       7.       4.   1860.00
      .07     .00     6.38      .00     .000     .030     .000     .000  1851.00  4901.28
  .007826      65.      65.      65.        0        0        0      .00   115.22  5016.50
0
 FLOW DISTRIBUTION FOR SECNO=       .23          CWSEL=   1853.95

 STA=    4901.    5040.
   PER Q=    100.0
    AREA=    203.3
     VEL=      6.4

1
  05/09/88    10:04:20                                                                    PAGE   44


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 *SECNO  .248

 1645 INT SEC ADDED BY RAISING SEC       .25,   -.750FT AND MULTIPLYING BY   1.035

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1859.00

     1.01     2.77  1854.52  1854.52      .00  1855.36      .83      .54      .10  1857.25
     1297.      0.    1297.       0.       0.     177.       0.       8.       4.   1861.25
      .07     .00     7.32      .00     .030     .030     .030     .000  1851.75  4939.15
  .011448      58.      58.      58.        3       11        0      .00   108.99  5048.14
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1854.52

 STA=    4939.    5144.
   PER Q=    100.0
    AREA=    177.2
     VEL=      7.3


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .750FT AND MULTIPLYING BY    .966

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1860.00 ELREA=     1858.00

      .25     2.83  1855.33  1855.33      .00  1856.16      .83      .65      .00  1858.00
     1297.      0.    1297.       0.       0.     177.       0.       8.       5.   1862.00
      .07     .00     7.31      .00     .030     .030     .030     .000  1852.50  4936.67
  .011095      58.      58.      58.        2        5        0      .00   106.66  5043.33

 FLOW DISTRIBUTION FOR SECNO=       .25          CWSEL=   1855.33

 STA=    4937.    5135.
   PER Q=    100.0
    AREA=    177.3
     VEL=      7.3
```

```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


SPECIAL BRIDGE

SB  XK       XKOR     COFQ     RDLEN    BWC      BWP      BAREA    SS       ELCHU    ELCHD
    1.05     1.60     3.00     .00      230.00   16.00    1284.00  .00      1853.00  1852.50

*SECNO  .254
CLASS A LOW FLOW

3420 BRIDGE W.S.=   1855.57 BRIDGE VELOCITY=,     2.15     CALCULATED CHANNEL AREA=,     551.

 EGPRS     EGLWC     H3       QWEIR    QLOW     BAREA    TRAPEZOID     ELLC     ELTRD
                                                          AREA
      .00  1856.58   .41      0.       1297.    1284.    1284.    1859.00  1862.00


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=    1860.00 ELREA=    1860.00

     .25    2.75  1855.75    .00      .00  1856.58    .84      .42      .00  1862.00
   1380.     0.   1380.      0.       0.    188.      0.       8.       5.   1862.00
     .07    .00    7.34    .00     .000    .030    .000     .000  1853.00  4912.64
  .012237   30.     30.     30.       0       0       0      .00   121.09  5033.73
0
FLOW DISTRIBUTION FOR SECNO=      .25        CWSEL=   1855.75

STA=    4913.    5110.
  PER Q=    100.0
   AREA=    188.0
    VEL=      7.3

CCHV=    .100 CEHV=    .300
*SECNO  .315
     .31    3.16  1860.66  1860.59    .00  1861.12    .46     4.50     .04  1860.00
   1380.    106.   1177.     97.     60.    201.     68.      10.      6.   1860.00
     .09    1.77    5.85    1.44    .080    .050    .090     .000  1857.50  4845.03
  .016340   360.    320.    270.       6       8       0      .00   358.01  5203.04
0
FLOW DISTRIBUTION FOR SECNO=      .31        CWSEL=   1860.66

STA=    4845.    4855.    4900.    4940.    5045.    5090.    5203.
  PER Q=      .3     3.9     3.5    85.3     3.9     3.1
   AREA=     3.3    29.9    26.6   201.1    29.9    37.6
    VEL=     1.1     1.8     1.8     5.9     1.8     1.1
```



```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

*SECNO  .376
```

```
      .38     2.24  1864.24      .00      .00  1864.33      .08     3.17      .04  1864.00
    1380.     718.     368.     294.     311.     142.     163.      13.       9.  1863.00
      .13     2.31     2.60     1.80     .080     .050     .080     .000  1862.00  4723.88
  .007154     320.     320.     220.        5        0        0      .00   479.68  5203.56
0
 FLOW DISTRIBUTION FOR SECNO=       .38          CWSEL=   1864.24

 STA=    4724.    4730.    4760.    4830.    4875.    4925.    5060.    5115.    5195.    5204.
   PER Q=      .0      4.9     30.7     13.0      3.5     26.7     12.2      9.0       .0
    AREA=      .7     37.3    157.1     78.5     37.2    141.8     82.2     79.6      1.0
     VEL=      .4      1.8      2.7      2.3      1.3      2.6      2.1      1.6       .4

 *SECNO  .442
      .44     2.37  1868.37      .00      .00  1868.71      .34     4.30      .08  1867.00
    1380.     811.     558.      11.     173.     118.      11.      17.      12.  1868.00
      .15     4.69     4.72     1.01     .080     .050     .080     .000  1866.00  4797.42
  .027158     340.     350.     350.        2        0        0      .00   294.03  5091.45
0
 FLOW DISTRIBUTION FOR SECNO=       .44          CWSEL=   1868.37

 STA=    4797.    4820.    4850.    4880.    4910.    5035.    5091.
   PER Q=      .3     11.3     28.2     19.0     40.5       .8
    AREA=     4.2     41.3     71.3     56.3    118.3     10.6
     VEL=     1.0      3.8      5.5      4.7      4.7      1.0

 *SECNO  .501

 3265 DIVIDED FLOW

      .50     3.78  1873.28      .00      .00  1873.74      .46     5.00      .04  1870.00
    1380.     307.     970.     103.     167.     151.      66.      19.      15.  1872.00
      .16     1.84     6.41     1.55     .080     .050     .080     .000  1869.50  4661.58
  .010659     310.     310.     310.        4        0        0      .00   381.56  5139.07
0
 FLOW DISTRIBUTION FOR SECNO=       .50          CWSEL=   1873.28

 STA=    4662.    4735.    4805.    4915.    4965.    4980.    5030.    5110.    5139.
   PER Q=     4.8      4.6       .1      4.6      8.2     70.3      7.3       .1
    AREA=    46.9     44.8      1.9     38.8     34.2    151.3     62.1      4.0
     VEL=     1.4      1.4       .5      1.6      3.3      6.4      1.6       .5

1
 05/09/88    10:04:20                                                                    PAGE   47


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .582
      .58     3.15  1877.65      .00      .00  1877.92      .27     4.16      .02  1876.00
    1380.     577.     770.      33.     347.     144.      20.      23.      18.  1876.00
      .19     1.66     5.35     1.64     .080     .050     .080     .000  1874.50  4506.61
  .010143     310.     430.     600.        4        0        0      .00   548.08  5054.69
0
 FLOW DISTRIBUTION FOR SECNO=       .58          CWSEL=   1877.65

 STA=    4507.    4625.    4685.    4790.    4865.    4930.    4970.    5030.    5055.
   PER Q=     6.3      3.9      6.9      4.9      7.3     12.4     53.8      2.4
    AREA=    67.8     38.7     67.8     48.4     58.2     65.8    143.7     20.3
     VEL=     1.3      1.4      1.4      1.4      1.7      2.6      5.4      1.6

 1490 NH CARD USED
 *SECNO  .601
```

3265 DIVIDED FLOW

```
     .68     2.70  1881.78      .00      .00  1881.94      .17     4.02      .01  1882.00
   1380.       0.     972.     408.       0.     261.     216.      28.      23.  1882.00
     .23      .00     3.73     1.88     .080     .050     .080     .000  1879.00  4951.69
 .007885     410.     490.     350.        4        0        0      .00   346.93  5457.18
0
FLOW DISTRIBUTION FOR SECNO=       .68          CWSEL=   1881.78

STA=    4952.    5130.    5150.    5180.    5195.    5204.    5390.    5410.    5435.    5457.
  PER Q=     70.5      1.7      9.3      4.7      .9      5.2      2.5      3.1      2.2
   AREA=    260.7     15.7     53.2     26.6     7.9     47.2     20.5     25.6     19.7
    VEL=      3.7      1.5      2.4      2.4     1.5      1.5      1.7      1.7      1.5

1490 NH CARD USED
*SECNO  .744

1645 INT SEC ADDED BY RAISING SEC       .74,  -2.000FT AND MULTIPLYING BY   1.813


3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     1.01     2.91  1883.91  1883.91      .00  1884.56      .65     2.33      .14  1885.80
   1380.       0.    1315.      65.       0.     200.      24.      29.      24.  1885.00
     .24      .00     6.58     2.68     .080     .050     .080     .000  1881.00  5037.96
 .033188     195.     165.     155.        2        8        0      .00   183.34  5797.38
0
1
 05/09/88    10:04:20                                                                    PAGE   40


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1883.91

STA=    5038.    5254.    5780.    5797.
  PER Q=     95.3      2.3      2.3
   AREA=    200.0     12.1     12.1
    VEL=      6.6      2.7      2.7


1645 INT SEC ADDED BY RAISING SEC      1.01,   2.000FT AND MULTIPLYING BY    .552


3265 DIVIDED FLOW

                THE SMALL SPLIT FLOW AREA BETWEEN SECTIONS .744 AND
                .904 IS INDICATED AS DIVIDED FLOW ON THE HEC-2 OUTPUT.
                THIS WAS NOT AMENDED SINCE A REASONABLE DISTRIBUTION OF
                DISCHARGE RESULTED AT EACH CROSS SECTION.
     .74     4.08  1887.08      .00      .00  1887.30      .22     2.70      .04  1887.80
   1380.       0.    1074.     306.       0.     256.     180.      30.      25.  1887.00
     .25      .00     4.19     1.70     .080     .046     .080     .000  1883.00  4931.03
 .003832     195.     165.     155.        4        0        0      .00   416.96  5430.00
0
FLOW DISTRIBUTION FOR SECNO=       .74          CWSEL=   1887.08

STA=    4931.    5100.    5160.    5185.    5345.    5380.    5390.    5400.    5430.
  PER Q=     77.4      7.2      7.9      7.1      7.6      7.5      7.5      1.6
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    AREA=   256.1    34.8    27.0    36.8    29.1    18.3    18.3    16.2
     VEL=     4.2     1.3     1.9     1.2     1.6     2.7     2.7     1.2

 *SECNO  .825

 3265 DIVIDED FLOW

      .82    3.23  1891.73     .00     .00  1891.98     .25    4.67     .01  1891.50
    1380.     308.     965.     107.    139.     203.     47.     34.     28.   1892.00
      .28    2.21    4.61    2.28    .080    .050    .080    .000  1888.50  4799.83
  .012512     430.     430.     380.       4       0       0     .00   307.54  5151.49
0
 FLOW DISTRIBUTION FOR SECNO=      .82          CWSEL=   1891.73

 STA=    4800.    4860.    4880.    4935.    5070.    5120.    5130.    5151.
   PER Q=     7.0      7.4      7.9     69.9      1.5      3.7      2.5
    AREA=    51.7     34.4     53.3    203.3     11.1     17.2     18.5
     VEL=     1.9      3.0      2.0      4.6      1.9      3.0      1.9

1
 05/09/88    10:04:20                                                                    PAGE   49


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .904

 3265 DIVIDED FLOW

      .90    4.22  1896.72  1896.58     .00  1897.25     .52    5.19     .08  1896.00
    1380.      75.    1186.     118.     48.     190.     80.     38.     31.   1896.00
      .30    1.59    6.23    1.49    .080    .050    .080    .000  1892.50  4893.34
  .012763     380.     415.     420.       7      11       0     .00   297.06  5214.03
0
 FLOW DISTRIBUTION FOR SECNO=      .90          CWSEL=   1896.72

 STA=    4893.    4915.    4940.    4970.    5045.    5081.    5130.    5160.    5205.    5214.
   PER Q=      .6      2.2      2.7     86.0      1.0       .7      2.7      4.0       .3
    AREA=     7.8     18.1     21.7    190.4     13.0      9.1     21.7     32.5      3.3
     VEL=     1.1      1.7      1.7      6.2      1.1      1.1      1.7      1.7      1.1

 *SECNO 1.001

 3265 DIVIDED FLOW

     1.00    4.48  1902.48  1901.63     .00  1903.15     .67    5.86     .04  1902.00
    1380.      34.    1329.      17.     31.     199.     19.     41.     34.   1902.00
      .33    1.09    6.69     .90    .080    .050    .080    .000  1898.00  4893.47
  .010465     550.     510.     440.       6       8       0     .00   199.38  5126.75
0
 FLOW DISTRIBUTION FOR SECNO=     1.00          CWSEL=   1902.48

 STA=    4893.    4915.    4950.    4970.    5030.    5044.    5095.    5110.    5127.
   PER Q=      .3      1.4      .8     96.3      .2       .2       .6       .2
    AREA=     5.2     16.7     9.6    198.7     3.4      4.0      7.2      4.0
     VEL=      .7      1.2      1.2      6.7      .7       .7      1.2       .7

 1490 NH CARD USED
 *SECNO 1.076

 3265 DIVIDED FLOW
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     1.08     4.23  1907.23      .00      .00  1907.47      .23     4.27      .04  1907.50
    1380.     494.     794.      92.     141.     186.      64.      44.      36.   1907.00
      .36     3.51     4.27     1.43     .062     .046     .080     .000  1903.00  4786.91
  .010599     430.     400.     400.        3        0        0      .00   338.88  5150.38
0
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=      1.08          CWSEL=   1907.23

 STA=    4787.    4810.    4835.    4897.    5050.    5150.
   PER Q=     14.3     17.6      3.8     57.5      6.7
    AREA=     46.6     55.9     38.2    185.9     64.4
     VEL=      4.2      4.4      1.4      4.3      1.4

 *SECNO 1.163
     1.16     3.57  1913.57      .00      .00  1913.89      .32     6.39      .03  1913.50
    1380.     292.     1088.      0.     113.     220.      0.      48.      40.   1913.50
      .38     2.58     4.93     .25     .080     .050     .080     .000  1910.00  4903.09
  .010058     500.     460.     430.        4        0        0      .00   283.44  5086.53
0
 FLOW DISTRIBUTION FOR SECNO=      1.16          CWSEL=   1913.57

 STA=    4803.    4825.    4850.    4920.    5080.    5087.
   PER Q=      2.6      9.5      9.0     78.8       .0
    AREA=     17.2     39.1     57.1    220.4       .2
     VEL=      2.1      3.4      2.2      4.9       .3

 *SECNO 1.219
     1.22     3.69  1917.69      .00      .00  1918.13      .44     4.21      .04  1916.00
    1380.     366.     930.      84.     157.     148.      46.      50.      41.   1916.00
      .40     2.33     6.29     1.82     .080     .050     .080     .000  1914.00  4826.25
  .012037     280.     290.     310.        3        0        0      .00   243.59  5069.84
0
 FLOW DISTRIBUTION FOR SECNO=      1.22          CWSEL=   1917.69

 STA=    4826.    4860.    4880.    4920.    4960.    5015.    5070.
   PER Q=      3.8      7.1      7.9      7.9     67.4      6.1
    AREA=     28.5     33.7     47.5     47.5    147.8     46.3
     VEL=      1.8      2.9      2.3      2.3      6.3      1.8

 *SECNO 1.280
     1.28     3.98  1921.98      .00      .00  1922.41      .43     4.28      .00  1920.00
    1380.     231.     1149.      0.     102.     202.      0.      53.      43.   1922.00
      .42     2.27     5.68     .00     .080     .050     .080     .000  1918.00  4871.42
  .015146     310.     320.     320.        2        0        0      .00   207.84  5079.26
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 FLOW DISTRIBUTION FOR SECNO=      1.28          CWSEL=   1921.98
```

STA= 4871. 4975. 5080.
PER Q= 16.8 83.2
AREA= 102.2 202.2
VEL= 2.3 5.7

THIS RUN EXECUTED 05/09/88 10:07:34

****
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION 1.1
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CIRCLE CITY - TRILBY WAS

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.000	2785.00	1844.83	4728.48	4975.00	5050.00	5203.62	.00	475.14	5.83	1839.00	76.52	6.90
17.262	.000	2785.00	1844.83	4975.00	4975.00	5050.00	5050.00	.00	75.00	5.83	1839.00	123.75	8.51
	.000	2280.00	1844.49	4784.25	4975.00	5050.00	5196.01	.00	411.76	5.49	1839.00	78.20	6.61
	.000	1297.00	1843.47	4934.44	4975.00	5050.00	5047.37	.00	112.93	4.47	1839.00	77.17	5.56
	.057	2785.00	1846.89	4827.97	4965.00	5050.00	5315.51	2.06	487.53	5.39	1841.50	46.61	5.32
17.319	.057	2785.00	1847.75	4965.00	4965.00	5050.00	5054.18	2.92	89.18	6.25	1841.50	54.37	6.32
	.057	2280.00	1846.57	4849.98	4965.00	5050.00	5310.01	2.09	460.03	5.07	1841.50	46.53	5.05
	.057	1297.00	1845.60	4904.90	4965.00	5050.00	5142.95	2.13	238.04	4.10	1841.50	55.25	4.56
*	.102	2785.00	1849.98	4816.41	4950.00	5045.00	5129.06	1.94	312.64	5.98	1844.00	93.34	6.89
*17.364	.102	2785.00	1849.54	4950.00	4950.00	5045.00	5045.00	1.78	95.00	5.54	1844.00	189.62	8.90
*	.102	2280.00	1849.74	4830.61	4950.00	5045.00	5119.59	2.38	288.99	5.74	1844.00	83.01	6.22
*	.102	1297.00	1848.60	4956.03	4950.00	5045.00	5071.92	2.17	115.90	4.60	1844.00	108.03	5.72
	.163	2785.00	1853.41	4977.95	4960.00	5095.00	5253.58	3.43	275.64	5.41	1848.00	125.41	6.94
17.425	.163	2785.00	1854.16	4973.84	4960.00	5095.00	5095.00	4.62	121.17	6.16	1848.00	81.77	6.28
	.163	2280.00	1853.05	4979.76	4960.00	5095.00	5234.18	3.31	254.42	5.05	1848.00	137.13	6.74
	.163	1297.00	1852.37	4983.12	4960.00	5095.00	5177.58	3.77	194.46	4.37	1848.00	124.47	5.44
	.214	2785.00	1855.03	4907.43	4900.00	5060.00	5047.57	1.62	140.15	4.53	1850.50	30.76	6.05
17.476	.214	2785.00	1855.39	4906.54	4900.00	5060.00	5048.46	1.23	141.93	4.89	1850.50	22.18	5.45
	.214	2280.00	1854.73	4908.17	4900.00	5060.00	5046.83	1.68	138.66	4.23	1850.50	27.83	5.44
	.214	1297.00	1853.88	4911.15	4900.00	5060.00	5044.43	1.51	133.28	3.38	1850.50	24.96	4.28
17.488	.226	2785.00	1855.20	4894.02	4860.00	5040.00	5020.65	.17	126.63	4.20	1851.00	64.14	7.85
	.226	2785.00	1856.20	4889.02	4860.00	5040.00	5023.99	.81	134.97	5.20	1851.00	24.57	5.74
	.226	2280.00	1854.85	4895.73	4860.00	5040.00	5019.51	.12	123.78	3.85	1851.00	63.99	7.31
	.226	1297.00	1853.95	4901.28	4860.00	5040.00	5016.50	.07	115.22	2.95	1851.00	78.26	6.38
*	.248	2785.00	1856.54	4920.12	4900.00	5135.00	5064.76	.51	144.64	4.04	1852.50	101.47	8.56
*	.248	2785.00	1856.53	4920.24	4900.00	5135.00	5064.53	.33	144.29	4.03	1852.50	102.43	8.59
*17.500	.248	2280.00	1856.17	4925.21	4900.00	5135.00	5054.58	.52	129.37	3.67	1852.50	103.11	8.30
*	.248	1297.00	1855.33	4936.67	4900.00	5135.00	5043.33	.81	106.66	2.83	1852.50	110.95	7.31

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.254	2970.00	1857.08	4894.18	4880.00	5110.00	5056.64	.55	162.46	4.08	1853.00	81.66	7.85
	.254	2970.00	1857.08	4894.18	4880.00	5110.00	5056.00	.55	161.82	4.08	1853.00	81.24	7.85
17.546	.254	2428.00	1856.70	4898.05	4880.00	5110.00	5048.91	.53	150.86	3.70	1853.00	88.48	7.64
	.254	1380.00	1855.75	4912.64	4880.00	5110.00	5033.73	.41	121.09	2.75	1853.00	122.37	7.34
*	.315	2970.00	1861.39	4834.20	4940.00	5045.00	5304.49	4.30	470.29	3.89	1857.50	171.09	7.41
*	.315	2970.00	1861.42	4910.00	4940.00	5045.00	5110.00	4.34	200.00	3.92	1857.50	240.73	8.88
* 17.577	.315	2428.00	1861.17	4837.49	4940.00	5045.00	5279.26	4.47	441.77	3.67	1857.50	173.14	7.04
	.315	1380.00	1860.66	4845.03	4940.00	5045.00	5203.04	4.91	358.01	3.16	1857.50	163.40	5.85
	.376	2970.00	1865.04	4704.08	4925.00	5060.00	5231.29	3.65	527.21	3.04	1862.00	70.36	3.75
17.638	.376	2970.00	1866.04	4830.00	4925.00	5060.00	5070.00	4.61	240.00	4.04	1862.00	73.01	5.10
	.376	2428.00	1864.81	4709.79	4925.00	5060.00	5223.29	3.64	513.50	2.91	1862.00	69.10	3.40
	.376	1380.00	1864.24	4723.88	4925.00	5060.00	5203.56	3.59	479.68	2.24	1862.00	71.54	2.60
	.442	2970.00	1869.05	4756.62	4910.00	5035.00	5135.76	4.01	379.14	3.05	1866.00	277.57	6.83
17.704	.442	2970.00	1869.59	4850.00	4910.00	5035.00	5075.00	3.55	225.00	3.59	1866.00	171.01	6.48
	.442	2428.00	1868.84	4769.89	4910.00	5035.00	5125.64	4.03	355.76	2.84	1866.00	286.91	6.31
	.442	1380.00	1868.37	4797.42	4910.00	5035.00	5091.45	4.12	294.03	2.37	1866.00	271.58	4.72
	.501	2970.00	1874.16	4577.24	4980.00	5030.00	5239.21	5.11	661.97	4.66	1869.50	106.61	7.61
*	.501	2970.00	1874.52	4800.00	4980.00	5030.00	5030.00	4.94	230.00	5.02	1869.50	163.37	9.67
17.763	.501	2428.00	1873.93	4624.00	4980.00	5030.00	5207.69	5.10	556.39	4.43	1869.50	105.71	7.27
	.501	1380.00	1873.28	4661.58	4980.00	5030.00	5139.07	4.91	381.56	3.78	1869.50	106.59	6.41
	.582	2970.00	1878.38	4424.62	4970.00	5030.00	5072.29	4.22	647.67	3.88	1874.50	98.44	6.30
	.582	2970.00	1879.19	4750.00	4970.00	5030.00	5030.00	4.66	280.00	4.69	1874.50	68.85	5.94
17.844	.582	2428.00	1878.17	4450.22	4970.00	5030.00	5065.36	4.24	615.13	3.67	1874.50	99.05	6.03
	.582	1380.00	1877.65	4506.61	4970.00	5030.00	5054.69	4.37	548.08	3.15	1874.50	101.43	5.35
	.681	2970.00	1882.54	4893.69	4950.00	5130.00	5469.39	4.16	563.89	3.54	1879.00	89.49	4.91
17.943	.681	2970.00	1883.04	4950.00	4950.00	5130.00	5130.00	3.86	180.00	4.04	1879.00	110.84	6.13
	.681	2428.00	1882.32	4919.97	4950.00	5130.00	5465.61	4.15	503.82	3.32	1879.00	86.76	4.57
	.681	1380.00	1881.78	4951.69	4950.00	5130.00	5457.18	4.13	346.93	2.78	1879.00	78.85	3.73
*	.744	2670.00	1887.68	4910.38	4910.00	5100.00	5446.82	2.80	508.40	4.68	1883.00	110.94	5.10
*18.006	.744	2970.00	1887.85	4950.00	4910.00	5100.00	5100.00	4.81	150.00	4.85	1883.00	231.14	8.06
	.744	2428.00	1887.53	4910.86	4910.00	5100.00	5442.81	2.82	491.03	4.53	1883.00	113.31	5.12
*	.744	1380.00	1887.08	4931.03	4910.00	5100.00	5430.00	3.16	416.96	4.08	1883.00	98.32	4.19
	.825	2670.00	1892.44	4772.36	4935.00	5070.00	5243.57	4.76	462.37	3.94	1888.50	117.40	5.55
18.087	.825	2970.00	1893.29	4825.00	4935.00	5070.00	5070.00	5.44	245.00	4.79	1888.50	62.83	4.99
	.825	2428.00	1892.37	4775.38	4935.00	5070.00	5241.25	4.84	445.69	3.87	1888.50	110.94	5.27
	.825	1380.00	1891.73	4799.83	4935.00	5070.00	5151.49	4.65	307.54	3.23	1888.50	125.12	4.61
	.904	2670.00	1897.45	4871.55	4970.00	5045.00	5223.11	5.00	351.56	4.95	1892.50	140.06	7.72
* 18.166	.904	2970.00	1897.67	4915.00	4970.00	5045.00	5095.00	4.38	180.00	5.17	1892.50	193.55	9.48
	.904	2428.00	1897.29	4876.03	4970.00	5045.00	5221.24	4.92	345.21	4.79	1892.50	146.05	7.64
	.904	1380.00	1896.72	4893.34	4970.00	5045.00	5214.03	5.00	297.06	4.22	1892.50	127.63	6.23

1

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
18.263	1.001	2670.00	1903.46	4856.06	4970.00	5030.00	5264.31	6.02	408.26	5.46	1898.00	105.36	7.98
	1.001	2970.00	1904.18	4915.00	4970.00	5030.00	5110.00	6.51	195.00	6.18	1898.00	79.57	7.68
*	1.001	2428.00	1903.35	4859.39	4970.00	5030.00	5256.91	6.06	397.52	5.35	1898.00	101.24	7.69
	1.001	1380.00	1902.48	4893.47	4970.00	5030.00	5126.75	5.76	199.38	4.48	1898.00	104.65	6.69

*	1.076	2670.00	1907.85	4785.36	4910.00	5050.00	5190.61	1.97	405.24	4.85	1903.00	129.56	5.35
18.338	1.076	2970.00	1908.72	4907.75	4910.00	5050.00	5050.00	4.55	142.25	5.72	1903.00	183.59	7.55
	1.076	2428.00	1907.91	4785.21	4910.00	5050.00	5194.57	4.55	409.36	4.91	1903.00	97.06	4.69
	1.076	1380.00	1907.23	4786.91	4910.00	5050.00	5150.38	4.75	338.88	4.23	1903.00	105.93	4.27
	1.163	2670.00	1914.29	4793.00	4920.00	5080.00	5170.04	6.44	377.05	4.29	1910.00	148.38	5.92
	1.163	2970.00	1915.20	4920.00	4920.00	5080.00	5080.00	6.48	160.00	5.20	1910.00	101.80	6.16
18.425	1.163	2428.00	1914.03	4796.54	4920.00	5080.00	5134.65	6.13	338.11	4.03	1910.00	196.58	6.26
	1.163	1380.00	1913.57	4803.09	4920.00	5080.00	5086.53	6.33	283.44	3.57	1910.00	180.58	4.93
	1.219	2670.00	1918.40	4776.82	4960.00	5015.00	5096.19	4.11	319.37	4.40	1914.00	146.86	8.13
*	1.219	2970.00	1918.82	4940.00	4960.00	5015.00	5065.00	3.62	125.00	4.82	1914.00	221.57	10.79
18.481	1.219	2428.00	1918.40	4777.08	4960.00	5015.00	5096.09	4.37	319.01	4.40	1914.00	121.86	7.41
	1.219	1380.00	1917.69	4826.25	4960.00	5015.00	5063.84	4.12	243.59	3.69	1914.00	120.37	6.29
	1.280	2670.00	1922.87	4810.92	4975.00	5080.00	5120.43	4.47	309.51	4.87	1918.00	129.00	6.73
18.542	1.280	2970.00	1923.79	4935.00	4975.00	5080.00	5080.00	4.97	145.00	5.79	1918.00	79.58	6.31
	1.280	2428.00	1922.64	4826.59	4975.00	5080.00	5109.71	4.24	283.11	4.64	1918.00	149.64	6.85
	1.280	1380.00	1921.98	4871.42	4975.00	5080.00	5079.26	4.23	207.84	3.98	1918.00	151.46	5.68

1

CIRCLE CITY - TRILBY WAS

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.000	1844.83	.83	1845.44	475.14	360.12	2257.98	166.90	.00	.00	4975.00	5050.00	.00
	.000	1844.83	.00	1845.95	75.00	.00	2785.00	.00	.36	4975.00	4975.00	5050.00	5050.00
	.000	1844.49	2.49	1845.09	411.76	215.55	1995.33	69.12	.00	.00	4975.00	5050.00	.00
	.000	1843.47	3.47	1843.94	112.93	39.81	1257.19	.00	.00	.00	4975.00	5050.00	.00
	.057	1846.89	.00	1847.21	487.53	294.03	1923.49	567.47	.00	.00	4965.00	5050.00	.00
	.057	1847.75	.86	1848.37	89.18	.00	2751.47	33.53	.43	4965.00	4965.00	5050.00	5054.18
	.057	1846.57	.00	1846.88	460.03	208.17	1691.10	380.73	.00	.00	4965.00	5050.00	.00
	.057	1845.60	.00	1845.89	238.04	57.34	1150.95	88.70	.00	.00	4965.00	5050.00	.00
*	.102	1849.98	.00	1850.63	312.64	161.17	2448.04	175.79	.00	.00	4950.00	5045.00	.00
	.102	1849.54	-.44	1850.77	95.00	.00	2785.00	.00	.25	4950.00	4950.00	5045.00	5045.00
*	.102	1849.74	.00	1850.29	288.99	91.14	2070.36	118.50	.00	.00	4950.00	5045.00	.00
*	.102	1848.60	.00	1849.11	115.90	.00	1290.05	6.95	.00	.00	4950.00	5045.00	.00
	.163	1853.41	.00	1854.08	275.64	.00	2464.35	320.65	.00	.00	4960.00	5095.00	.00
	.163	1854.16	.74	1854.77	121.17	.00	2785.00	.00	.21	4960.00	4960.00	5095.00	5095.00
	.163	1853.05	.00	1853.70	254.42	.00	2108.72	171.28	.00	.00	4960.00	5095.00	.00
	.163	1852.37	.00	1852.83	194.46	.00	1286.47	10.53	.00	.00	4960.00	5095.00	.00
	.214	1855.03	.00	1855.60	140.15	.00	2785.00	.00	.00	.00	4900.00	5060.00	.00
	.214	1855.39	.36	1855.85	141.93	.00	2785.00	.00	.00	4900.00	4900.00	5060.00	5060.00
	.214	1854.73	.00	1855.19	138.66	.00	2280.00	.00	.00	.00	4900.00	5060.00	.00
	.214	1853.88	.00	1854.17	133.28	.00	1297.00	.00	.00	.00	4900.00	5060.00	.00
	.226	1855.20	.00	1856.15	126.63	.00	2785.00	.00	.00	.00	4860.00	5040.00	.00
	.226	1856.20	1.00	1856.71	134.97	.00	2785.00	.00	.00	.00	4860.00	5040.00	.00
	.226	1854.85	.00	1855.68	123.78	.00	2280.00	.00	.00	.00	4860.00	5040.00	.00
	.226	1853.95	.00	1854.58	115.22	.00	1297.00	.00	.00	.00	4860.00	5040.00	.00
*	.248	1856.54	.00	1857.67	144.64	.00	2785.00	.00	.00	.00	4900.00	5135.00	.00
*	.248	1856.53	-.01	1857.67	144.29	.00	2785.00	.00	.00	4900.00	4900.00	5135.00	5135.00
*	.248	1856.17	.00	1857.24	129.37	.00	2280.00	.00	.00	.00	4900.00	5135.00	.00
*	.248	1855.33	.00	1856.16	106.66	.00	1297.00	.00	.00	.00	4900.00	5135.00	.00

	.254	1857.08	.00	1858.04	162.46	.00	2970.00	.00	.00	.00	4880.00	5110.00	.00
	.254	1857.08	.00	1858.04	161.82	.00	2970.00	.00	162.00	4894.00	4880.00	5110.00	5056.00
	.254	1856.70	.00	1857.60	150.86	.00	2428.00	.00	.00	.00	4880.00	5110.00	.00
	.254	1855.75	.00	1856.58	121.09	.00	1380.00	.00	.00	.00	4880.00	5110.00	.00
*	.315	1861.39	.00	1862.01	470.29	383.60	2052.73	533.67	.00	.00	4940.00	5045.00	.00
	.315	1861.42	.04	1862.48	200.00	151.08	2492.34	326.57	200.00	4910.00	4940.00	5045.00	5110.00
*	.315	1861.17	.00	1861.76	441.77	286.35	1786.70	354.94	.00	.00	4940.00	5045.00	.00
	.315	1860.66	.00	1861.12	358.01	106.00	1177.05	96.94	.00	.00	4940.00	5045.00	.00

1

05/09/88 10:04:20 PAGE 56

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.376	1865.04	.00	1865.19	527.21	1351.16	931.80	687.03	.00	.00	4925.00	5060.00	.00
	.376	1866.04	1.00	1866.36	240.00	928.22	1955.35	86.42	240.00	4830.00	4925.00	5060.00	5070.00
	.376	1864.81	.00	1864.93	513.50	1136.23	740.54	551.23	.00	.00	4925.00	5060.00	.00
	.376	1864.24	.00	1864.33	479.68	718.05	368.16	293.78	.00	.00	4925.00	5060.00	.00
	.442	1869.05	.00	1869.61	379.14	1414.65	1385.34	170.00	.00	.00	4910.00	5035.00	.00
	.442	1869.59	.53	1870.13	225.00	1044.64	1748.09	177.26	225.00	4850.00	4910.00	5035.00	5075.00
	.442	1868.84	.00	1869.34	355.76	1219.99	1108.89	99.12	.00	.00	4910.00	5035.00	.00
	.442	1868.37	.00	1868.71	294.03	811.09	558.23	10.68	.00	.00	4910.00	5035.00	.00
	.501	1874.16	.00	1874.66	661.97	1023.10	1487.54	459.36	.00	.00	4980.00	5030.00	.00
*	.501	1874.52	.36	1875.59	230.00	905.19	2064.81	.00	230.00	4800.00	4980.00	5030.00	5030.00
	.501	1873.93	.00	1874.42	556.39	760.06	1338.39	329.55	.00	.00	4980.00	5030.00	.00
	.501	1873.28	.00	1873.74	381.56	307.00	970.22	102.78	.00	.00	4980.00	5030.00	.00
	.582	1878.38	.00	1878.68	647.67	1691.55	1182.81	95.63	.00	.00	4970.00	5030.00	.00
	.582	1879.19	.81	1879.51	280.00	1567.36	1402.64	.00	280.00	4750.00	4970.00	5030.00	5030.00
	.582	1878.17	.00	1878.46	615.13	1301.75	1054.68	71.56	.00	.00	4970.00	5030.00	.00
	.582	1877.65	.00	1877.92	548.08	576.96	769.72	33.32	.00	.00	4970.00	5030.00	.00
	.681	1882.54	.00	1882.81	563.89	9.87	1929.94	1030.20	.00	.00	4950.00	5130.00	.00
	.681	1883.04	.51	1883.63	180.00	.00	2970.00	.00	.42	4950.00	4950.00	5130.00	5130.00
	.681	1882.32	.00	1882.56	503.82	2.45	1616.87	808.68	.00	.00	4950.00	5130.00	.00
	.681	1881.78	.00	1881.94	346.93	.00	972.40	407.60	.00	.00	4950.00	5130.00	.00
*	.744	1887.68	.00	1887.99	500.40	.00	1866.60	803.40	.00	.00	4910.00	5100.00	.00
	.744	1887.85	.17	1888.86	150.00	.00	2970.00	.00	150.00	4950.00	4910.00	5100.00	5100.00
*	.744	1887.53	.00	1887.85	491.03	.00	1735.94	692.06	.00	.00	4910.00	5100.00	.00
*	.744	1887.08	.00	1887.30	416.96	.00	1073.51	306.49	.00	.00	4910.00	5100.00	.00
	.825	1892.44	.00	1892.79	462.37	705.56	1696.97	267.47	.00	.00	4935.00	5070.00	.00
	.825	1893.29	.85	1893.60	245.00	871.14	2098.86	.00	245.00	4825.00	4935.00	5070.00	5070.00
	.825	1892.37	.00	1892.68	445.69	635.40	1558.97	233.63	.00	.00	4935.00	5070.00	.00
	.825	1891.73	.00	1891.98	307.54	308.12	965.28	106.59	.00	.00	4935.00	5070.00	.00
	.904	1897.45	.00	1898.13	351.56	279.98	1890.03	499.99	.00	.00	4970.00	5045.00	.00
*	.904	1897.67	.22	1898.86	180.00	327.20	2476.81	165.99	180.00	4915.00	4970.00	5045.00	5095.00
	.904	1897.29	.00	1897.98	345.21	233.56	1785.06	409.38	.00	.00	4970.00	5045.00	.00
	.904	1896.72	.00	1897.25	297.06	75.39	1186.12	118.49	.00	.00	4970.00	5045.00	.00
	1.001	1903.46	.00	1904.24	408.26	281.24	2058.91	329.85	.00	.00	4970.00	5030.00	.00
	1.001	1904.18	.72	1904.91	195.00	324.32	2308.51	337.17	195.00	4915.00	4970.00	5030.00	5110.00
*	1.001	1903.35	.00	1904.10	397.52	235.97	1932.02	260.01	.00	.00	4970.00	5030.00	.00
	1.001	1902.48	.00	1903.15	199.38	34.37	1328.91	16.73	.00	.00	4970.00	5030.00	.00
*	1.076	1907.85	.00	1908.20	405.24	925.55	1449.30	295.15	.00	.00	4910.00	5050.00	.00
	1.076	1908.72	.87	1909.61	142.25	6.05	2963.94	.00	.51	4907.75	4910.00	5050.00	5050.00
	1.076	1907.91	.00	1908.17	409.36	839.75	1310.60	277.65	.00	.00	4910.00	5050.00	.00
	1.076	1907.23	.00	1907.47	338.88	494.15	793.92	91.92	.00	.00	4910.00	5050.00	.00

	SECNO	CWSEL	DIFKWS	EG	TOPWID	GLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	1.163	1914.29	.00	1914.74	377.05	638.57	1987.87	43.56	.00	.00	4920.00	5080.00	.00
	1.163	1915.20	.91	1915.79	160.00	.00	2970.00	.00	.32	4920.00	4920.00	5080.00	5080.00
	1.163	1914.03	.00	1914.54	338.11	564.74	1847.36	15.90	.00	.00	4920.00	5080.00	.00
	1.163	1913.57	.00	1913.83	283.44	292.29	1087.65	.05	.00	.00	4920.00	5080.00	.00
	1.219	1918.40	.00	1919.05	319.37	886.61	1523.11	260.28	.00	.00	4960.00	5015.00	.00
*	1.219	1918.82	.42	1920.28	125.00	248.41	2270.32	451.27	125.00	4940.00	4960.00	5015.00	5065.00
	1.219	1918.40	.00	1918.95	319.01	805.81	1385.81	236.38	.00	.00	4960.00	5015.00	.00
	1.219	1917.69	.00	1918.13	243.59	366.27	929.56	84.16	.00	.00	4960.00	5015.00	.00
	1.280	1922.87	.00	1923.42	309.51	657.62	1991.23	21.16	.00	.00	4975.00	5090.00	.00
	1.280	1923.79	.92	1924.34	145.00	487.89	2482.11	.00	145.00	4935.00	4975.00	5080.00	5080.00
	1.280	1922.64	.00	1923.23	283.11	556.84	1861.15	10.01	.00	.00	4975.00	5090.00	.00
	1.280	1921.98	.00	1922.41	207.84	231.46	1148.53	.00	.00	.00	4975.00	5090.00	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=     .102  PROFILE= 1  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .102  PROFILE= 3  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .102  PROFILE= 4  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=     .248  PROFILE= 1  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .248  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .248  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .248  PROFILE= 3  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .248  PROFILE= 4  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=     .315  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .315  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .315  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .315  PROFILE= 2  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .315  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .315  PROFILE= 3  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=     .501  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .501  PROFILE= 2  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=     .744  PROFILE= 1  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .744  PROFILE= 3  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .744  PROFILE= 4  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=     .904  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .904  PROFILE= 2  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=    1.001  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.001  PROFILE= 3  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=    1.076  PROFILE= 1  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=    1.219  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.219  PROFILE= 2  MINIMUM SPECIFIC ENERGY
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FLOODWAY DATA, CIRCLE CITY - TRILBY WAS
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	75.	327.	8.5	1844.8	1844.8	.0
.057	89.	451.	6.2	1847.8	1846.9	.9
.102	95.	313.	8.9	1849.7	1850.0	-.3
.163	121.	444.	6.3	1854.1	1853.4	.7
.214	142.	511.	5.5	1855.4	1855.0	.4
.226	135.	485.	5.7	1856.2	1855.2	1.0
.248	144.	324.	8.6	1856.5	1856.5	.0
.254	162.	378.	7.9	1857.1	1857.1	.0
.315	200.	415.	7.2	1861.4	1861.4	.0
.376	240.	701.	4.2	1866.0	1865.0	1.0
.442	225.	528.	5.6	1869.6	1869.1	.5
.501	230.	471.	6.3	1874.6	1874.2	.4
.582	280.	786.	3.8	1879.2	1878.4	.8
.681	180.	484.	6.1	1883.0	1882.5	.5
.744	150.	369.	8.1	1887.9	1887.7	.2
.825	245.	724.	4.1	1893.2	1892.4	.8
.904	180.	412.	7.2	1897.6	1897.4	.2
1.001	195.	562.	5.3	1904.2	1903.5	.7
1.076	142.	395.	7.5	1908.8	1907.9	.9
1.163	160.	482.	6.2	1915.2	1914.3	.9
1.219	125.	365.	8.1	1918.8	1918.4	.4
1.280	145.	530.	5.6	1923.8	1922.9	.9

1

FLOODWAY DATA, CIRCLE CITY - TRILBY WAS
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	412.	499.	4.6	1844.6	1844.8	-.2
.057	460.	726.	3.1	1846.7	1846.9	-.2
.102	289.	471.	4.8	1849.9	1850.0	-.1
.163	254.	409.	5.6	1853.1	1853.4	-.3
.214	139.	419.	5.4	1854.8	1855.0	-.2
.226	124.	312.	7.3	1855.0	1855.2	-.2
.248	129.	275.	8.3	1856.2	1856.5	-.3
.254	151.	318.	7.6	1856.8	1857.1	-.3
.315	442.	531.	4.6	1861.3	1861.4	-.1
.376	514.	895.	2.7	1864.9	1865.0	-.1
.442	356.	453.	5.4	1869.0	1869.1	-.1
.501	584.	691.	3.5	1874.1	1874.2	-.1
.582	615.	812.	3.0	1878.3	1878.4	-.1
.681	546.	704.	3.4	1882.4	1882.5	-.1
.744	532.	646.	3.8	1887.7	1887.7	.0
.825	466.	633.	3.8	1892.4	1892.4	.0
.904	365.	595.	4.2	1897.3	1897.4	-.1

1.001	399.	529.	4.6	1903.5	1903.5	.0
1.076	409.	651.	3.7	1908.0	1907.9	.1
1.163	338.	479.	5.1	1914.1	1914.3	-.2
1.219	319.	546.	4.4	1918.4	1918.4	.0
1.280	283.	467.	5.2	1922.8	1922.9	-.1

FLOODWAY DATA, CIRCLE CITY - TRILBY WAS
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.000	113.	256.	5.1	1843.5	1844.8	-1.3
.057	238.	375.	3.5	1845.7	1846.9	-1.2
.102	116.	234.	5.6	1848.7	1850.0	-1.3
.163	194.	252.	5.1	1852.5	1853.4	-.9
.214	133.	303.	4.3	1854.0	1855.0	-1.0
.226	115.	203.	6.4	1854.1	1855.2	-1.1
.248	107.	177.	7.3	1855.4	1856.5	-1.1
.254	121.	188.	7.3	1855.9	1857.1	-1.2
.315	358.	328.	4.2	1860.8	1861.4	-.6
.376	480.	616.	2.2	1864.3	1865.0	-.7
.442	294.	302.	4.6	1868.5	1869.1	-.6
.501	477.	384.	3.6	1873.4	1874.2	-.8
.582	548.	511.	2.7	1877.8	1878.4	-.6
.681	505.	477.	2.9	1881.8	1882.5	-.7
.744	499.	437.	3.2	1887.2	1887.7	-.5
.825	352.	396.	3.5	1891.8	1892.4	-.6
.904	321.	318.	4.3	1896.8	1897.4	-.6
1.001	233.	249.	5.5	1902.6	1903.5	-.9
1.076	363.	391.	3.5	1907.4	1907.9	-.5
1.163	283.	334.	4.1	1913.7	1914.3	-.6
1.219	244.	351.	3.9	1917.8	1918.4	-.6
1.280	208.	304.	4.5	1922.1	1922.9	-.8

1

THIS RUN EXECUTED 05/09/88 10:07:52

```
**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
 ERROR CORR - 01,02,03,04,05,06
 MODIFICATION - 50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
**************************************************
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THIS RUN EXECUTED 01/27/88 10:13:57

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION
**************************************************


C
T1      WITTMANN ADMS
T2      100 YEAR STORM EVENT - NOT ENCROACHED
T3      CIRCLE CITY - TRILBY WASH (WEST SPLIT)

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .000000      .00       .5       0.  1882.540     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC    IBW      CHNIM    ITRACE

    -1.000     .000     .000     .000     .000     .000     .000     .000     .000   15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000   43.000    1.000   53.000   21.000   22.000   54.000   51.000    4.000    8.000


    42.000    5.000   26.000     .000  110.000     .000  200.000     .000     .000     .000


NC      .000      .000      .000      .100      .300      .000      .000      .000      .000      .000
NH     3.000      .080  4950.000      .050   5110.000      .080   5495.000      .000      .000      .000
QT     1.000   300.000      .000      .000      .000      .000      .000      .000      .000      .000
                FLOODPLAIN RUN FOR WEST SPLIT ( SECTIONS .681 TO 1.076)
                DISCHARGE BASED ON NORMAL DEPTH CALCULATION
                USING THE ENERGY GRADIENT AT SECTION 1.076
X1      .681    24.000  4950.000  5230.000      .000      .000      .000      .000      .000      .000
GR  1882.800  4875.000  1882.000  4950.000  1880.000  4965.000  1879.000  5000.000  1880.000  5025.000
GR  1880.500  5045.000  1880.000  5060.000  1880.000  5080.000  1882.000  5110.000  1882.000  5130.000
GR  1880.000  5150.000  1880.000  5180.000  1880.000  5195.000  1882.000  5205.000  1882.500  5230.000
GR  1882.000  5250.000  1882.000  5275.000  1882.600  5300.000  1882.000  5330.000  1880.000  5390.000
GR  1881.500  5410.000  1880.000  5435.000  1882.000  5460.000  1884.000  5495.000      .000      .000

NC      .065      .065      .065      .000      .000      .000      .000      .000      .000      .000
X1      .744     6.000  5510.000  5540.000   360.000   360.000   360.000      .000      .000      .000
GR  1887.500  5450.000  1886.000  5510.000  1885.000  5515.000  1886.000  5540.000  1887.500  5610.000
GR  1888.000  5700.000      .000      .000      .000      .000      .000      .000      .000      .000

X1      .825     8.000  5530.000  5610.000   450.000   450.000   450.000      .000      .000      .000
GR  1893.500  5370.000  1892.000  5415.000  1892.500  5445.000  1892.000  5470.000  1892.000  5471.000
GR  1893.500  5530.000  1891.500  5570.000  1894.000  5610.000      .000      .000      .000      .000
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 X1       .904     11.000   5560.000   5765.000    390.000    390.000    390.000       .000       .000       .000
 GR   1899.500   5395.000   1899.000   5430.000   1897.000   5480.000   1898.000   5510.000   1899.000   5511.000
 GR   1898.500   5560.000   1898.000   5610.000   1897.000   5620.000   1897.500   5640.000   1898.000   5645.000
 GR   1900.000   5765.000       .000       .000       .000       .000       .000       .000       .000       .000

 X1      1.001      5.000   5400.000   5505.000    390.000    390.000    390.000       .000       .000       .000
 GR   1904.200   5300.000   1903.000   5365.000   1904.000   5400.000   1902.000   5440.000   1904.200   5505.000
 EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
  01/27/88    10:13:57                                                                                    PAGE    3


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 1

 CCHV=    .100 CEHV=    .300
 1490 NH CARD USED
 *SECNO  .681

 3265 DIVIDED FLOW

                 FLOODPLAIN RUN FOR WEST SPLIT ( SECTIONS .681 TO 1.076)
                 DISCHARGE BASED ON NORMAL DEPTH CALCULATION
                 USING THE ENERGY GRADIENT AT SECTION 1.076
       .68     3.54  1882.54      .00  1882.54  1882.54      .00      .00      .00  1882.00
      300.       1.     242.      57.      14.     561.     245.       0.       0.   1882.50
       .00      .00      .43      .23     .000     .054     .000     .000  1879.00  4899.37
   .000097       0.       0.       0.        0        0        0      .00   556.71  5461.58
0
 FLOW DISTRIBUTION FOR SECNO=       .68          CWSEL=   1882.54

 STA=    4899.    4950.    5230.    5390.    5410.    5435.    5460.    5462.
   PER Q=      .3     80.8      9.5      3.2      4.0      3.1       .0
    AREA=    13.7    561.2    125.1     35.8     44.8     38.5       .4
     VEL=      .1       .4       .2       .3       .3       .2       .1

 *SECNO  .744
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
       .74     1.85  1886.85  1886.85      .00  1887.22      .37      .13      .11  1886.00
      300.      36.     221.      42.      14.      40.      17.       4.       3.   1886.00
       .02     2.54     5.48     2.54     .065     .065     .065     .000  1885.00  5476.19
   .038947     360.     360.     360.       20       11        0      .00   103.26  5579.45
0
 FLOW DISTRIBUTION FOR SECNO=       .74          CWSEL=   1886.85

 STA=    5476.    5510.    5540.    5579.
   PER Q=     12.1     73.8     14.1
    AREA=     14.3     40.4     16.7
     VEL=      2.5      5.5      2.5

 *SECNO  .825
1
  01/27/88    10:13:57                                                                                    PAGE    4
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    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 3265 DIVIDED FLOW

       .82     1.00  1893.30      .00      .00  1893.35      .05     6.10      .03  1893.50
      300.     198.     102.       0.     117.     58.       0.       5.       4.   1894.00
       .09     1.69     1.76      .00     .065     .065     .065     .000  1891.50  5376.05
   .006813     450.     450.     450.        4        0        0      .00   210.75  5598.77
0
 FLOW DISTRIBUTION FOR SECNO=       .82          CWSEL=   1893.30

 STA=    5376.    5415.    5445.    5470.    5471.    5522.    5610.
   PER Q=     11.9     20.4     17.0      1.0     15.6     34.1
   AREA=      25.3     31.4     26.2      1.3     33.1     58.2
    VEL=       1.4      1.9      1.9      2.2      1.4      1.8

 *SECNO  .904

 3265 DIVIDED FLOW

       .90     1.26  1898.26      .00      .00  1898.40      .14     5.03      .03  1898.50
      300.     212.      88.       0.      66.      35.       0.       6.       6.   1900.00
       .13     3.23     2.50      .00     .065     .065     .065     .000  1897.00  5412.42
   .033073     390.     390.     390.        3        0        0      .00   198.36  5660.07
0
 FLOW DISTRIBUTION FOR SECNO=       .90          CWSEL=   1898.26

 STA=    5412.    5430.    5480.    5510.    5511.    5536.    5765.
   PER Q=       .8     43.0     25.8      .1      1.1     29.2
   AREA=       2.2     37.6     22.5      .3      3.1     35.1
    VEL=       1.0      3.4      3.4     1.7      1.0      2.5

 *SECNO 1.001
       1.00     2.08  1904.08      .00      .00  1904.14      .06     5.73      .01  1904.00
      300.      72.     228.       0.      51.     106.       0.       7.       8.   1904.20
       .19     1.40     2.15      .00     .065     .065     .065     .000  1902.00  5306.08
   .008265     390.     390.     390.        4        0        0      .00   194.37  5501.25
0
 FLOW DISTRIBUTION FOR SECNO=      1.00          CWSEL=   1904.08

 STA=    5307.    5365.    5400.    5505.
   PER Q=     14.3      9.6     76.2
   AREA=      31.2     20.1    106.4
    VEL=       1.4      1.4      2.1

1
 PROFILE FOR STREAM  CIRCLE CITY - TRILBY WAS


 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


 ELEVATION  1875.     1880.     1885.     1890.     1895.     1900.     1905.     1910.     1915.     1920.
     SECNO   CUMDIS

       .68     0.  C      I .  LEM  .        .        .        .        .        .        .        .        .
              50.  C        I   LEM .        .        .        .        .        .        .        .        .
             100.  C        .I   LWE .        .        .        .        .        .        .        .        .
             150.  C        .  I  LREM        .        .        .        .        .        .        .        .
             200.  C        .   I  LREM        .        .        .        .        .        .        .        .
             250.  C        .    I  LWE
```

```
          300.  C        .      I .LWE     .        .        .        .        .        .        .        .
          350.  C        .        I LWEM   .        .        .        .        .        .        .        .
     .74  400.  .        .        I L EM   .        .        .        .        .        .        .        .
          450.  C        .        .I  LWE  .        .        .        .        .        .        .        .
          500.  C        .        .  I LREM .        .        .        .        .        .        .        .
          550.  C        .        .   I  LWE.        .        .        .        .        .        .        .
          600.  C        .        .     X  WE        .        .        .        .        .        .        .
          650.  C        .        .      I  LEM      .        .        .        .        .        .        .
          700.  C        .        .        I. WE     .        .        .        .        .        .        .
          750.  C        .        .         I   E    .        .        .        .        .        .        .
          800.  C        .        .         . I  ER  .        .        .        .        .        .        .
     .82  850.  C        .        .         .  I   ER .        .        .        .        .        .        .
          900.  C        .        .         .   I   E R        .        .        .        .        .        .
          950.  C        .        .         .     I  ELR       .        .        .        .        .        .
         1000.  C        .        .         .      I  WE R     .        .        .        .        .        .
         1050.  C        .        .         .        I. E R    .        .        .        .        .        .
         1100.  C        .        .         .         I  E  R  .        .        .        .        .        .
         1150.  C        .        .         .         .I  EL R .        .        .        .        .        .
     .90 1200.  C        .        .         .         .  I  E  R        .        .        .        .        .
         1250.  C        .        .         .         .   I  E .R       .        .        .        .        .
         1300.  C        .        .         .         .     I WE R      .        .        .        .        .
         1350.  C        .        .         .         .      I .E R     .        .        .        .        .
         1400.  C        .        .         .         .       I. WER    .        .        .        .        .
         1450.  C        .        .         .         .        I   ER   .        .        .        .        .
         1500.  C        .        .         .         .        . I  WE  .        .        .        .        .
         1550.  C        .        .         .         .        .  I   ER .        .        .        .        .
    1.00 1600.  C        .        .         .         .        .   I   E .        .        .        .        .
1
 01/27/88    10:13:57                                                                                PAGE    5
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THIS RUN EXECUTED 01/27/88 10:14:05

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION
*************************************************
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CIRCLE CITY - TAILBY WAS

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.681	300.00	1882.54	4899.37	4950.00	5230.00	5461.58	.00	556.71	3.54	1879.00	.97	.43
*	.744	300.00	1886.85	5476.19	5510.00	5540.00	5579.45	4.31	103.26	1.85	1885.00	389.47	5.48
	.825	300.00	1893.30	5376.05	5530.00	5610.00	5598.77	6.45	210.75	1.80	1891.50	68.13	1.76
	.904	300.00	1898.26	5412.42	5560.00	5765.00	5660.07	4.96	198.36	1.26	1897.00	330.73	2.50
	1.001	300.00	1904.08	5306.88	5400.00	5505.00	5501.25	5.82	194.37	2.08	1902.00	82.65	2.15

1
01/27/88 10:13:57 PAGE 6

CIRCLE CITY - TRILBY WAS

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	.681	1882.54	.00	1882.54	556.71	1.04	242.28	56.68	.00	.00	4950.00	5230.00	.00
*	.744	1886.85	.00	1887.22	103.26	36.31	221.33	42.36	.00	.00	5510.00	5540.00	.00
	.825	1893.30	.00	1893.35	210.75	197.79	102.21	.00	.00	.00	5530.00	5610.00	.00
	.904	1898.26	.00	1898.40	190.36	212.31	87.69	.00	.00	.00	5560.00	5765.00	.00
	1.001	1904.08	.00	1904.14	194.37	71.53	228.47	.00	.00	.00	5400.00	5505.00	.00

1

01/27/88 10:13:57 PAGE 7

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= .744 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= .744 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= .744 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

1

01/27/88 10:14:06 PAGE 1

THIS RUN EXECUTED 01/27/88 10:14:06

****
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION
****

INPUT FILE: WITWASH2

OUTPUT FILE: WITWASH2.OUT

THIS RUN EXECUTED 08/18/88 14:23:20

```
**********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION
**********************************************


C
T1      WITTMANN AREA DRAINAGE MASTER STUDY
T2      100-YEAR STORM EVENT
T3      FLOODPLAIN RUN  (WITTMANN WASH - GRAND AVENUE TO CAP1WEST OVERCHUTE)

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WEEL      FQ

      0.        2.        0.        0.   .000000      .00       .5        0.   1551.940     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     .000      .000      .000      .000      .000      .000      .000      .000      .000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    43.000     1.000    53.000    21.000    22.000    54.000    51.000     4.000     8.000


    42.000     5.000    26.000      .000   110.000      .000   200.000      .000      .000      .000


NC      .060      .040      .040      .300      .500      .000      .000      .000      .000      .000
QT     4.000  6564.000  6564.000  5171.000  2423.000      .000      .000      .000      .000      .000
       THIS IS A HEC-2 MODEL FOR WITTMANN WASH
       THE REACH IS DOWNSTREAM FROM WITTMANN TO THE CAP1WEST OVERCHUTE


       THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 MODEL'S STORAGE
       ROUTING PROCEDURE THRU CAP1WEST.

       NOTE:  THE RIVER REACH MILES ARE MEASURED FROM THE
       CAP1WEST OVERCHUTE.


       NOTE:  A SPLIT FLOW OCCURS JUST DOWNSTREAM OF SECTION
       1.860.  THE CORRESPONDING DISCHARGES REMAINING IN WITTMANN WASH
       WILL BE USED IN THE REMAINING REACH TO THE CAP1WEST OVERCHUTE.
X1      .000    10.000  4900.000  5075.000      .000      .000      .000      .000      .000      .000
GR  1554.000  4480.000  1552.000  4515.000  1550.000  4860.000  1550.000  4900.000  1546.000  4935.000
GR  1544.000  4975.000  1543.000  5000.000  1544.000  5020.000  1551.000  5075.000  1552.000  5170.000
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```
NC      .000      .000      .000      .100      .300      .000      .000      .000      .000      .000
QT     4.000  1722.000  2275.000  1447.000   744.000      .000      .000      .000      .000      .000
```

```
X1      .102     7.000  4925.000  5050.000   750.000   550.000   540.000      .000      .000      .000
X5     4.000  1551.940  1551.940  1550.760  1547.900      .000      .000      .000      .000      .000
GR  1552.000  4540.000  1550.000  4700.000  1548.000  4925.000  1546.000  4985.000  1544.000  5000.000
GR  1546.000  5010.000  1552.000  5050.000      .000      .000      .000      .000      .000      .000

        SECTIONS .326 THRU .870 PROVIDE A HYDRAULIC ANALYSIS TO THE
        TO THE CAP1WEST OVERCHUTE.  ACCORDING TO THE BACKWATER ANALYSIS THE
        WATER SURFACE ELEVATION WILL OVERTOP THE CAP CANAL HOWEVER THE
        EXTENDED SECTIONS WILL REMAIN IN THE MODEL.
X1      .326     8.000  4900.000  5090.000  1180.000  1180.000  1180.000      .000      .000      .000
GR  1554.000  4115.000  1552.000  4270.000  1550.000  4540.000  1540.000  4790.000  1546.500  4900.000
GR  1546.300  5000.000  1548.000  5055.000  1552.000  5090.000      .000      .000      .000      .000

X1      .681     8.000  4880.000  5055.000  1875.000  1875.000  1875.000      .000      .000      .000
GR  1554.000  4080.000  1552.000  4410.000  1550.000  4520.000  1548.000  4770.000  1546.300  4880.000
GR  1546.800  5000.000  1548.000  5025.000  1552.000  5055.000      .000      .000      .000      .000

X1      .870     8.000  4940.000  5280.000   800.000  1000.000  1000.000      .000      .000      .000
X4     2.000  1551.500  4645.000  1552.000  4570.000      .000      .000      .000      .000      .000
GR  1554.000  4210.000  1550.000  4940.000  1548.000  4975.000  1540.000  5000.000  1550.000  5030.000
GR  1550.000  5075.000  1549.500  5180.000  1552.000  5280.000      .000      .000      .000      .000

X1      .925     7.000  4850.000  5220.000   290.000   290.000   290.000      .000      .000      .000
GR  1554.000  4630.000  1552.000  4850.000  1552.000  5000.000  1550.000  5005.000  1550.000  5220.000
GR  1552.000  5480.000  1555.000  6340.000      .000      .000      .000      .000      .000      .000

NC      .018     .018     .018     .000      .000      .000      .000      .000      .000      .000
        OULET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION. WATER SURFACE
        ELEVATIONS WERE COMPUTED CONSIDERING PIPE FLOW AND WEIR FLOW VERSUS
        THE HEC-2 MODEL WHICH INCORPORATES THE TOP OF ROADWAY ONLY.
        RESULTS INDICATE INSIGNIFICANT DIFFERENCES IN W.S. ELEV.
X1      .927     4.000  4550.000  6050.000    10.000    10.000    10.000      .000      .000      .000
GR  1554.000  4550.000  1552.500  5000.000  1552.500  5250.000  1554.000  6050.000      .000      .000

ET      .000      .000     9.100     .000      .000      .000      .000      .000  4800.000  5300.000
X1      .936      .000      .000     .000    50.000    50.000    50.000      .000      .000      .000

NC      .060      .060      .060     .000      .000      .000      .000      .000      .000      .000
ET      .000      .000     9.100     .000      .000      .000      .000      .000  4800.000  5300.000
X1      .938     7.000  4850.000  5220.000    10.000    10.000    10.000      .000      .000      .000
GR  1556.000  4480.000  1554.000  4630.000  1552.000  4850.000  1550.000  4950.000  1550.000  5110.000
GR  1552.000  5220.000  1554.000  5900.000      .000      .000      .000      .000      .000      .000

ET      .000      .000     9.100     .000      .000      .000      .000      .000  4840.000  5100.000
X1     1.044    13.000  4775.000  5050.000   555.000   555.000   555.000      .000      .000      .000
GR  1558.000  4595.000  1556.000  4665.000  1556.500  4720.000  1556.000  4775.000  1555.100  4865.000
GR  1556.000  4900.000  1555.100  4930.000  1556.000  4960.000  1555.000  5000.000  1555.100  5050.000
GR  1556.000  5260.000  1556.000  5375.000  1557.800  5550.000      .000      .000      .000      .000
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 08/18/88    14:23:20                                                                          PAGE    3


NC      .060      .060      .040     .000      .000      .000      .000      .000      .000      .000
ET      .000      .000     9.100     .000      .000      .000      .000      .000  4950.000  5165.000
X1     1.134    10.000  4850.000  5090.000   480.000   480.000   480.000      .000      .000      .000
X4     1.000  1559.000  4970.000     .000      .000      .000      .000      .000      .000      .000
GR  1562.500  4440.000  1562.000  4490.000  1560.000  4850.000  1557.000  5000.000  1558.000  5040.000
GR  1558.000  5090.000  1560.000  5250.000  1560.000  5385.000  1560.000  5505.000  1562.000  5815.000

ET      .000      .000     9.100     .000      .000      .000      .000      .000  4865.000  5080.000
X1     1.231     9.000  4770.000  5210.000   510.000   510.000   510.000      .000      .000      .000
GR  1565.000  4560.000  1564.000  4685.000  1564.000  4770.000  1562.000  4885.000  1561.000  4940.000
GR  1562.000  4965.000  1562.000  5000.000  1564.000  5210.000  1566.000  5660.000      .000      .000

NC      .060      .060      .060     .000      .000      .000      .000      .000      .000      .000
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ET	.000	.000	9.100	.000	.000	.000	.000	.000	4710.000	5050.000
X1	1.331	11.000	4490.000	5130.000	650.000	350.000	530.000	.000	.000	.000
GR	1570.000	4435.000	1568.000	4490.000	1566.000	4640.000	1565.500	4670.000	1566.000	4735.000
GR	1566.000	4810.000	1567.000	4910.000	1566.000	4980.000	1566.000	5000.000	1566.000	5015.000
GR	1568.000	5130.000	.000	.000	.000	.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4650.000	5050.000
X1	1.459	12.000	4420.000	5045.000	675.000	500.000	675.000	.000	.000	.000
GR	1574.000	4235.000	1573.000	4420.000	1571.000	4600.000	1572.000	4680.000	1573.000	4700.000
GR	1571.000	4735.000	1573.000	4820.000	1573.000	4900.000	1572.000	4975.000	1569.500	5000.000
GR	1572.000	5045.000	1574.000	5190.000	.000	.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4625.000	5070.000
X1	1.545	11.000	4800.000	5155.000	525.000	410.000	450.000	.000	.000	.000
GR	1577.500	4290.000	1576.000	4560.000	1576.000	4660.000	1577.500	4800.000	1576.000	4880.000
GR	1575.700	4900.000	1576.000	4910.000	1576.000	4980.000	1573.500	5000.000	1576.000	5050.000
GR	1577.500	5155.000	.000	.000	.000	.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4750.000	5170.000
X1	1.641	16.000	4650.000	5220.000	500.000	580.000	510.000	.000	.000	.000
GR	1583.000	4350.000	1582.000	4435.000	1581.000	4500.000	1581.000	4650.000	1580.000	4780.000
GR	1579.000	4820.000	1580.000	4840.000	1581.000	4915.000	1580.000	4975.000	1577.000	5000.000
GR	1580.000	5020.000	1581.000	5050.000	1580.000	5090.000	1579.000	5110.000	1580.000	5125.000
GR	1582.000	5220.000	.000	.000	.000	.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4850.000	5130.000
X1	1.727	13.000	4900.000	5200.000	350.000	500.000	435.000	.000	.000	.000
GR	1587.000	4585.000	1586.000	4625.000	1584.000	4900.000	1583.500	4930.000	1584.000	4965.000
GR	1580.000	4990.000	1579.700	5000.000	1580.000	5010.000	1584.000	5030.000	1583.000	5050.000
GR	1584.000	5060.000	1585.000	5160.000	1585.500	5200.000	.000	.000	.000	.000

QT	4.000	2275.000	2275.000	1729.000	792.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4875.000	5160.000
X1	1.860	15.000	4950.000	5475.000	500.000	600.000	700.000	.000	.000	.000
GR	1593.000	4700.000	1592.000	4750.000	1590.000	4825.000	1588.000	4825.000	1587.600	4950.000
GR	1588.000	4965.000	1588.000	4980.000	1587.000	5000.000	1588.000	5030.000	1590.000	5160.000
GR	1589.000	5260.000	1589.000	5370.000	1590.000	5400.000	1592.000	5435.000	1593.000	5475.000

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ET	.000	.000	9.100	.000	.000	.000	.000	.000	4980.000	5400.000
X1	1.935	17.000	4800.000	5635.000	425.000	600.000	500.000	.000	.000	.000
GR	1595.000	4800.000	1594.000	4900.000	1593.000	4940.000	1592.000	4990.000	1591.500	5000.000
GR	1592.000	5010.000	1593.000	5070.000	1592.000	5130.000	1593.000	5210.000	1593.000	5290.000
GR	1593.000	5375.000	1594.000	5410.000	1593.000	5480.000	1594.000	5635.000	1596.000	5870.000
GR	1598.000	5950.000	1599.000	5975.000	.000	.000	.000	.000	.000	.000

NC	.050	.050	.050	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4980.000	5450.000
X1	2.052	10.000	4840.000	5640.000	515.000	515.000	515.000	.000	.000	.000
GR	1599.700	4765.000	1598.000	4840.000	1596.000	4940.000	1596.000	5000.000	1597.000	5050.000
GR	1598.000	5280.000	1596.000	5415.000	1595.000	5470.000	1598.000	5640.000	1599.000	5720.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4875.000	5195.000
X1	2.204	11.000	4800.000	5100.000	700.000	625.000	800.000	.000	.000	.000
GR	1604.000	4470.000	1602.000	4800.000	1602.000	4970.000	1601.000	5000.000	1602.000	5025.000
GR	1602.000	5100.000	1602.300	5310.000	1602.000	5365.000	1601.500	5380.000	1602.000	5390.000
GR	1604.000	5580.000	.000	.000	.000	.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4895.000	5170.000
X1	2.304	10.000	4835.000	5120.000	530.000	530.000	530.000	.000	.000	.000
GR	1610.000	4655.000	1608.000	4770.000	1606.000	4835.000	1604.000	5000.000	1606.000	5120.000
GR	1606.000	5190.000	1605.000	5265.000	1606.000	5280.000	1608.000	5380.000	1608.500	5470.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4730.000	5100.000
X1	2.426	12.000	4850.000	5075.000	640.000	640.000	640.000	.000	.000	.000
X4	1.000	1611.500	5215.000	.000	.000	.000	.000	.000	.000	.000
GR	1616.000	4235.000	1614.000	4350.000	1612.000	4560.000	1610.000	4720.000	1611.500	4850.000
GR	1610.000	4980.000	1609.000	5000.000	1610.000	5020.000	1612.000	5075.000	1612.000	5180.000
GR	1612.000	5225.000	1613.500	5430.000	.000	.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4720.000	5155.000
X1	2.525	13.000	4635.000	5025.000	600.000	490.000	525.000	.000	.000	.000
GR	1618.000	4505.000	1616.000	4635.000	1614.000	4790.000	1612.000	4800.000	1616.000	4850.000
GR	1616.000	4930.000	1614.000	4960.000	1616.000	4975.000	1614.000	5000.000	1616.000	5025.000
GR	1616.000	5210.000	1616.000	5265.000	1617.000	5530.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4675.000	5150.000
X1	2.638	11.000	4565.000	5200.000	600.000	600.000	600.000	.000	.000	.000
GR	1624.000	4440.000	1622.000	4565.000	1619.000	4640.000	1620.000	4700.000	1621.000	4780.000
GR	1620.000	4850.000	1620.000	5000.000	1620.000	5040.000	1620.500	5100.000	1621.000	5200.000
GR	1622.000	5350.000	.000	.000	.000	.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4605.000	5100.000
X1	2.735	11.000	4530.000	5180.000	510.000	510.000	510.000	.000	.000	.000
GR	1628.000	4080.000	1626.000	4280.000	1625.500	4530.000	1624.500	4720.000	1625.000	4820.000
GR	1624.000	4905.000	1625.000	4950.000	1624.000	5000.000	1624.500	5050.000	1625.500	5180.000
GR	1627.000	5275.000	.000	.000	.000	.000	.000	.000	.000	.000

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ET	.000	.000	9.100	.000	.000	.000	.000	.000	4600.000	5160.000
X1	2.830	10.000	4775.000	5310.000	540.000	610.000	505.000	.000	.000	.000
GR	1634.000	4035.000	1632.000	4120.000	1630.000	4240.000	1629.000	4375.000	1628.000	4540.000
GR	1630.000	4775.000	1628.500	5000.000	1628.500	5100.000	1630.000	5310.000	1631.000	5480.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4670.000	5200.000
X1	2.942	22.000	4670.000	5090.000	660.000	580.000	590.000	.000	.000	.000
GR	1638.000	3770.000	1637.000	4000.000	1635.500	4020.000	1636.000	4110.000	1636.500	4345.000
GR	1636.000	4385.000	1636.000	4480.000	1634.000	4515.000	1636.000	4550.000	1635.000	4670.000
GR	1634.500	4870.000	1635.000	4940.000	1636.000	4990.000	1633.000	5000.000	1634.000	5030.000
GR	1634.000	5060.000	1635.000	5090.000	1634.000	5125.000	1634.000	5260.000	1636.000	5460.000
GR	1636.000	5555.000	1638.000	5690.000	.000	.000	.000	.000	.000	.000

GT	4.000	2202.000	2202.000	1660.000	749.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4850.000	5390.000
X1	3.056	15.000	4720.000	5430.000	500.000	650.000	600.000	.000	.000	.000
GR	1642.000	4720.000	1640.000	4850.000	1641.000	4940.000	1640.000	4985.000	1639.000	5000.000
GR	1640.000	5015.000	1641.000	5055.000	1640.000	5100.000	1640.000	5370.000	1641.000	5430.000
GR	1640.000	5490.000	1642.000	5750.000	1640.000	5840.000	1642.000	5950.000	1643.000	6125.000

NC	.070	.060	.050	.100	.300	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4800.000	5200.000
X1	3.183	24.000	4940.000	5040.000	600.000	600.000	670.000	.000	.000	.000
GR	1648.000	4260.000	1647.000	4460.000	1647.000	4555.000	1646.000	4630.000	1646.000	4645.000
GR	1645.500	4660.000	1646.000	4675.000	1645.000	4685.000	1646.000	4695.000	1646.500	4725.000
GR	1646.000	4750.000	1644.500	4760.000	1645.000	4765.000	1647.000	4845.000	1647.000	4940.000
GR	1646.000	4985.000	1645.000	5000.000	1646.000	5010.000	1646.500	5020.000	1646.000	5030.000
GR	1646.000	5040.000	1647.000	5270.000	1647.000	5540.000	1648.000	5780.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4800.000	5200.000
X1	3.268	25.000	4930.000	5060.000	495.000	415.000	450.000	.000	.000	.000
GR	1653.000	4340.000	1651.000	4490.000	1651.000	4700.000	1651.000	4770.000	1652.000	4795.000
GR	1652.000	4850.000	1651.000	4930.000	1650.000	4995.000	1649.500	5000.000	1650.000	5005.000
GR	1650.000	5035.000	1651.000	5060.000	1652.000	5145.000	1652.000	5180.000	1652.000	5230.000
GR	1652.500	5265.000	1652.000	5280.000	1651.500	5310.000	1652.000	5355.000	1652.500	5350.000
GR	1653.000	5740.000	1652.000	5815.000	1651.000	5820.000	1652.000	5825.000	1653.000	5885.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4775.000	5225.000
X1	3.355	30.000	4900.000	5010.000	460.000	380.000	460.000	.000	.000	.000
GR	1657.500	4245.000	1656.000	4355.000	1656.000	4415.000	1656.000	4430.000	1655.300	4440.000
GR	1656.000	4450.000	1656.500	4540.000	1656.000	4600.000	1656.000	4620.000	1656.500	4660.000
GR	1656.000	4700.000	1656.000	4725.000	1656.500	4790.000	1656.000	4825.000	1656.000	4900.000
GR	1655.000	4940.000	1656.000	4960.000	1657.000	4980.000	1656.000	4990.000	1655.000	5000.000
GR	1656.000	5010.000	1656.500	5115.000	1656.000	5205.000	1657.000	5250.000	1656.500	5350.000
GR	1657.000	5450.000	1656.000	5540.000	1655.000	5550.000	1656.000	5560.000	1657.500	5650.000
NC	.070	.070	.050	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4650.000	5200.000
X1	3.443	20.000	4925.000	5050.000	330.000	470.000	465.000	.000	.000	.000
GR	1661.000	4050.000	1660.000	4190.000	1659.100	4410.000	1659.100	4570.000	1660.000	4610.000
GR	1660.500	4660.000	1660.000	4720.000	1659.500	4790.000	1660.000	4925.000	1660.000	4980.000
GR	1659.000	5000.000	1660.000	5050.000	1661.000	5130.000	1660.000	5190.000	1660.000	5260.000
GR	1661.000	5350.000	1660.000	5420.000	1659.000	5480.000	1660.000	5570.000	1661.000	1650.000

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08/10/98 14:23:20 PAGE 5

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4775.000	5310.000
X1	3.500	30.000	4970.000	5095.000	345.000	305.000	305.000	.000	.000	.000
GR	1664.500	4390.000	1663.000	4615.000	1661.700	4685.000	1662.000	4710.000	1663.000	4875.000
GR	1664.000	4940.000	1664.500	4970.000	1664.000	4990.000	1662.900	5000.000	1664.000	5005.000
GR	1664.000	5060.000	1665.000	5095.000	1664.000	5125.000	1665.000	5160.000	1664.000	5200.000
GR	1663.000	5210.000	1664.000	5220.000	1664.000	5235.000	1663.000	5260.000	1663.000	5360.000
GR	1664.000	5400.000	1665.000	5470.000	1664.000	5560.000	1663.700	5590.000	1664.000	5620.000
GR	1664.500	5660.000	1664.000	5705.000	1663.500	5730.000	1664.000	5750.000	1665.000	5860.000
NC	.060	.060	.040	.000	.000	.000	.000	.000	.000	.000
ET	.000	7.100	9.100	.000	.000	.000	4500.000	5530.000	4800.000	5200.000
X1	3.581	22.000	4955.000	5070.000	420.000	385.000	420.000	.000	.000	.000
GR	1669.000	4500.000	1668.000	4525.000	1667.000	4550.000	1668.000	4595.000	1667.000	4905.000
GR	1668.000	4840.000	1666.000	4875.000	1668.000	4930.000	1668.500	4955.000	1668.000	4980.000
GR	1666.500	5000.000	1668.000	5020.000	1668.000	5070.000	1667.000	5140.000	1667.000	5260.000
GR	1667.000	5380.000	1668.000	5475.000	1669.000	5530.000	1668.000	5800.000	1667.500	5865.000
GR	1668.000	5800.000	1669.000	5895.000	.000	.000	.000	.000	.000	.000
ET	.000	7.100	9.100	.000	.000	.000	4689.000	5415.000	4850.000	5150.000
X1	3.650	17.000	4970.000	5020.000	335.000	365.000	365.000	.000	.000	.000
GR	1671.000	4680.000	1669.000	4770.000	1670.000	4840.000	1671.000	4930.000	1670.000	4970.000
GR	1668.000	4990.000	1667.500	5000.000	1668.000	5010.000	1670.000	5020.000	1671.000	5060.000
GR	1670.000	5110.000	1669.000	5230.000	1669.000	5340.000	1670.000	5415.000	1671.000	5510.000
GR	1670.000	5595.000	1671.000	5705.000	.000	.000	.000	.000	.000	.000
NC	.050	.050	.035	.000	.000	.000	.000	.000	.000	.000
ET	.000	7.100	9.100	.000	.000	.000	4935.000	5310.000	4935.000	5175.000
X1	3.702	18.000	4990.000	5010.000	295.000	265.000	275.000	.000	.000	.000
GR	1674.000	4890.000	1673.000	4940.000	1672.000	4955.000	1670.000	4990.000	1668.500	5000.000
GR	1670.000	5010.000	1672.000	5020.000	1673.000	5045.000	1672.000	5065.000	1671.000	5130.000
GR	1672.000	5240.000	1672.000	5390.000	1673.000	5400.000	1672.000	5465.000	1671.000	5470.000
GR	1672.000	5480.000	1672.500	5600.000	1673.500	5690.000	.000	.000	.000	.000
NC	.000	.000	.000	.300	.500	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4940.000	5060.000
X1	3.737	13.000	4950.000	5025.000	180.000	190.000	185.000	.000	.000	.000
GR	1677.000	4870.000	1676.000	4930.000	1672.000	4950.000	1670.000	4990.000	1669.000	5000.000
GR	1670.000	5005.000	1672.000	5015.000	1674.000	5025.000	1675.000	5065.000	1675.000	5120.000
GR	1675.000	5430.000	1676.000	5490.000	1677.000	5700.000	.000	.000	.000	.000
NC	.015	.015	.015	.000	.000	.000	.000	.000	.000	.000
X1	3.759	9.000	4935.000	5050.000	90.000	150.000	115.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	1676.000	1676.000	.000
GR	1677.000	4880.000	1676.000	4935.000	1674.000	4955.000	1672.000	4965.000	1670.500	5000.000
GR	1672.000	5020.000	1674.000	5035.000	1675.000	5050.000	1678.000	5140.000	.000	.000

```
SB      1.250      1.600      3.000       .000     100.000      4.000    525.000       .000   1670.700   1670.500
X1      3.758      9.000   4920.000   5040.000      50.000     50.000     50.000       .000       .000       .000
X2       .000       .000      1.000   1675.800   1677.500       .000       .000       .000       .000       .000
X3     10.000       .000       .000       .000       .000       .000       .000   1677.500   1677.500       .000
BT      5.000   4730.000   1680.000       .000   4750.000   1678.000       .000   4890.000   1677.500       .000
BT   5000.000   1677.800       .000   5200.000   1679.000       .000       .000       .000       .000       .000
GR   1680.000   4730.000   1678.000   4790.000   1677.500   4890.000   1674.000   4920.000   1672.000   4980.000
1
 08/18/88    14:23:20                                                                                    PAGE    7

GR   1670.700   5000.000   1672.000   5020.000   1676.000   5040.000   1679.000   5200.000       .000       .000

NC       .025       .025       .025       .000       .000       .000       .000       .000       .000       .000
X1      3.793      8.000   4975.000   5145.000    130.000    130.000    130.000       .000       .000       .000
X3     10.000       .000       .000       .000       .000       .000       .000   1681.000   1681.000       .000
GR   1680.000   4975.000   1672.000   4980.000   1671.500   5000.000   1672.000   5010.000   1674.000   5020.000
GR   1676.000   5135.000   1678.000   5140.000   1680.000   5145.000       .000       .000       .000       .000

SB      1.050      1.600      2.600       .000     170.000     11.000   1272.000       .000   1671.700   1671.500
X1      3.799     10.000   4960.000   5140.000     30.000     30.000     30.000       .000       .000       .000
X2       .000       .000      1.000   1679.500   1682.000       .000       .000       .000       .000       .000
X3     10.000       .000       .000       .000       .000       .000       .000   1682.000   1682.000       .000
BT      4.000   4730.000   1682.000       .000   4950.000   1682.000       .000   5000.000   1682.500       .000
BT   5170.000   1683.000       .000       .000       .000       .000       .000       .000       .000       .000
GR   1682.000   4730.000   1682.000   4950.000   1680.000   4960.000   1674.000   4970.000   1672.000   4985.000
GR   1671.700   5000.000   1672.000   5015.000   1674.000   5120.000   1682.000   5140.000   1683.000   5170.000

NC       .070       .070       .035       .100       .300       .000       .000       .000       .000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4920.000   5060.000
X1      3.850     12.000   4965.000   5030.000    290.000    170.000    270.000       .000       .000       .000
GR   1679.500   4750.000   1679.000   4795.000   1678.000   4880.000   1677.000   4910.000   1678.000   4935.000
GR   1679.000   4950.000   1678.000   4965.000   1675.000   4980.000   1674.500   5000.000   1676.000   5020.000
GR   1678.000   5030.000   1683.000   5060.000       .000       .000       .000       .000       .000       .000

ET       .000       .000      9.100       .000       .000       .000       .000       .000   4920.000   5025.000
X1      3.892      9.000   4940.000   5025.000    225.000    225.000    225.000       .000       .000       .000
GR   1681.000   4725.000   1680.300   4880.000   1680.000   4940.000   1678.000   4960.000   1676.000   4980.000
GR   1675.000   5000.000   1676.000   5010.000   1678.000   5015.000   1681.000   5025.000       .000       .000
EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
*PROF 1
1
 08/18/88    14:23:20                                                                                    PAGE    8

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


CCHV=    .300 CEHV=    .500
*SECNO  .000
        THIS IS A HEC-2 MODEL FOR WITTMANN WASH
        THE REACH IS DOWNSTREAM FROM WITTMANN TO THE CAP1WEST OVERCHUTE


        THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 MODEL'S STORAGE
        ROUTING PROCEDURE THRU CAP1WEST.

        NOTE:  THE RIVER REACH MILES ARE MEASURED FROM THE
        CAP1WEST OVERCHUTE.
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        NOTE:  A SPLIT FLOW OCCURS JUST DOWNSTREAM OF SECTION
        1.860.  THE CORRESPONDING DISCHARGES REMAINING IN WITTMANN WASH
        WILL BE USED IN THE REMAINING REACH TO THE CAP1WEST OVERCHUTE.
      .00      8.94  1551.94      .00  1551.94  1552.42      .48      .00      .00  1550.00
     6564.      516.    6003.      45.     402.     1039.      42.       0.       0.   1551.00
      .00      1.28     5.77     1.07     .060     .040     .040     .000  1543.00  4525.36
   .002259       0.       0.       0.        0        0        0      .00   638.93  5164.29
0
 CCHV=    .100 CEHV=    .300
 *SECNO  .102
  WATER EL=X5 CARD=  1551.940
      .10      7.94  1551.94      .00      .00  1551.98      .04      .72      .04  1548.00
    1733.      657.    1076.       0.     812.     586.       0.      21.       9.   1552.00
      .11       .81     1.83      .00     .060     .040     .040     .000  1544.00  4544.80
   .000310     750.     540.     550.        0        0        0      .00   504.79  5049.60
0
 *SECNO  .326
 3280 CROSS SECTION       .33 EXTENDED       .14 FEET

        SECTIONS .326 THRU .870 PROVIDE A HYDRAULIC ANALYSIS TO THE
        TO THE CAP1WEST OVERCHUTE.  ACCORDING TO THE BACKWATER ANALYSIS THE
        WATER SURFACE ELEVATION WILL OVERTOP THE CAP CANAL HOWEVER THE
        EXTENDED SECTIONS WILL REMAIN IN THE MODEL.
      .33      5.84  1552.14      .00      .00  1552.15      .01      .17      .00  1546.50
    1733.      821.     912.       0.    1634.     924.       0.      74.      27.   1552.00
      .55       .50      .99      .00     .060     .040     .040     .000  1546.30  4258.86
   .000086    1180.    1180.    1180.        3        0        0      .00   831.14  5090.00
0
1
  08/18/88    14:23:20                                                                    PAGE    9


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CDRAR    TOPWID     ENDST


 *SECNO  .681
 3280 CROSS SECTION       .68 EXTENDED       .31 FEET

      .68      5.51  1552.31      .00      .00  1552.32      .01      .17      .00  1546.80
    1733.      855.     878.       0.    1519.     853.       0.     181.      60.   1552.00
     1.20       .56     1.03      .00     .060     .040     .040     .000  1546.80  4358.96
   .000093    1875.    1875.    1875.        2        0        0      .00   696.04  5055.00
0
 *SECNO  .870
 3280 CROSS SECTION       .87 EXTENDED       .46 FEET

      .87      4.46  1552.46      .00      .00  1552.49      .03      .16      .01  1550.00
    1733.      397.    1336.       0.     575.     901.       0.     220.      75.   1552.00
     1.40       .69     1.48      .00     .060     .040     .040     .000  1548.00  4487.87
   .000435     800.    1000.    1000.        2        0        0      .00   792.13  5280.00
0
 *SECNO  .925
      .93      2.63  1552.63      .00      .00  1552.65      .04      .17      .00  1552.00
    1733.        7.    1066.     660.      22.     667.     479.     229.      80.   1550.00
     1.45       .33     1.60     1.38     .060     .040     .040     .000  1550.00  4781.04
   .000845     290.     290.     290.        3        0        0      .00   878.69  5659.73
0
 *SECNO  .927
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
        OULET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION. WATER SURFACE
        ELEVATIONS WERE COMPUTED CONSIDERING BOTH FLOW AND NOTA FLOW VERSUS
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THE HEC-2 MODEL WHICH INCORPORATES THE TOP OF ROADWAY ONLY.
RESULTS INDICATE INSIGNIFICANT DIFFERENCES IN W.S. ELEV.

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      .93      .77  1553.27  1553.27      .00  1553.51      .25      .02      .06  1554.00
     1733.       0.    1733.       0.       0.     435.       0.     229.      80.  1554.00
      1.45      .00     3.98      .00     .018     .018     .018     .000  1552.50  4770.39
   .006009      10.      10.      10.       20       14        0      .00   887.42  5658.20
0
 *SECNO  .936
      .94     1.07  1553.57      .00      .00  1553.66      .08      .13      .02  1554.00
     1733.       0.    1733.       0.       0.     745.       0.     230.      82.  1554.00
      1.46      .00     2.33      .00     .018     .018     .018     .000  1552.50  4678.80
   .001402      50.      50.      50.        3        0        0      .00  1142.23  5821.03
0
1
  08/18/88    14:23:20                                                                    PAGE   10


    SECNO    DEPTH    CWSEL    CRIWS    WSELK     EG       HV       HL      OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB      ACH      AROB     VOL     TWA     LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL       XNCH     XNR      WTN     ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL    IDC      ICONT    COMAR   TOPWID     ENDST


 *SECNO  .938
      .94     3.65  1553.65      .00      .00  1553.67      .02      .01      .01  1552.00
     1733.      77.    1417.     239.     150.    1141.     463.     230.      82.  1552.00
      1.46      .52     1.24      .52     .060     .060     .060     .000  1550.00  4668.43
   .000560      10.      10.      10.        4        0        0      .00  1112.79  5781.22
0
 *SECNO 1.044

 3265 DIVIDED FLOW

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      1.04     1.24  1556.24  1556.24      .00  1556.54      .31     1.02      .09  1556.00
     1733.      10.    1030.     694.       7.     216.     176.     244.      93.  1555.10
      1.49     1.35     4.77     3.95     .060     .060     .060     .000  1555.00  4656.72
   .051327     555.     555.     555.       20       22        0      .00   696.42  5411.12
0
 *SECNO 1.134
      1.13     3.39  1560.39      .00      .00  1560.51      .11     3.94      .02  1560.00
     1733.       7.    1255.     471.       14.     414.     335.     250.     102.  1558.00
      1.54      .47     3.03     1.41     .060     .040     .060     .000  1557.00  4779.18
   .003209     480.     480.     480.        7        0        0      .00   786.80  5565.98
0
 *SECNO 1.231
      1.23     2.38  1563.38      .00      .00  1563.76      .38     3.17      .08  1564.00
     1733.       0.    1733.       0.       0.     351.       0.     256.     108.  1564.00
      1.57      .00     4.94      .00     .060     .040     .060     .000  1561.00  4806.04
   .016790     510.     510.     510.        2        0        0      .00   338.14  5144.18
0
 *SECNO 1.331
      1.33     2.33  1567.83      .00      .00  1567.90      .06     4.11      .03  1568.00
     1733.       0.    1733.       0.       0.     849.       0.     254.     114.  1568.00
      1.65      .00     2.04      .00     .060     .060     .060     .000  1565.50  4502.50
   .004448     650.     530.     350.        3        0        0      .00   617.92  5120.42
0
 *SECNO 1.459
1
  08/18/88    14:23:20                                                                    PAGE   11


    SECNO    DEPTH    CWSEL    CRIWS    WSELK     EG       HV       HL      OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB      ACH      AROB     VOL     TWA     LEFT/RIGHT
```

```
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST


 3265 DIVIDED FLOW

      1.46     3.32  1572.82      .00      .00  1572.97      .15     5.05      .03  1573.00
     1733.       0.     1692.      41.       0.     532.      24.     275.     123.  1572.00
      1.70      .00     3.18     1.69     .060     .060     .060     .000  1569.50  4436.03
   .015259     675.     675.     500.        3        0        0      .00   560.95  5104.59
0
 *SECND 1.545

 3265 DIVIDED FLOW

      1.54     3.85  1577.35      .00      .00  1577.43      .07     4.45      .01  1577.50
     1733.     709.     1024.      0.     382.     432.      0.     282.     130.  1577.50
      1.76     1.86     2.37      .00     .060     .060     .060     .000  1573.50  4317.95
   .006553     525.     450.     410.        6        0        0      .00   603.41  5144.13
0
 *SECND 1.641
      1.64     4.33  1581.33      .00      .00  1581.44      .11     4.00      .01  1581.00
     1733.      61.     1672.      0.      54.     623.      0.     291.     139.  1582.00
      1.82     1.14     2.68      .00     .060     .060     .060     .000  1577.00  4478.33
   .009671     500.     510.     580.        6        0        0      .00   710.00  5188.34
0
 *SECND 1.727
      1.73     5.56  1585.26      .00      .00  1585.41      .15     3.95      .01  1584.00
     1733.     180.     1553.      0.     109.     485.      0.     297.     145.  1585.50
      1.86     1.64     3.20      .00     .060     .060     .060     .000  1579.70  4726.48
   .008102     350.     455.     500.        5        0        0      .00   454.48  5180.96
0
 *SECND 1.860
      1.86     3.09  1590.09      .00      .00  1590.23      .14     4.82      .00  1587.60
     2275.    1027.     1248.      0.     287.     536.      0.     308.     153.  1593.00
      1.92     3.58     2.33      .00     .060     .060     .060     .000  1587.00  4821.44
   .007046     500.     700.     600.        5        0        0      .00   580.22  5401.66
0
 *SECND 1.955
      1.96     2.65  1594.15      .00      .00  1594.27      .11     4.03      .00  1595.00
     2275.       0.     2274.      1.       0.     845.      1.     317.     160.  1594.00
      1.97      .00     2.69      .44     .060     .060     .060     .000  1591.50  4885.13
   .010059     425.     500.     600.        4        0        0      .00   767.34  5652.47
0
1
 08/18/88    14:23:20                                                                PAGE   12


    SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST


 *SECND 2.052
      2.05     2.11  1598.11      .00      .00  1598.21      .10     3.94      .00  1598.00
     2275.       0.     2275.      0.       0.     907.      0.     327.     170.  1598.00
      2.03      .32     2.51      .32     .050     .050     .050     .000  1596.00  4835.45
   .006015     515.     515.     515.        4        0        0      .00   812.79  5648.24
0
 *SECND 2.204
      2.20     2.20  1603.20      .00      .00  1603.32      .12     5.10      .01  1602.00
     2275.     218.     1185.     872.     119.     388.     357.     343.     184.  1602.00
      2.11     1.83     3.06     2.45     .050     .050     .050     .000  1601.00  4601.89
   .007500     700.     [illegible]  [illegible]  4  [illegible]  0  .00  932.18  5504.06
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0
 *SECNO 2.304
     2.30     2.80  1606.80      .00      .00  1606.97      .17     3.63      .02  1606.00
    2275.      13.    1796.      466.      11.     514.     190.     352.     193.  1606.00
     2.15     1.28     3.49     2.45     .050     .050     .050     .000  1604.00  4908.85
  .006283     530.     530.     530.        4        0        0      .00   511.38  5320.23
0
 *SECNO 2.426

 3265 DIVIDED FLOW

     2.43     2.98  1611.98      .00      .00  1612.18      .20     5.21      .01  1611.50
    2275.    1052.    1211.      12.     316.     312.      10.     362.     201.  1612.00
     2.20     3.33     3.88     1.20     .050     .050     .050     .000  1609.00  4561.78
  .010939     640.     640.     640.        4        0        0      .00   555.61  5224.56
0
 *SECNO 2.525
     2.53     4.58  1616.58      .00      .00  1616.72      .15     4.54      .01  1616.00
    2275.      12.    1978.      285.      11.     608.     185.     371.     209.  1616.00
     2.25     1.07     3.26     1.54     .050     .050     .050     .000  1612.00  4597.00
  .006662     600.     525.     480.        3        0        0      .00   822.51  5419.59
0
 *SECNO 2.638
     2.64     2.38  1621.38      .00      .00  1621.54      .16     4.81      .00  1622.00
    2275.       0.    2265.      10.       0.     705.      10.     392.     219.  1621.00
     2.30      .00     3.21      .96     .050     .050     .050     .000  1619.00  4580.65
  .009834     600.     600.     600.        4        0        0      .00   675.48  5256.12
0
1
 08/18/88    14:23:20                                                                    PAGE   13


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    COPAR    TOPWID     ENDST


 *SECNO 2.735
     2.73     1.93  1625.93      .00      .00  1626.06      .13     4.52      .00  1625.50
    2275.      44.    2226.       6.      46.     756.       6.     391.     228.  1625.50
     2.35      .95     2.95      .95     .050     .050     .050     .000  1624.00  4315.95
  .008032     510.     510.     510.        5        0        0      .00   891.16  5207.11
0
 *SECNO 2.830

 3265 DIVIDED FLOW

     2.83     1.89  1629.89      .00      .00  1629.99      .10     3.92      .00  1630.00
    2275.    1325.     950.       0.     497.     423.       0.     401.     240.  1630.00
     2.41     2.67     2.24      .00     .050     .050     .050     .000  1628.00  4253.69
  .007212     540.     505.     610.        2        0        0      .00  1014.97  5295.00
0
 *SECNO 2.942

 3265 DIVIDED FLOW

     2.94     2.50  1635.50      .00      .00  1635.69      .19     5.67      .03  1635.80
    2275.     109.     855.    1312.      40.     292.     351.     412.     252.  1635.00
     2.46     2.74     2.93     3.73     .050     .050     .050     .000  1633.00  4489.68
  .012473     660.     590.     580.        4        0        0      .00   724.32  5410.39
0
 *SECNO 3.056

 3265 DIVIDED FLOW
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     3.06     2.31  1641.31      .00      .00  1641.40      .09     5.71      .01  1642.00
    2202.       0.    1726.     476.       0.     575.     246.     423.     264.   1641.00
     2.53      .00     2.56     1.94     .050     .050     .050     .000  1639.00  4778.75
  .007071     500.     600.     650.        5        0        0      .00  1012.28  5911.99
0
 CCHV=    .100 CEHV=    .300
 *SECNO 3.183
     3.18     2.86  1647.36      .00      .00  1647.48      .12     6.07      .01  1647.00
    2202.     1051.     477.     675.     413.     121.     311.     436.     280.   1646.00
     2.59     2.54     3.94     2.17     .070     .050     .060     .000  1644.50  4387.93
  .013640     600.     670.     600.        5        0        0      .00  1238.55  5626.48
0
1
  08/18/88    14:23:20                                                                    PAGE   14


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       ELOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 3.268

 3265 DIVIDED FLOW

     3.27     2.73  1652.23      .00      .00  1652.38      .16     4.89      .01  1651.00
    2202.     972.    1030.     200.     488.     247.     140.     445.     292.   1651.00
     2.64     1.99     4.17     1.43     .070     .050     .060     .000  1649.50  4358.10
  .008399     495.     450.     415.        4        0        0      .00  1057.74  5838.52
0
 *SECNO 3.355

 3265 DIVIDED FLOW

     3.36     1.96  1656.96      .00      .00  1657.07      .11     4.63      .00  1656.00
    2202.    1039.     510.     653.     481.     130.     309.     454.     304.   1656.00
     2.69     2.16     3.91     2.11     .070     .050     .060     .000  1655.00  4284.69
  .013605     460.     460.     380.        4        0        0      .00  1311.17  5617.52
0
 *SECNO 3.443

 3265 DIVIDED FLOW

     3.44     1.65  1660.65      .00      .00  1660.70      .05     3.63      .01  1660.00
    2202.    1476.     270.     455.     790.     116.     297.     454.     316.   1660.00
     2.74     1.87     2.33     1.53     .070     .050     .070     .000  1659.00  4099.27
  .006786     330.     465.     470.        5        0        0      .00  1417.00  5621.85
0
 *SECNO 3.500

 3265 DIVIDED FLOW

     3.50     2.31  1664.01      .00      .00  1664.18      .17     3.44      .03  1664.50
    2202.    1813.       9.     380.     528.       5.     165.     471.     325.   1665.00
     2.77     3.43      .97     2.30     .070     .050     .070     .000  1661.70  4463.86
  .017327     345.     305.     305.        2        0        0      .00   856.28  5750.83
0
 *SECNO 3.581
1
  08/18/88    14:23:20                                                                    PAGE   15


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       ELOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
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   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=    4500.0    5530.0  TYPE=     1  TARGET=    1030.000
      3.58     2.40  1668.40     .00      .00  1668.48     .08     4.29      .01  1668.50
     2202.     879.     161.    1163.     414.      70.    488.     479.     334.  1668.00
      2.82     2.12     2.30     2.38     .060     .040    .060     .000  1666.00  4515.06
   .007062     420.     420.     385.        4        0       0      .00   571.56  5496.87
0
 *SECNO 3.650

 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=    4689.0    5415.0  TYPE=     1  TARGET=     726.000
      3.65     3.28  1670.78     .00      .00  1670.96     .18     2.46      .03  1670.00
     2202.     392.     599.    1211.     201.     114.    473.     486.     340.  1670.00
      2.85     1.95     5.26     2.56     .060     .040    .060     .000  1667.50  4689.89
   .006732     335.     365.     365.        4        0       0      .00   676.77  5415.00
0
 *SECNO 3.702

 3265 DIVIDED FLOW

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4935.0    5310.0  TYPE=     1  TARGET=     375.000
      3.70     4.44  1672.94  1672.94     .00  1673.52     .57     2.09      .12  1670.00
     2202.     307.     699.    1195.      75.      74.    358.     490.     343.  1670.00
      2.87     4.11     9.47     3.34     .050     .035    .050     .000  1668.50  4940.84
   .008836     295.     275.     265.        8       11       0      .00   366.64  5310.00
0
 CCHV=    .300 CEHV=    .500
 *SECNO 3.737

 3301 HV CHANGED MORE THAN HVINS

      3.74     4.50  1674.30     .00      .00  1675.50    1.20     1.67      .31  1672.00
     2202.      41.    2160.      1.      13.     244.      2.     492.     344.  1674.00
      2.87     3.07     8.85     .80     .050     .035    .050     .000  1669.80  4938.50
   .009099     180.     185.     190.        2        0       0      .00    98.46  5036.96
0
1
 08/18/88    14:23:20                                                                    PAGE   16


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


*SECNO 3.759

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1676.00 ELREA=     1676.00

      3.76     4.44  1674.94     .00      .00  1675.92     .98      .36      .06  1676.00
     2202.       0.    2202.      0.       0.     277.      0.     492.     345.  1676.00
      2.88      .00     7.95     .00     .015     .015    .015     .000  1670.50  4945.56
   .001593      90.     115.     150.        2        0       0      .00    96.53  5042.08
```

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.25	1.60	3.00	.00	100.00	4.00	525.00	.00	1670.70	1670.50

*SECNO 3.768
CLASS A LOW FLOW

3420 BRIDGE W.S.= 1675.00 BRIDGE VELOCITY=, 5.21 CALCULATED CHANNEL AREA=, 413.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD
1675.38	1675.99	.28	0.	2202.	525.	490.	1675.80	1677.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 1677.50 ELREA= 1677.50

3.77	4.52	1675.22	.00	.00	1675.99	.76	.06	.00	1674.00
2202.	0.	2202.	0.	0.	314.	0.	493.	345.	1676.00
2.88	.00	7.00	.00	.000	.015	.000	.000	1670.70	4920.00
.001330	50.	50.	50.	0	0	0	.00	116.12	5036.12

0
*SECNO 3.793
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 1681.00 ELREA= 1681.00

3.79	4.54	1676.04	1676.04	.00	1676.97	.93	.35	.08	1680.00
2202.	0.	2202.	0.	0.	284.	0.	494.	345.	1680.00
2.88	.00	7.74	.00	.025	.025	.025	.000	1671.50	4977.47
.007894	130.	130.	130.	20	5	0	.00	157.64	5135.11

0
1

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	1.05	1.60	2.60	.00	170.00	11.00	1272.00	.00	1671.70	1671.50

*SECNO 3.799
6110 EGLWC OF 1676.61 LESS THAN XEG OF 1676.97

3301 HV CHANGED MORE THAN HVINS

CLASS A LOW FLOW

3420 BRIDGE W.S.= 1676.12 BRIDGE VELOCITY=, 3.06 CALCULATED CHANNEL AREA=, 703.

EGPRS	EGLWC	H3	QWEIR	QLOW	BAREA	TRAPEZOID AREA	ELLC	ELTRD
.00	1676.61	.32	0.	2202.	1272.	1240.	1679.50	1682.00

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3495 OVERBANK AREA ASSUMED NON-EFFECTIVE.ELLEB=     1682.00 ELREB=     1682.00

     3.80     4.66  1676.36      .00      .00  1676.97      .25      .00      .00  1680.00
    2202.       0.    2202.       0.       0.     550.       0.     494.     345.  1682.00
     2.89      .00     4.00      .00     .000     .025     .000     .000  1671.70  4966.06
  .000881      30.      30.      30.        0        0        0      .00   159.84  5125.90
0
 CCHV=    .100 CEHV=    .300
 *SECNO 3.850

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     3.85     4.72  1679.22  1679.22      .00  1680.14      .92      .54      .20  1678.00
    2202.     387.    1809.       6.     179.     214.       4.     497.     347.  1678.00
     2.90     2.16     8.44     1.36     .070     .035     .070     .000  1674.50  4775.32
  .008136     290.     270.     170.       20        5        0      .00   261.99  5037.31
0
 *SECNO 3.892
     3.89     5.82  1680.82  1679.88      .00  1681.59      .76     1.43      .02  1680.00
    2202.      43.    2159.       0.      50.     305.       0.     499.     348.  1681.00
     2.91      .85     7.08      .00     .070     .035     .070     .000  1675.00  4780.44
  .005106     225.     225.     225.        6        8        0      .00   243.97  5024.40
0
1
 PROFILE FOR STREAM  FLOODPLAIN RUN  (WITTMAN


 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,*-LOWER END STA


ELEVATION  1540.     1560.     1580.     1600.     1620.     1640.     1660.     1680.     1700.     1720.
    SECNO   CUMDIS

      .00      0.  C I  LE  .         .         .         .         .         .         .         .         .         .
               50.  C I  LE  .         .         .         .         .         .         .         .         .         .
              100.  C I  LE  .         .         .         .         .         .         .         .         .         .
              150.  C I  LE  .         .         .         .         .         .         .         .         .         .
              200.  C I  LE  .         .         .         .         .         .         .         .         .         .
              250.  C I  LE  .         .         .         .         .         .         .         .         .         .
              300.  C I L E  .         .         .         .         .         .         .         .         .         .
              350.  C I L E  .         .         .         .         .         .         .         .         .         .
              400.  C I L E  .         .         .         .         .         .         .         .         .         .
              450.  C I L E  .         .         .         .         .         .         .         .         .         .
              500.  C I L E  .         .         .         .         .         .         .         .         .         .
      .10     550.  C I L E  .         .         .         .         .         .         .         .         .         .
              600.  C I L E  .         .         .         .         .         .         .         .         .         .
              650.  C I L E  .         .         .         .         .         .         .         .         .         .
              700.  C I L E  .         .         .         .         .         .         .         .         .         .
              750.  C I L E  .         .         .         .         .         .         .         .         .         .
              800.  C I L E  .         .         .         .         .         .         .         .         .         .
              850.  C I L E  .         .         .         .         .         .         .         .         .         .
              900.  C I L E  .         .         .         .         .         .         .         .         .         .
              950.  C I L E  .         .         .         .         .         .         .         .         .         .
             1000.  C I L E  .         .         .         .         .         .         .         .         .         .
             1050.  C I L E  .         .         .         .         .         .         .         .         .         .
             1100.  C  IL E  .         .         .         .         .         .         .         .         .         .
             1150.  C  IL E  .         .         .         .         .         .         .         .         .         .
             1200.  C  IL E  .         .         .         .         .         .         .         .         .         .
             1250.  C  IL E  .         .         .         .         .         .         .         .         .         .
             1300.  C  IL E  .         .         .         .         .         .         .         .         .         .
             1350.  C  I  E
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	1400.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1450.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1500.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1550.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1600.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1650.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1700.	C	I	E	.	.	.	.	.	.	.	.	.	.
.33	1750.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1800.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1850.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1900.	C	I	E	.	.	.	.	.	.	.	.	.	.
	1950.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2000.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2050.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2100.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2150.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2200.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2250.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2300.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2350.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2400.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2450.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2500.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2550.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2600.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2650.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2700.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2750.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2800.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2850.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2900.	C	I	E	.	.	.	.	.	.	.	.	.	.
	2950.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3000.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3050.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3100.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3150.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3200.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3250.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3300.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3350.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3400.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3450.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3500.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3550.	C	I	E	.	.	.	.	.	.	.	.	.	.
.68	3600.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3650.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3700.	C	IL	E	.	.	.	.	.	.	.	.	.	.
	3750.	C	IL	E	.	.	.	.	.	.	.	.	.	.
	3800.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3850.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3900.	C	I	E	.	.	.	.	.	.	.	.	.	.
	3950.	C	I	E	.	.	.	.	.	.	.	.	.	.
	4000.	C	I	E	.	.	.	.	.	.	.	.	.	.
	4050.	C	I	E	.	.	.	.	.	.	.	.	.	.
	4100.	C	I	E	.	.	.	.	.	.	.	.	.	.
	4150.	C	I	E	.	.	.	.	.	.	.	.	.	.
	4200.	C	I	E	.	.	.	.	.	.	.	.	.	.
	4250.	C	I	E	.	.	.	.	.	.	.	.	.	.
	4300.	C	ILE		.	.	.	.	.	.	.	.	.	.
	4350.	C	ILE		.	.	.	.	.	.	.	.	.	.
	4400.	C	ILE		.	.	.	.	.	.	.	.	.	.
	4450.	C	ILE		.	.	.	.	.	.	.	.	.	.
	4500.	C	ILE		.	.	.	.	.	.	.	.	.	.
	4550.	C	ILE		.	.	.	.	.	.	.	.	.	.
.87	4600.	C	ILE		.	.	.	.	.	.	.	.	.	.
	4650.	C	ILE											

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      4700.  C   ILE  .         .         .         .         .         .         .         .         .
      4750.  C    IEM .         .         .         .         .         .         .         .         .
      4800.  C    IEM .         .         .         .         .         .         .         .         .
      4850.  C    IEM .         .         .         .         .         .         .         .         .
 .93  4900.  C    IEM .         .         .         .         .         .         .         .         .
 .93  4950.  .     IE .         .         .         .         .         .         .         .         .
 .94  5000.  C     IE .         .         .         .         .         .         .         .         .
 .94  5050.  C    ILE .         .         .         .         .         .         .         .         .
      5100.  C    ILE .         .         .         .         .         .         .         .         .
      5150.  C    ILE .         .         .         .         .         .         .         .         .
      5200.  C     IEM .         .         .         .         .         .         .         .         .
      5250.  C     IEM .         .         .         .         .         .         .         .         .
      5300.  C     IEM .         .         .         .         .         .         .         .         .
      5350.  C     ILE .         .         .         .         .         .         .         .         .
      5400.  C      IE .         .         .         .         .         .         .         .         .
      5450.  C      IE .         .         .         .         .         .         .         .         .
      5500.  C      IEM.         .         .         .         .         .         .         .         .
1.04  5550.  .       EM.         .         .         .         .         .         .         .         .
      5600.  C       EM.         .         .         .         .         .         .         .         .
      5650.  C       IE.         .         .         .         .         .         .         .         .
      5700.  C       IEM         .         .         .         .         .         .         .         .
      5750.  C       IEM         .         .         .         .         .         .         .         .
      5800.  C       IEM         .         .         .         .         .         .         .         .
      5850.  C       IWE         .         .         .         .         .         .         .         .
      5900.  C       ILE         .         .         .         .         .         .         .         .
      5950.  C       IREM        .         .         .         .         .         .         .         .
1.13  6000.  C        IEM        .         .         .         .         .         .         .         .
      6050.  C        IEM        .         .         .         .         .         .         .         .
      6100.  C        IWE        .         .         .         .         .         .         .         .
      6150.  C        IRE        .         .         .         .         .         .         .         .
      6200.  C        IREM       .         .         .         .         .         .         .         .
      6250.  C        IREM       .         .         .         .         .         .         .         .
      6300.  C         IEM       .         .         .         .         .         .         .         .
      6350.  C         IEM       .         .         .         .         .         .         .         .
      6400.  C         IWE       .         .         .         .         .         .         .         .
      6450.  C         I E       .         .         .         .         .         .         .         .
1.23  6500.  C         .IEM      .         .         .         .         .         .         .         .
      6550.  C         .IEM      .         .         .         .         .         .         .         .
      6600.  C         .IEM      .         .         .         .         .         .         .         .
      6650.  C         .IEL      .         .         .         .         .         .         .         .
      6700.  C         .I E      .         .         .         .         .         .         .         .
      6750.  C         . IE      .         .         .         .         .         .         .         .
      6800.  C         . IE      .         .         .         .         .         .         .         .
      6850.  C         . IE      .         .         .         .         .         .         .         .
      6900.  C         . IEL     .         .         .         .         .         .         .         .
      6950.  C         . I E     .         .         .         .         .         .         .         .
      7000.  C         .  IE     .         .         .         .         .         .         .         .
1.33  7050.  C         .  IE     .         .         .         .         .         .         .         .
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      7150.  C         .  IE     .         .         .         .         .         .         .         .
      7200.  C         .  IWE    .         .         .         .         .         .         .         .
      7250.  C         .  I E    .         .         .         .         .         .         .         .
      7300.  C         .  I E    .         .         .         .         .         .         .         .
      7350.  C         .   IE    .         .         .         .         .         .         .         .
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      7450.  C         .   IEM   .         .         .         .         .         .         .         .
      7500.  C         .   IRE   .         .         .         .         .         .         .         .
      7550.  C         .   IRE   .         .         .         .         .         .         .         .
      7600.  C         .   I E   .         .         .         .         .         .         .         .
      7650.  C         .    IEM  .         .         .         .         .         .         .         .
      7700.  C         .    IEM  .         .         .         .         .         .         .         .
1.46  7750.  C         .    IEL  .         .         .         .         .         .         .         .
      7800.  C         .    IRE  .         .         .         .         .         .         .         .
      7850.  C         .    I E  .         .         .         .         .         .         .         .
      7900.  C         .    I EM .         .         .         .         .         .         .         .
      7950.  C         .    IE   .         .         .         .         .         .         .         .
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      8000.  C      .    I E .      .      .      .      .      .      .      .      .
      8050.  C      .    I E .      .      .      .      .      .      .      .      .
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      8150.  C      .     IEL.      .      .      .      .      .      .      .      .
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      8250.  C      .     I E.      .      .      .      .      .      .      .      .
      8300.  C      .     I E.      .      .      .      .      .      .      .      .
      8350.  C      .     I E.      .      .      .      .      .      .      .      .
      8400.  C      .     I WE      .      .      .      .      .      .      .      .
      8450.  C      .      I E      .      .      .      .      .      .      .      .
      8500.  C      .      I E      .      .      .      .      .      .      .      .
      8550.  C      .      I E      .      .      .      .      .      .      .      .
      8600.  C      .      I ER     .      .      .      .      .      .      .      .
      8650.  C      .      I ER     .      .      .      .      .      .      .      .
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      8750.  C      .       I.E     .      .      .      .      .      .      .      .
      8800.  C      .       I.E     .      .      .      .      .      .      .      .
      8850.  C      .       I.ER    .      .      .      .      .      .      .      .
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      8950.  C      .       I.LE    .      .      .      .      .      .      .      .
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      9050.  C      .        I E    .      .      .      .      .      .      .      .
      9100.  C      .        I ER   .      .      .      .      .      .      .      .
 1.73 9150.  C      .        I LE   .      .      .      .      .      .      .      .
      9200.  C      .        I LE   .      .      .      .      .      .      .      .
      9250.  C      .        I LE   .      .      .      .      .      .      .      .
      9300.  C      .        .ILER  .      .      .      .      .      .      .      .
      9350.  C      .        .I ER  .      .      .      .      .      .      .      .
      9400.  C      .        .I WE  .      .      .      .      .      .      .      .
      9450.  C      .        .I LE  .      .      .      .      .      .      .      .
      9500.  C      .        . ILER .      .      .      .      .      .      .      .
      9550.  C      .        . ILER .      .      .      .      .      .      .      .
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      9650.  C      .        . ILER .      .      .      .      .      .      .      .
      9700.  C      .        .  I ER .      .      .      .      .      .      .      .
      9750.  C      .        .  ILER .      .      .      .      .      .      .      .
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      9950.  C      .        .   IWER .      .      .      .      .      .      .      .
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     10950.  C      .        .       IEM      .      .      .      .      .      .      .
     11000.  C      .        .       ILE      .      .      .      .      .      .      .
     11050.  C      .        .        IE      .      .      .      .      .      .      .
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     11150.  C      .        .        IE      .      .      .      .      .      .      .
     11200.  C      .        .       IEM      .      .      .      .      .      .      .
     11250.  C      .        .       IEM
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      11300.  C  .  .  IWE  .  .  .  .  .  .  .
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      11400.  C  .  .   IE  .  .  .  .  .  .  .
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      11550.  C  .  .   IEM  .  .  .  .  .  .  .
      11600.  C  .  .   IWE  .  .  .  .  .  .  .
2.20  11650.  C  .  .  .IE  .  .  .  .  .  .  .
      11700.  C  .  .  .IE  .  .  .  .  .  .  .
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      11950.  C  .  .  .ILE  .  .  .  .  .  .  .
      12000.  C  .  .  .ILE  .  .  .  .  .  .  .
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      12450.  C  .  .  .  IWE  .  .  .  .  .  .  .
      12500.  C  .  .  .  ILE  .  .  .  .  .  .  .
      12550.  C  .  .  .  I EM  .  .  .  .  .  .  .
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      12700.  C  .  .  .   IWE  .  .  .  .  .  .  .
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      12800.  C  .  .  .   I EM  .  .  .  .  .  .  .
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      13000.  C  .  .  .    ILE  .  .  .  .  .  .  .
      13050.  C  .  .  .    I E  .  .  .  .  .  .  .
      13100.  C  .  .  .    I EM .  .  .  .  .  .  .
      13150.  C  .  .  .    I EM .  .  .  .  .  .  .
      13200.  C  .  .  .     ILE .  .  .  .  .  .  .
      13250.  C  .  .  .     ILE .  .  .  .  .  .  .
      13300.  C  .  .  .     I E .  .  .  .  .  .  .
2.53  13350.  C  .  .  .     I EM.  .  .  .  .  .  .
      13400.  C  .  .  .     I WE.  .  .  .  .  .  .
      13450.  C  .  .  .      IRE.  .  .  .  .  .  .
      13500.  C  .  .  .      I E.  .  .  .  .  .  .
      13550.  C  .  .  .      I E.  .  .  .  .  .  .
      13600.  C  .  .  .      I EM  .  .  .  .  .  .
      13650.  C  .  .  .       IWE  .  .  .  .  .  .
      13700.  C  .  .  .       IRE  .  .  .  .  .  .
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      13800.  C  .  .  .        IE  .  .  .  .  .  .
      13850.  C  .  .  .        IEL  .  .  .  .  .  .
      13900.  C  .  .  .        IWE  .  .  .  .  .  .
2.64  13950.  C  .  .  .         IE  .  .  .  .  .  .
      14000.  C  .  .  .         IE  .  .  .  .  .  .
      14050.  C  .  .  .         IE  .  .  .  .  .  .
      14100.  C  .  .  .         IEL  .  .  .  .  .  .
      14150.  C  .  .  .         IRE  .  .  .  .  .  .
      14200.  C  .  .  .         .IE  .  .  .  .  .  .
      14250.  C  .  .  .         .IE  .  .  .  .  .  .
      14300.  C  .  .  .         .IEM  .  .  .  .  .  .
      14350.  C  .  .  .         .IWE  .  .  .  .  .  .
      14400.  C  .  .  .         . IE  .  .  .  .  .  .
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      14550.  C  .  .  .         IEM
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      14600.  C     .     .     .     .  IE    .     .     .     .     .     .
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      14900.  C     .     .     .     .   IE   .     .     .     .     .     .
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      15200.  C     .     .     .     .   ISM  .     .     .     .     .     .
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      15500.  C     .     .     .     .    IREM.     .     .     .     .     .
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      17850.  C
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        17900.  C  .  .  .  .  .  IE.  .  .  .  .
        17950.  C  .  .  .  .  .  IEM  .  .  .  .
        18000.  C  .  .  .  .  .  WE  .  .  .  .
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        18550.  C  .  .  .  .  .  .IER  .  .  .  .
        18600.  C  .  .  .  .  .  .I E  .  .  .  .
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        19150.  C  .  .  .  .  .  .  I E  .  .  .  .
        19200.  C  .  .  .  .  .  .   IE  .  .  .  .
        19250.  C  .  .  .  .  .  .   IE  .  .  .  .
   3.65 19300.  C  .  .  .  .  .  .   IEM  .  .  .  .
        19350.  C  .  .  .  .  .  .   ILE  .  .  .  .
        19400.  C  .  .  .  .  .  .   ILE  .  .  .  .
        19450.  C  .  .  .  .  .  .   ILE  .  .  .  .
        19500.  C  .  .  .  .  .  .   ILE  .  .  .  .
   3.70 19550.  .  .  .  .  .  .  .   ILWE  .  .  .  .
        19600.  C  .  .  .  .  .  .   ILRE  .  .  .  .
        19650.  C  .  .  .  .  .  .    ILEM .  .  .  .
        19700.  C  .  .  .  .  .  .    ILWE .  .  .  .
   3.74 19750.  C  .  .  .  .  .  .    ILWEM.  .  .  .
        19800.  C  .  .  .  .  .  .    I WEM.  .  .  .
   3.76 19850.  C  .  .  .  .  .  .    I WEM.  .  .  .
   3.77 19900.  C  .  .  .  .  .  .    I LE M  .  .  .
        19950.  C  .  .  .  .  .  .     I ERM  .  .  .
        20000.  C  .  .  .  .  .  .     I ELR  .  .  .
   3.79 20050.  .  .  .  .  .  .  .    I E L  .  .  .
   3.80 20100.  C  .  .  .  .  .  .    I E LR  .  .  .
        20150.  C  .  .  .  .  .  .    I WELR  .  .  .
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        20250.  C  .  .  .  .  .  .     I ER  .  .  .
        20300.  C  .  .  .  .  .  .     I WE  .  .  .
   3.85 20350.  .  .  .  .  .  .  .    I LE  .  .  .
        20400.  .  .  .  .  .  .  .    I LE  .  .  .
        20450.  .  .  .  .  .  .  .    I LE  .  .  .
        20500.  .  .  .  .  .  .  .    I WE  .  .  .
   3.89 20550.  .  .  .  .  .  .  .     I WE  .  .  .
```

1

THIS RUN EXECUTED 08/18/88 14:24:05

```
**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM PC-XT VERSION
```

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

T1      WITTMANN ADMS
T2      100-YEAR STORM EVENT
T3      FLOODWAY RUN

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   NVINS    Q        WSEL     FQ

      0.       3.       0.       0.   .000000     .00       .5       0.   1551.940    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     2.000     .000   -1.000     .000     .000     .000     .200     .000     .000     .000

1
 08/18/88    14:23:20                                                                          PAGE   19


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     ESTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 2

 CCHV=    .300 CEHV=    .500
 *SECNO  .000
        THIS IS A HEC-2 MODEL FOR WITTMANN WASH
        THE REACH IS DOWNSTREAM FROM WITTMANN TO THE CAP1WEST OVERCHUTE


        THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 MODEL'S STORAGE
        ROUTING PROCEDURE THRU CAP1WEST.

        NOTE:  THE RIVER REACH MILES ARE MEASURED FROM THE
        CAP1WEST OVERCHUTE.


        NOTE:  A SPLIT FLOW OCCURS JUST DOWNSTREAM OF SECTION
        1.860.  THE CORRESPONDING DISCHARGES REMAINING IN WITTMANN WASH
        WILL BE USED IN THE REMAINING REACH TO THE CAP1WEST OVERCHUTE.
     .00     8.94  1551.94     .00  1551.94  1552.42     .48     .00     .00  1550.00
    6564.     516.    6003.     45.     402.    1035.     42.      0.      0.   1551.00
     .00     1.28     5.77    1.07     .060     .040    .040    .000  1543.00  4325.36
  .002259      0.       0.      0.        0        0       0     .00   838.93  5164.29
0
 CCHV=    .100 CEHV=    .300
 *SECNO  .102
  WATER EL=XS CARD=  1551.940
     .10     7.94  1551.94     .00     .00  1552.00     .06     .82     .04  1548.00
    2275.     862.    1413.      0.    812.     588.      0.     21.      9.   1552.00
     .09     1.06     2.41     .00     .060     .040    .040    .000  1544.00  4544.80
  .000535     750.     540.    550.        0        0       0     .00   504.79  5049.60
0
 *SECNO  .326
 3280 CROSS SECTION       .33 EXTENDED       .27 FEET

        SECTIONS .326 THRU .870 PROVIDE A HYDRAULIC ANALYSIS TO THE
        TO THE CAP1WEST OVERCHUTE.  ACCORDING TO THE BACKWATER ANALYSIS THE
        WATER SURFACE ELEVATION WILL OVERTOP THE CAP CANAL HOWEVER THE
        EXTENDED SECTIONS WILL REMAIN IN THE MODEL.
     .33     5.97  1552.27     .00     .00  1552.29     .02     .28     .00  1546.50
    2275.    1092.    1183.      0.    1717.     948.      0.     76.     27.   1552.00
     .42     .64     1.25     .00     .060     .040    .040    .000  1546.70  4263.93
```

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  .000133    1180.    1180.    1180.       3       0       0     .00   841.07  5090.00
0
1
 08/18/88    14:23:20                                                                    PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .681
 3280 CROSS SECTION       .68 EXTENDED       .52 FEET

      .68     5.72  1552.52      .00      .00  1552.54      .02      .25      .00  1546.80
    2275.    1138.    1137.       0.    1633.     890.       0.     188.      61.  1552.00
      .96      .70     1.28      .00     .060     .040     .040     .000  1546.80  4324.06
  .000136    1875.    1875.    1875.       2        0        0      .00   730.94  5055.00
0
 *SECNO  .870
 3280 CROSS SECTION       .87 EXTENDED       .72 FEET

      .87     4.73  1552.73      .00      .00  1552.76      .04      .22      .01  1550.00
    2275.     569.    1706.       0.     702.     992.       0.     231.      77.  1552.00
     1.13      .81     1.72      .00     .060     .040     .040     .000  1548.00  4440.01
  .000516     800.    1000.    1000.       2        0        0      .00   839.99  5200.00
0
 *SECNO  .925
      .93     2.91  1552.91      .00      .00  1552.95      .04      .19      .00  1552.00
    2275.      19.    1356.     900.      46.     772.     617.     241.      83.  1550.00
     1.18      .42     1.75     1.46     .060     .040     .040     .000  1550.00  4749.60
  .000837     290.     290.     290.       3        0        0      .00   992.05  5741.65
0
 *SECNO  .927
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
        OULET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION. WATER SURFACE
        ELEVATIONS WERE COMPUTED CONSIDERING PIPE FLOW AND WEIR FLOW VERSUS
        THE HEC-2 MODEL WHICH INCORPORATES THE TOP OF ROADWAY ONLY.
        RESULTS INDICATE INSIGNIFICANT DIFFERENCES IN W.S. ELEV.
      .93      .87  1553.37  1553.37      .00  1553.65      .28      .02      .07  1554.00
    2275.       0.    2275.       0.       0.     537.       0.     241.      83.  1554.00
     1.18      .00     4.23      .00     .018     .018     .018     .000  1552.50  4737.61
  .005850      10.      10.      10.      20       17        0      .00   978.86  5716.47
0
 *SECNO  .936

 3470 ENCROACHMENT STATIONS=    4800.0    5300.0  TYPE=     1  TARGET=     500.000
      .94     1.04  1553.54      .00  1553.57  1553.94      .39      .25      .03100000.00
    2275.       0.    2275.       0.       0.     451.       0.     242.      84. 100000.00
     1.18      .00     5.04      .00     .018     .018     .018     .000  1552.50  4800.00
  .004287      50.      50.      50.       3        0        0      .00   500.00  5300.00
0
1
 08/18/88    14:23:20                                                                    PAGE   21


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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 3470 ENCROACHMENT STATIONS=    4800.0    5300.0  TYPE=     1  TARGET=     500.000
      .94     3.95  1553.95  1551.55  1553.65  1553.99     .04      .02      .04  1552.00
     2275.     87.    2032.     156.     86.    1251.     147.     242.      84.  1552.00
     1.18     1.02     1.62     1.06    .060     .060    .060     .000  1550.00  4800.00
   .000846     10.      10.      10.      12       11       0      .00   500.00  5300.00
0
 *SECNO 1.044

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4840.0    5100.0  TYPE=     1  TARGET=     260.000
     1.04     1.68  1556.68  1556.68  1556.24  1557.35     .67     1.47     .19100000.00
     2275.      0.    1763.     512.      0.     272.     74.     254.      89.  1555.10
     1.21      .00     6.48     6.96    .060     .060    .060     .000  1555.00  4840.00
   .048850     555.     555.     555.      20       18       0      .00   260.00  5100.00
0
 *SECNO 1.134

 3470 ENCROACHMENT STATIONS=    4950.0    5165.0  TYPE=     1  TARGET=     215.000
     1.13     4.00  1561.00      .00  1560.39  1561.25     .25     3.85     .04100000.00
     2275.      0.    1794.     481.      0.     418.    190.     259.      91.  1558.00
     1.24      .00     4.29     2.54    .060     .040    .060     .000  1557.00  4950.00
   .003154     480.     480.     480.       7        0       0      .00   215.00  5165.00
0
 *SECNO 1.231

 3470 ENCROACHMENT STATIONS=    4885.0    5080.0  TYPE=     1  TARGET=     195.000
     1.23     2.72  1563.72      .00  1563.38  1564.40     .67     3.02     .13100000.00
     2275.      0.    2275.       0.       0.     345.      0.     264.      94. 100000.00
     1.26      .00     6.59      .00     .060     .040    .060     .000  1561.00  4885.00
   .014955     510.     510.     510.        1        0       0      .00   195.00  5080.00
0
1
 08/18/88    14:23:20                                                                    PAGE   22


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 1.331
 3280 CROSS SECTION      1.33 EXTENDED       .53 FEET


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4710.0    5050.0  TYPE=     1  TARGET=     340.000
     1.33     2.73  1568.54      .00  1567.83  1568.67     .14     4.22     .05100000.00
     2275.      0.    2275.       0.       0.     767.      0.     271.      97. 100000.00
     1.31      .00     2.97      .00     .060     .060    .060     .000  1565.81  4710.00
   .004938     650.     530.     350.        0        0       0      .00   340.00  5050.00
0
 *SECNO 1.459

 3470 ENCROACHMENT STATIONS=    4550.0    5050.0  TYPE=     1  TARGET=     420.000
     1.46     4.11  1573.61      .00  1572.82  1573.82     .22     5.13     .02100000.00
     2275.      0.    2250.      25.       0.     600.      8.     282.     103.  1572.00
     1.36      .00     3.75     3.90    .060     .060    .060     .000  1568.50  4550.00
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  .013211     675.     675.     500.       3       0       0     .00   400.00  5050.00
0
 *SECNO 1.545
 3280 CROSS SECTION      1.54 EXTENDED      .39 FEET


 3470 ENCROACHMENT STATIONS=    4625.0    5070.0  TYPE=     1  TARGET=     445.000
      1.54     4.38  1577.88     .00  1577.35  1578.03     .14     4.19     .01  1577.50
    2275.      550.    1725.      0.     226.     539.      0.     289.     107. 100000.00
      1.41     2.44     3.20     .00     .060     .060    .060     .000  1573.50  4625.00
  .006699     525.     450.     410.       4       0       0     .00   445.00  5070.00
0
 *SECNO 1.641

 3470 ENCROACHMENT STATIONS=    4750.0    5170.0  TYPE=     1  TARGET=     420.000
      1.64     4.71  1581.71     .00  1581.33  1581.67     .16     3.84     .01100000.00
    2275.        0.    2275.      0.       0.     706.      0.     298.     112. 100000.00
      1.45      .00     3.22     .00     .060     .060    .060     .000  1577.00  4750.00
  .008557     500.     510.     580.       4       0       0     .00   420.00  5170.00
0
1
 08/18/88    14:23:20                                                                PAGE   23


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 1.727
 3280 CROSS SECTION      1.73 EXTENDED      .01 FEET


 3470 ENCROACHMENT STATIONS=    4850.0    5130.0  TYPE=     1  TARGET=     280.000
      1.73     5.81  1585.51     .00  1585.26  1585.75     .23     3.85     .02  1584.00
    2275.      182.    2093.      0.      67.     528.      0.     304.     116. 100000.00
      1.48     2.73     3.96     .00     .060     .060    .060     .000  1579.70  4850.00
  .008544     350.     455.     500.       5       0       0     .00   280.00  5130.00
0
 *SECNO 1.860

 3470 ENCROACHMENT STATIONS=    4875.0    5160.0  TYPE=     1  TARGET=     285.000
      1.86     3.54  1590.54     .00  1590.09  1590.74     .20     4.99     .00  1587.60
    2275.      846.    1429.      0.     212.     432.      0.     314.     120. 100000.00
      1.53     4.00     3.31     .00     .060     .060    .060     .000  1587.00  4875.00
  .006841     500.     700.     600.       5       0       0     .00   285.00  5160.00
0
 *SECNO 1.955

 3470 ENCROACHMENT STATIONS=    4980.0    5400.0  TYPE=     1  TARGET=     420.000
      1.96     2.86  1594.36     .00  1594.15  1594.53     .17     3.79     .00100000.00
    2275.        0.    2275.      0.       0.     696.      0.     321.     124. 100000.00
      1.57      .00     3.27     .00     .060     .060    .060     .000  1591.50  4980.00
  .008952     425.     500.     500.       4       0       0     .00   420.00  5400.00
0
 *SECNO 2.052

 3470 ENCROACHMENT STATIONS=    4980.0    5450.0  TYPE=     1  TARGET=     470.000
      2.05     2.55  1598.55     .00  1598.11  1598.72     .17     4.19     .00100000.00
    2275.        0.    2275.      0.       0.     692.      0.     329.     129. 100000.00
      1.62      .00     3.29     .00     .050     .050    .050     .000  1596.00  4980.00
  .007421     515.     515.     515.       4       0       0     .00   470.00  5450.00
0
 *SECNO 2.204
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 3470 ENCROACHMENT STATIONS=    4875.0    5195.0  TYPE=     1  TARGET=     320.000
      2.20      2.88  1603.88      .00  1603.20  1604.03      .21      5.35      .01100000.00
     2275.        0.     1697.     578.       0.     451.     168.      341.      136.   1602.00
      1.68       .00      3.76     3.44     .050     .050     .050      .000  1601.00  4875.00
   .006404      700.      800.     625.        4        0        0       .00   320.00  5195.00
0
1
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    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO 2.304

 3470 ENCROACHMENT STATIONS=    4895.0    5170.0  TYPE=     1  TARGET=     275.000
      2.30      3.17  1607.17      .00  1606.80  1607.41      .25      3.31      .01100000.00
     2275.        0.     2128.     147.       0.     524.      58.      348.      140.   1606.00
      1.71       .00      4.06     2.53     .050     .050     .050      .000  1604.00  4895.00
   .006109      530.      530.     530.        3        0        0       .00   275.00  5170.00
0
 *SECNO 2.426

 3470 ENCROACHMENT STATIONS=    4730.0    5100.0  TYPE=     1  TARGET=     370.000
      2.43      3.24  1612.24      .00  1611.98  1612.51      .27      5.09      .01  1611.50
     2275.      666.     1602.       7.     172.     371.       6.      357.      145.   1612.00
      1.76      3.88      4.31     1.18     .050     .050     .050      .000  1609.00  4730.00
   .010797      640.      640.     640.        3        0        0       .00   370.00  5100.00
0
 *SECNO 2.525

 3470 ENCROACHMENT STATIONS=    4720.0    5155.0  TYPE=     1  TARGET=     435.000
      2.53      4.78  1616.78      .00  1616.58  1616.97      .19      4.45      .01100000.00
     2275.        0.     2072.     203.       0.     569.     100.      364.      150.   1616.00
      1.80       .00      3.64     2.03     .050     .050     .050      .000  1612.00  4720.00
   .006625      600.      525.     480.        3        0        0       .00   435.00  5155.00
0
 *SECNO 2.638

 3470 ENCROACHMENT STATIONS=    4675.0    5150.0  TYPE=     1  TARGET=     475.000
      2.64      2.01  1621.59      .00  1621.38  1621.79      .20      4.82      .00100000.00
     2275.        0.     2275.       0.       0.     635.       0.      373.      156. 100000.00
      1.84       .00      3.58      .00     .050     .050     .050      .000  1619.58  4675.00
   .009936      600.      600.     600.        5        0        0       .00   475.00  5150.00
0
 *SECNO 2.735

 3470 ENCROACHMENT STATIONS=    4605.0    5100.0  TYPE=     1  TARGET=     495.000
      2.73      2.03  1626.03      .00  1625.93  1626.19      .16      4.40      .00100000.00
     2275.        0.     2275.       0.       0.     701.       0.      381.      162. 100000.00
      1.89       .00      3.25      .00     .050     .050     .050      .000  1624.00  4605.00
   .007552      510.      510.     510.        2        0        0       .00   495.00  5100.00
0
1
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    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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 *SECNO 2.830

 3470 ENCROACHMENT STATIONS=    4600.0    5160.0  TYPE=     1  TARGET=     560.000
      2.83     1.79  1630.29     .00  1629.89  1630.46     .17     4.27     .00  1620.00
     2275.     528.    1747.      0.     181.     507.      0.     389.    168. 100000.00
      1.93     2.92     3.45     .00     .050     .050    .050     .000  1628.50  4600.00
   .009369     540.     505.    610.       4        0       0      .00   560.00  5160.00
0
 *SECNO 2.942

 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=    4670.0    5200.0  TYPE=     1  TARGET=     530.000
      2.94     2.94  1635.94     .00  1635.50  1636.14     .20     5.67     .01  1635.80
     2275.       0.    1440.    835.       0.     461.    196.     398.    175.  1635.00
      1.98      .00     3.12    4.27     .050     .050    .050     .000  1633.00  4670.00
   .009645     660.     590.    580.       4        0       0      .00   527.09  5200.00
0
 *SECNO 3.056

 3470 ENCROACHMENT STATIONS=    4890.0    5390.0  TYPE=     1  TARGET=     500.000
      3.06     2.49  1641.49     .00  1641.31  1641.66     .17     5.52     .00100000.00
     2202.       0.    2202.      0.       0.     666.      0.     408.    182. 100000.00
      2.03      .00     3.31     .00     .050     .050    .050     .000  1639.00  4850.00
   .008507     500.     600.    650.       5        0       0      .00   500.00  5390.00
0
 CCHV=    .100 CEHV=    .300
 *SECNO 3.183

 3470 ENCROACHMENT STATIONS=    4800.0    5200.0  TYPE=     1  TARGET=     400.000
      3.18     2.96  1647.96     .00  1647.36  1648.22     .26     6.53     .03  1647.00
     2202.     356.     881.    965.     148.     181.    258.     417.    189.  1646.00
      2.07     2.42     4.86    3.73     .070     .050    .060     .000  1645.00  4800.00
   .012102     600.     670.    600.       5        0       0      .00   400.00  5200.00
0
 *SECNO 3.268

 3470 ENCROACHMENT STATIONS=    4800.0    5200.0  TYPE=     1  TARGET=     400.000
1
 08/18/88    14:23:20                                                                    PAGE   26


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


      3.27      3.19  1652.69     .00  1652.23  1653.01     .32     4.77     .02  1651.00
     2202.     277.    1580.    346.     130.     307.    139.     423.    193.  1651.00
      2.10      2.13     5.14    2.48     .070     .050    .060     .000  1649.50  4800.00
   .009516     495.     450.    415.       4        0       0      .00   400.00  5200.00
0
 *SECNO 3.355

 3470 ENCROACHMENT STATIONS=    4775.0    5225.0  TYPE=     1  TARGET=     450.000
      3.36     2.48  1657.48     .00  1656.96  1657.70     .22     4.69     .01  1656.00
     2202.     488.     876.    838.     170.     188.    267.     429.    197.  1656.00
      2.14      2.87     4.66    3.14     .070     .050    .060     .000  1655.00  4775.00
   .012082     460.     460.    380.       4        0       0      .00   450.00  5225.00
0
 *SECNO 3.443
 3280 CROSS SECTION      3.44 EXTENDED       .48 FEET
```

```
 3470 ENCROACHMENT STATIONS=    4650.0    5200.0  TYPE=     1  TARGET=     550.000
      3.44     2.48  1661.48      .00  1660.65  1661.61      .14     3.90      .01  1660.00
     2202.    1105.     819.     278.     438.     219.     151.     436.     202.  1650.00
      2.18     2.52     3.73     1.84     .070     .050     .070     .000  1659.00  4650.00
   .007445     330.     465.     470.        2        0        0      .00   550.00  5200.00
0
 *SECNO 3.500

 3265 DIVIDED FLOW


 3470 ENCROACHMENT STATIONS=    4775.0    5310.0  TYPE=     1  TARGET=     535.000
      3.50     2.46  1664.85      .00  1664.01  1665.05      .20     3.42      .02  1664.50
     2202.    1263.     290.     549.     321.      92.     204.     441.     206.  1665.00
      2.20     3.94     3.14     3.18     .070     .050     .070     .000  1662.39  4775.00
   .015825     345.     305.     305.        2        0        0      .00   513.94  5310.00
0
 *SECNO 3.581
 3280 CROSS SECTION      3.58 EXTENDED       .10 FEET


 3470 ENCROACHMENT STATIONS=    4800.0    5200.0  TYPE=     1  TARGET=     400.000
1
  08/18/88    14:23:20                                                                          PAGE   27


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     ESTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


      3.58     3.10  1669.10      .00  1668.40  1669.27      .17     4.22      .00  1668.50
     2202.     884.     568.     750.     277.     150.     238.     447.     210.  1668.00
      2.24     3.19     3.78     3.15     .060     .040     .060     .000  1666.00  4800.00
   .007246     420.     420.     385.        5        0        0      .00   400.00  5200.00
0
 *SECNO 3.650
 3280 CROSS SECTION      3.65 EXTENDED       .72 FEET


 3470 ENCROACHMENT STATIONS=    4850.0    5150.0  TYPE=     1  TARGET=     300.000
      3.65     4.22  1671.72      .00  1670.78  1672.32      .59     2.92      .13  1670.00
     2202.     378.    1256.     568.     142.     161.     186.     452.     213.  1670.00
      2.25     2.66     7.80     3.06     .060     .040     .060     .000  1667.50  4850.00
   .009329     335.     365.     365.        4        0        0      .00   300.00  5150.00
0
 *SECNO 3.702
 3280 CROSS SECTION      3.70 EXTENDED       .18 FEET


 3470 ENCROACHMENT STATIONS=    4935.0    5175.0  TYPE=     1  TARGET=     240.000
      3.70     5.17  1673.67      .00  1672.94  1674.09      .41     1.75      .02  1670.00
     2202.     411.     686.    1106.     115.      89.     334.     455.     215.  1670.00
      2.27     3.58     7.73     3.32     .050     .035     .050     .000  1668.50  4935.00
   .004624     295.     275.     265.        2        0        0      .00   240.00  5175.00
0
 CCHV=    .300 CEHV=    .500
 *SECNO 3.737

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4940.0    5060.0  TYPE=     1  TARGET=     120.000
      3.74     4.64  1674.44      .00  1674.30  1675.53     1.09     1.10      .34  1672.00
     2202.      46.    2152.        0       14       95.        0      457.     215.  1674.00
```

```
     2.27      3.22      8.46       .96      .050      .035      .050      .000  1669.90  4944.00
   .007857     180.      185.      190.         2         0         0       .00   102.51  5042.51
0
 *SECNO 3.759
1
  08/18/88    14:23:20                                                                          PAGE   28


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


  3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1676.00 ELREA=     1676.00

     3.76      4.39   1674.89       .00   1674.94   1675.91      1.02       .36       .02   1676.00
    2202.        0.     2202.        0.        0.     272.        0.      457.      216.   1676.00
     2.28       .00      8.10       .00      .015      .015      .015      .000  1670.50  4946.11
   .001677      90.      115.      150.         3         0         0       .00    95.56  5041.67
0

  SPECIAL BRIDGE

  SB  XK        XKOR      CDFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      1.25      1.60      3.00       .00    100.00      4.00    525.00       .00   1670.70   1670.50

  *SECNO 3.768
  CLASS A LOW FLOW

  3420 BRIDGE W.S.=   1674.94 BRIDGE VELOCITY=,      5.28      CALCULATED CHANNEL AREA=,      407.

   EGPRS     EGLWC      H3        QWEIR     QLOW      BAREA   TRAPEZOID      ELLC      ELTRD
                                                                 AREA
     1675.32   1675.97      .30        0.     2202.      525.      490.     1675.80   1677.50


  3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1677.50 ELREA=     1677.50

     3.77      4.49   1675.19       .00   1675.22   1675.97       .78       .06       .00   1674.00
    2202.        0.     2202.        0.        0.     311.        0.      458.      216.   1676.00
     2.28       .00      7.09       .00      .000      .015      .000      .000  1670.70  4920.00
   .001385      50.       50.       50.         0         0         0       .00   115.95  5035.95
0
  *SECNO 3.793
  3685 20 TRIALS ATTEMPTED WSEL,CWSEL
  3693 PROBABLE MINIMUM SPECIFIC ENERGY
  3720 CRITICAL DEPTH ASSUMED

  3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1681.00 ELREA=     1681.00

     3.79      4.56   1676.06   1675.06   1676.04   1675.97       .92       .36       .07   1680.00
    2202.        0.     2202.        0.        0.     286.        0.      459.      216.   1680.00
     2.29       .00      7.69       .00      .025      .025      .025      .000  1671.50  4977.46
   .007702     130.      130.      130.        20         5         0       .00   157.68  5135.14
0
1
  08/18/88    14:23:20                                                                          PAGE   29


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
```

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SPECIAL BRIDGE

SB  XK       XKOR     COFQ     FDLEN    BWC      BWP      BAREA    SS       ELCHU    ELCHD
    1.05     1.60     2.60      .00   170.00    11.00   1272.00     .00   1571.70   1671.50

*SECND 3.799
6110 EGLWC OF 1676.61 LESS THAN XEE OF 1676.97

3301 HV CHANGED MORE THAN HVINS

CLASS A LOW FLOW

3420 BRIDGE W.S.=   1676.14 BRIDGE VELOCITY=,      3.05      CALCULATED CHANNEL AREA=,      705.

 EGPRS     EGLWC      H3      QWEIR     QLOW     BAREA   TRAPEZOID     ELLC     ELTRD
                                                            AREA
      .00   1676.61     .31       0.     2202.     1272.     1240.     1679.50   1682.00



3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1682.00 ELREA=     1682.00

    3.80     4.67  1676.37     .00  1676.36  1676.97     .25     .00     .00  1680.00
    2202.      0.    2202.      0.       0.     551.      0.    459.    217.  1682.00
    2.29     .00     4.00     .00     .000     .025    .000    .000  1671.70  4966.06
  .000878     30.      30.     30.        0        0       0     .00   159.06  5185.91
0
 CCHV=    .100 CEHV=    .300
 *SECND 3.850

 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=    4920.0    5060.0  TYPE=     1  TARGET=     140.000
    3.85     4.77  1679.27  1679.27  1679.22  1680.63     1.37     .57     .34  1678.00
    2202.     105.    2090.      8.      46.     217.      5.    461.    217.  1678.00
    2.30     2.25     9.62     1.58     .070     .025    .070    .000  1674.50  4920.00
  .010356     290.     270.     170.      20        8       0     .00   117.60  5037.60
0
1
 08/18/88    14:23:20                                                                    PAGE   30


   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    SNDST


*SECND 3.892
3280 CROSS SECTION      3.89 EXTENDED       .34 FEET


3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    4920.0    5025.0  TYPE=     1  TARGET=     105.000
    3.89     6.34  1681.34     .00  1680.82  1681.93     .59    1.22     .08  1680.00
    2202.      35.    2167.      0.      25.     349.      0.    463.    218. 100000.00
    2.31     1.77     6.21     .00     .070     .025    .070    .000  1675.00  4920.00
```

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  .003330    225.     225.     225.       3       0       0     .00   105.00  5005.00
0
1
 08/18/88   14:23:20                                                                    PAGE   31


                                                                  THIS RUN EXECUTED 08/18/88   14:24:25
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION
*************************************************


T1      WITTMANN ADMS
T2      50-YEAR STORM EVENT
T3      FLOODPLAIN RUN

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC    HVINS     Q        WSEL      FQ

      0.       4.       0.       0.   .000000      .00       .5       0.   1550.760     .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC     IBW      CHNIM     ITRACE

     3.000     .000   -1.000     .000     .000     .000     .000     .000     .000      .000

1
 08/18/88   14:23:20                                                                    PAGE   32


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CONAR    TOPWID     ENDST


*PROF 3

CCHV=    .300 CEHV=    .500
*SECNO  .000
        THIS IS A HEC-2 MODEL FOR WITTMANN WASH
        THE REACH IS DOWNSTREAM FROM WITTMANN TO THE CAPIWEST OVERCHUTE


        THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 MODEL'S STORAGE
        ROUTING PROCEDURE THRU CAPIWEST.

        NOTE:  THE RIVER REACH MILES ARE MEASURED FROM THE
        CAPIWEST OVERCHUTE.


        NOTE:  A SPLIT FLOW OCCURS JUST DOWNSTREAM OF SECTION
        1.860.  THE CORRESPONDING DISCHARGES REMAINING IN WITTMANN WASH
        WILL BE USED IN THE REMAINING REACH TO THE CAPIWEST OVERCHUTE.
     .00     7.76  1550.76     .00  1550.76  1551.33     .57     .00     .00  1550.00
    5171.     74.    5097.      0.      80.     833.      0.      0.      0.   1551.00
     .00     .92     6.12     .00     .060     .040    .040    .000  1543.00  4729.50
  .003356     0.       0.       0.       0       0       0     .00   344.22  5073.11
0
 CCHV=    .100 CEHV=    .300
 *SECNO  .102
  WATER EL=X5 CARD=  1550.760
     .10     6.76  1550.76     .00     .00  1550.83     .07     .20     .05  1549.00
```

```
    1447.     385.    1062.       0.     419.     445.       0.      12.       6.   1552.00
     .08      .92     2.38      .00     .060     .040     .040     .000  1544.00   4639.20
  .000697     750.     540.     550.        0        0        0      .00   402.53   5041.73
0
 *SECNO  .326
        SECTIONS .326 THRU .870 PROVIDE A HYDRAULIC ANALYSIS TO THE
        TO THE CAP1WEST OVERCHUTE.  ACCORDING TO THE BACKWATER ANALYSIS THE
        WATER SURFACE ELEVATION WILL OVERTOP THE CAP CANAL HOWEVER THE
        EXTENDED SECTIONS WILL REMAIN IN THE MODEL.
     .33     4.84  1551.15      .00      .00  1551.16      .01      .33      .01   1546.50
    1447.     605.     842.       0.    1055.     738.       0.      48.      21.   1552.00
     .44      .57     1.14      .00     .060     .040     .040     .000  1546.30   4305.01
  .000147    1180.    1180.    1180.        3        0        0      .00   697.54   5002.55
0
1
 08/18/88    14:23:20                                                                    PAGE   33


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA      LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORNR    TOPWID      ENDST


 *SECNO  .681
     .68     4.62  1551.42      .00      .00  1551.43      .01      .27      .00   1546.80
    1447.     660.     787.       0.    1100.     690.       0.     125.      49.   1552.00
    1.03      .60     1.13      .00     .060     .040     .040     .000  1546.80   4442.19
  .000141    1875.    1875.    1875.        2        0        0      .00   608.42   5050.61
0
 *SECNO  .870
     .87     3.68  1551.68      .00      .00  1551.73      .05      .29      .01   1550.00
    1447.     215.    1232.       0.     276.     630.       0.     153.      61.   1552.00
    1.18      .78     1.93      .00     .060     .040     .040     .000  1548.00   4618.49
  .001107     800.    1000.    1000.        2        0        0      .00   648.58   5267.07
0
 *SECNO  .925
     .93     2.10  1552.10      .00      .00  1552.16      .06      .43      .00   1552.00
    1447.       0.     934.     513.       1.     472.     287.     159.      66.   1550.00
    1.22      .15     1.98     1.79     .060     .040     .040     .000  1550.00   4839.00
  .002052     290.     290.     290.        4        0        0      .00   669.66   5508.66
0
 *SECNO  .927
 3685 20 TRIALS ATTEMPTED WSEL,CASEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
        OULET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION. WATER SURFACE
        ELEVATIONS WERE COMPUTED CONSIDERING PIPE FLOW AND WEIR FLOW VERSUS
        THE HEC-2 MODEL WHICH INCORPORATES THE TOP OF ROADWAY ONLY.
        RESULTS INDICATE INSIGNIFICANT DIFFERENCES IN W.S. ELEV.
     .93      .70  1553.20  1553.20      .00  1553.43      .23      .03      .05   1554.00
    1447.       0.    1447.       0.       0.     376.       0.     159.      66.   1554.00
    1.22      .00     3.84      .00     .018     .018     .018     .000  1552.50   4791.00
  .006230      10.      10.      10.       20       17        0      .00   830.55   5621.55
0
 *SECNO  .935
     .94      .99  1553.49      .00      .00  1553.57      .07      .13      .02   1554.00
    1447.       0.    1447.       0.       0.     555.       0.     160.      67.   1554.00
    1.23      .00     2.19      .00     .018     .018     .018     .000  1552.50   4702.01
  .001360      50.      50.      50.        3        0        0      .00  1077.74   5779.75
0
1
 08/18/88    14:23:20                                                                    PAGE   34


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
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```
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *SECNO  .938
      .94     3.57  1553.57      .00      .00  1553.58      .02      .01      .01  1552.00
    1447.      60.     1201.     186.     136.     1112.     420.     160.      67.  1552.00
     1.23      .44     1.08      .44     .060     .060     .060     .000  1550.00  4677.05
  .000439      10.      10.      10.        4        0        0      .00  1077.52  5754.57
0
 *SECNO 1.044

 3265 DIVIDED FLOW

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.04     1.16  1556.16  1556.16      .00  1556.44      .28      .82      .08  1556.00
    1447.      4.      883.     560.       3.     196.     150.     173.      78.  1555.10
     1.27     1.07     4.51     3.75     .060     .060     .060     .000  1555.00  4659.29
  .052309     555.     555.     555.       20       17        0      .00   666.55  5399.93
0
 *SECNO 1.134
     1.13     3.26  1560.26      .00      .00  1560.35      .10     3.90      .02  1560.00
    1447.       2.     1082.     363.       6.     381.     271.     178.      86.  1558.00
     1.32      .35     2.84     1.34     .060     .040     .060     .000  1557.00  4904.06
  .003149     480.     480.     480.        7        0        0      .00   740.51  5544.56
0
 *SECNO 1.231
     1.23     2.23  1563.23      .00      .00  1563.58      .35     3.14      .07  1564.00
    1447.       0.     1447.       0.       0.     305.       0.     194.      92.  1564.00
     1.35      .00     4.75      .00     .060     .040     .060     .000  1561.00  4814.21
  .017086     510.     510.     510.        2        0        0      .00   315.05  5129.26
0
 *SECNO 1.331
     1.33     2.17  1567.67      .00      .00  1567.73      .06     4.12      .03  1568.00
    1447.       0.     1447.       0.       0.     752.       0.     190.      98.  1568.00
     1.43      .00     1.92      .00     .060     .060     .060     .000  1565.50  4514.42
  .004428     650.     530.     350.        3        0        0      .00   596.86  5111.28
0
 *SECNO 1.459
1
  08/18/88    14:23:20                                                                    PAGE   35


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 3265 DIVIDED FLOW

     1.46     3.18  1572.68      .00      .00  1572.82      .14     5.07      .03  1573.00
    1447.       0.     1422.      25.       0.     463.      17.     200.     106.  1572.00
     1.49      .00     3.07     1.50     .060     .060     .060     .000  1569.50  4448.78
  .015523     675.     675.     500.        3        0        0      .00   515.96  5094.31
0
 *SECNO 1.545

 3265 DIVIDED FLOW

     1.54     3.71  1577.21      .00      .00  1577.28      .07     4.45      .01  1577.50
    1447.     563.     884.       0.     322.     288.       0.     206.     113.  1577.50
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     1.55     1.75     2.27      .00     .060     .060     .060     .000  1573.50  4341.75
   .006500     525.     450.     410.        7        0        0      .00   750.97  5134.88
0
 *SECNO 1.641
     1.64     4.21  1581.21      .00      .00  1581.31      .10     4.02      .01  1581.00
    1447.      29.     1418.       0.      33.     559.       0.     214.     122.   1582.00
     1.61      .86     2.54      .00     .060     .060     .060     .000  1577.00  4466.13
   .009861     500.     510.     580.        6        0        0      .00   696.51  5162.64
0
 *SECNO 1.727
     1.73     5.40  1585.10      .00      .00  1585.23      .13     3.91      .01  1584.00
    1447.     120.     1327.       0.      82.     439.       0.     220.     127.   1585.50
     1.65     1.46     3.02      .00     .060     .060     .060     .000  1579.70  4749.42
   .007711     350.     455.     500.        5        0        0      .00   418.18  5167.61
0
 *SECNO 1.860

 3265 DIVIDED FLOW

     1.86     2.84  1589.84      .00      .00  1589.96      .12     4.73      .00  1587.60
    1729.     844.     885.       0.     255.     422.       0.     229.     134.   1593.00
     1.72     3.32     2.10      .00     .060     .060     .060     .000  1587.00  4425.00
   .007083     500.     700.     600.        4        0        0      .00   543.08  5395.09
0
1
  08/18/88    14:23:20                                                                    PAGE   36


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTX      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 1.955

 3265 DIVIDED FLOW

     1.96     2.45  1593.95      .00      .00  1594.05      .09     4.03      .00  1595.00
    1729.       0.     1729.       0.       0.     700.       0.     236.     141.   1594.00
     1.77      .00     2.47      .00     .060     .060     .060     .000  1591.50  4901.90
   .010322     425.     500.     600.        4        0        0      .00   720.75  5627.64
0
 *SECNO 2.052

 3265 DIVIDED FLOW

     2.05     1.92  1597.92      .00      .00  1598.00      .08     3.93      .00  1598.00
    1729.       0.     1729.       0.       0.     758.       0.     245.     150.   1598.00
     1.83      .00     2.28      .00     .050     .050     .050     .000  1596.00  4844.26
   .005934     515.     515.     515.        4        0        0      .00   763.15  5632.76
0
 *SECNO 2.204
     2.20     2.03  1603.03      .00      .00  1603.12      .10     5.12      .01  1602.00
    1729.     146.     945.     538.      88.     337.     289.     258.     164.   1602.00
     1.92     1.67     2.80     2.20     .050     .050     .050     .000  1601.00  4529.90
   .007636     700.     800.     525.        4        0        0      .00   858.03  5487.93
0
 *SECNO 2.304
     2.30     2.58  1606.58      .00      .00  1606.72      .14     3.58      .01  1606.00
    1729.       6.     1413.     311.       6.     451.     147.     266.     172.   1605.00
     1.97     1.01     3.13     2.12     .050     .050     .050     .000  1604.00  4815.08
   .006027     530.     530.     530.        5        0        0      .00   493.03  5309.11
0
 *SECNO 2.426
```

3265 DIVIDED FLOW

```
     2.43     2.75  1611.75      .00      .00  1611.93      .18     5.20      .01  1611.50
    1729.      777.     950.       2.     253.     263.       3.     274.     180.  1612.00
     2.02     3.07     3.61      .81     .050     .050     .050     .000  1609.00  4579.73
  .011538     640.     640.     640.        4        0        0      .00   511.30  5220.07
0
1
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```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 2.525
     2.53     4.40  1616.40      .00      .00  1616.52      .13     4.59      .01  1616.00
    1729.       4.     1584.     141.       5.     535.     116.     281.     187.  1616.00
     2.08      .82     2.96     1.21     .050     .050     .050     .000  1612.00  4609.14
  .006519     600.     525.     480.        5        0        0      .00   761.28  5370.42
0
 *SECNO 2.638
     2.64     2.19  1621.19      .00      .00  1621.32      .13     4.80      .00  1622.00
    1729.       0.     1727.       2.       0.     594.       3.     290.     197.  1621.00
     2.13      .00     2.91      .63     .050     .050     .050     .000  1619.00  4585.16
  .010045     600.     600.     600.        3        0        0      .00   643.90  5229.06
0
 *SECNO 2.735
     2.73     1.76  1625.76      .00      .00  1625.87      .11     4.54      .00  1625.50
    1729.      12.     1716.       1.      17.     648.       2.     297.     206.  1625.50
     2.19      .69     2.65      .69     .050     .050     .050     .000  1624.00  4398.65
  .007959     510.     510.     510.        5        0        0      .00   797.98  5196.64
0
 *SECNO 2.830

 3265 DIVIDED FLOW

     2.83     1.72  1629.72      .00      .00  1629.80      .09     3.93      .00  1630.00
    1729.    1026.     703.       0.     410.     337.       0.     306.     216.  1630.00
     2.25     2.50     2.08      .00     .050     .050     .050     .000  1628.00  4277.95
  .007300     540.     505.     610.        3        0        0      .00   517.49  5270.64
0
 *SECNO 2.942

 3265 DIVIDED FLOW

     2.94     2.33  1635.33      .00      .00  1635.49      .15     5.66      .02  1635.00
    1729.      78.     629.    1022.      31.     234.     298.     315.     227.  1635.00
     2.30     2.50     2.69     3.43     .050     .050     .050     .000  1633.00  4451.69
  .012225     660.     590.     580.        4        0        0      .00   666.65  5393.20
0
 *SECNO 3.056
1
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```
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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3265 DIVIDED FLOW

```
     3.06     2.15  1641.15      .00      .00  1641.22      .09     5.73      .01  1642.00
    1660.       0.     1326.     334.       0.     568.     189.     324.     238.  1641.00
     2.38      .00     2.34     1.77     .050     .050     .050     .000  1639.00  4752.87
  .007217     500.     600.     650.        5        0        0      .00   959.95  5902.85
0
 CCHV=    .100 CEHV=    .300
 *SECNO 3.183
     3.18     2.72  1647.22      .00      .00  1647.33      .11     6.10      .01  1647.00
    1660.     820.     387.     453.     341.     107.     234.     335.     254.  1646.00
     2.45     2.41     3.60     1.94     .070     .050     .060     .000  1644.50  4415.00
  .013348     600.     670.     600.        5        0        0      .00  1178.99  5593.99
0
 *SECNO 3.268

 3265 DIVIDED FLOW

     3.27     2.54  1652.04      .00      .00  1652.18      .14     4.84      .01  1651.00
    1660.     699.     863.      98.     389.     222.      76.     342.     265.  1651.00
     2.49     1.80     3.88     1.29     .070     .050     .050     .000  1649.50  4413.28
  .008354     495.     450.     415.        4        0        0      .00   925.38  5867.18
0
 *SECNO 3.355

 3265 DIVIDED FLOW

     3.36     1.83  1656.83      .00      .00  1656.93      .10     4.74      .00  1656.00
    1660.     772.     433.     456.     395.     116.     232.     349.     275.  1656.00
     2.54     1.95     3.74     1.96     .070     .050     .050     .000  1655.00  4294.94
  .013912     460.     460.     380.        4        0        0      .00  1219.15  5603.14
0
 *SECNO 3.443

 3265 DIVIDED FLOW

     3.44     1.50  1660.50      .00      .00  1660.54      .04     3.61      .01  1660.00
    1660.    1137.     198.     326.     665.      97.     230.     357.     287.  1660.00
     2.61     1.71     2.04     1.42     .070     .050     .070     .000  1659.00  4120.82
  .006637     330.     465.     470.        5        0        0      .00  1335.66  5509.53
0
1
 08/18/88    14:23:20                                                                    PAGE   39


   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 3.500

 3265 DIVIDED FLOW

     3.50     2.11  1663.81      .00      .00  1663.96      .15     3.39      .03  1664.50
    1660.    1405.       13.     242.     438.       6.     114.     363.     294.  1665.00
     2.64     3.21     2.28     2.11     .070     .050     .070     .000  1661.70  4493.53
  .017146     345.     305.     305.        3        0        0      .00   665.20  5742.39
0
 *SECNO 3.581

 3265 DIVIDED FLOW

     3.58     2.19  1668.19      .00      .00  1668.25      .06     4.29      .01  1668.50
    1660.     605.       92.     962.     326.      48.     491.     369.     303.  1668.00
     2.70     1.95     1.92     1.05     .060     .040     .050     .000  1665.00  4520.25
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  .007096     420.     420.     385.       5       0       0     .00  1165.53  5813.04
0
 *SECNO 3.650

 3265 DIVIDED FLOW

     3.65     3.05  1670.55     .00     .00  1670.70     .15     2.43     .03  1670.00
    1660.     255.     490.     315.    145.     102.    428.     376.     311.  1670.00
     2.73     1.76     4.80     2.14    .060     .040    .060     .000  1667.50  4700.67
  .006512     335.     365.     365.       3       0       0     .00   770.13  5654.48
0
 *SECNO 3.702

 1645 INT SEC ADDED BY RAISING SEC      3.70,   -.750FT AND MULTIPLYING BY   1.913


 3265 DIVIDED FLOW

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.01     3.76  1671.51  1671.51     .00  1671.88     .37     .42     .07  1669.25
    1660.     226.     783.     550.     86.     115.    391.     377.     312.  1669.25
     2.74     2.64     6.79     1.67    .050     .035    .050     .000  1667.75  5006.78
  .005894      74.      69.      66.      20      11       0     .00   964.72  6140.36
0
1
 08/18/88    14:23:20                                                                    PAGE   40


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .250FT AND MULTIPLYING BY    .841


 3265 DIVIDED FLOW

     1.02     3.99  1671.99     .00     .00  1672.24     .25     .34     .01  1669.50
    1660.     215.     633.     812.     87.     104.    503.     378.     314.  1669.50
     2.74     2.48     6.08     1.62    .050     .025    .050     .000  1668.00  4982.82
  .004305      74.      69.      66.       2       0       0     .00   945.70  6027.47
0

 1645 INT SEC ADDED BY RAISING SEC      1.02,    .250FT AND MULTIPLYING BY    .811


 3265 DIVIDED FLOW

     1.03     4.01  1672.26     .00     .00  1672.61     .35     .35     .03  1669.75
    1660.     213.     618.     829.     72.      85.    425.     379.     315.  1669.75
     2.75     2.98     7.26     1.95    .050     .035    .050     .000  1668.25  4964.76
  .006095      74.      69.      66.       2       0       0     .00   776.65  5817.67
0

 1645 INT SEC ADDED BY RAISING SEC      1.03,    .250FT AND MULTIPLYING BY    .767


 3265 DIVIDED FLOW

     3.70     4.19  1672.69     .00     .00  1673.03     .34     .42     .00  1670.00
    1660.     202.     537.     [illegible]     [illegible]     [illegible]    437.     380.     [illegible]  1670.00
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     2.75     3.21     7.59     2.19     .050     .035     .050     .000  1668.50  4944.55
   .006233     74.      69.      66.        3        0        0      .00   636.72  5617.69
0
 CCHV=    .300 CEHV=    .500
 *SECNO 3.737

 1645 INT SEC ADDED BY RAISING SEC      3.74,   -.650FT AND MULTIPLYING BY    .656

1
  08/18/88    14:23:20                                                                          PAGE   41


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST



 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.01     4.54  1673.69  1673.69      .00  1675.23     1.54      .77      .60  1671.35
    1660.      31.    1627.       2.       9.     162.       2.     380.     317.   1673.35
     2.75     3.45    10.04      .99     .050     .035     .050     .000  1669.15  4914.80
   .011605     90.      93.      95.       20        8        0      .00    65.86  4980.67
0

 1645 INT SEC ADDED BY RAISING SEC      1.01,    .650FT AND MULTIPLYING BY   1.524


 3301 HV CHANGED MORE THAN HVINS

     3.74     5.87  1675.67      .00      .00  1675.87      .20      .24      .40  1672.00
    1660.      50.    1364.     247.      34.     347.     307.     381.     317.   1674.00
     2.76     1.47     3.93      .80     .050     .035     .050     .000  1669.80  4931.63
   .001119     90.      93.      95.        3        0        0      .00   538.82  5470.45
0
 *SECNO 3.759

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1676.00 ELREA=     1676.00

     3.76     5.18  1675.68      .00      .00  1676.02      .34      .03      .07  1676.00
    1660.       0.    1660.       0.       0.     354.       0.     383.     318.   1676.00
     2.77      .00     4.69      .00     .015     .015     .015     .000  1670.50  4938.10
   .000474     90.     115.     150.        2        0        0      .00   109.57  5047.67
0

 SPECIAL BRIDGE

 SB  XK       XKOR     COFQ     ROLEN    BWD      BWP      BAREA    SS       ELCHU    ELCHD
     1.25     1.60     3.00      .00   100.00     4.00   525.00      .00   1670.70  1670.50

 *SECNO 3.768
 CLASS A LOW FLOW

1
  08/18/88    14:23:20                                                                          PAGE   42


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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3420 BRIDGE W.S.=   1675.77 BRIDGE VELOCITY=,      3.35      CALCULATED CHANNEL AREA=,      486.

 EGPRS      EGLWC      H3       QWEIR      QLOW      BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
  1675.93   1676.03     .04        0.      1660.      525.     490.      1675.80   1677.50


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1677.50 ELREA=     1677.50

     3.77     5.03  1675.73      .00      .00  1676.03      .31      .01      .00  1674.00
    1660.       0.    1660.       0.       0.     373.       0.     383.     319.  1676.00
     2.77      .00     4.44      .00     .000     .015     .000     .000  1670.70  4920.00
  .000439      50.      50.      50.        0        0        0      .00   118.64  5038.64
0
 *SECNO 3.793

1645 INT SEC ADDED BY RAISING SEC      3.79,   -.400FT AND MULTIPLYING BY   1.017


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1679.25 ELREA=     1679.25

     1.01     4.61  1675.71      .00      .00  1676.18      .48      .05      .09  1679.60
    1660.       0.    1660.       0.       0.     299.       0.     384.     319.  1679.60
     2.78      .00     5.55      .00     .025     .025     .025     .000  1671.10  4977.48
  .003871      65.      65.      65.        3        0        0      .00   160.56  5138.03
0

1645 INT SEC ADDED BY RAISING SEC      1.01,    .400FT AND MULTIPLYING BY    .993


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1681.00 ELREA=     1681.00

     3.79     4.44  1675.94      .00      .00  1676.53      .59      .29      .06  1680.00
    1660.       0.    1660.       0.       0.     269.       0.     394.     319.  1680.00
     2.78      .00     6.17      .00     .025     .025     .025     .000  1671.50  4977.53
  .005245      65.      65.      65.        2        0        0      .00   154.34  5131.87
0
1
 08/18/88    14:23:20                                                                    PAGE   43


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


SPECIAL BRIDGE

SB  XK       XKOR     COFQ     RDLEN    BWC      BWP      BAREA    SS       ELCHU    ELCHD
    1.05     1.60     2.60      .00   170.00    11.00   1272.00     .00   1671.70   1671.50

*SECNO 3.799
6110 EGLWC OF 1676.25 LESS THAN XEG OF 1676.53
CLASS A LOW FLOW

3420 BRIDGE W.S.=   1676.03 BRIDGE VELOCITY=,      2.36      CALCULATED CHANNEL AREA=,      688.

 EGPRS      EGLWC      H3       QWEIR      QLOW      BAREA   TRAPEZOID      ELLC      ELTRD
                                                              AREA
      .00   1676.25     .14        0.      1660.     1272.    1240.     1679.50   1682.00
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3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1682.00 ELREA=     1682.00

     3.80     4.38  1676.08      .00      .00  1676.53      .17      .00      .00  1680.00
    1660.       0.    1660.       0.       0.     506.       0.     384.     319.   1682.00
     2.78      .00     3.28      .00     .000     .025     .000     .000  1671.70  4966.53
   .000655      30.      30.      30.        0        0        0      .00   158.68  5125.21
0
 CCHV=    .100 CEHV=    .300
 *SECND 3.850

 1645 INT SEC ADDED BY RAISING SEC      3.85,  -1.400FT AND MULTIPLYING BY   1.815


 3265 DIVIDED FLOW


 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.01     3.27  1676.37  1676.37      .00  1677.21      .84      .24      .20  1676.60
    1660.      37.    1623.       0.      29.     218.       0.     385.     320.   1676.60
     2.79     1.27     7.44      .00     .070     .035     .070     .000  1673.10  4958.66
   .012769     145.     135.      85.       20       15        0      .00   189.18  5256.06
0
1
 08/18/88    14:23:20                                                                    PAGE   44


    SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      SLMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.400FT AND MULTIPLYING BY    .551


 3265 DIVIDED FLOW

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     3.85     4.18  1678.68  1678.68      .00  1679.63      .95     1.53      .03  1678.00
    1660.     180.    1479.       1.      91.     179.       1.     386.     320.   1678.00
     2.79     1.97     8.25     1.02     .070     .035     .070     .000  1674.50  4922.20
   .009858     145.     135.      85.        5       11        0      .00   202.29  5034.08
0
 *SECND 3.892
     3.89     5.48  1680.48      .00      .00  1681.03      .56     1.36      .04  1680.00
    1660.       7.    1653.       0.      14.     276.       0.     388.     321.   1681.00
     2.80      .52     5.99      .00     .070     .035     .070     .000  1675.00  4982.96
   .004098     225.     225.     225.        3        0        0      .00   140.29  5023.25
0
1
 08/18/88    14:23:20                                                                    PAGE   45


                                                                    THIS RUN EXECUTED 08/18/88    14:24:50
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 HEC2 RELEASE DATED NOV 76 UPDATED NOV  1984
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  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION
 ************************************************


 T1      WITTMANN ADMS
 T2      10-YEAR STORM EVENT
 T3      FLOODPLAIN RUN

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINR     Q         WSEL      FQ

       0.        5.        0.        0.   .000000      .00       .5        0.   1547.900     .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     15.000     .000    -1.000     .000      .000      .000      .000      .000      .000      .000

1
 08/18/88    14:23:20                                                                                    PAGE   46


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 4

 CCHV=    .300 CEHV=    .500
 *SECNO  .000
        THIS IS A HEC-2 MODEL FOR WITTMANN WASH
        THE REACH IS DOWNSTREAM FROM WITTMANN TO THE CAP1WEST OVERCHUTE


        THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 MODEL'S STORAGE
        ROUTING PROCEDURE THRU CAP1WEST.

        NOTE:  THE RIVER REACH MILES ARE MEASURED FROM THE
        CAP1WEST OVERCHUTE.


        NOTE:  A SPLIT FLOW OCCURS JUST DOWNSTREAM OF SECTION
        1.860.  THE CORRESPONDING DISCHARGES REMAINING IN WITTMANN WASH
        WILL BE USED IN THE REMAINING REACH TO THE CAP1WEST OVERCHUTE.
      .00     4.90  1547.90      .00  1547.90  1549.50      .60      .00      .00  1550.00
     2423.      0.    2423.       0.       0.     390.       0.       0.       0.  1551.00
      .00      .00     6.22      .00     .060     .040     .040     .000  1543.00  4318.38
   .006670      0.       0.       0.        0        0        0      .00   132.27  5050.64
0
 CCHV=    .100 CEHV=    .300
 *SECNO  .102
  WATER EL=XS CARD=  1547.900
      .10     3.90  1547.90      .00      .00  1548.34      .44     4.10      .02  1548.00
     740.      0.     740.       0.       0.     139.       0.       3.       1.  1552.00
      .03      .00     5.34      .00     .060     .040     .040     .000  1544.00  4928.00
   .012486    750.     540.     550.        0        0        0      .00    94.67  5022.67
0
 *SECNO  .326
        SECTIONS .326 THRU .870 PROVIDE A HYDRAULIC ANALYSIS TO THE
        TO THE CAP1WEST OVERCHUTE.  ACCORDING TO THE BACKWATER ANALYSIS THE
        WATER SURFACE ELEVATION WILL OVERTOP THE CAP CANAL HOWEVER THE
        EXTENDED SECTIONS WILL REMAIN IN THE MODEL.
      .33     7.10  1548.42      .00      .00  1547.44      .02     1.05      .00  1546.50
```

```
     740.     213.     527.       0.     364.     436.       0.      16.       9.   1552.00
      .35      .58     1.21      .00     .060     .040     .040     .000  1546.30   4612.60
  .000296    1180.    1180.    1180.        3        0        0      .00   454.62   5067.42
0
1
 08/18/88    14:23:20                                                                    PAGE   47

   SECNO    DEPTH    CWSEL    CRIWS    WSELK     EG       HV       HL      OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB      ACH      AROB     VOL     TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL       XNCH     XNR      WTN     ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL    IDC      ICONT    CONAR   TOPWID    ENDST

 *SECND  .681
      .68     3.09  1549.89      .00      .00  1549.90      .01      .47      .00  1546.80
     740.     259.     481.       0.     497.     446.       0.      54.      30.   1552.00
      .94      .52     1.00      .00     .060     .040     .040     .000  1546.80   4533.75
  .000213    1875.    1875.    1875.        2        0        0      .00   505.43   5039.18
0
 *SECND  .870
      .87     2.40  1550.40      .00      .00  1550.53      .13      .59      .03  1550.00
     740.      11.     729.       0.      16.     254.       0.      66.      38.   1552.00
     1.03      .69     2.87      .00     .060     .040     .040     .000  1548.00   4860.94
  .006674     800.    1000.    1000.        3        0        0      .00   255.13   5216.08
0
 *SECND  .925
      .93     1.39  1551.39      .00      .00  1551.44      .05      .90      .01  1552.00
     740.       0.     586.     154.       0.     301.     125.      69.      41.   1550.00
     1.08      .00     1.95     1.23     .060     .040     .040     .000  1550.00   5001.53
  .001796     290.     290.     290.        4        0        0      .00   398.87   5404.40
0
 *SECND  .927
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
        OULET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION. WATER SURFACE
        ELEVATIONS WERE COMPUTED CONSIDERING PIPE FLOW AND WEIR FLOW VERSUS
        THE HEC-2 MODEL WHICH INCORPORATES THE TOP OF ROADWAY ONLY.
        RESULTS INDICATE INSIGNIFICANT DIFFERENCES IN W.S. ELEV.
      .93      .49  1552.99  1552.99      .00  1553.16      .17      .03      .04  1554.00
     740.       0.     740.       0.       0.     222.       0.      69.      41.   1554.00
     1.08      .00     3.33      .00     .018     .018     .018     .000  1552.50   4853.15
  .006918      10.      10.      10.       20       22        0      .00   657.92   5511.07
0
 *SECND  .936
      .94      .75  1553.25      .00      .00  1553.30      .05      .12      .01  1554.00
     740.       0.     740.       0.       0.     415.       0.      69.      42.   1554.00
     1.08      .00     1.78      .00     .018     .018     .018     .000  1552.50   4777.34
  .001248      50.      50.      50.        2        0        0      .00   868.49   5645.83
0
1
 08/18/88    14:23:20                                                                    PAGE   48

   SECND    DEPTH    CWSEL    CRIWS    WSELK     EG       HV       HL      OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB      ACH      AROB     VOL     TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL       XNCH     XNR      WTN     ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL    IDC      ICONT    CONAR   TOPWID    ENDST

 *SECND  .938
      .94     3.30  1553.30      .00      .00  1553.31      .01      .00      .00  1552.00
     740.      23.     647.      70.      93.     1011.     287.      69.      42.   1552.00
     1.09      .25      .64      .25     .060     .060     .060     .000  1550.00   4707.06
  .000175      10.      10.      10.        5        0        0      .00   454.75   5661.81
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0
 *SECNO 1.044

 3265 DIVIDED FLOW

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      1.04      .89  1555.89  1555.89      .00  1556.12      .23      .35      .07  1556.00
      740.       0.     489.     251.       0.     121.      72.      79.      51.  1555.10
      1.13      .00     4.03     3.48     .060     .060     .060     .000  1555.00  4786.30
   .068483     555.     555.     555.       20       14        0      .00   430.87  5233.63
0
 *SECNO 1.134
      1.13     2.75  1559.75      .00      .00  1559.82      .07     3.68      .02  1560.00
      740.       0.     596.     144.       0.     262.     121.      83.      55.  1558.00
      1.19      .00     2.27     1.19     .060     .040     .060     .000  1557.00  4880.86
   .002766     480.     480.     480.        7        0        0      .00   348.56  5229.42
0
 *SECNO 1.231
      1.23     1.71  1562.71      .00      .00  1563.03      .32     3.14      .08  1564.00
      740.       0.     740.       0.       0.     163.       0.      86.      59.  1564.00
      1.23      .00     4.55      .00     .060     .040     .060     .000  1561.00  4844.16
   .023865     510.     510.     510.        4        0        0      .00   230.41  5074.57
0
 *SECNO 1.331
      1.33     1.73  1567.23      .00      .00  1567.27      .03     4.21      .03  1568.00
      740.       0.     740.       0.       0.     501.       0.      90.      63.  1568.00
      1.32      .00     1.48      .00     .060     .060     .060     .000  1565.50  4547.68
   .003919     650.     530.     350.        3        0        0      .00   538.10  5085.78
0
 *SECNO 1.459
1
  08/18/88    14:23:20                                                                    PAGE   49


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3265 DIVIDED FLOW

      1.46     2.67  1572.17      .00      .00  1572.30      .12     5.00      .03  1573.00
      740.       0.     739.       1.       0.     261.       1.      96.      70.  1572.00
      1.39      .00     2.84      .69     .060     .060     .060     .000  1569.50  4493.74
   .019008     675.     675.     500.        3        0        0      .00   357.36  5058.10
0
 *SECNO 1.545

 3265 DIVIDED FLOW

      1.54     3.30  1576.80      .00      .00  1576.85      .05     4.54      .01  1577.50
      740.     226.     514.       0.     169.     268.       0.      99.      75.  1577.50
      1.46     1.34     1.92      .00     .060     .060     .060     .000  1573.50  4415.31
   .006007     525.     450.     410.        7        0        0      .00   588.85  5106.27
0
 *SECNO 1.641

 3265 DIVIDED FLOW

      1.64     3.78  1580.78      .00      .00  1580.85      .07     4.00      .01  1581.00
      740.       0.     740.       0.       0.     341.       0.     104.      81.  1582.00
      1.57      .00     2.17      .00     .060     .060     .060     .000  1577.00  4670.33
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  .010725     500.     510.     580.       5       0       0     .00   439.15  5162.15
0
 *SECNO 1.727
     1.73     4.78  1584.48     .00     .00  1584.57     .09     3.71     .01  1584.00
     740.      12.     728.      0.     16.     293.      0.     107.     85.   1585.50
     1.58      .77     2.49     .00    .060     .060    .060     .000  1579.70  4834.00
  .006435     350.     455.     500.       4       0       0     .00   274.00  5108.00
0
 *SECNO 1.860

 3265 DIVIDED FLOW

     1.86     2.17  1589.17     .00     .00  1589.26     .09     4.69     .00  1587.60
     792.     476.     316.      0.    171.     186.      0.     112.     90.   1593.00
     1.66     2.78     1.70     .00    .060     .060    .060     .000  1587.00  4825.00
  .008385     500.     700.     600.       4       0       0     .00   412.99  5375.08
0
1
 08/18/88    14:23:20                                                                PAGE   50

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO 1.955

 3265 DIVIDED FLOW

     1.96     2.02  1593.52     .00     .00  1593.57     .06     4.31     .00  1595.00
     792.      0.     792.      0.      0.     411.      0.     117.     96.   1594.00
     1.73      .00     1.93     .00    .060     .060    .060     .000  1591.50  4919.57
  .009737     425.     500.     600.       4       0       0     .00   588.26  5559.18
0
 *SECNO 2.052

 3265 DIVIDED FLOW

     2.05     1.38  1597.38     .00     .00  1597.43     .06     3.85     .00  1598.00
     792.      0.     792.      0.      0.     410.      0.     121.    102.   1598.00
     1.80      .00     1.93     .00    .050     .050    .050     .000  1596.00  4971.18
  .005945     515.     515.     515.       5       0       0     .00   530.27  5586.99
0
 *SECNO 2.204
     2.20     1.66  1602.66     .00     .00  1602.73     .06     5.29     .00  1602.00
     792.      46.     500.     246.     36.     226.    153.     129.    113.   1602.00
     1.91     1.28     2.21     1.60    .050     .050    .050     .000  1601.00  4650.57
  .008032     700.     800.     625.       6       0       0     .00   762.43  5453.00
0
 *SECNO 2.304
     2.30     2.09  1606.09     .00     .00  1606.16     .08     3.43     .00  1606.00
     792.      0.     709.      83.      0.     309.     59.     133.    121.   1606.00
     1.98      .27     2.29     1.40    .050     .050    .050     .000  1604.00  4932.21
  .005330     530.     530.     530.       5       0       0     .00   452.08  5284.29
0
 *SECNO 2.426

3265 DIVIDED FLOW

     2.43     2.22  1611.22     .00     .00  1611.35     .13     5.17     .02  1611.50
     792.     310.     482.      0.    124.     154.      0.     138.    127.   1612.00
     2.04     2.50     3.14     .00    .050     .050    .050     .000  1609.00  4622.42
  .013678     640.     640.     640.       4       0       0     .00   382.54  5053.54
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 2.525

 3265 DIVIDED FLOW

     2.53     3.81  1615.81      .00      .00  1615.90      .09     4.55      .00  1616.00
     792.       0.     792.       0.       0.     324.       0.     142.     131.   1616.00
     2.10      .00     2.45      .00     .050     .050     .050     .000  1612.00  4649.72
  .005714     600.     525.     480.        4        0        0      .00   283.98  5022.63
0
 *SECNO 2.638

 3265 DIVIDED FLOW

     2.64     1.72  1620.72      .00      .00  1620.82      .09     4.51      .00  1622.00
     792.       0.     792.       0.       0.     321.       0.     146.     137.   1621.00
     2.17      .00     2.47      .00     .050     .050     .050     .000  1619.00  4596.92
  .012712     600.     600.     600.        5        0        0      .00   506.23  5144.65
0
 *SECNO 2.735
     2.73     1.41  1625.41      .00      .00  1625.47      .06     4.64      .00  1625.50
     792.       0.     792.       0.       0.     419.       0.     151.     143.   1625.50
     2.24      .00     1.89      .00     .050     .050     .050     .000  1624.00  4547.56
  .006838     510.     510.     510.        5        0        0      .00   620.43  5167.99
0
 *SECNO 2.830

 3265 DIVIDED FLOW

     2.83     1.29  1629.29      .00      .00  1629.35      .06     3.83      .00  1630.00
     792.     500.     292.       0.     232.     168.       0.     155.     151.   1630.00
     2.31     2.15     1.74      .00     .050     .050     .050     .000  1628.00  4336.37
  .008318     540.     505.     610.        4        0        0      .00   682.73  5210.05
0
 *SECNO 2.942

 3265 DIVIDED FLOW

     2.94     1.96  1634.96      .00      .00  1635.05      .09     5.69      .01  1635.00
     792.      30.     265.     498.      16.     130.     191.     161.     150.   1635.00
     2.38     1.86     2.04     2.60     .050     .050     .050     .000  1633.00  4498.25
  .010514     660.     590.     580.        3        0        0      .00   533.69  5355.69
0
1
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 3.056

 3265 DIVIDED FLOW
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     3.06     1.75  1640.75      .00      .00  1640.60      .05     5.73      .00  1642.00
     749.       0.     636.     113.       0.     325.      81.     166.     160.   1641.00
     2.48      .00     1.93     1.40     .050     .050     .050     .000  1639.00  4826.62
  .008247     500.     600.     650.        7        0        0      .00   758.55  5881.01
0
 CCHV=    .100 CEHV=    .300
 *SECNO 3.183

 3265 DIVIDED FLOW

     3.18     2.39  1646.89      .00      .00  1646.96      .07     6.16      .01  1647.00
     749.     408.     200.     141.     197.      74.      91.     172.     178.   1646.00
     2.56     2.07     2.69     1.54     .070     .050     .060     .000  1644.50  4563.19
  .011404     600.     670.     600.        4        0        0      .00   573.02  5244.87
0
 *SECNO 3.268

 3265 DIVIDED FLOW

     3.27     2.05  1651.55      .00      .00  1651.66      .12     4.69      .01  1651.00
     749.     227.     508.      14.     179.     156.      14.     175.     184.   1651.00
     2.61     1.27     3.21      .97     .070     .050     .060     .000  1649.50  4449.12
  .008960     495.     450.     415.        5        0        0      .00   566.64  5822.73
0
 *SECNO 3.355

 3265 DIVIDED FLOW

     3.36     1.52  1656.52      .00      .00  1656.60      .08     4.94      .00  1656.00
     749.     308.     278.     163.     219.      86.     106.     179.     192.   1656.00
     2.67     1.40     3.23     1.54     .070     .050     .060     .000  1655.00  4315.66
  .013698     460.     460.     380.        4        0        0      .00  1024.20  5591.37
0
 *SECNO 3.443
1
 08/18/98    14:23:20                                                                    PAGE   53


    SECNO    DEPTH    QWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3265 DIVIDED FLOW

     3.44     1.14  1660.14      .00      .00  1660.17      .03     3.56      .01  1660.00
     749.     551.      70.     127.     402.      52.     109.     184.     202.   1660.00
     2.75     1.37     1.35     1.17     .070     .050     .070     .000  1659.00  4170.62
  .006550     330.     465.     470.        4        0        0      .00  1072.44  5501.07
0
 *SECNO 3.500

 3265 DIVIDED FLOW

     3.50     1.67  1663.37      .00      .00  1663.46      .10     3.28      .02  1664.50
     749.     691.       2.      56.     268.       2.      43.     187.     207.   1665.00
     2.79     2.57     1.41     1.31     .070     .050     .070     .000  1661.70  4559.23
  .015770     345.     305.     305.        2        0        0      .00   477.98  5374.87
0
 *SECNO 3.581

 3265 DIVIDED FLOW

     3.58     1.00  1667.00      .00      .00  1667.06      .06     4.77      .01  1668.50
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     749.     265.      55.     430.     172.      22.     261.     191.     214.   1669.00
     2.86     1.54     2.44     1.65     .060     .040     .060     .000  1666.00  4530.10
  .007734     420.     420.     385.        6        0        0      .00   855.88  5744.93
0
 *SECND 3.650

 3265 DIVIDED FLOW

     3.65     2.58  1670.08      .00      .00  1670.19      .11     2.33      .02  1670.00
     749.      83.     294.     372.      67.      79.     232.     194.     219.   1670.00
     2.90     1.25     3.73     1.61     .060     .040     .060     .000  1667.50  4721.58
  .005530     335.     365.     365.        3        0        0      .00   512.14  5603.35
0
 *SECND 3.702

 1645 INT SEC ADDED BY RAISING SEC     3.70,   -.750FT AND MULTIPLYING BY   1.066

1
 08/18/88    14:23:20                                                                    PAGE   54


   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3265 DIVIDED FLOW

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.01     3.17  1670.92  1670.92      .00  1671.34      .42      .40      .09  1669.25
     749.      95.     543.     111.      46.      90.      87.     194.     220.   1669.25
     2.90     2.07     6.01     1.27     .050     .035     .050     .000  1667.75  5021.95
  .006180      74.      69.      66.       20        9        0      .00   327.48  5475.04
0

 1645 INT SEC ADDED BY RAISING SEC     1.01,    .250FT AND MULTIPLYING BY    .045


 3265 DIVIDED FLOW

     1.02     3.38  1671.38  1671.27      .00  1671.74      .36      .39      .01  1669.50
     749.     101.     486.     162.      49.      83.     121.     195.     220.   1669.50
     2.91     2.07     5.85     1.24     .050     .035     .050     .000  1668.00  4995.81
  .005259      74.      69.      66.        5        9        0      .00   351.05  5811.20
0

 1645 INT SEC ADDED BY RAISING SEC     1.02,    .250FT AND MULTIPLYING BY    .017


 3265 DIVIDED FLOW

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.03     3.58  1671.83  1671.83      .00  1672.14      .31      .34      .00  1669.75
     749.     104.     422.     223.      49.      73.     166.     195.     221.   1669.75
     2.91     2.13     5.78     1.35     .050     .035     .050     .000  1669.25  4972.19
  .004664      74.      69.      66.        2        9        0      .00   561.07  5575.36
0

 1645 INT SEC ADDED BY RAISING SEC     1.03,    .250FT AND MULTIPLYING BY    .776
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


3265 DIVIDED FLOW

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     3.70     3.68  1672.18  1672.18      .00  1672.55      .37      .36      .02  1670.00
     749.     104.     384.     261.      41.      59.     166.     196.     222.  1670.00
     2.91     2.51     6.57     1.57     .050     .035     .050     .000  1668.50  4952.37
  .005810      74.      69.      66.        2        8        0      .00   470.87  5522.16
0
 CCHV=    .300 CEHV=    .500
 *SECNO 3.737
     3.74     3.33  1673.13      .00      .00  1673.47      .34      .92      .01  1672.00
     749.       4.     745.       0.       3.     158.       0.     197.     223.  1674.00
     2.93     1.30     4.72      .00     .050     .035     .050     .000  1669.00  4944.37
  .004257     180.     185.     190.        2        0        0      .00    76.26  5020.63
0
 *SECNO 3.759

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1676.00 ELREA=     1676.00

     3.76     2.82  1673.32      .00      .00  1673.76      .44      .24      .05  1676.00
     749.       0.     749.       0.       0.     141.       0.     197.     223.  1676.00
     2.93      .00     5.30      .00     .015     .015     .015     .000  1670.50  4958.38
  .001237      90.     115.     150.        3        0        0      .00    74.93  5033.31
0

 SPECIAL BRIDGE

 SB  XK       XKOR     COFQ     ROLEN    BWC      BWP      BAREA    SS       ELCHU    ELCHD
     1.25     1.60     3.00      .00   100.00     4.00   525.00      .00   1670.70  1670.50

 *SECNO 3.768
 CLASS A LOW FLOW

 3420 BRIDGE W.S.=   1673.41 BRIDGE VELOCITY=,      2.78      CALCULATED CHANNEL AREA=,      260.

 EGPRS    EGLWC    H3       QWEIR    QLOW     BAREA    TRAPEZOID     ELLC     ELTRD
                                                          AREA
      .00  1674.04      .10       0.     749.     525.     490.   1675.80  1677.50


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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     1677.50 ELREA=     1677.50

     3.77     2.72  1673.42      .00      .00  1674.04      .63      .23      .00  1674.00
     749.       0.     749.       0.       0.     115.       0.     197.     223.  1676.00
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     2.93      .00     6.35      .00     .000     .015     .000     .000  1670.70  4937.47
  .002865      50.      50.      50.        0        0        0      .00    89.62  5027.09
0
 *SECND 3.793
 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=    1681.00 ELREA=     1681.00

     3.79     3.00  1674.50  1674.50      .00  1675.27      .76      .59      .07  1680.00
     749.       0.     749.       0.       0.     107.       0.     197.     224.  1680.00
     2.94      .00     7.01      .00     .025     .025     .025     .000  1671.50  4978.44
  .008226     130.     130.     130.       20        8        0      .00    70.51  5048.95
0

 SPECIAL BRIDGE

 SB  XK       XKOR     COFQ     RDLEN    BWC      BWP      SAREA    SS       ELCHU    ELCHD
     1.05     1.60     2.60      .00   170.00    11.00  1272.00      .00  1671.70  1671.50

 *SECND 3.799
 6110 EGLWC OF 1674.91 LESS THAN XEG OF 1675.27

 3301 HV CHANGED MORE THAN HVINS

 CLASS A LOW FLOW

 3420 BRIDGE W.S.=   1674.60 BRIDGE VELOCITY=,      1.57      CALCULATED CHANNEL AREA=,      461.

  EGPRS     EGLWC      H3      QWEIR     QLOW     BAREA   TRAPEZOID     ELLC     ELTRD
                                                           AREA
      .00  1674.91     .31       0.      749.     1272.     1240.    1679.50  1682.00


 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=    1682.00 ELREA=     1682.00

1
 08/18/88    14:23:20                                                                    PAGE   57


   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


     3.80     3.11  1674.81      .00      .00  1675.27      .09      .00      .00  1680.00
     749.       0.     749.       0.       0.     300.       0.     198.     224.  1682.00
     2.94      .00     2.43      .00     .000     .025     .000     .000  1671.70  4968.64
  .000664      30.      30.      30.        0        0        0      .00   153.39  5122.04
0
 CCHV=    .100 CEHV=    .300
 *SECND 3.850

 1645 INT SEC ADDED BY RAISING SEC      3.85,  -1.400FT AND MULTIPLYING BY   1.339


 3301 HV CHANGED MORE THAN HVINS

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     1.01     2.21  1675.31  1675.31      .00  1675.95      .65      .25      .17  1676.60
     749.       0.     749.       0.       0.     116.       0.     198.     224.  1676.60
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     2.95      .00     6.45      .00     .070     .035     .070     .000  1673.10  5174.48
   .016998    145.     135.      85.       20       19        0      .00    92.31  5266.79
0

 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.400FT AND MULTIPLYING BY    .529


 3265 DIVIDED FLOW

 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
     3.85     2.98  1677.48  1677.48      .00  1678.28      .80     2.06      .05  1678.00
     749.       6.     743.       0.       6.     103.       0.     199.     224.  1678.00
     2.95      .96     7.23      .00     .070     .035     .070     .000  1674.50  4855.64
   .013765    145.     135.      85.        2       11        0      .00    84.01  5027.39
0
 *SECNO 3.892

 1645 INT SEC ADDED BY RAISING SEC      3.89,   -.250FT AND MULTIPLYING BY   1.000

     1.01     3.99  1678.74      .00      .00  1679.06      .33      .73      .05  1679.75
     749.       0.     749.       0.       0.     164.       0.     199.     225.  1680.75
     2.96      .00     4.58      .00     .070     .035     .070     .000  1674.75  4954.72
   .003761    113.     113.     113.        2        0        0      .00    69.46  5024.18
0
1
  08/18/88    14:23:20                                                                    PAGE   58


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WIN      ELMIN     SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    COMAR    TOPWID    SNDST


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .250FT AND MULTIPLYING BY    .980

     3.89     4.16  1679.16      .00      .00  1679.45      .29      .39      .00  1680.00
     749.       0.     749.       0.       0.     173.       0.     199.     225.  1681.00
     2.97      .00     4.34      .00     .070     .035     .070     .000  1675.00  4948.41
   .003205    113.     113.     113.        2        0        0      .00    70.45  5018.86
0
1
  08/18/88    14:23:20                                                                    PAGE   59


                                                                  THIS RUN EXECUTED 08/18/88   14:25:14
*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION
*****************************************************


 NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST


 FLOODPLAIN RUN  (WITTMAN

 SUMMARY PRINTOUT
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	SECND	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.000	6564.00	1551.94	4525.36	4900.00	5075.00	5164.29	.00	638.93	8.94	1543.00	22.59	5.77
	.000	6564.00	1551.94	4525.36	4900.00	5075.00	5164.29	.00	638.93	8.94	1543.00	22.59	5.77
	.000	5171.00	1550.76	4728.90	4900.00	5075.00	5073.11	.00	344.22	7.76	1543.00	33.56	6.12
	.000	2423.00	1547.90	4918.38	4900.00	5075.00	5050.64	.00	132.27	4.90	1543.00	66.70	6.22
*	.102	1733.00	1551.94	4544.80	4925.00	5050.00	5049.60	.00	504.79	7.94	1544.00	3.10	1.83
*	.102	2275.00	1551.94	4544.80	4925.00	5050.00	5049.60	.00	504.79	7.94	1544.00	5.35	2.41
*	.102	1447.00	1550.76	4639.20	4925.00	5050.00	5041.73	.00	402.53	6.76	1544.00	6.97	2.38
*	.102	740.00	1547.90	4928.00	4925.00	5050.00	5022.67	.00	94.67	3.90	1544.00	124.86	5.34
	.326	1733.00	1552.14	4258.86	4900.00	5090.00	5090.00	.20	831.14	5.84	1546.30	.86	.99
	.326	2275.00	1552.27	4248.93	4900.00	5090.00	5090.00	.33	841.07	5.97	1546.30	1.33	1.25
	.326	1447.00	1551.15	4385.01	4900.00	5090.00	5082.55	.39	697.54	4.84	1546.30	1.47	1.14
	.326	740.00	1549.42	4612.60	4900.00	5090.00	5067.42	1.52	454.82	3.12	1546.30	2.96	1.21
	.681	1733.00	1552.31	4358.96	4880.00	5055.00	5055.00	.17	596.04	5.51	1546.80	.93	1.03
	.681	2275.00	1552.52	4324.06	4880.00	5055.00	5055.00	.25	730.94	5.72	1546.80	1.36	1.28
	.681	1447.00	1551.42	4442.19	4880.00	5055.00	5050.61	.27	608.42	4.62	1546.80	1.41	1.13
	.681	740.00	1549.89	4533.75	4880.00	5055.00	5039.18	.47	505.43	3.09	1546.80	2.13	1.08
	.870	1733.00	1552.46	4487.87	4940.00	5280.00	5280.00	.15	792.13	4.46	1548.00	4.35	1.48
	.870	2275.00	1552.73	4440.01	4940.00	5280.00	5280.00	.21	839.99	4.73	1548.00	5.16	1.72
	.870	1447.00	1551.68	4618.49	4940.00	5280.00	5267.07	.26	648.58	3.68	1548.00	11.07	1.93
	.870	740.00	1550.40	4860.94	4940.00	5280.00	5216.03	.51	355.13	2.40	1548.00	66.74	2.87
	.925	1733.00	1552.63	4781.04	4850.00	5220.00	5659.73	.17	878.69	2.63	1550.00	8.45	1.60
	.925	2275.00	1552.91	4749.60	4850.00	5220.00	5741.65	.18	992.05	2.91	1550.00	8.37	1.75
	.925	1447.00	1552.10	4839.00	4850.00	5220.00	5503.66	.42	669.66	2.10	1550.00	20.52	1.98
	.925	740.00	1551.39	5001.53	4850.00	5220.00	5400.40	.99	398.87	1.39	1550.00	17.96	1.95
*	.927	1733.00	1553.27	4770.39	4550.00	6050.00	5658.20	.64	887.82	.77	1552.50	60.09	3.98
*	.927	2275.00	1553.37	4737.61	4550.00	6050.00	5716.47	.46	978.86	.87	1552.50	58.50	4.23
*	.927	1447.00	1553.20	4791.00	4550.00	6050.00	5621.55	1.10	830.55	.70	1552.50	62.30	3.84
*	.927	740.00	1552.99	4853.15	4550.00	6050.00	5511.07	1.60	657.92	.49	1552.50	69.18	3.33

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SECND	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
.936	1733.00	1553.57	4678.80	4550.00	6050.00	5821.03	.31	1142.23	1.07	1552.50	14.02	2.33
.936	2275.00	1553.54	4800.00	4550.00	6050.00	5300.00	.17	500.00	1.04	1552.50	42.87	5.04
.936	1447.00	1553.49	4702.01	4550.00	6050.00	5773.75	.30	1077.74	.99	1552.50	13.60	2.19
.936	740.00	1553.25	4777.34	4550.00	6050.00	5645.83	.26	868.49	.75	1552.50	12.43	1.78
.938	1733.00	1553.65	4668.43	4850.00	5220.00	5781.22	.08	1112.79	3.65	1550.00	5.60	1.24
.938	2275.00	1553.95	4800.00	4850.00	5220.00	5300.00	.41	500.00	3.95	1550.00	8.45	1.62
.938	1447.00	1553.57	4677.05	4850.00	5220.00	5754.57	.07	1077.52	3.57	1550.00	4.39	1.03
.938	740.00	1553.30	4707.06	4850.00	5220.00	5661.81	.05	954.75	3.30	1550.00	1.75	.64
* 1.044	1733.00	1556.24	4656.72	4775.00	5050.00	5411.12	2.59	696.42	1.24	1555.00	513.27	4.77
* 1.044	2275.00	1556.68	4840.00	4775.00	5050.00	5100.00	2.73	260.00	1.68	1555.00	488.50	6.48
* 1.044	1447.00	1556.16	4659.29	4775.00	5050.00	5399.93	2.60	666.55	1.16	1555.00	523.09	4.51
* 1.044	740.00	1555.89	4786.30	4775.00	5050.00	5233.63	2.59	430.87	.89	1555.00	684.82	4.03
1.134	1733.00	1560.39	4779.18	4850.00	5090.00	5565.99	4.16	786.80	3.39	1557.00	32.09	3.03
1.134	2275.00	1561.00	4950.00	4850.00	5090.00	5165.00	4.32	215.00	4.00	1557.00	31.54	4.29
1.134	1447.00	1560.26	4804.06	4850.00	5090.00	5544.56	4.09	740.51	3.26	1557.00	31.49	2.84
1.134	740.00	1559.75	4880.86	4850.00	5090.00	5229.42	3.66	348.56	2.75	1557.00	27.66	2.27
1.231	1733.00	1563.39	4806.04	4770.00	5210.00	5144.18	2.98	338.14	2.38	1561.00	167.90	4.54
1.231	2275.00	1563.72	4885.00	4770.00	5210.00	5080.00	2.72	195.00	2.72	1561.00	149.55	6.59
1.231	1447.00	1563.27	4814.21	4770.00	5210.00	5123.26	2.97	315.05	2.33	1561.00	170.86	4.75

1.231	740.00	1562.71	4844.16	4770.00	5210.00	5074.57	2.95	230.41	1.71	1561.00	238.65	4.25
1.331	1733.00	1567.03	4502.50	4490.00	5130.00	5120.42	4.46	617.92	2.33	1565.50	44.48	2.04
1.331	2275.00	1568.54	4710.00	4490.00	5130.00	5050.00	4.81	340.00	2.73	1565.81	49.38	2.57
1.331	1447.00	1567.67	4514.42	4490.00	5130.00	5111.28	4.44	596.86	2.17	1565.50	44.28	1.92
1.331	740.00	1567.23	4547.68	4490.00	5130.00	5085.78	4.52	538.10	1.73	1565.50	39.19	1.48
1.459	1733.00	1572.82	4436.03	4420.00	5045.00	5104.59	4.99	560.95	3.32	1569.50	152.59	3.18
1.459	2275.00	1573.61	4650.00	4420.00	5045.00	5050.00	5.07	400.00	4.11	1569.50	132.11	3.75
1.459	1447.00	1572.68	4448.78	4420.00	5045.00	5094.31	5.01	515.96	3.18	1569.50	155.23	3.07
1.459	740.00	1572.17	4493.74	4420.00	5045.00	5058.10	4.94	357.36	2.67	1569.50	190.08	2.84
1.545	1733.00	1577.35	4317.95	4800.00	5155.00	5144.13	4.54	803.41	3.85	1573.50	65.53	2.37
1.545	2275.00	1577.88	4625.00	4800.00	5155.00	5070.00	4.28	445.00	4.38	1573.50	66.99	3.20
1.545	1447.00	1577.21	4341.75	4800.00	5155.00	5134.88	4.53	750.97	3.71	1573.50	65.00	2.87
1.545	740.00	1576.80	4415.31	4800.00	5155.00	5106.27	4.63	588.65	3.30	1573.50	60.07	1.92
1.641	1733.00	1581.33	4478.33	4650.00	5220.00	5188.34	3.98	710.00	4.33	1577.00	96.71	2.68
1.641	2275.00	1581.71	4750.00	4650.00	5220.00	5170.00	3.82	420.00	4.71	1577.00	85.57	3.32
1.641	1447.00	1581.21	4486.13	4650.00	5220.00	5182.64	4.00	636.51	4.21	1577.00	98.61	2.54
1.641	740.00	1580.78	4678.33	4650.00	5220.00	5162.15	3.98	439.15	3.78	1577.00	107.25	2.17
1.727	1733.00	1585.26	4726.48	4900.00	5200.00	5180.96	3.93	454.48	5.56	1579.70	81.02	3.20
1.727	2275.00	1585.51	4850.00	4900.00	5200.00	5130.00	3.80	280.00	5.81	1579.70	85.44	3.96
1.727	1447.00	1585.10	4749.42	4900.00	5200.00	5167.61	3.88	418.18	5.40	1579.70	77.11	3.02
1.727	740.00	1584.48	4834.00	4900.00	5200.00	5105.00	3.70	274.00	4.78	1579.70	64.35	2.49

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SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
1.860	2275.00	1590.09	4821.44	4950.00	5475.00	5401.66	4.83	580.22	3.09	1587.00	70.46	2.33
1.860	2275.00	1590.54	4875.00	4950.00	5475.00	5160.00	5.03	285.00	3.54	1587.00	68.41	3.21
1.860	1729.00	1589.64	4825.00	4950.00	5475.00	5395.09	4.75	543.08	2.84	1587.00	70.83	2.10
1.860	792.00	1589.17	4825.00	4950.00	5475.00	5375.00	4.69	412.99	2.17	1587.00	83.85	1.70
1.955	2275.00	1594.15	4885.13	4800.00	5635.00	5652.47	4.06	767.34	2.65	1591.50	100.59	2.69
1.955	2275.00	1594.36	4980.00	4800.00	5635.00	5400.00	3.82	420.00	2.86	1591.50	89.52	3.27
1.955	1729.00	1593.95	4901.90	4800.00	5635.00	5627.64	4.11	720.75	2.45	1591.50	103.22	2.47
1.955	792.00	1593.52	4919.57	4800.00	5635.00	5554.18	4.34	588.26	2.02	1591.50	97.37	1.93
2.052	2275.00	1598.11	4835.45	4840.00	5640.00	5648.24	3.96	812.79	2.11	1596.00	60.15	2.51
2.052	2275.00	1598.55	4980.00	4840.00	5640.00	5450.00	4.19	470.00	2.55	1596.00	74.21	3.29
2.052	1729.00	1597.92	4844.26	4840.00	5640.00	5632.76	3.97	763.15	1.92	1596.00	59.34	2.28
2.052	792.00	1597.38	4871.18	4840.00	5640.00	5586.99	3.86	530.27	1.38	1596.00	59.45	1.93
2.204	2275.00	1603.20	4601.89	4800.00	5100.00	5504.06	5.09	902.18	2.20	1601.00	75.09	3.06
2.204	2275.00	1603.88	4875.00	4800.00	5100.00	5195.00	5.32	320.00	2.88	1601.00	64.04	3.76
2.204	1729.00	1603.03	4629.90	4800.00	5100.00	5487.93	5.11	858.03	2.03	1601.00	76.36	2.80
2.204	792.00	1602.66	4690.57	4800.00	5100.00	5453.00	5.29	762.43	1.66	1601.00	80.32	2.21
2.304	2275.00	1606.80	4808.85	4835.00	5120.00	5320.23	3.60	511.38	2.80	1604.00	62.83	3.49
2.304	2275.00	1607.17	4895.00	4835.00	5120.00	5170.00	3.29	275.00	3.17	1604.00	61.09	4.06
2.304	1729.00	1606.58	4816.08	4835.00	5120.00	5309.11	3.56	493.03	2.58	1604.00	60.27	3.13
2.304	792.00	1606.09	4832.21	4835.00	5120.00	5284.23	3.42	452.08	2.09	1604.00	53.30	2.29
2.426	2275.00	1611.98	4561.78	4850.00	5075.00	5224.56	5.18	555.61	2.98	1609.00	109.39	3.89
2.426	2275.00	1612.24	4730.00	4850.00	5075.00	5100.00	5.08	370.00	3.24	1609.00	107.97	4.31
2.426	1729.00	1611.75	4579.73	4850.00	5075.00	5220.07	5.17	511.30	2.75	1609.00	115.38	3.61
2.426	792.00	1611.22	4622.42	4850.00	5075.00	5053.54	5.13	382.54	2.22	1609.00	136.78	3.14
2.525	2275.00	1616.58	4597.08	4635.00	5025.00	5419.59	4.60	822.51	4.58	1612.00	66.62	3.26
2.525	2275.00	1616.78	4720.00	4635.00	5025.00	5155.00	4.53	435.00	4.78	1612.00	66.25	3.64
2.525	1729.00	1616.60	4609.14	4635.00	5025.00	5270.42	4.65	751.20	4.60	1612.00	65.19	2.96

2.525	792.00	1615.81	4649.72	4535.00	5025.00	5022.63	4.59	883.68	3.81	1612.00	57.14	2.45
2.638	2275.00	1621.38	4580.65	4565.00	5200.00	5256.12	4.80	675.48	2.38	1619.00	98.34	3.21
2.638	2275.00	1621.59	4675.00	4565.00	5200.00	5150.00	4.81	475.00	2.01	1619.50	99.36	3.58
2.638	1729.00	1621.19	4585.16	4565.00	5200.00	5229.06	4.80	643.90	2.19	1619.00	100.45	2.91
2.638	792.00	1620.72	4596.92	4565.00	5200.00	5144.65	4.91	506.23	1.72	1619.00	127.12	2.47
2.735	2275.00	1625.93	4315.95	4530.00	5180.00	5207.11	4.53	891.16	1.93	1624.00	80.32	2.93
2.735	2275.00	1626.03	4605.00	4530.00	5180.00	5100.00	4.44	495.00	2.03	1624.00	75.52	3.25
2.735	1729.00	1625.76	4398.65	4530.00	5180.00	5196.64	4.57	797.98	1.76	1624.00	79.59	2.63
2.735	792.00	1625.41	4547.56	4530.00	5180.00	5167.99	4.69	620.43	1.41	1624.00	68.38	1.89
2.830	2275.00	1629.89	4253.69	4775.00	5310.00	5295.80	3.96	1014.97	1.89	1628.00	72.12	2.24
2.830	2275.00	1630.29	4600.00	4775.00	5310.00	5160.00	4.26	360.00	1.79	1628.50	93.69	3.45
2.830	1729.00	1629.72	4277.95	4775.00	5310.00	5270.64	3.95	917.49	1.72	1628.00	73.00	2.08
2.830	792.00	1629.29	4336.37	4775.00	5310.00	5210.06	3.88	582.73	1.29	1628.00	83.18	1.74

1

08/18/88 14:23:20 PAGE 62

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCP
2.942	2275.00	1635.50	4488.68	4670.00	5090.00	5410.39	5.61	724.32	2.50	1633.00	124.73	2.93
2.942	2275.00	1635.94	4670.00	4670.00	5090.00	5200.00	5.65	527.09	2.94	1633.00	96.45	3.12
2.942	1729.00	1635.33	4491.69	4670.00	5090.00	5393.20	5.61	666.65	2.33	1633.00	122.25	2.69
2.942	792.00	1634.96	4498.25	4670.00	5090.00	5356.69	5.67	533.69	1.96	1633.00	105.14	2.04
3.056	2202.00	1641.31	4778.75	4720.00	5430.00	5911.99	5.81	1012.28	2.31	1639.00	70.71	2.56
3.056	2202.00	1641.49	4850.00	4720.00	5430.00	5390.00	5.55	500.00	2.49	1639.00	85.07	3.31
3.056	1660.00	1641.15	4792.87	4720.00	5430.00	5902.83	5.82	939.95	2.15	1639.00	72.17	2.34
3.056	749.00	1640.75	4826.62	4720.00	5430.00	5881.01	5.79	758.55	1.75	1639.00	82.47	1.93
3.183	2202.00	1647.36	4387.93	4940.00	5040.00	5626.49	6.05	1238.55	2.86	1644.50	136.40	3.94
3.183	2202.00	1647.56	4800.00	4940.00	5040.00	5200.00	6.47	400.00	2.96	1645.00	121.02	4.85
3.183	1660.00	1647.32	4415.00	4940.00	5040.00	5593.99	6.08	1178.99	2.72	1644.50	133.48	3.60
3.183	749.00	1646.89	4563.19	4940.00	5040.00	5244.87	6.14	573.02	2.39	1644.50	114.04	2.69
3.268	2202.00	1652.23	4398.10	4930.00	5060.00	5833.52	4.87	1057.74	2.73	1649.50	83.99	4.17
3.268	2202.00	1652.69	4800.00	4930.00	5060.00	5200.00	4.73	400.00	3.19	1649.50	95.16	5.14
3.268	1660.00	1652.04	4412.28	4930.00	5060.00	5827.19	4.82	925.38	2.54	1649.50	83.54	3.88
3.268	749.00	1651.55	4449.12	4930.00	5060.00	5822.73	4.66	566.64	2.05	1649.50	89.60	3.21
3.355	2202.00	1656.96	4284.69	4900.00	5010.00	5617.52	4.73	1311.17	1.96	1655.00	136.03	3.91
3.355	2202.00	1657.48	4775.00	4900.00	5010.00	5225.00	4.79	450.00	2.48	1655.00	120.82	4.66
3.355	1660.00	1656.83	4294.94	4900.00	5010.00	5609.14	4.79	1219.15	1.83	1655.00	139.12	3.74
3.355	749.00	1656.52	4316.66	4900.00	5010.00	5591.37	4.97	1024.20	1.52	1655.00	136.98	3.23
3.443	2202.00	1660.65	4099.27	4925.00	5050.00	5621.85	3.69	1417.00	1.65	1659.00	67.85	2.33
3.443	2202.00	1661.48	4650.00	4925.00	5050.00	5200.00	3.99	550.00	2.48	1659.00	74.45	3.73
3.443	1660.00	1660.50	4120.82	4925.00	5050.00	5609.53	3.67	1335.66	1.50	1659.00	66.37	2.04
3.443	749.00	1660.14	4170.62	4925.00	5050.00	5581.07	3.62	1072.44	1.14	1659.00	65.50	1.35
3.500	2202.00	1664.01	4463.86	4970.00	5095.00	5750.83	3.36	856.28	2.31	1661.70	173.27	.97
3.500	2202.00	1664.85	4775.00	4970.00	5095.00	5310.00	3.37	513.94	2.46	1662.39	158.29	3.14
3.500	1660.00	1663.81	4493.53	4970.00	5095.00	5742.39	3.32	665.20	2.11	1661.70	171.46	2.28
3.500	749.00	1663.37	4559.23	4970.00	5095.00	5374.87	3.23	477.98	1.67	1661.70	157.70	1.41
3.581	2202.00	1668.40	4515.06	4955.00	5070.00	5496.87	4.38	571.56	2.40	1666.00	70.62	2.30
3.581	2202.00	1669.10	4800.00	4955.00	5070.00	5200.00	4.25	400.00	3.10	1666.00	72.45	3.78
3.581	1660.00	1668.19	4520.25	4955.00	5070.00	5819.04	4.38	1165.53	2.19	1666.00	70.95	1.92
3.581	749.00	1667.80	4530.10	4955.00	5070.00	5744.93	4.43	855.88	1.80	1666.00	77.34	2.44
3.650	2202.00	1670.78	4689.89	4970.00	5020.00	5415.00	2.38	676.77	3.28	1667.50	67.32	5.26
3.650	2202.00	1671.72	4850.00	4970.00	5020.00	5150.00	2.62	300.00	4.22	1667.50	93.29	7.60
3.650	1660.00	1670.55	4700.67	4970.00	5020.00	5554.49	2.36	770.13	3.05	1667.50	69.12	4.90

	3.650	749.00	1670.08	4721.58	4970.00	5020.00	5606.35	2.28	512.14	2.58	1667.50	55.34	3.73
*	3.702	2202.00	1672.94	4940.84	4990.00	5010.00	5310.00	2.16	366.64	4.44	1668.50	88.36	9.47
	3.702	2202.00	1673.67	4935.00	4990.00	5010.00	5175.00	1.55	240.00	3.17	1668.50	46.24	7.73
*	3.702	1660.00	1672.69	4944.55	4990.00	5010.00	5617.69	.43	636.72	4.19	1668.50	62.33	7.59
*	3.702	749.00	1672.18	4952.37	4990.00	5010.00	5522.16	.34	470.87	3.68	1668.50	58.10	6.57

1

08/18/88 14:23:20 PAGE 63

	SECND	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	3.737	2202.00	1674.30	4938.50	4950.00	5025.00	5036.56	1.36	99.46	4.50	1669.80	90.99	8.85
	3.737	2202.00	1674.44	4940.00	4950.00	5025.00	5042.51	.76	102.51	4.64	1669.80	78.57	8.45
*	3.737	1660.00	1675.67	4931.63	4950.00	5025.00	5470.45	1.98	538.82	5.87	1669.80	11.19	3.93
	3.737	749.00	1673.13	4944.37	4950.00	5025.00	5020.63	.95	76.26	3.33	1669.80	42.57	4.72
	3.759	2202.00	1674.94	4945.56	4935.00	5050.00	5042.03	.65	96.53	4.44	1670.50	15.93	7.93
	3.759	2202.00	1674.89	4946.11	4935.00	5050.00	5041.67	.45	95.56	4.39	1670.50	16.77	8.10
	3.759	1660.00	1675.68	4938.10	4935.00	5050.00	5047.67	.01	109.57	5.18	1670.50	4.74	4.69
	3.759	749.00	1673.32	4958.38	4935.00	5050.00	5033.31	.19	74.93	2.82	1670.50	12.37	5.20
	3.768	2202.00	1675.22	4920.00	4920.00	5040.00	5036.12	.28	116.12	4.52	1670.70	13.30	7.00
	3.768	2202.00	1675.19	4920.00	4920.00	5040.00	5035.95	.30	115.95	4.49	1670.70	13.85	7.09
	3.768	1660.00	1675.73	4920.00	4920.00	5040.00	5038.64	.04	118.64	5.03	1670.70	4.39	4.44
	3.768	749.00	1673.42	4937.47	4920.00	5040.00	5027.09	.10	83.62	2.72	1670.70	28.65	6.35
*	3.793	2202.00	1676.04	4977.47	4975.00	5145.00	5135.11	.82	157.64	4.54	1671.50	78.94	7.74
*	3.793	2202.00	1676.05	4977.46	4975.00	5145.00	5135.14	.87	157.68	4.56	1671.50	77.02	7.69
*	3.793	1660.00	1675.94	4977.53	4975.00	5145.00	5131.87	.23	154.34	4.44	1671.50	52.45	6.17
*	3.793	749.00	1674.50	4978.44	4975.00	5145.00	5048.55	1.09	70.51	3.00	1671.50	82.26	7.01
	3.799	2202.00	1676.36	4966.06	4960.00	5140.00	5125.50	.32	159.84	4.66	1671.70	8.81	4.00
	3.799	2202.00	1676.37	4966.06	4960.00	5140.00	5125.51	.31	159.86	4.67	1671.70	8.78	4.00
	3.799	1660.00	1676.05	4966.53	4960.00	5140.00	5125.21	.14	158.68	4.38	1671.70	6.55	3.28
	3.799	749.00	1674.81	4968.64	4960.00	5140.00	5122.04	.31	153.39	3.11	1671.70	6.64	2.43
*	3.850	2202.00	1679.22	4775.32	4965.00	5030.00	5037.31	2.86	261.99	4.72	1674.50	81.36	8.44
*	3.850	2202.00	1679.27	4920.00	4965.00	5030.00	5037.60	2.90	117.60	4.77	1674.50	103.56	9.62
*	3.850	1660.00	1678.69	4822.20	4965.00	5030.00	5034.08	2.31	202.29	4.18	1674.50	98.58	8.25
*	3.850	749.00	1677.48	4895.64	4965.00	5030.00	5027.39	2.17	84.81	2.98	1674.50	137.65	7.23
	3.892	2202.00	1680.62	4780.44	4940.00	5025.00	5024.40	1.60	243.97	5.82	1675.00	51.06	7.08
	3.892	2202.00	1681.34	4920.00	4940.00	5025.00	5025.00	2.07	105.00	6.34	1675.00	33.30	6.21
	3.892	1660.00	1680.48	4882.96	4940.00	5025.00	5023.25	1.80	140.29	5.48	1675.00	40.98	5.99
*	3.892	749.00	1679.16	4948.41	4940.00	5025.00	5019.85	.43	70.45	4.16	1675.00	32.05	4.34

1

08/18/88 14:23:20 PAGE 64

FLOODPLAIN RUN (WITTMAN

SUMMARY PRINTOUT TABLE 110

	SECND	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	FERENC	STENCL	STCHL	STCHR	STENCR
	.000	1551.94	.00	1552.42	638.93	516.47	6002.74	44.79	.00	.00	4900.00	5075.00	.00
	.000	1551.94	.00	1552.42	638.93	516.47	6002.74	44.79	.00	.00	4900.00	5075.00	.00
	.000	1550.76	.00	1551.33	344.22	73.82	5097.13	.00	.00	.00	4900.00	5075.00	.00
	.000	1547.90	.00	1548.50	132.27	.00	2423.00	.00	.00	.00	4900.00	5075.00	.00
*	.102	1551.94	.00	1551.98	504.79	656.57	1076.43	.00	.00	.00	4925.00	5050.00	.00
*	.102	1551.94	.00	1552.00	504.79	861.91	1413.03	.00	.00	.00	4925.00	5050.00	.00

*	.102	1550.76	.00	1550.83	402.53	385.47	1081.53	.00	.00	.00	4925.00	5050.00	.00
*	.102	1547.90	.00	1548.34	94.67	.00	740.00	.00	.00	.00	4925.00	5050.00	.00
	.326	1552.14	.00	1552.15	931.14	820.90	912.10	.00	.00	.00	4900.00	5090.00	.00
	.326	1552.27	.00	1552.29	841.07	1091.70	1183.30	.00	.00	.00	4900.00	5090.00	.00
	.326	1551.15	.00	1551.16	697.54	605.02	841.98	.00	.00	.00	4900.00	5090.00	.00
	.326	1549.42	.00	1549.44	454.82	213.22	526.73	.00	.00	.00	4900.00	5090.00	.00
	.681	1552.31	.00	1552.32	696.04	854.64	873.36	.00	.00	.00	4880.00	5055.00	.00
	.681	1552.52	.00	1552.54	730.94	1138.07	1136.93	.00	.00	.00	4880.00	5055.00	.00
	.681	1551.42	.00	1551.43	608.42	660.43	785.57	.00	.00	.00	4880.00	5055.00	.00
	.681	1549.89	.00	1549.90	505.43	259.34	480.65	.00	.00	.00	4880.00	5055.00	.00
	.870	1552.46	.00	1552.49	792.13	396.62	1336.33	.00	.00	.00	4940.00	5280.00	.00
	.870	1552.73	.00	1552.76	839.99	568.59	1706.41	.00	.00	.00	4940.00	5280.00	.00
	.870	1551.68	.00	1551.73	648.58	214.57	1232.43	.00	.00	.00	4940.00	5280.00	.00
	.870	1550.40	.00	1550.53	355.13	11.03	729.97	.00	.00	.00	4940.00	5280.00	.00
	.925	1552.63	.00	1552.66	878.69	7.18	1065.93	659.87	.00	.00	4850.00	5220.00	.00
	.925	1552.91	.00	1552.95	992.05	19.46	1355.92	899.62	.00	.00	4850.00	5220.00	.00
	.925	1552.10	.00	1552.16	669.66	.08	933.70	513.21	.00	.00	4850.00	5220.00	.00
	.925	1551.39	.00	1551.44	398.87	.00	585.53	154.45	.00	.00	4850.00	5220.00	.00
*	.927	1553.27	.00	1553.51	887.82	.00	1733.00	.00	.00	.00	4550.00	6050.00	.00
*	.927	1553.37	.00	1553.65	978.86	.00	2275.00	.00	.00	.00	4550.00	6050.00	.00
*	.927	1553.20	.00	1553.43	830.55	.00	1447.00	.00	.00	.00	4550.00	6050.00	.00
*	.927	1552.99	.00	1553.16	657.92	.00	740.00	.00	.00	.00	4550.00	6050.00	.00
	.936	1553.57	.00	1553.66	1142.23	.00	1733.00	.00	.00	.00	4550.00	6050.00	.00
	.936	1553.54	-.03	1553.94	500.00	.00	2275.00	.00	500.00	4800.00	4550.00	6050.00	5300.00
	.936	1553.49	.00	1553.57	1077.74	.00	1447.00	.00	.00	.00	4550.00	6050.00	.00
	.936	1553.25	.00	1553.30	868.49	.00	740.00	.00	.00	.00	4550.00	6050.00	.00
	.938	1553.65	.00	1553.67	1112.79	77.30	1416.75	238.94	.00	.00	4850.00	5220.00	.00
	.938	1553.95	.30	1553.99	500.00	87.44	2031.65	155.91	500.00	4800.00	4850.00	5220.00	5300.00
	.938	1553.57	.00	1553.58	1077.52	60.09	1201.17	185.74	.00	.00	4850.00	5220.00	.00
	.938	1553.30	.00	1553.31	954.75	22.81	646.69	70.50	.00	.00	4850.00	5220.00	.00

1

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	DCH	QROB	FERENC	STENCL	STCHL	STCHR	STENCR
*	1.044	1556.24	.00	1556.54	696.42	9.63	1029.83	693.54	.00	.00	4775.00	5050.00	.00
*	1.044	1556.68	.44	1557.35	260.00	.00	1763.15	511.83	260.00	4840.00	4775.00	5050.00	5100.00
*	1.044	1556.16	.00	1556.44	666.55	3.62	882.97	560.41	.00	.00	4775.00	5050.00	.00
*	1.044	1555.89	.00	1556.12	430.87	.00	489.54	251.46	.00	.00	4775.00	5050.00	.00
	1.134	1560.39	.00	1560.51	786.80	6.61	1254.94	471.44	.00	.00	4850.00	5090.00	.00
	1.134	1561.00	.61	1561.25	215.00	.00	1793.63	481.37	215.00	4950.00	4850.00	5090.00	5165.00
	1.134	1560.26	.00	1560.36	740.51	2.07	1081.94	362.99	.00	.00	4850.00	5090.00	.00
	1.134	1559.75	.00	1559.82	348.56	.00	593.64	144.36	.00	.00	4850.00	5090.00	.00
	1.231	1563.38	.00	1563.76	338.14	.00	1733.00	.00	.00	.00	4770.00	5210.00	.00
	1.231	1563.72	.35	1564.40	195.00	.00	2275.00	.00	195.00	4865.00	4770.00	5210.00	5080.00
	1.231	1563.23	.00	1563.58	315.05	.00	1447.00	.00	.00	.00	4770.00	5210.00	.00
	1.231	1562.71	.00	1563.03	230.41	.00	740.00	.00	.00	.00	4770.00	5210.00	.00
	1.331	1567.83	.00	1567.90	617.92	.00	1733.00	.00	.00	.00	4490.00	5130.00	.00
	1.331	1568.54	.70	1568.67	340.00	.00	2275.00	.00	240.00	4710.00	4490.00	5130.00	5050.00
	1.331	1567.67	.00	1567.73	596.86	.00	1447.00	.00	.00	.00	4490.00	5130.00	.00
	1.331	1567.23	.00	1567.27	538.10	.00	740.00	.00	.00	.00	4490.00	5130.00	.00
	1.459	1572.82	.00	1572.97	560.95	.00	1691.59	41.41	.00	.00	4420.00	5045.00	.00
	1.459	1573.51	.69	1573.82	400.00	.00	2243.73	95.29	400.00	4650.00	4420.00	5045.00	5050.00

1.459	1572.68	.00	1572.82	515.36	.00	1421.79	25.21	.00	.00	4420.00	5045.00	.00
1.459	1572.17	.00	1572.30	357.36	.00	729.19	.81	.00	.00	4420.00	5045.00	.00
1.545	1577.35	.00	1577.43	603.41	708.69	1024.31	.00	.00	.00	4800.00	5155.00	.00
1.545	1577.88	.53	1578.03	445.00	550.05	1724.94	.00	445.00	4625.00	4800.00	5155.00	5070.00
1.545	1577.21	.00	1577.28	750.97	562.68	884.32	.00	.00	.00	4800.00	5155.00	.00
1.545	1576.80	.00	1576.85	508.85	225.71	514.29	.00	.00	.00	4800.00	5155.00	.00
1.641	1581.33	.00	1581.44	710.00	61.22	1671.78	.00	.00	.00	4650.00	5220.00	.00
1.641	1581.71	.37	1581.87	420.00	.00	2275.00	.00	420.00	4750.00	4650.00	5220.00	5170.00
1.641	1581.21	.00	1581.31	696.51	28.93	1418.07	.00	.00	.00	4650.00	5220.00	.00
1.641	1580.78	.00	1580.85	439.15	.00	740.00	.00	.00	.00	4650.00	5220.00	.00
1.727	1585.26	.00	1585.41	454.48	179.55	1553.45	.00	.00	.00	4900.00	5200.00	.00
1.727	1585.51	.25	1585.75	280.00	181.79	2093.21	.00	280.00	4850.00	4900.00	5200.00	5130.00
1.727	1585.10	.00	1585.23	418.18	120.00	1327.00	.00	.00	.00	4900.00	5200.00	.00
1.727	1584.48	.00	1584.57	274.00	12.15	727.85	.00	.00	.00	4900.00	5200.00	.00
1.860	1590.09	.00	1590.23	580.22	1026.81	1248.19	.00	.00	.00	4950.00	5475.00	.00
1.860	1590.54	.45	1590.74	285.00	846.16	1428.84	.00	285.00	4875.00	4950.00	5475.00	5160.00
1.860	1589.84	.00	1589.96	543.08	844.16	884.84	.00	.00	.00	4950.00	5475.00	.00
1.860	1589.17	.00	1589.26	412.99	475.64	316.36	.00	.00	.00	4950.00	5475.00	.00
1.955	1594.15	.00	1594.27	767.34	.00	2274.43	.57	.00	.00	4800.00	5635.00	.00
1.955	1594.36	.21	1594.53	420.00	.00	2275.00	.00	420.00	4900.00	4800.00	5635.00	5400.00
1.955	1593.95	.00	1594.05	720.75	.00	1729.00	.00	.00	.00	4800.00	5635.00	.00
1.955	1593.52	.00	1593.57	588.26	.00	792.00	.00	.00	.00	4800.00	5635.00	.00

1

08/18/88 14:23:20 PAGE 66

SECNO	DWSEL	DIFKWS	EG	TOPWID	QLOB	QCR	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
2.052	1598.11	.00	1598.21	812.79	.07	2274.73	.14	.00	.00	4840.00	5640.00	.00
2.052	1598.55	.44	1598.72	470.00	.00	2275.00	.00	470.00	4900.00	4840.00	5640.00	5450.00
2.052	1597.92	.00	1598.00	763.15	.00	1729.00	.00	.00	.00	4840.00	5640.00	.00
2.052	1597.38	.00	1597.43	530.27	.00	792.00	.00	.00	.00	4840.00	5640.00	.00
2.204	1603.20	.00	1603.32	902.18	217.98	1184.59	872.43	.00	.00	4800.00	5100.00	.00
2.204	1603.88	.68	1604.09	320.00	.00	1696.62	578.38	320.00	4875.00	4800.00	5100.00	5195.00
2.204	1603.03	.00	1603.12	858.03	146.37	944.60	638.03	.00	.00	4800.00	5100.00	.00
2.204	1602.66	.00	1602.73	762.43	46.30	500.03	245.66	.00	.00	4800.00	5100.00	.00
2.304	1606.80	.00	1606.97	511.38	13.50	1795.80	465.69	.00	.00	4835.00	5120.00	.00
2.304	1607.17	.37	1607.41	275.00	.00	2128.44	146.56	275.00	4855.00	4835.00	5120.00	5170.00
2.304	1606.58	.00	1606.72	493.03	5.58	1412.50	310.92	.00	.00	4835.00	5120.00	.00
2.304	1606.09	.00	1606.16	452.08	.03	709.31	82.65	.00	.00	4835.00	5120.00	.00
2.426	1611.98	.00	1612.18	555.61	1051.58	1211.13	12.29	.00	.00	4850.00	5075.00	.00
2.426	1612.24	.26	1612.51	370.00	566.29	1601.62	7.09	370.00	4730.00	4850.00	5075.00	5100.00
2.426	1611.75	.00	1611.93	511.30	776.96	949.71	2.33	.00	.00	4850.00	5075.00	.00
2.426	1611.22	.00	1611.35	382.54	309.83	482.11	.00	.00	.00	4850.00	5075.00	.00
2.525	1616.58	.00	1616.72	822.51	11.80	1977.96	285.24	.00	.00	4635.00	5025.00	.00
2.525	1616.78	.20	1616.97	435.00	.00	2071.84	203.16	435.00	4730.00	4635.00	5025.00	5155.00
2.525	1616.40	.00	1616.52	761.28	4.21	1583.73	141.07	.00	.00	4635.00	5025.00	.00
2.525	1615.81	.00	1615.90	283.88	.00	792.00	.00	.00	.00	4635.00	5025.00	.00
2.638	1621.38	.00	1621.54	675.48	.00	2264.88	10.12	.00	.00	4565.00	5200.00	.00
2.638	1621.59	.21	1621.79	475.00	.00	2275.00	.00	475.00	4675.00	4565.00	5200.00	5150.00
2.638	1621.19	.00	1621.32	643.90	.00	1727.23	1.77	.00	.00	4565.00	5200.00	.00
2.638	1620.72	.00	1620.82	506.23	.00	792.00	.00	.00	.00	4565.00	5200.00	.00
2.735	1625.93	.00	1626.06	891.16	43.67	2225.80	5.53	.00	.00	4530.00	5180.00	.00
2.735	1626.02	[illegible]	1626.10	405.00	.00	2275.00	.00	405.00	4505.00	4530.00	5180.00	5100.00

	2.735	1625.76	.00	1625.87	797.98	11.82	1715.63	[illegible].50	.00	.00	4530.00	5180.00	.00
	2.735	1625.41	.00	1625.47	620.43	.00	792.00	.00	.00	.00	4530.00	5180.00	.00
	2.830	1629.89	.00	1629.99	1014.97	1325.31	949.63	.00	.00	.00	4775.00	5310.00	.00
	2.830	1630.29	.40	1630.46	560.00	527.74	1747.26	.00	560.00	4600.00	4775.00	5310.00	5160.00
	2.830	1629.72	.00	1629.80	917.49	1025.88	703.12	.00	.00	.00	4775.00	5310.00	.00
	2.830	1629.29	.00	1629.35	682.73	499.83	292.17	.00	.00	.00	4775.00	5310.00	.00
	2.942	1635.50	.00	1635.68	724.32	108.52	854.62	1311.87	.00	.00	4670.00	5090.00	.00
	2.942	1635.94	.44	1636.14	527.09	.00	1439.73	835.25	530.00	4670.00	4670.00	5090.00	5200.00
	2.942	1635.33	.00	1635.48	666.65	77.73	628.93	1022.34	.00	.00	4670.00	5090.00	.00
	2.942	1634.96	.00	1635.05	533.69	29.84	264.65	497.50	.00	.00	4670.00	5090.00	.00
	3.056	1641.31	.00	1641.40	1012.28	.00	1725.63	476.35	.00	.00	4720.00	5430.00	.00
	3.056	1641.49	.18	1641.66	500.00	.00	2202.00	.00	500.00	4890.00	4720.00	5430.00	5390.00
	3.056	1641.15	.00	1641.22	959.95	.00	1326.47	333.53	.00	.00	4720.00	5430.00	.00
	3.056	1640.75	.00	1640.80	758.55	.00	636.31	112.68	.00	.00	4720.00	5430.00	.00

1

08/18/88 14:23:20 PAGE 67

	SECND	CWSEL	DIFKWS	EG	TOPWID	QLOB	DEM	DROB	PEMENC	STENCL	STCHL	STCHR	STENCR
	3.183	1647.36	.00	1647.48	1238.55	1050.59	476.75	674.64	.00	.00	4940.00	5040.00	.00
	3.183	1647.96	.60	1648.22	400.00	356.49	880.95	964.55	400.00	4800.00	4940.00	5040.00	5200.00
	3.183	1647.22	.00	1647.33	1178.99	819.58	387.03	453.38	.00	.00	4940.00	5040.00	.00
	3.183	1646.89	.00	1646.96	573.02	408.18	200.08	140.74	.00	.00	4940.00	5040.00	.00
	3.268	1652.23	.00	1652.38	1057.74	971.90	1030.23	199.87	.00	.00	4930.00	5060.00	.00
	3.268	1652.69	.46	1653.01	400.00	276.74	1579.73	345.53	400.00	4800.00	4930.00	5060.00	5200.00
	3.268	1652.04	.00	1652.18	925.38	699.44	862.63	97.93	.00	.00	4930.00	5060.00	.00
	3.268	1651.55	.00	1651.66	566.64	227.20	507.92	13.89	.00	.00	4930.00	5060.00	.00
	3.355	1656.96	.00	1657.07	1311.17	1038.97	510.03	652.95	.00	.00	4900.00	5010.00	.00
	3.355	1657.48	.52	1657.70	450.00	487.76	876.06	838.18	450.00	4775.00	4900.00	5010.00	5225.00
	3.355	1656.83	.00	1656.93	1219.15	771.61	432.56	455.83	.00	.00	4900.00	5010.00	.00
	3.355	1656.52	.00	1656.60	1024.20	308.21	277.86	162.93	.00	.00	4900.00	5010.00	.00
	3.443	1660.65	.00	1660.70	1417.00	1476.42	270.13	455.41	.00	.00	4925.00	5050.00	.00
	3.443	1661.48	.83	1661.61	550.00	1104.70	813.10	278.19	550.00	4650.00	4925.00	5050.00	5200.00
	3.443	1660.50	.00	1660.54	1335.66	1136.64	197.50	325.86	.00	.00	4925.00	5050.00	.00
	3.443	1660.14	.00	1660.17	1072.44	551.14	74.37	127.49	.00	.00	4925.00	5050.00	.00
	3.500	1664.01	.00	1664.18	856.28	1813.02	8.55	380.43	.00	.00	4970.00	5095.00	.00
	3.500	1664.85	.84	1665.05	513.94	1263.29	250.04	640.66	535.00	4775.00	4970.00	5095.00	5310.00
	3.500	1663.81	.00	1663.96	665.20	1405.23	13.89	241.88	.00	.00	4970.00	5095.00	.00
	3.500	1663.37	.00	1663.46	477.98	690.50	2.15	56.35	.00	.00	4970.00	5095.00	.00
	3.581	1668.40	.00	1668.48	971.56	878.75	160.67	1162.58	1030.00	4500.00	4955.00	5070.00	5530.00
	3.581	1669.10	.70	1669.27	400.00	884.12	563.34	749.54	400.00	4800.00	4955.00	5070.00	5200.00
	3.581	1668.19	.00	1668.25	1165.53	605.30	92.31	962.39	.00	.00	4955.00	5070.00	.00
	3.581	1667.80	.00	1667.84	855.88	264.63	54.63	429.68	.00	.00	4955.00	5070.00	.00
	3.650	1670.78	.00	1670.96	676.77	391.70	589.50	1210.80	726.00	4689.00	4970.00	5020.00	5415.00
	3.650	1671.72	.94	1672.32	300.00	377.98	1255.93	568.04	300.00	4850.00	4970.00	5020.00	5150.00
	3.650	1670.55	.00	1670.70	770.13	255.10	490.05	914.84	.00	.00	4970.00	5020.00	.00
	3.650	1670.09	.00	1670.19	512.14	83.20	293.53	372.27	.00	.00	4970.00	5020.00	.00
*	3.702	1672.94	.00	1673.52	366.64	307.09	699.43	1195.49	375.00	4935.00	4990.00	5010.00	5310.00
	3.702	1673.67	.73	1674.09	240.00	410.53	685.71	1105.75	240.00	4935.00	4990.00	5010.00	5175.00
*	3.702	1672.69	.00	1673.03	636.72	202.20	523.34	934.46	.00	.00	4990.00	5010.00	.00
*	3.702	1672.18	.00	1672.55	470.87	103.82	384.50	260.68	.00	.00	4990.00	5010.00	.00
	3.737	1674.30	.00	1675.50	98.46	40.57	2160.00	[illegible].43	.00	.00	4950.00	5025.00	.00
	3.737	1674.44	.14	1675.53	102.51	46.71	2153.03	[illegible].67	120.00	4940.00	4950.00	5025.00	5050.00

*	3.737	1675.67	.00	1675.87	536.82	49.69	1363.64	246.67	.00	.00	4950.00	5025.00	.00
	3.737	1673.13	.00	1673.47	76.26	4.13	744.87	.00	.00	.00	4950.00	5025.00	.00
	3.759	1674.94	.00	1675.92	96.53	.00	2202.00	.00	.00	.00	4935.00	5050.00	.00
	3.759	1674.89	-.06	1675.91	95.56	.00	2202.00	.00	.00	.00	4935.00	5050.00	.00
	3.759	1675.68	.00	1676.02	109.57	.00	1660.00	.00	.00	.00	4935.00	5050.00	.00
	3.759	1673.32	.00	1673.76	74.93	.00	749.00	.00	.00	.00	4935.00	5050.00	.00

1

	SECNO	CWSEL	DIFKWS	SG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	3.768	1675.22	.00	1675.99	116.12	.00	2202.00	.00	.00	.00	4920.00	5040.00	.00
	3.768	1675.19	-.03	1675.97	115.95	.00	2202.00	.00	.00	.00	4920.00	5040.00	.00
	3.768	1675.73	.00	1676.03	118.64	.00	1660.00	.00	.00	.00	4920.00	5040.00	.00
	3.768	1673.42	.00	1674.04	89.62	.00	749.00	.00	.00	.00	4920.00	5040.00	.00
*	3.793	1676.04	.00	1676.97	157.64	.00	2202.00	.00	.00	.00	4975.00	5145.00	.00
*	3.793	1676.06	.01	1676.97	157.68	.00	2202.00	.00	.00	.00	4975.00	5145.00	.00
*	3.793	1675.94	.00	1676.53	154.34	.00	1660.00	.00	.00	.00	4975.00	5145.00	.00
*	3.793	1674.50	.00	1675.27	70.51	.00	749.00	.00	.00	.00	4975.00	5145.00	.00
	3.799	1676.36	.00	1676.97	159.84	.00	2202.00	.00	.00	.00	4960.00	5140.00	.00
	3.799	1676.37	.00	1676.97	159.86	.00	2202.00	.00	.00	.00	4960.00	5140.00	.00
	3.799	1676.08	.00	1676.53	158.68	.00	1660.00	.00	.00	.00	4960.00	5140.00	.00
	3.799	1674.81	.00	1675.27	153.39	.00	749.00	.00	.00	.00	4960.00	5140.00	.00
*	3.850	1679.22	.00	1680.14	261.99	387.42	1808.51	6.08	.00	.00	4965.00	5030.00	.00
*	3.850	1679.27	.05	1680.63	117.60	104.77	2069.64	7.59	140.00	4920.00	4965.00	5030.00	5060.00
*	3.850	1678.68	.00	1679.63	202.29	179.98	1478.60	1.41	.00	.00	4965.00	5030.00	.00
*	3.850	1677.48	.00	1678.28	84.81	6.05	742.95	.00	.00	.00	4965.00	5030.00	.00
	3.892	1680.82	.00	1681.59	243.97	42.95	2159.05	.00	.00	.00	4940.00	5025.00	.00
	3.892	1681.34	.52	1681.93	105.00	34.53	2167.47	.00	105.00	4920.00	4940.00	5025.00	5025.00
	3.892	1680.48	.00	1681.03	140.29	7.07	1652.93	.00	.00	.00	4940.00	5025.00	.00
*	3.892	1679.16	.00	1679.45	70.45	.00	749.00	.00	.00	.00	4940.00	5025.00	.00

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SUMMARY OF ERRORS AND SPECIAL NOTES

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NOTE     SECNO=     .102  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=     .102  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=     .102  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=     .102  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=     .927  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .927  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .927  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .927  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .927  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .927  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .927  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .927  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .927  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=     .927  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .927  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .927  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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CAUTION  SECNO=    1.044  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.044  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.044  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    1.044  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.044  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.044  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    1.044  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.044  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.044  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    1.044  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.044  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.044  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=    3.702  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    3.702  PROFILE= 1  MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    3.702  PROFILE= 3  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=    3.702  PROFILE= 4  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=    3.737  PROFILE= 3  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=    3.793  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    3.793  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    3.793  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    3.793  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    3.793  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    3.793  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    3.793  PROFILE= 3  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=    3.793  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    3.793  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    3.793  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=    3.850  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    3.850  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
1
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CAUTION  SECNO=    3.850  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    3.850  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    3.850  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    3.850  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    3.850  PROFILE= 3  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=    3.850  PROFILE= 4  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=    3.892  PROFILE= 4  INTERPOLATED XSECTIONS USED

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FLOODWAY DATA, FLOODPLAIN RUN (WITTMAN
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	639.	1484.	4.4	1551.9	1551.9	.0
.102	505.	1400.	1.6	1551.9	1551.9	.0
.326	841.	2665.	.9	1552.2	1552.1	.1
.681	731.	2523.	.9	1552.5	1552.3	.2
.870	840.	1693.	1.3	1552.8	1552.5	.3
.995	882.	1425.	1.6	1552.9	1552.6	.3

.927	979.	537.	4.2	1553.4	1553.3	.1
.936	500.	451.	5.0	1553.6	1553.6	.0
.938	500.	1484.	1.5	1553.9	1553.6	.3
1.044	260.	346.	6.6	1556.6	1556.2	.4
1.134	215.	608.	3.7	1561.0	1560.4	.6
1.232	195.	345.	6.6	1563.7	1563.4	.3
1.331	340.	767.	3.0	1568.5	1567.8	.7
1.459	400.	608.	3.7	1573.6	1572.8	.8
1.545	445.	765.	3.0	1577.9	1577.4	.5
1.641	420.	706.	3.2	1581.7	1581.3	.4
1.727	280.	595.	3.8	1585.6	1585.3	.3
1.860	285.	644.	3.5	1590.5	1590.1	.4
1.955	420.	696.	3.3	1594.4	1594.2	.2
2.052	470.	692.	3.3	1598.5	1598.1	.4
2.204	320.	619.	3.7	1603.9	1603.2	.7
2.304	275.	582.	3.9	1607.2	1606.8	.4
2.426	370.	549.	4.1	1612.3	1612.0	.3
2.525	435.	669.	3.4	1616.8	1616.6	.2
2.638	475.	635.	3.6	1621.6	1621.4	.2
2.735	495.	701.	3.2	1626.0	1625.9	.1
2.830	560.	688.	3.3	1630.3	1629.9	.4
2.942	530.	657.	3.5	1636.9	1635.5	.4
3.056	500.	666.	3.3	1641.5	1641.3	.2
3.183	400.	587.	3.7	1648.0	1647.4	.6
3.268	400.	576.	3.8	1652.7	1652.2	.5
3.355	450.	625.	3.5	1657.5	1657.0	.5
3.443	550.	809.	2.7	1661.5	1660.7	.8
3.500	535.	617.	3.6	1664.8	1664.0	.8
3.581	400.	665.	3.3	1669.1	1668.4	.7
3.650	300.	489.	4.5	1671.7	1670.8	.9
3.702	240.	537.	4.1	1673.6	1672.9	.7
3.737	103.	273.	8.1	1674.4	1674.3	.1
3.759	96.	272.	8.1	1674.9	1674.9	.0
3.768	116.	311.	7.1	1675.2	1675.2	.0
3.793	158.	286.	7.7	1676.0	1676.0	.0
3.799	160.	551.	4.0	1676.4	1676.4	.0

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FLOODWAY DATA, FLOODPLAIN RUN (WITTMAN
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
3.850	118.	269.	8.2	1679.2	1679.2	.0
3.892	105.	374.	5.9	1681.3	1680.8	.5

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FLOODWAY DATA, FLOODPLAIN RUN (WITTMAN
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE

.000	344.	913.	5.7	1550.8	1551.9	-1.1
.102	403.	864.	5.7	1550.8	1551.9	-1.1
.326	698.	1793.	.8	1551.2	1552.1	-.9
.681	608.	1798.	.8	1551.5	1552.3	-.8
.870	649.	914.	1.6	1551.8	1552.5	-.7
.925	670.	760.	1.9	1552.2	1552.6	-.4
.927	831.	376.	3.8	1553.3	1553.3	.0
.936	1078.	659.	2.2	1553.6	1553.6	.0
.938	1078.	1668.	.9	1553.6	1553.6	.0
1.044	741.	349.	4.2	1556.2	1556.2	.0
1.134	741.	658.	2.2	1560.4	1560.4	.0
1.231	315.	305.	4.7	1563.3	1563.4	-.1
1.331	597.	752.	1.9	1567.7	1567.8	-.1
1.459	646.	480.	3.0	1572.8	1572.8	.0
1.545	793.	711.	2.0	1577.4	1577.4	.0
1.641	697.	592.	2.4	1581.3	1581.3	.0
1.727	418.	522.	2.8	1585.2	1585.3	-.1
1.860	570.	676.	2.6	1589.9	1590.1	-.2
1.955	726.	700.	2.5	1594.1	1594.2	-.1
2.052	788.	758.	2.3	1598.0	1598.1	-.1
2.204	858.	714.	2.4	1603.1	1603.2	-.1
2.304	493.	603.	2.9	1606.7	1606.8	-.1
2.426	640.	519.	3.3	1611.9	1612.0	-.1
2.525	761.	657.	2.6	1616.5	1616.6	-.1
2.638	644.	596.	2.9	1621.3	1621.4	-.1
2.735	798.	668.	2.6	1625.8	1625.9	-.1
2.830	993.	747.	2.3	1629.8	1629.9	-.1
2.942	902.	563.	3.1	1635.4	1635.5	-.1
3.056	1110.	756.	2.2	1641.2	1641.3	-.1
3.183	1179.	682.	2.4	1647.4	1647.4	.0
3.268	1415.	687.	2.4	1652.1	1652.2	-.1
3.355	1314.	743.	2.2	1657.0	1657.0	.0
3.443	1489.	992.	1.7	1660.6	1660.7	-.1
3.500	1249.	558.	3.0	1663.9	1664.0	-.1
3.581	1298.	865.	1.9	1668.3	1668.4	-.1
3.650	954.	675.	2.5	1670.7	1670.8	-.1
3.702	673.	559.	3.0	1672.7	1672.9	-.2
3.737	539.	687.	2.4	1675.7	1674.3	1.4
3.759	110.	354.	4.7	1675.6	1674.9	.7
3.768	119.	373.	4.4	1675.7	1675.2	.5
3.793	154.	269.	6.2	1676.0	1676.0	.0
3.799	159.	506.	3.3	1676.2	1676.4	-.2

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FLOODWAY DATA, FLOODPLAIN RUN (WITTMAN
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
3.850	212.	272.	6.1	1678.8	1679.2	-.4
3.892	140.	289.	5.7	1680.6	1680.8	-.2

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FLOODWAY DATA, FLOODPLAIN RUN (WITTMAN
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	132.	390.	6.2	1548.0	1551.9	-3.9
.102	95.	139.	5.3	1548.0	1551.9	-3.9
.326	455.	800.	.9	1549.5	1552.1	-2.6
.681	505.	944.	.8	1550.0	1552.3	-2.3
.870	355.	270.	2.7	1550.5	1552.5	-2.0
.925	399.	426.	1.7	1551.5	1552.6	-1.1
.927	658.	222.	3.3	1553.1	1553.3	-.2
.936	868.	415.	1.8	1553.4	1553.6	-.2
.938	955.	1391.	.5	1553.4	1553.6	-.2
1.044	447.	193.	3.8	1556.0	1556.2	-.2
1.134	349.	384.	1.9	1559.9	1560.4	-.5
1.231	230.	163.	4.5	1562.8	1563.4	-.6
1.331	538.	501.	1.5	1567.3	1567.8	-.5
1.459	564.	262.	2.8	1572.3	1572.9	-.5
1.545	691.	437.	1.7	1576.9	1577.4	-.5
1.641	484.	341.	2.2	1580.8	1581.3	-.5
1.727	274.	308.	2.4	1584.6	1585.3	-.7
1.860	550.	358.	2.2	1589.3	1590.1	-.8
1.955	640.	411.	1.9	1593.7	1594.2	-.5
2.052	716.	410.	1.9	1597.5	1598.1	-.6
2.204	762.	416.	1.9	1602.8	1603.2	-.4
2.304	452.	368.	2.1	1606.2	1606.8	-.6
2.426	431.	278.	2.9	1611.3	1612.0	-.7
2.525	373.	324.	2.4	1615.9	1616.6	-.7
2.638	548.	321.	2.5	1620.8	1621.4	-.6
2.735	620.	419.	1.9	1625.5	1625.9	-.4
2.830	874.	401.	2.0	1629.4	1629.9	-.5
2.942	857.	337.	2.4	1633.1	1635.5	-.4
3.056	1054.	410.	1.8	1640.8	1641.3	-.5
3.183	682.	362.	2.1	1647.0	1647.4	-.4
3.268	1374.	352.	2.1	1651.6	1652.2	-.6
3.355	1275.	411.	1.8	1656.7	1657.0	-.3
3.443	1410.	564.	1.3	1660.3	1660.7	-.4
3.500	816.	313.	2.4	1663.5	1664.0	-.5
3.581	1215.	456.	1.6	1667.9	1668.4	-.5
3.650	882.	377.	2.0	1670.2	1670.8	-.6
3.702	570.	266.	2.8	1672.2	1672.9	-.7
3.737	76.	161.	4.7	1673.2	1674.3	-1.1
3.759	75.	141.	5.3	1673.4	1674.9	-1.5
3.768	90.	118.	6.4	1673.5	1675.2	-1.7
3.793	71.	107.	7.0	1674.6	1676.0	-1.4
3.799	153.	308.	2.4	1673.0	1676.4	-1.4

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FLOODWAY DATA, FLOODPLAIN RUN (WITTMAN
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
3.850	132.	109.	6.9	1677.6	1679.2	-1.6
3.892	70.	173.	4.3	1679.2	1680.8	-1.6

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INPUT FILE: WTSPLIT2

OUTPUT FILE: WTSPLIT2.OUT

THIS RUN EXECUTED 11-21-1988 15:53:05.51

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*********************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED AUG 1985
 ERROR CORR -  01.02.03.04.05.06
 MODIFICATION -  50.51.52.53.54.55.56
 MSDOS VERSION JANUARY 1988 BY DODSON & ASSOCIATES, INC.
*********************************************************


C
T1      WITTMANN ADMS
T2      100-YEAR STORM EVENT
T3      FLOODPLAIN RUN  (WEST SPLIT)

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .000000      .00       .5       0.  1548.430    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC    IBW      CHNIM    ITRACE

     1.000    .000     .000     .000     .000     .000     .000     .000     .000     .000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000   43.000    1.000   53.000   21.000   22.000   54.000   51.000    4.000    8.000


    42.000    5.000   26.000     .000  150.000     .000  200.000     .000     .000     .000


NC      .050     .050     .050     .300     .500     .000     .000     .000     .000     .000
QT     4.000 3150.000 3150.000 3150.000 3150.000     .000     .000     .000     .000     .000
              THIS IS A HEC-2 MODEL FOR THE WEST SPLIT OF WITTMANN
              WASH APPROX. 1 MILE UPSTREAM OF PATTON ROAD.
              THIS REACH CONSISTS OF THE SPLIT FLOW SECTION DOWNSTREAM
              TO THE CAP2WEST OVERCHUTE.

              THE HEC-2 SPLIT FLOW ROUTINE WAS USED TO CALCULATE THE
              CORRESPONDING SPLIT FLOWS.

              THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 STORAGE
              ROUTING ROUTINE FOR THE CORRESPONDING STORM EVENT
              AT CAP2WEST OVERCHUTE.


              NOTE:  THE RIVER REACH MILES ARE MEASURED FROM THE
              CAP2WEST OVERCHUTE.

X1      .417    9.000 4890.000 5360.000     .000     .000     .000     .000     .000     .000
GR  1549.000 4890.000 1548.000 4920.000 1542.000 4970.000 1541.500 5000.000 1542.000 5075.000
GR  1544.000 5360.000 1546.000 5635.000 1548.000 5990.000 1550.000 6250.000     .000     .000
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NC      .000      .000      .000      .100      .300      .000      .000      .000      .000      .000
QT     4.000   542.000   282.000    52.000   542.000      .000      .000      .000      .000      .000
ET      .000      .000      .000      .000     9.100      .000      .000      .000   4950.000   5070.000
                NOTE: A FLOODWAY WAS DELINEATED FROM THIS SECTION TO THE
                SPLIT FLOW AREA. NO FLOODWAY WAS DELINEATED WITHIN THE
                CAP PONDING AREA DUE TO THE SAME ASSUMPTION AS STATED IN
                THE WITWASH2 MODEL.

X1      .625     6.000  4865.000  5050.000  1100.000   780.000  1100.000      .000      .000      .000
GR   1554.000  4865.000  1548.000  4960.000  1546.200  5000.000  1548.000  5050.000  1550.000  5380.000
GR   1552.000  5650.000      .000      .000      .000      .000      .000      .000      .000      .000

ET      .000      .000      .000      .000     9.100      .000      .000      .000   4920.000   5075.000
X1      .711     7.000  4850.000  5050.000   450.000   450.000   450.000      .000      .000      .000
GR   1556.000  4850.000  1550.000  4915.000  1548.000  4930.000  1546.500  5000.000  1548.000  5050.000
GR   1550.000  5410.000  1553.500  5520.000      .000      .000      .000      .000      .000      .000

ET      .000      .000      .000      .000     9.100      .000      .000      .000   4990.000   5075.000
X1      .825     6.000  4960.000  5005.000   600.000   600.000   600.000      .000      .000      .000
GR   1552.000  4960.000  1550.000  4995.000  1548.000  5000.000  1548.000  5005.000  1550.000  5190.000
GR   1552.000  5330.000      .000      .000      .000      .000      .000      .000      .000      .000

ET      .000      .000      .000      .000     9.100      .000      .000      .000   4970.000   5075.000
X1      .895     9.000  4960.000  5080.000   370.000   370.000   370.000      .000      .000      .000
GR   1552.000  4960.000  1550.000  4975.000  1547.500  5000.000  1550.000  5005.000  1548.000  5020.000
GR   1548.000  5055.000  1550.000  5080.000  1550.000  5250.000  1552.000  5460.000      .000      .000

ET      .000      .000      .000      .000     9.100      .000      .000      .000   4990.000   5050.000
X1      .939     6.000  4945.000  5100.000   230.000   180.000   230.000      .000      .000      .000
GR   1552.000  4945.000  1550.000  4980.000  1548.000  5000.000  1548.500  5100.000  1550.000  5190.000
GR   1552.000  5350.000      .000      .000      .000      .000      .000      .000      .000      .000

ET      .000      .000      .000      .000     9.100      .000      .000      .000   4950.000   5050.000

                NOTE: OUTLET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION.
                BASED ON THE SIMILAR CALCULATIONS AND ASSUMPTIONS AT
                SECTION .927 IN THE WITWASH2 HEC-2 MODEL. THE CULVERTS
                WERE NOT INCORPORATED INTO THIS MODEL.  THE AMOUNT OF FLOW
                PASSED THRU THE CULVERTS IS NEGLIBLE AND DOES NOT AFFECT
                THE WATER SURFACE ELEVATION AT THE TOP OF ROADWAY.

X1     1.013     6.000  4865.000  5070.000   425.000   300.000   390.000      .000      .000      .000
GR   1552.000  4430.000  1550.000  4830.000  1549.000  4865.000  1548.500  5000.000  1550.000  5070.000
GR   1552.000  5100.000      .000      .000      .000      .000      .000      .000      .000      .000

NC      .018      .018      .018      .000      .000      .000      .000      .000      .000      .000
ET      .000      .000      .000      .000     9.100      .000      .000      .000   4950.000   5070.000
X1     1.015     7.000  4900.000  5070.000    10.000    10.000    10.000      .000      .000      .000
GR   1554.000  4360.000  1552.000  4615.000  1550.000  4900.000  1549.500  4990.000  1550.000  5070.000
GR   1552.000  5445.000  1554.000  5775.000      .000      .000      .000      .000      .000      .000
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ET      .000      .000      .000      .000      9.100      .000      .000      .000   4800.000   5070.000
X1     1.023      .000      .000      .000     40.000    40.000    40.000      .000      .000      .000

NC      .050      .050      .050      .000      .000      .000      .000      .000      .000      .000
ET      .000      .000      .000      .000      9.100      .000      .000      .000   4800.000   5075.000
                NOTE:  A CROSS SECTION OF THE DITCH IMMEDIATELY
                UPSTREAM OF PATTON ROAD WAS NOT INCORPORATED INTO THE MODEL
                ASSUMING IT HAS NO SUFFICIENT CAPACITY OR CONVEYANCE TO
                AFFECT THE WATER SURFACE ELEVATION IN THE BACKWATER
                ANALYSIS.  IF THE DITCH WAS INCLUDED. THE LONGITUDINAL SLOPE
                OF THE CHANNEL BED TO ANY SECTION UPSTREAM WOULD BE STEEPER THAN
                THE EXISTING SLOPE THUS AFFECTING THE ACTUAL
                WATER SURFACE ELEVATION.
X1     1.117     10.000   4800.000   5290.000    380.000    450.000    500.000      .000      .000      .000
GR  1555.500   4325.000   1554.000   4650.000   1554.000   4800.000   1553.700   5000.000   1554.000   5080.000
GR  1554.000   5080.000   1555.000   5290.000   1554.300   5490.000   1556.000   5575.000   1556.500   5605.000

ET      .000      .000      .000      .000      9.100      .000      .000      .000   4880.000   5100.000
X1     1.186      9.000   4850.000   5190.000    365.000    365.000    365.000      .000      .000      .000
GR  1559.000   4320.000   1558.000   4510.000   1557.100   4700.000   1558.000   4850.000   1557.000   5000.000
GR  1558.000   5190.000   1558.000   5280.000   1558.000   5380.000   1559.000   5535.000      .000      .000

ET      .000      .000      .000      .000      9.100      .000      .000      .000   4900.000   5100.000
X1     1.284      9.000   4635.000   5400.000    515.000    515.000    515.000      .000      .000      .000
GR  1563.000   4635.000   1563.000   4635.000   1563.000   4635.000   1562.000   4750.000   1561.500   4910.000
GR  1561.500   5000.000   1562.200   5070.000   1562.000   5280.000   1562.500   5400.000      .000      .000

ET      .000      .000      .000      .000      9.100      .000      .000      .000   4920.000   5050.000
X1     1.376      9.000   4920.000   5100.000    485.000    485.000    485.000      .000      .000      .000
GR  1567.000   4640.000   1566.000   4830.000   1566.000   4860.000   1566.000   4920.000   1565.600   4950.000
GR  1565.500   5000.000   1565.600   5050.000   1566.000   5100.000   1566.800   5155.000      .000      .000

ET      .000      .000      .000      .000      9.100      .000      .000      .000   4925.000   5040.000
X1     1.461      5.000   4830.000   5140.000    450.000    450.000    450.000      .000      .000      .000
GR  1571.000   4515.000   1570.000   4830.000   1570.000   4925.000   1569.500   5000.000   1571.000   5140.000

ET      .000      .000      .000      .000      9.100      .000      .000      .000   4940.000   5050.000
X1     1.541      5.000   4510.000   5325.000    425.000    425.000    425.000      .000      .000      .000
GR  1575.000   4510.000   1574.000   4780.000   1573.000   5000.000   1574.000   5185.000   1576.000   5325.000

ET      .000      .000      .000      .000      9.100      .000      .000      .000   4940.000   5050.000
X1     1.631      8.000   4750.000   5190.000    600.000    475.000    475.000      .000      .000      .000
GR  1579.000   4600.000   1578.000   4750.000   1578.500   4800.000   1578.000   4830.000   1577.000   5000.000
GR  1577.500   5100.000   1578.000   5190.000   1580.000   5270.000      .000      .000      .000      .000

ET      .000      .000      .000      .000      9.100      .000      .000      .000   4940.000   5050.000
X1     1.709      7.000   4940.000   5100.000    450.000    420.000    410.000      .000      .000      .000
X4     2.000   1582.000   4550.000   1581.500   5065.000      .000      .000      .000      .000      .000
GR  1582.000   4450.000   1581.300   4750.000   1581.200   4940.000   1581.000   5000.000   1581.500   5100.000
GR  1582.000   5135.000   1583.000   5200.000      .000      .000      .000      .000      .000      .000
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ET	.000	.000	.000	.000	9.100	.000	.000	.000	4940.000	5050.000
X1	1.804	5.000	4710.000	5210.000	500.000	500.000	500.000	.000	.000	.000
GR	1586.000	4660.000	1584.700	4710.000	1585.300	5000.000	1586.000	5210.000	1588.000	5395.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

CCHV= .300 CEHV= .500
*SECNO .417

THIS IS A HEC-2 MODEL FOR THE WEST SPLIT OF WITTMANN
WASH APPROX. 1 MILE UPSTREAM OF PATTON ROAD.
THIS REACH CONSISTS OF THE SPLIT FLOW SECTION DOWNSTREAM
TO THE CAP2WEST OVERCHUTE.

THE HEC-2 SPLIT FLOW ROUTINE WAS USED TO CALCULATE THE
CORRESPONDING SPLIT FLOWS.

THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 STORAGE
ROUTING ROUTINE FOR THE CORRESPONDING STORM EVENT
AT CAP2WEST OVERCHUTE.

NOTE: THE RIVER REACH MILES ARE MEASURED FROM THE
CAP2WEST OVERCHUTE.

.42	6.93	1548.43	.00	1548.43	1548.44	.01	.00	.00	1543.00
3150.	0.	2287.	863.	0.	2423.	1463.	0.	0.	1544.00
.00	.00	.94	.59	.050	.050	.050	.000	1541.50	4907.10
.000108	0.	0.	0.	0	0	0	.00	1138.31	6045.91

CCHV= .100 CEHV= .300
*SECNO .625

NOTE: A FLOODWAY WAS DELINEATED FROM THIS SECTION TO THE
SPLIT FLOW AREA. NO FLOODWAY WAS DELINEATED WITHIN THE
CAP PONDING AREA DUE TO THE SAME ASSUMPTION AS STATED IN
THE WITWASH2 MODEL.

.63	2.17	1548.37	.00	.00	1548.68	.31	.15	.09	1554.00
542.	0.	526.	16.	0.	116.	12.	45.	14.	1548.00
.07	.00	4.53	1.32	.050	.050	.050	.000	1546.20	4954.01
.018056	1100.	1100.	780.	4	0	0	.00	158.36	5112.38

*SECNO .711

.71	3.08	1549.58	.00	.00	1549.61	.02	.89	.03	1555.00
542.	0.	388.	154.	0.	290.	226.	49.	17.	1548.00
.17	.00	1.34	.68	.050	.050	.050	.000	1546.50	4919.11
.000714	450.	450.	450.	4	0	0	.00	417.18	5335.29

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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .825
      .82     2.34  1550.34      .00      .00  1550.40      .06      .79      .01  1552.00
     542.       0.      36.     506.       0.      19.     252.      54.      21.  1548.00
      .26      .00     1.87     2.00     .050     .050     .050     .000  1548.00  4989.01
  .003143     600.     600.     600.        3        0        0      .00   224.96  5213.97

*SECNO  .895
      .89     3.45  1550.95      .00      .00  1550.97      .03      .57      .00  1552.00
     542.       0.     379.     163.       0.     250.     207.      57.      24.  1550.00
      .34      .00     1.51      .79     .050     .050     .050     .000  1547.50  4967.91
  .000901     370.     370.     370.        3        0        0      .00   381.28  5349.19

*SECNO  .939
      .94     3.09  1551.09      .00      .00  1551.10      .02      .13      .00  1552.00
     542.       0.     371.     171.       0.     335.     212.      60.      25.  1548.50
      .40      .00     1.11      .81     .050     .050     .050     .000  1548.00  4961.02
  .000428     230.     230.     180.        2        0        0      .00   315.74  5276.76

*SECNO 1.013

                NOTE: OUTLET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION.
                BASED ON THE SIMILAR CALCULATIONS AND ASSUMPTIONS AT
                SECTION .927 IN THE WITWASH2 HEC-2 MODEL. THE CULVERTS
                WERE NOT INCORPORATED INTO THIS MODEL.  THE AMOUNT OF FLOW
                PASSED THRU THE CULVERTS IS NEGLIBLE AND DOES NOT AFFECT
                THE WATER SURFACE ELEVATION AT THE TOP OF ROADWAY.

     1.01     2.73  1551.23      .00      .00  1551.24      .01      .14      .00  1549.00
     542.      103.     435.       4.     211.     473.      11.      65.      29.  1550.00
      .52      .49      .92      .38     .050     .050     .050     .000  1548.50  4584.49
  .000314     425.     390.     300.        2        0        0      .00   503.92  5088.41

*SECNO 1.015
     1.01     1.72  1551.22      .00      .00  1551.25      .02      .00      .00  1550.00
     542.       83.     349.     110.     108.     252.     142.      65.      29.  1550.00
      .52      .77     1.39      .77     .018     .018     .018     .000  1549.50  4724.78
  .000168       10.      10.      10.        2        0        0      .00   575.77  5300.55
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 SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
 Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
 TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
 SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO 1.023
    1.02     1.73  1551.23      .00      .00  1551.25      .02      .01      .00  1550.00
    542.      83.     350.     109.     107.     251.     141.      66.      23.   1550.00
     .53      .78     1.40      .78     .018     .018     .018     .000  1549.50  4725.53
 .000170      40.      40.      40.        0        0        0      .00   574.04  5299.57

*SECNO 1.117
3685 20 TRIALS ATTEMPTED WSEL.CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
              NOTE:  A CROSS SECTION OF THE DITCH IMMEDIATELY
              UPSTREAM OF PATTON ROAD WAS NOT INCORPORATED INTO THE MODEL
              ASSUMING IT HAS NO SUFFICIENT CAPACITY OR CONVEYANCE TO
              AFFECT THE WATER SURFACE ELEVATION IN THE BACKWATER
              ANALYSIS.  IF THE DITCH WAS INCLUDED, THE LONGITUDINAL SLOPE
              OF THE CHANNEL BED TO ANY SECTION UPSTREAM WOULD BE STEEPER THAN
              THE EXISTING SLOPE THUS AFFECTING THE ACTUAL
              WATER SURFACE ELEVATION.
    1.12      .57  1554.27  1554.27      .00  1554.43      .16      .29      .04  1554.00
    542.     123.     419.       0.      48.     125.       0.      69.      35.   1555.00
     .58     2.54     3.34      .00     .050     .050     .050     .000  1553.70  4591.42
 .047205     380.     500.     450.      20       17        0      .00   545.36  5136.78

*SECNO 1.186
    1.19     1.11  1558.11      .00      .00  1558.13      .03     3.69      .01  1558.00
    542.     248.     286.       9.     189.     205.      21.      72.      41.   1558.00
     .65     1.31     1.39      .42     .050     .050     .050     .000  1557.00  4490.19
 .004283     365.     365.     365.       6        0        0      .00   908.05  5398.24

*SECNO 1.284
    1.28      .79  1562.29      .00      .00  1562.37      .08     4.22      .02  1563.00
    542.       0.     542.       0.       0.     237.       0.      75.      50.   1562.50
     .71      .00     2.29      .00     .050     .050     .050     .000  1561.50  4723.94
 .021531     515.     515.     515.       4        0        0      .00   625.29  5349.23

*SECNO 1.376
    1.38     1.18  1566.68      .00      .00  1566.73      .06     4.36      .00  1566.00
    542.     142.     384.      16.     104.     183.      16.      78.      56.   1566.00
     .79     1.36     2.10     1.01     .050     .050     .050     .000  1565.50  4701.46
 .004908     485.     485.     485.       3        0        0      .00   445.04  5146.51
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      SLMIN     SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


*SECNO 1.461
    1.46     1.03  1570.53      .00      .00  1570.65      .12     3.90      .02  1570.00
    542.      77.     465.       0.      45.     159.       0.      81.      61.  1571.00
     .83     1.71     2.92      .00     .050     .050     .050     .000  1569.50  4661.93
  .019193    450.     450.     450.       4        0        0      .00   434.54  5096.47

*SECNO 1.541
    1.54     1.30  1574.30      .00      .00  1574.34      .04     3.68      .01  1575.00
    542.       0.     542.       0.       0.     340.       0.      84.      63.  1576.00
     .91      .00     1.59      .00     .050     .050     .050     .000  1573.00  4698.65
  .004910    425.     425.     425.       5        0        0      .00   507.43  5206.09

*SECNO 1.631

3265 DIVIDED FLOW

    1.63     1.15  1578.15      .00      .00  1578.26      .11     3.90      .02  1578.00
    542.       1.     540.       0.       2.     202.       0.      87.      70.  1578.00
     .95      .69     2.68      .69     .050     .050     .050     .000  1577.00  4726.95
  .016444    600.     475.     475.       3        0        0      .00   372.23  5196.15

*SECNO 1.709
    1.71      .98  1581.98      .00      .00  1582.03      .04     3.76      .01  1581.20
    542.     323.     212.       7.     206.     117.       8.      89.      75.  1581.50
    1.03     1.57     1.80      .96     .050     .050     .050     .000  1581.00  4554.95
  .005567    450.     410.     420.       6        0        0      .00   578.83  5133.79

*SECNO 1.804
    1.80     1.03  1585.73      .00      .00  1585.80      .07     3.77      .01  1584.70
    542.      40.     502.       0.      20.     237.       0.      93.      81.  1586.00
    1.09     1.97     2.12      .00     .050     .050     .050     .000  1584.70  4670.57
  .010755    500.     500.     500.       3        0        0      .00   456.95  5127.52
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PROFILE FOR STREAM FLOODPLAIN RUN (WEST SP

PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA

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ELEVATION  1540.     1545.     1550.     1555.     1560.     1565.     1570.     1575.     1580.     1585.
   SECNO   CUMDIS

     .42      0.  C I   R .     EL .        .         .         .         .         .         .         .         .
             50.  C I   R .     EL .        .         .         .         .         .         .         .         .
            100.  C  I   R.     E L.        .         .         .         .         .         .         .         .
            150.  C  I   R.     E L.        .         .         .         .         .         .         .         .
            200.  C   I  R.     E ML        .         .         .         .         .         .         .         .
            250.  C   I   R     E ML        .         .         .         .         .         .         .         .
            300.  C    I  R     E  ML       .         .         .         .         .         .         .         .
            350.  C    I  .R    E  ML       .         .         .         .         .         .         .         .
            400.  C    I  .R    E  M L      .         .         .         .         .         .         .         .
            450.  C     I .R    E  M L      .         .         .         .         .         .         .         .
            500.  C     I . R   E  .M L     .         .         .         .         .         .         .         .
            550.  C      I . R  E  .M L     .         .         .         .         .         .         .         .
            600.  C      I . R  E  .M L     .         .         .         .         .         .         .         .
            650.  C       I. R  E  . M L    .         .         .         .         .         .         .         .
            700.  C       I. R  E  . M L    .         .         .         .         .         .         .         .
            750.  C       I. R  E  . M  L   .         .         .         .         .         .         .         .
            800.  C        I  R E  . M  L   .         .         .         .         .         .         .         .
            850.  C        I  R E  .  M L   .         .         .         .         .         .         .         .
            900.  C        .I  R E  .  M L  .         .         .         .         .         .         .         .
            950.  C        .I  R E  .  M  L .         .         .         .         .         .         .         .
           1000.  C        . I R E  .  M  L .         .         .         .         .         .         .         .
           1050.  C        . I  RE  .  M  L .         .         .         .         .         .         .         .
     .63   1100.  C        . I  RE  .  M  L .         .         .         .         .         .         .         .
           1150.  C        . I  RWE .  M  L .         .         .         .         .         .         .         .
           1200.  C        .  I RWE .   M  L.         .         .         .         .         .         .         .
           1250.  C        .  I R E .   M  L.         .         .         .         .         .         .         .
           1300.  C        .  I R E .   M   L         .         .         .         .         .         .         .
           1350.  C        .  I R E .    M  L         .         .         .         .         .         .         .
           1400.  C        .  I R WE.    M  .L        .         .         .         .         .         .         .
           1450.  C        .  I R  E.    M  .L        .         .         .         .         .         .         .
           1500.  C        .  I R  E.     M . L       .         .         .         .         .         .         .
     .71   1550.  C        .  I R  E.     M . L       .         .         .         .         .         .         .
           1600.  C        .  I R  E.     M .L        .         .         .         .         .         .         .
           1650.  C        .   I R E.     M .L        .         .         .         .         .         .         .
           1700.  C        .   I R  E    M  L         .         .         .         .         .         .         .
           1750.  C        .   I R  E    M  L.        .         .         .         .         .         .         .
           1800.  C        .   I R  E    M  L.        .         .         .         .         .         .         .
           1850.  C        .    IR  E    M L .        .         .         .         .         .         .         .
           1900.  C        .    IR  E    M L .        .         .         .         .         .         .         .
           1950.  C        .    IR  E    M L .        .         .         .         .         .         .         .
           2000.  C        .    IR  E    ML  .        .         .         .         .         .         .         .
           2050.  C        .     I  WE   L   .        .         .         .         .         .         .         .
           2100.  C        .     I  .E  ML   .        .         .         .         .         .         .         .
     .82   2150.  C        .     I  .E  L    .        .         .         .         .         .         .         .
           2200.  C        .     IR .E  L    .        .         .         .         .         .         .         .
           2250.  C        .     IR .E  L    .        .         .         .         .         .         .         .
           2300.  C        .     I R.E  L    .        .         .         .         .         .         .         .
           2350.  C        .    I  R.E  L    .        .         .         .         .         .         .         .
           2400.  C        .    I   R.WE L   .        .         .         .         .         .         .         .
           2450.  C        .    I   R. E L   .        .         .         .         .         .         .         .
           2500.  C        .    I    R E L   .        .         .         .         .         .         .         .
     .89   2550.  C        .    I    R E L   .        .         .         .         .         .         .         .
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      2600. C     .  I  R. E L    .    .    .    .    .    .    .    .
      2650. C     .  I  R. E L    .    .    .    .    .    .    .    .
      2700. C     .   I R. E L    .    .    .    .    .    .    .    .
 .94  2750. C     .   IR . E L    .    .    .    .    .    .    .    .
      2800. C     .   IR . ELM    .    .    .    .    .    .    .    .
      2850. C     .   I R. E M    .    .    .    .    .    .    .    .
      2900. C     .   I R. E M    .    .    .    .    .    .    .    .
      2950. C     .    I R.LE M   .    .    .    .    .    .    .    .
      3000. C     .    I RL E M   .    .    .    .    .    .    .    .
      3050. C     .    I L. E M   .    .    .    .    .    .    .    .
      3100. C     .    I LR E M   .    .    .    .    .    .    .    .
 1.01 3150. C     .    IL R E M   .    .    .    .    .    .    .    .
 1.01 3200. C     .     IL WE   M .    .    .    .    .    .    .    .
 1.02 3250. C     .     IL WE   M .    .    .    .    .    .    .    .
      3300. C     .      IL E   M .    .    .    .    .    .    .    .
      3350. C     .      .IL E   M.    .    .    .    .    .    .    .
      3400. C     .      . IRE   M.    .    .    .    .    .    .    .
      3450. C     .      . ILRE  M.    .    .    .    .    .    .    .
      3500. C     .      .  ILWE  M    .    .    .    .    .    .    .
      3550. C     .      .   ILE  M    .    .    .    .    .    .    .
      3600. C     .      .    ILE M    .    .    .    .    .    .    .
      3650. C     .      .     IWE M   .    .    .    .    .    .    .
 1.12 3700. .     .      .      ILERM  .    .    .    .    .    .    .
      3750. C     .      .       ILERM .    .    .    .    .    .    .
      3800. C     .      .        ILERM .    .    .    .    .    .    .
      3850. C     .      .         ILE M .    .    .    .    .    .    .
      3900. C     .      .         .ILE M .    .    .    .    .    .    .
      3950. C     .      .          . ILE M .    .    .    .    .    .
      4000. C     .      .           . I E M .    .    .    .    .    .
      4050. C     .      .            . I E M .    .    .    .    .    .
 1.19 4100. C     .      .            . I E M .    .    .    .    .    .
      4150. C     .      .             . I E M.    .    .    .    .    .
      4200. C     .      .              . I EM.    .    .    .    .    .
      4250. C     .      .               . I EM    .    .    .    .    .
      4300. C     .      .               . I WEM   .    .    .    .    .
      4350. C     .      .                . I EL   .    .    .    .    .
      4400. C     .      .                 .I.EL   .    .    .    .    .
      4450. C     .      .                  . I EL .    .    .    .    .
      4500. C     .      .                  .I EL  .    .    .    .    .
      4550. C     .      .                  . I EL .    .    .    .    .
 1.28 4600. C     .      .                  . I EL .    .    .    .    .
      4650. C     .      .                  .  IWEL .    .    .    .    .
      4700. C     .      .                  .   IWE .    .    .    .    .
      4750. C     .      .                  .   I EL .    .    .    .    .
      4800. C     .      .                  .    I EM.    .    .    .    .
      4850. C     .      .                  .    I E.     .    .    .    .
      4900. C     .      .                  .     IRE     .    .    .    .
      4950. C     .      .                  .      ILE    .    .    .    .
      5000. C     .      .                  .       ILE   .    .    .    .
      5050. C     .      .                  .       IRLE  .    .    .    .
 1.38 5100. C     .      .                  .       .ILEM .    .    .    .
      5150. C     .      .                  .       . ILEM .    .    .    .
      5200. C     .      .                  .        ILE  .    .    .    .
      5250. C     .      .                  .         ILE .    .    .    .
      5300. C     .      .                  .          ILE .    .    .    .
      5350. C     .      .                  .          IL E .    .    .    .
      5400. C     .      .                  .           ILWE.    .    .    .
      5450. C     .      .                  .            ILWE    .    .    .
      5500. C     .      .                  .             ILER   .    .    .
 1.46 5550. C     .      .                  .              ILER  .    .    .
      5600. C     .      .                  .               ILER .    .    .
      5650. C     .      .                  .               .ILER .    .    .
      5700. C     .      .                  .               .I  EMR .    .    .
      5750. C     .      .                  .                . I  EMR .    .    .
      5800. C     .      .                  .                 . I WEMR .    .    .
      5850. C     .      .                  .                  . I WEMR.    .    .
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      5900.  C   .   .   .   .   .   .   I EL R   .   .   .
1.54  5950.  C   .   .   .   .   .   .   I WELR   .   .   .
      6000.  C   .   .   .   .   .   .   I ELMR   .   .   .
      6050.  C   .   .   .   .   .   .   I.ELR   .   .   .
      6100.  C   .   .   .   .   .   .   I. ELR   .   .   .
      6150.  C   .   .   .   .   .   .   I  ER   .   .   .
      6200.  C   .   .   .   .   .   .   .I WER   .   .   .
      6250.  C   .   .   .   .   .   .   . I ERM   .   .   .
      6300.  C   .   .   .   .   .   .   .  I E M   .   .   .
      6350.  C   .   .   .   .   .   .   .   I E M   .   .   .
      6400.  C   .   .   .   .   .   .   .   I WEM   .   .   .
1.63  6450.  C   .   .   .   .   .   .   .    I E M.   .   .
      6500.  C   .   .   .   .   .   .   .     I EM.   .   .
      6550.  C   .   .   .   .   .   .   .      ILEM   .   .
      6600.  C   .   .   .   .   .   .   .       ILEM   .   .
      6650.  C   .   .   .   .   .   .   .        ILEM   .   .
      6700.  C   .   .   .   .   .   .   .         ILE   .   .
      6750.  C   .   .   .   .   .   .   .         .IRE   .   .
      6800.  C   .   .   .   .   .   .   .          IRE   .   .
1.71  6850.  C   .   .   .   .   .   .   .          IRE   .   .
      6900.  C   .   .   .   .   .   .   .          ILWE   .   .
      6950.  C   .   .   .   .   .   .   .           I E   .   .
      7000.  C   .   .   .   .   .   .   .            I E   .   .
      7050.  C   .   .   .   .   .   .   .             I E.   .
      7100.  C   .   .   .   .   .   .   .             ILWE.   .
      7150.  C   .   .   .   .   .   .   .              I EM   .
      7200.  C   .   .   .   .   .   .   .               I E   .
      7250.  C   .   .   .   .   .   .   .                I.E   .
      7300.  C   .   .   .   .   .   .   .                I.WE   .
1.80  7350.  C   .   .   .   .   .   .   .
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THIS RUN EXECUTED 11-21-1988 15:53:14.90

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  HEC2 RELEASE DATED NOV 76 UPDATED AUG 1985
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  MSDOS VERSION JANUARY 1988 BY DODSON & ASSOCIATES, INC.
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T1 WITTMANN ADMS
T2 50-YEAR STORM EVENT
T3 FLOODPLAIN RUN

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	3.	0.	0.	.000000	.00	.5	0.	1547.620	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	2.000	.000	-1.000	.200	.000	.000	.000	.000	.000	.000

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SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


*PROF 2

CCHV=    .300 CEHV=    .500
*SECNO  .417
                THIS IS A HEC-2 MODEL FOR THE WEST SPLIT OF WITTMANN
                WASH APPROX. 1 MILE UPSTREAM OF PATTON ROAD.
                THIS REACH CONSISTS OF THE SPLIT FLOW SECTION DOWNSTREAM
                TO THE CAP2WEST OVERCHUTE.

                THE HEC-2 SPLIT FLOW ROUTINE WAS USED TO CALCULATE THE
                CORRESPONDING SPLIT FLOWS.

                THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 STORAGE
                ROUTING ROUTINE FOR THE CORRESPONDING STORM EVENT
                AT CAP2WEST OVERCHUTE.


                NOTE:  THE RIVER REACH MILES ARE MEASURED FROM THE
                CAP2WEST OVERCHUTE.

     .42     6.12  1547.62     .00  1547.62  1547.64     .02     .00     .00  1549.00
    3150.      0.    2479.    671.      0.    2065.    953.      0.      0.   1544.00
     .00      .00     1.20     .70    .050     .050    .050    .000  1541.50  4923.17
  .000206      0.      0.       0.       0        0       0     .00   999.38  5922.55

CCHV=    .100 CEHV=    .300
*SECNO  .625
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
                NOTE: A FLOODWAY WAS DELINEATED FROM THIS SECTION TO THE
                SPLIT FLOW AREA. NO FLOODWAY WAS DELINEATED WITHIN THE
                CAP PONDING AREA DUE TO THE SAME ASSUMPTION AS STATED IN
                THE WITWASH2 MODEL.

     .63     1.50  1547.70  1547.70     .00  1548.09     .39     .26     .11  1554.00
     282.      0.     282.       0.      0.      56.      0.     35.     11.   1548.00
     .06      .00     5.03     .00    .050     .050    .050    .000  1546.20  4966.73
  .042207    1100.    1100.    780.      20       11       0     .00    74.96  5041.59
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  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECNO  .711
     .71     2.53  1549.03      .00      .00  1549.05      .02      .92      .04  1556.00
    282.       0.     235.      47.       0.     218.      96.      37.      14.   1548.00
     .19      .00     1.08      .49     .050     .050     .050     .000  1546.50  4922.25
  .000647    450.     450.     450.        5        0        0      .00   313.77  5236.02

*SECNO  .825
     .82     1.79  1549.79      .00      .00  1549.84      .05      .78      .01  1552.00
    282.       0.      29.     253.       0.      13.     147.      40.      17.   1548.00
     .28      .00     2.23     1.72     .050     .050     .050     .000  1548.00  4995.54
  .003887    600.     600.     600.        2        0        0      .00   174.61  5170.15

*SECNO  .895
     .89     2.92  1550.42      .00      .00  1550.44      .02      .60      .00  1552.00
    282.       0.     245.      37.       0.     191.      79.      42.      19.   1550.00
     .37      .00     1.28      .47     .050     .050     .050     .000  1547.50  4971.90
  .000875    370.     370.     370.        3        0        0      .00   321.43  5293.34

*SECNO  .939
     .94     2.54  1550.54      .00      .00  1550.55      .01      .10      .00  1552.00
    282.       0.     211.      71.       0.     262.     127.      44.      20.   1548.50
     .45      .00      .81      .56     .050     .050     .050     .000  1548.00  4970.65
  .000288    230.     230.     180.        2        0        0      .00   262.01  5232.63

*SECNO 1.013

                NOTE: OUTLET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION.
                BASED ON THE SIMILAR CALCULATIONS AND ASSUMPTIONS AT
                SECTION .927 IN THE WITWASH2 HEC-2 MODEL. THE CULVERTS
                WERE NOT INCORPORATED INTO THIS MODEL.  THE AMOUNT OF FLOW
                PASSED THRU THE CULVERTS IS NEGLIBLE AND DOES NOT AFFECT
                THE WATER SURFACE ELEVATION AT THE TOP OF ROADWAY.

    1.01     2.15  1550.65      .00      .00  1550.65      .01      .11      .00  1549.00
    282.      31.     250.       1.      81.     353.       3.      48.      23.   1550.00
     .61      .38      .71      .23     .050     .050     .050     .000  1548.50  4701.44
  .000275    425.     390.     300.        2        0        0      .00   378.21  5079.64
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  SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CONAR    TOPWID     ENDST


*SECND 1.015
    1.01     1.13  1550.63      .00      .00  1550.66      .03      .00      .01  1550.00
    282.      23.     230.      30.      29.     152.      39.      48.      23.   1550.00
     .61      .77     1.52      .77     .018     .018     .018     .000  1549.50  4803.49
 .000392      10.      10.      10.        2        0        0      .00   381.33  5190.41

*SECND 1.023
    1.02     1.15  1550.65      .00      .00  1550.68      .03      .02      .00  1550.00
    282.      22.     230.      30.      29.     151.      38.      48.      24.   1550.00
     .62      .77     1.52      .77     .018     .018     .018     .000  1549.50  4809.75
 .000396      40.      40.      40.        1        0        0      .00   381.33  5190.07

*SECND 1.117
3685 20 TRIALS ATTEMPTED WSEL.CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
                NOTE:  A CROSS SECTION OF THE DITCH IMMEDIATELY
                UPSTREAM OF PATTON ROAD WAS NOT INCORPORATED INTO THE MODEL
                ASSUMING IT HAS NO SUFFICIENT CAPACITY OR CONVEYANCE TO
                AFFECT THE WATER SURFACE ELEVATION IN THE BACKWATER
                ANALYSIS.  IF THE DITCH WAS INCLUDED, THE LONGITUDINAL SLOPE
                OF THE CHANNEL BED TO ANY SECTION UPSTREAM WOULD BE STEEPER THAN
                THE EXISTING SLOPE THUS AFFECTING THE ACTUAL
                WATER SURFACE ELEVATION.
    1.12      .45  1554.15  1554.15      .00  1554.26      .11      .65      .02  1554.00
    282.      43.     239.       0.      24.      85.       0.      50.      23.   1555.00
     .67     1.78     2.81      .00     .050     .050     .050     .000  1553.70  4619.39
 .050197     380.     500.     450.      20       22        0      .00   492.24  5110.63

*SECND 1.186

3265 DIVIDED FLOW

    1.19      .91  1557.91      .00      .00  1557.92      .02     3.65      .01  1558.00
    282.     126.     156.       0.     121.     138.       0.      51.      33.   1558.00
     .76     1.04     1.13      .00     .050     .050     .050     .000  1557.00  4530.77
 .004154     365.     365.     365.       6        0        0      .00   609.38  5171.31
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 1.284

3265 DIVIDED FLOW

1.28	.62	1562.12	.00	.00	1562.18	.06	4.24	.01	1563.00
282.	0.	282.	0.	0.	139.	0.	54.	39.	1562.50
.83	.00	2.03	.00	.050	.050	.050	.000	1561.30	4745.55
.023524	515.	515.	515.	4	0	0	.00	465.17	5307.74

*SECNO 1.376

1.38	.91	1566.41	.00	.00	1566.45	.04	4.27	.00	1566.00
282.	53.	225.	4.	53.	135.	6.	55.	44.	1566.00
.92	.99	1.66	.70	.050	.050	.050	.000	1565.50	4751.44
.004567	485.	485.	485.	3	0	0	.00	376.98	5128.42

*SECNO 1.461

1.46	.81	1570.31	.00	.00	1570.41	.09	3.94	.02	1570.00
282.	21.	261.	0.	16.	103.	0.	57.	47.	1571.00
.97	1.32	2.53	.00	.050	.050	.050	.000	1569.50	4730.83
.023105	450.	450.	450.	6	0	0	.00	345.22	5076.05

*SECNO 1.541

1.54	1.04	1574.04	.00	.00	1574.06	.03	3.65	.01	1575.00
282.	0.	282.	0.	0.	219.	0.	59.	51.	1576.00
1.06	.00	1.29	.00	.050	.050	.050	.000	1573.00	4769.02
.004440	425.	425.	425.	5	0	0	.00	418.82	5187.85

*SECNO 1.631

1.63	.87	1577.87	.00	.00	1577.96	.09	3.88	.02	1578.00
282.	0.	282.	0.	0.	116.	0.	60.	53.	1578.00
1.12	.00	2.42	.00	.050	.050	.050	.000	1577.00	4904.10
.019669	600.	475.	475.	4	0	0	.00	262.83	5166.93

*SECNO 1.709

1.71	.77	1581.77	.00	.00	1581.80	.03	3.83	.01	1581.20
282.	164.	117.	1.	131.	84.	3.	62.	59.	1581.50
1.21	1.25	1.39	.37	.050	.050	.050	.000	1581.00	4615.26
.005217	450.	410.	420.	6	0	0	.00	503.75	5119.01

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	SLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*SECNO 1.804

1.80	.78	1585.48	.00	.00	1585.53	.05	3.72	.01	1584.70
282.	20.	262.	0.	12.	146.	0.	64.	64.	1586.00
1.29	1.71	1.79	.00	.050	.050	.050	.000	1584.70	4673.77
.011466	500.	500.	500.	2	0	0	.00	375.97	5055.74

THIS RUN EXECUTED 11-21-1988 15:52:20.39

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 HEC2 RELEASE DATED NOV 76 UPDATED AUG 1985
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 MSDOS VERSION JANUARY 1988 BY DODSON & ASSOCIATES, INC.
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T1 WITTMANN ADMS
T2 10-YEAR STORM EVENT
T3 FLOODPLAIN RUN

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	4.	0.	0.	.000000	.00	.5	0.	1546.170	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	3.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

SECND	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 3

CCHV= .300 CEHV= .500
*SECNO .417

THIS IS A HEC-2 MODEL FOR THE WEST SPLIT OF WITTMANN
WASH APPROX. 1 MILE UPSTREAM OF PATTON ROAD.
THIS REACH CONSISTS OF THE SPLIT FLOW SECTION DOWNSTREAM
TO THE CAP2WEST OVERCHUTE.

THE HEC-2 SPLIT FLOW ROUTINE WAS USED TO CALCULATE THE
CORRESPONDING SPLIT FLOWS.

THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 STORAGE
ROUTING ROUTINE FOR THE CORRESPONDING STORM EVENT
AT CAP2WEST OVERCHUTE.

NOTE: THE RIVER REACH MILES ARE MEASURED FROM THE
CAP2WEST OVERCHUTE.

.42	4.67	1546.17	.00	1546.17	1546.23	.06	.00	.00	1549.00
3150.	0.	2838.	312.	0.	1440.	324.	0.	0.	1544.00
.00	.00	1.97	.96	.050	.050	.050	.000	1541.50	4935.25
.000864	0.	0.	0.	0	0	0	.00	729.93	5665.18

CCHV= .100 CEHV= .300
*SECNO .625

NOTE: A FLOODWAY WAS DELINEATED FROM THIS SECTION TO THE
SPLIT FLOW AREA. NO FLOODWAY WAS DELINEATED WITHIN THE
CAP PONDING AREA DUE TO THE SAME ASSUMPTION AS STATED IN
THE WITWASH2 MODEL.

.63	.90	1547.10	.00	.00	1547.20	.10	.96	.01	1554.00
52.	0.	52.	0.	0.	21.	0.	21.	9.	1548.00
.12	.00	2.52	.00	.050	.050	.050	.000	1546.20	4979.82
.020635	1100.	1100.	780.	4	0	0	.00	45.42	5025.23

*SECNO .711

.71	1.49	1547.99	.00	.00	1547.99	.01	.78	.01	1556.00
52.	0.	52.	0.	0.	88.	0.	22.	10.	1548.00
.33	.00	.59	.00	.050	.050	.050	.000	1546.50	4930.89
.000594	450.	450.	450.	4	0	0	.00	118.48	5049.37

```
  SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*SECND  .825
     .82      .82  1548.82      .00      .00  1548.85      .03      .85      .01  1552.00
     52.       0.      10.      42.       0.       5.      31.      23.      11.   1548.00
     .44      .00     1.93     1.37     .050     .050     .050     .000  1548.00  4997.95
  .006973    600.     600.     600.        3        0        0      .00    82.33  5080.78

*SECND  .895

3265 DIVIDED FLOW

     .89     1.80  1549.30      .00      .00  1549.30      .01      .45      .00  1552.00
     52.       0.      52.       0.       0.      81.       0.      23.      12.   1550.00
     .60      .00      .64      .00     .050     .050     .050     .000  1547.50  4982.11
  .000483    370.     370.     370.        5        0        0      .00    82.23  5071.11

*SECND  .939
     .94     1.36  1549.36      .00      .00  1549.36      .00      .06      .00  1552.00
     52.       0.      47.       5.       0.     120.      22.      24.      12.   1548.50
     .77      .00      .40      .22     .050     .050     .050     .000  1548.00  4986.45
  .000165    230.     230.     180.        2        0        0      .00   164.82  5151.23

*SECND 1.013

                NOTE: OUTLET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION.
                BASED ON THE SIMILAR CALCULATIONS AND ASSUMPTIONS AT
                SECTION .927 IN THE WITWASH2 HEC-2 MODEL. THE CULVERTS
                WERE NOT INCORPORATED INTO THIS MODEL.  THE AMOUNT OF FLOW
                PASSED THRU THE CULVERTS IS NEGLIBLE AND DOES NOT AFFECT
                THE WATER SURFACE ELEVATION AT THE TOP OF ROADWAY.

    1.01      .96  1549.46      .00      .00  1549.46      .00      .09      .00  1549.00
     52.       1.      51.       0.       4.     115.       0.      25.      14.   1550.00
    1.01      .22      .44      .00     .050     .050     .050     .000  1548.50  4849.33
  .000404    425.     390.     300.        2        0        0      .00   194.90  5044.23

*SECND 1.015
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID     ENDST


    1.01      .36  1549.86  1549.86      .00  1549.95      .09      .01      .03  1550.00
     52.       0.     52.       0.       0.      21.       0.      25.      14.   1550.00
    1.01      .00     2.42      .00     .018     .018     .018     .000  1549.50  4923.13
 .008605      10.      10.      10.       20       22        0      .00   120.86  5043.98

*SECNO 1.023
    1.02      .52  1550.02      .00      .00  1550.04      .02      .09      .01  1550.00
     52.       0.     52.       0.       0.      47.       0.      25.      14.   1550.00
    1.02      .03     1.10      .03     .018     .018     .018     .000  1549.50  4896.07
 .000984      40.      40.      40.        1        0        0      .00   179.10  5075.17

*SECNO 1.117
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
                NOTE:  A CROSS SECTION OF THE DITCH IMMEDIATELY
                UPSTREAM OF PATTON ROAD WAS NOT INCORPORATED INTO THE MODEL
                ASSUMING IT HAS NO SUFFICIENT CAPACITY OR CONVEYANCE TO
                AFFECT THE WATER SURFACE ELEVATION IN THE BACKWATER
                ANALYSIS.  IF THE DITCH WAS INCLUDED, THE LONGITUDINAL SLOPE
                OF THE CHANNEL BED TO ANY SECTION UPSTREAM WOULD BE STEEPER THAN
                THE EXISTING SLOPE THUS AFFECTING THE ACTUAL
                WATER SURFACE ELEVATION.
    1.12      .24  1553.94  1553.94      .00  1554.00      .06     1.59      .01  1554.00
     52.       0.     52.       0.       0.      26.       0.      25.      16.   1555.00
    1.09      .00     1.99      .00     .050     .050     .050     .000  1553.70  4842.15
 .076895     380.     500.     450.       20       18        0      .00   220.39  5063.14

*SECNO 1.186

3265 DIVIDED FLOW

    1.19      .52  1557.52      .00      .00  1557.52      .01     3.52      .01  1558.00
     52.      20.      32.       0.      32.      45.       0.      26.      19.   1558.00
    1.24      .62      .72      .00     .050     .050     .050     .000  1557.00  4612.80
 .003559     365.     365.     365.        7        0        0      .00   330.49  5097.49

*SECNO 1.284
    1.28      .22  1561.72      .00      .00  1561.76      .05     4.23      .01  1563.00
     52.       0.     52.       0.       0.      30.       0.      27.      22.   1562.50
    1.33      .00     1.71      .00     .050     .050     .050     .000  1561.50  4842.43
 .035452     515.     515.     515.        3        0        0      .00   180.09  5022.52
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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
*SECNO 1.376									
1.38	.49	1565.99	.00	.00	1566.00	.01	4.24	.00	1566.00
52.	0.	52.	0.	0.	59.	0.	27.	24.	1566.00
1.48	.00	.88	.00	.050	.050	.050	.000	1565.50	4920.92
.003865	485.	485.	485.	6	0	0	.00	177.53	5090.46
*SECNO 1.461									
1.46	.45	1569.95	.00	.00	1570.02	.07	4.00	.02	1570.00
52.	0.	52.	0.	0.	24.	0.	27.	23.	1571.00
1.54	.00	2.14	.00	.050	.050	.050	.000	1569.50	4932.91
.038073	450.	450.	450.	4	0	0	.00	100.33	5041.74
*SECNO 1.541									
1.54	.57	1573.57	.00	.00	1573.58	.01	3.55	.01	1575.00
52.	0.	52.	0.	0.	67.	0.	28.	27.	1576.00
1.69	.00	.77	.00	.050	.050	.050	.000	1573.00	4873.27
.003565	425.	425.	425.	5	0	0	.00	233.30	5106.57
*SECNO 1.631									
1.63	.42	1577.42	.00	.00	1577.47	.06	3.88	.01	1578.00
52.	0.	52.	0.	0.	27.	0.	28.	29.	1578.00
1.76	.00	1.94	.00	.050	.050	.050	.000	1577.00	4954.24
.034519	600.	475.	475.	3	0	0	.00	128.96	5083.20
*SECNO 1.709									
1.71	.44	1581.44	.00	.00	1581.45	.01	3.97	.00	1581.20
52.	24.	28.	0.	39.	33.	0.	29.	31.	1581.50
1.92	.62	.84	.00	.050	.050	.050	.000	1581.00	4710.05
.004347	450.	410.	420.	6	0	0	.00	347.11	5057.13
*SECNO 1.804									
1.80	.40	1585.10	.00	.00	1585.12	.02	3.67	.00	1584.70
52.	4.	48.	0.	3.	39.	0.	30.	34.	1586.00
2.03	1.24	1.24	.00	.050	.050	.050	.000	1584.70	4694.59
.014900	500.	500.	500.	4	0	0	.00	209.02	4903.61

THIS RUN EXECUTED 11-21-1988 15:53:25.50

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  HEC2 RELEASE DATED NOV 76 UPDATED AUG 1985
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  MSDOS VERSION JANUARY 1988 BY DODSON & ASSOCIATES, INC.
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T1 WITTMANN ADMS
T2 100-YEAR STORM EVENT
T3 FLOODWAY RUN

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	I	WSEL	FQ
	0.	5.	0.	0.	.000000	.00	.5	0.	1548.430	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	15.000	.000	-1.000	.000	.000	.000	.000	.000	.000	.000

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SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 4

CCHV=    .300 CEHV=    .500
*SECNO  .417
                THIS IS A HEC-2 MODEL FOR THE WEST SPLIT OF WITTMANN
                WASH APPROX. 1 MILE UPSTREAM OF PATTON ROAD.
                THIS REACH CONSISTS OF THE SPLIT FLOW SECTION DOWNSTREAM
                TO THE CAP2WEST OVERCHUTE.

                THE HEC-2 SPLIT FLOW ROUTINE WAS USED TO CALCULATE THE
                CORRESPONDING SPLIT FLOWS.

                THE STARTING W.S. ELEV. IS BASED ON THE HEC-1 STORAGE
                ROUTING ROUTINE FOR THE CORRESPONDING STORM EVENT
                AT CAP2WEST OVERCHUTE.


                NOTE:  THE RIVER REACH MILES ARE MEASURED FROM THE
                CAP2WEST OVERCHUTE.

     .42     6.93  1548.43     .00  1548.43  1548.44     .01     .00     .00  1549.00
   3150.       0.    2287.    863.       0.    2423.   1463.      0.      0.   1544.00
     .00     .00      .94     .59     .050     .050    .050    .000  1541.50  4907.10
  .000108      0.       0.      0.        0        0       0     .00  1138.81  6045.91

CCHV=    .100 CEHV=    .300
*SECNO  .625

3470 ENCROACHMENT STATIONS=    4960.0    5070.0  TYPE=     1  TARGET=     110.000
                NOTE: A FLOODWAY WAS DELINEATED FROM THIS SECTION TO THE
                SPLIT FLOW AREA. NO FLOODWAY WAS DELINEATED WITHIN THE
                CAP PONDING AREA DUE TO THE SAME ASSUMPTION AS STATED IN
                THE WITWASH2 MODEL.

     .63     2.16  1548.36     .00  1548.37  1548.69     .34     .15     .10100000.00
    542.       0.     531.     11.       0.     113.      6.     45.      13.   1548.00
     .06     .00     4.68    1.79     .050     .050    .050    .000  1546.20  4960.00
  .018371   1100.    1100.    780.        4        0       0     .00   110.00  5070.00

*SECNO  .711
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SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    DIRAR    TOPWID      ENDST


3470 ENCROACHMENT STATIONS=    4920.0    5075.0  TYPE=     1  TARGET=     155.000
      .71     3.25  1549.75      .00  1549.58  1549.79      .04     1.07      .03100000.00
     542.       0.     491.      51.       0.     311.      42.      48.       15.   1548.00
      .14      .00     1.58     1.20     .050     .050     .050     .000  1546.50  4920.00
  .000885     450.     450.     450.        3        0        0      .00   155.00  5075.00

*SECNO  .825

3470 ENCROACHMENT STATIONS=    4990.0    5075.0  TYPE=     1  TARGET=      85.000
      .82     2.64  1550.64      .00  1550.34  1550.78      .14      .96      .03100000.00
     542.       0.      57.     483.       0.      24.     158.      51.       15.   1548.00
      .20      .00     2.39     3.07     .050     .050     .050     .000  1548.00  4990.00
  .003737     600.     600.     600.        2        0        0      .00    85.00  5075.00

*SECNO  .895

3470 ENCROACHMENT STATIONS=    4970.0    5075.0  TYPE=     1  TARGET=     105.000
      .89     3.90  1551.40      .00  1550.95  1551.45      .05      .66      .01100000.00
     542.       0.     542.       0.       0.     292.       0.      53.       17. 100000.00
      .26      .00     1.86      .00     .050     .050     .050     .000  1547.50  4970.00
  .001044     370.     370.     370.        3        0        0      .00   105.00  5075.00

*SECNO  .939

3470 ENCROACHMENT STATIONS=    4990.0    5050.0  TYPE=     1  TARGET=      60.000
      .94     3.66  1551.66      .00  1551.09  1551.77      .10      .30      .02100000.00
     542.       0.     542.       0.       0.     208.       0.      55.       17. 100000.00
      .28      .00     2.60      .00     .050     .050     .050     .000  1548.00  4990.00
  .001655     230.     230.     180.        2        0        0      .00    60.00  5050.00

*SECNO 1.013
3280 CROSS SECTION      1.01 EXTENDED       .12 FEET


3470 ENCROACHMENT STATIONS=    4950.0    5050.0  TYPE=     1  TARGET=     100.000

            NOTE: OUTLET CONTROL OCCURS FOR THE CULVERTS AT THIS SECTION.
            BASED ON THE SIMILAR CALCULATIONS AND ASSUMPTIONS AT
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                SECTION .927 IN THE WITWASH2 HEC-2 MODEL. THE CULVERTS
                WERE NOT INCORPORATED INTO THIS MODEL.  THE AMOUNT OF FLOW
                PASSED THRU THE CULVERTS IS NEGLIBLE AND DOES NOT AFFECT
                THE WATER SURFACE ELEVATION AT THE TOP OF ROADWAY.

    1.01     3.62  1552.12      .00  1551.23  1552.16      .04      .39      .01100000.00
    542.       0.     542.       0.       0.     331.       0.      57.       18. 100000.00
     .35      .00     1.64      .00     .050     .050     .050     .000  1548.50  4950.00
  .000667     425.     390.     300.        2        0        0      .00   100.00  5050.00

*SECNO 1.015

3470 ENCROACHMENT STATIONS=    4950.0    5070.0  TYPE=     1  TARGET=     120.000
    1.01     2.61  1552.11      .00  1551.22  1552.17      .05      .00      .00100000.00
    542.       0.     542.       0.       0.     289.       0.      57.       18. 100000.00
     .35      .00     1.88      .00     .018     .018     .018     .000  1549.50  4950.00
  .000169      10.      10.      10.        2        0        0      .00   120.00  5070.00

*SECNO 1.023

3470 ENCROACHMENT STATIONS=    4800.0    5070.0  TYPE=     1  TARGET=     270.000
    1.02     2.66  1552.16      .00  1551.23  1552.18      .01      .00      .00  1550.00
    542.     145.     397.       0.     181.     410.       0.      58.       18. 100000.00
     .36      .80      .97      .00     .018     .018     .018     .000  1549.50  4800.00
  .000043      40.      40.      40.        2        0        0      .00   270.00  5070.00

*SECNO 1.117
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=    4800.0    5075.0  TYPE=     1  TARGET=     275.000
                NOTE:  A CROSS SECTION OF THE DITCH IMMEDIATELY
                UPSTREAM OF PATTON ROAD WAS NOT INCORPORATED INTO THE MODEL
                ASSUMING IT HAS NO SUFFICIENT CAPACITY OR CONVEYANCE TO
                AFFECT THE WATER SURFACE ELEVATION IN THE BACKWATER
                ANALYSIS.  IF THE DITCH WAS INCLUDED, THE LONGITUDINAL SLOPE
                OF THE CHANNEL BED TO ANY SECTION UPSTREAM WOULD BE STEEPER THAN
                THE EXISTING SLOPE THUS AFFECTING THE ACTUAL
                WATER SURFACE ELEVATION.
    1.12      .64  1554.34  1554.34  1554.27  1554.59      .25      .00      .07  1554.00
    542.       0.     542.       0.       0.     136.       0.      61.       21. 100000.00
     .39      .00     3.99      .00     .050     .050     .050     .000  1553.70  4800.00
  .046301     380.     500.     450.       20       14        0      .00   275.00  5075.00
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SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA      LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      SLMIN       SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


*SECND 1.186

3470 ENCROACHMENT STATIONS=    4880.0    5100.0  TYPE=     1  TARGET=     220.000
     1.19     1.47  1558.47     .00  1558.11  1558.55     .07     3.94     .02100000.00
     542.       0.     542.      0.       0.     247.      0.      63.      23. 100000.00
      .44      .00     2.19     .00     .050     .050    .050     .000  1557.00  4880.00
  .004690     365.     365.    365.        6        0       0      .00   220.00  5100.00

*SECND 1.284
3280 CROSS SECTION      1.28 EXTENDED       .04 FEET


3470 ENCROACHMENT STATIONS=    4900.0    5100.0  TYPE=     1  TARGET=     200.000
     1.28     1.04  1562.54     .00  1562.29  1562.71     .17     4.14     .03100000.00
     542.       0.     542.      0.       0.     162.      0.      65.      26. 100000.00
      .48      .00     3.34     .00     .050     .050    .050     .000  1561.50  4900.00
  .016814     515.     515.    515.        4        0       0      .00   200.00  5100.00

*SECND 1.376
3280 CROSS SECTION      1.38 EXTENDED       .26 FEET


3470 ENCROACHMENT STATIONS=    4920.0    5050.0  TYPE=     1  TARGET=     130.000
     1.38     1.56  1567.06     .00  1566.68  1567.19     .13     4.48      .00  1566.00
     542.       0.     542.      0.       0.     189.      0.      67.      23. 100000.00
      .53      .00     2.87     .00     .050     .050    .050     .000  1565.50  4920.00
  .005819     485.     485.    485.        2        0       0      .00   130.00  5050.00

*SECND 1.461

3470 ENCROACHMENT STATIONS=    4925.0    5040.0  TYPE=     1  TARGET=     115.000
     1.46     1.42  1570.92     .00  1570.53  1571.16     .25     3.94     .04100000.00
     542.       0.     542.      0.       0.     136.      0.      69.      23. 100000.00
      .56      .00     3.98     .00     .050     .050    .050     .000  1569.50  4925.00
  .014609     450.     450.    450.        3        0       0      .00   115.00  5040.00

*SECND 1.541

3470 ENCROACHMENT STATIONS=    4940.0    5050.0  TYPE=     1  TARGET=     110.000
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 SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELSV
 Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA     LEFT/RIGHT
 TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
 SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


   1.54     1.74  1574.74      .00  1574.30  1574.89      .15     3.71      .01100000.00
  542.       0.    542.       0.       0.     177.       0.      71.      30. 100000.00
    .60     .00     3.06      .00     .050     .050     .050     .000  1573.00  4940.00
 .005806   425.    425.     425.        4        0        0      .00   110.00  5050.00

*SECNO 1.631

3470 ENCROACHMENT STATIONS=    4940.0    5050.0  TYPE=     1  TARGET=     110.000
   1.63     1.50  1578.50      .00  1578.15  1578.73      .22     3.82      .02100000.00
  542.       0.    542.       0.       0.     143.       0.      72.      31. 100000.00
    .63     .00     3.80      .00     .050     .050     .050     .000  1577.00  4940.00
 .011841   600.    475.     475.        4        0        0      .00   110.00  5050.00

*SECNO 1.709

3470 ENCROACHMENT STATIONS=    4940.0    5050.0  TYPE=     1  TARGET=     110.000
   1.71     1.59  1582.59      .00  1581.98  1582.77      .18     4.04      .00  1581.20
  542.       0.    542.       0.       0.     159.       0.      74.      32. 100000.00
    .67     .00     3.41      .00     .050     .050     .050     .000  1581.00  4940.00
 .008327   450.    410.     420.        3        0        0      .00   110.00  5050.00

*SECNO 1.804

3470 ENCROACHMENT STATIONS=    4940.0    5050.0  TYPE=     1  TARGET=     110.000
   1.80     1.57  1586.75      .00  1585.73  1586.93      .18     4.16      .00100000.00
  542.       0.    542.       0.       0.     159.       0.      76.      34. 100000.00
    .71     .00     3.41      .00     .050     .050     .050     .000  1585.18  4940.00
 .008304   500.    500.     500.        2        0        0      .00   110.00  5050.00
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THIS RUN EXECUTED 11-21-1988 15:53:30.77

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 HEC2 RELEASE DATED NOV 76 UPDATED AUG 1985
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 MSDOS VERSION JANUARY 1988 BY DODSON & ASSOCIATES, INC.
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

FLOODPLAIN RUN (WEST SP

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	100*S	VCH
	.417	3150.00	1548.43	4907.10	4890.00	5360.00	6045.91	.00	1138.81	6.93	1541.50	1.08	.94
	.417	3150.00	1547.62	4923.17	4890.00	5360.00	5922.55	.00	999.38	6.12	1541.50	2.06	1.20
	.417	3150.00	1546.17	4935.25	4890.00	5360.00	5665.18	.00	729.93	4.67	1541.50	8.64	1.97
	.417	3150.00	1548.43	4907.10	4890.00	5360.00	6045.91	.00	1138.81	6.93	1541.50	1.08	.94
	.625	542.00	1548.37	4954.01	4865.00	5050.00	5112.38	-.06	158.36	2.17	1546.20	180.56	4.53
*	.625	282.00	1547.70	4966.73	4865.00	5050.00	5041.59	.08	74.86	1.50	1546.20	422.07	5.03
	.625	52.00	1547.10	4979.82	4865.00	5050.00	5025.23	.93	45.42	.90	1546.20	206.35	2.52
	.625	542.00	1548.36	4960.00	4865.00	5050.00	5070.00	-.07	110.00	2.16	1546.20	183.71	4.68
	.711	542.00	1549.58	4918.11	4850.00	5050.00	5335.29	1.21	417.18	3.08	1546.50	7.14	1.34
	.711	282.00	1549.03	4922.25	4850.00	5050.00	5235.02	1.34	313.77	2.53	1546.50	6.47	1.08
	.711	52.00	1547.99	4930.89	4850.00	5050.00	5049.37	.88	118.48	1.49	1546.50	5.94	.59
	.711	542.00	1549.75	4920.00	4850.00	5050.00	5075.00	1.40	155.00	3.25	1546.50	8.85	1.58
	.825	542.00	1550.34	4989.01	4960.00	5005.00	5213.97	.76	224.96	2.34	1548.00	31.43	1.87
	.825	282.00	1549.79	4995.54	4960.00	5005.00	5170.15	.76	174.61	1.79	1548.00	30.87	2.23
	.825	52.00	1548.82	4997.95	4960.00	5005.00	5080.78	.83	82.83	.82	1548.00	69.73	1.93
	.825	542.00	1550.64	4990.00	4960.00	5005.00	5075.00	.89	85.00	2.64	1548.00	37.37	2.39
	.895	542.00	1550.95	4967.91	4960.00	5080.00	5349.19	.60	381.28	3.45	1547.50	9.01	1.51
	.895	282.00	1550.42	4971.90	4960.00	5080.00	5293.34	.62	321.43	2.92	1547.50	8.75	1.28
	.895	52.00	1549.30	4982.11	4960.00	5080.00	5071.11	.48	82.23	1.80	1547.50	4.83	.64
	.895	542.00	1551.40	4970.00	4960.00	5080.00	5075.00	.76	105.00	3.90	1547.50	10.44	1.86
	.939	542.00	1551.09	4961.02	4945.00	5100.00	5276.76	.14	315.74	3.09	1548.00	4.28	1.11
	.939	282.00	1550.54	4970.66	4945.00	5100.00	5232.68	.12	262.01	2.54	1548.00	2.88	.81
	.939	52.00	1549.36	4986.45	4945.00	5100.00	5151.28	.06	164.92	1.36	1548.00	1.65	.40
	.939	542.00	1551.66	4990.00	4945.00	5100.00	5050.00	.26	60.00	3.66	1548.00	16.55	2.60
	1.013	542.00	1551.23	4584.49	4865.00	5070.00	5088.41	.14	503.92	2.73	1548.50	3.14	.92
	1.013	282.00	1550.65	4701.44	4865.00	5070.00	5079.64	.11	378.21	2.15	1548.50	2.75	.71
	1.013	52.00	1549.46	4849.33	4865.00	5070.00	5044.23	.09	194.90	.96	1548.50	4.04	.44
	1.013	542.00	1552.12	4950.00	4865.00	5070.00	5050.00	.46	100.00	3.62	1548.50	6.67	1.64

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	100*S	VCH
	1.015	542.00	1551.22	4724.78	4900.00	5070.00	5300.55	-.01	575.77	1.72	1549.50	1.68	1.39
	1.015	282.00	1550.63	4808.48	4900.00	5070.00	5190.41	-.01	381.93	1.13	1549.50	3.92	1.52
*	1.015	52.00	1549.86	4923.13	4900.00	5070.00	5043.98	.40	120.86	.35	1549.50	86.05	2.42
	1.015	542.00	1552.11	4950.00	4900.00	5070.00	5070.00	-.01	120.00	2.61	1549.50	1.69	1.88
	1.023	542.00	1551.23	4725.53	4900.00	5070.00	5299.57	.01	574.04	1.73	1549.50	1.70	1.40
	1.023	282.00	1550.65	4808.75	4900.00	5070.00	5190.07	.02	381.33	1.15	1549.50	3.96	1.52
	1.023	52.00	1550.02	4895.07	4900.00	5070.00	5075.17	.17	179.10	.52	1549.50	9.84	1.10
	1.023	542.00	1552.16	4800.00	4900.00	5070.00	5070.00	.05	270.00	2.66	1549.50	.43	.97
*	1.117	542.00	1554.27	4591.42	4800.00	5290.00	5136.78	3.04	545.36	.57	1553.70	472.05	3.34
*	1.117	282.00	1554.15	4618.39	4800.00	5290.00	5110.63	3.50	492.24	.45	1553.70	501.97	2.81
*	1.117	52.00	1553.94	4842.15	4800.00	5290.00	5053.14	3.91	220.99	.24	1553.70	768.95	1.99
*	1.117	542.00	1554.34	4800.00	4800.00	5290.00	5075.00	2.18	275.00	.64	1553.70	463.01	3.99
	1.186	542.00	1558.11	4490.19	4850.00	5190.00	5398.24	3.84	908.05	1.11	1557.00	40.83	1.39
	1.186	282.00	1557.91	4530.77	4850.00	5190.00	5171.31	3.76	609.38	.91	1557.00	41.54	1.13
	1.186	52.00	1557.52	4612.80	4850.00	5190.00	5097.48	3.58	330.49	.52	1557.00	35.59	.72
	1.186	542.00	1558.47	4880.00	4850.00	5190.00	5100.00	4.13	220.00	1.47	1557.00	46.90	2.19
	1.284	542.00	1562.29	4723.94	4635.00	5400.00	5349.23	4.18	525.29	.79	1561.50	215.31	2.29
	1.284	282.00	1562.12	4745.55	4635.00	5400.00	5307.74	4.21	465.17	.62	1561.50	235.24	2.03
	1.284	52.00	1561.72	4842.43	4635.00	5400.00	5022.52	4.20	180.09	.22	1561.50	354.52	1.71
	1.284	542.00	1562.54	4900.00	4635.00	5400.00	5100.00	4.07	200.00	1.04	1561.50	168.14	3.34
	1.376	542.00	1566.68	4701.46	4920.00	5100.00	5146.51	4.39	445.04	1.18	1565.50	49.08	2.10
	1.376	282.00	1566.41	4751.44	4920.00	5100.00	5129.42	4.30	376.98	.91	1565.50	45.67	1.66
	1.376	52.00	1565.99	4920.92	4920.00	5100.00	5098.46	4.27	177.53	.49	1565.50	38.65	.98
	1.376	542.00	1567.06	4920.00	4920.00	5100.00	5050.00	4.52	130.00	1.56	1565.50	58.19	2.87
	1.461	542.00	1570.53	4661.93	4830.00	5140.00	5095.47	3.85	434.54	1.03	1569.50	191.93	2.92
	1.461	282.00	1570.31	4730.83	4830.00	5140.00	5076.05	3.90	345.22	.81	1569.50	231.05	2.53
	1.461	52.00	1569.95	4932.91	4830.00	5140.00	5041.74	3.96	108.83	.45	1569.50	380.73	2.14
	1.461	542.00	1570.92	4925.00	4830.00	5140.00	5040.00	3.85	115.00	1.42	1569.50	146.09	3.98
	1.541	542.00	1574.30	4698.66	4510.00	5325.00	5206.09	3.77	507.43	1.30	1573.00	49.10	1.59
	1.541	282.00	1574.04	4769.02	4510.00	5325.00	5187.85	3.72	418.92	1.04	1573.00	44.40	1.29
	1.541	52.00	1573.57	4873.27	4510.00	5325.00	5106.57	3.62	233.30	.57	1573.00	35.65	.77
	1.541	542.00	1574.74	4940.00	4510.00	5325.00	5050.00	3.82	110.00	1.74	1573.00	50.06	3.06
	1.631	542.00	1578.15	4726.95	4750.00	5190.00	5196.15	3.85	372.23	1.15	1577.00	164.44	2.68
	1.631	282.00	1577.87	4904.10	4750.00	5190.00	5166.93	3.83	262.83	.87	1577.00	196.69	2.42
	1.631	52.00	1577.42	4954.24	4750.00	5190.00	5083.20	3.84	128.96	.42	1577.00	345.19	1.94
	1.631	542.00	1578.50	4940.00	4750.00	5190.00	5050.00	3.76	110.00	1.50	1577.00	118.41	3.80
	1.709	542.00	1581.98	4554.35	4940.00	5100.00	5133.79	3.83	578.83	.98	1581.00	55.67	1.80
	1.709	282.00	1581.77	4615.26	4940.00	5100.00	5119.01	3.90	503.75	.77	1581.00	52.17	1.39
	1.709	52.00	1581.44	4710.06	4940.00	5100.00	5057.18	4.03	347.11	.44	1581.00	43.47	.84
	1.709	542.00	1582.59	4940.00	4940.00	5100.00	5050.00	4.09	110.00	1.59	1581.00	83.27	3.41

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
1.804	542.00	1585.73	4670.57	4710.00	5210.00	5127.52	3.75	456.95	1.03	1584.70	107.55	2.12
1.804	282.00	1585.48	4679.77	4710.00	5210.00	5055.74	3.70	375.97	.79	1584.70	114.66	1.79
1.804	52.00	1585.10	4694.59	4710.00	5210.00	4903.61	3.65	209.02	.40	1584.70	149.00	1.24
1.804	542.00	1586.75	4940.00	4710.00	5210.00	5050.00	4.16	110.00	1.57	1585.18	83.04	3.41

FLOODPLAIN RUN (WEST SP

SUMMARY PRINTOUT TABLE 150

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
	.417	.00	.00	.00	1541.50	3150.00	1548.43	.00	1548.44	1.08	.94	3886.20	3032.45
	.417	.00	.00	.00	1541.50	3150.00	1547.62	.00	1547.64	2.06	1.20	3018.06	2194.44
	.417	.00	.00	.00	1541.50	3150.00	1546.17	.00	1546.23	8.64	1.97	1764.35	1071.82
	.417	.00	.00	.00	1541.50	3150.00	1548.43	.00	1548.44	1.08	.94	3886.20	3032.45
	.625	1100.00	.00	.00	1546.20	542.00	1548.37	.00	1548.68	180.56	4.53	127.95	40.34
*	.625	1100.00	.00	.00	1546.20	282.00	1547.70	1547.70	1548.09	422.07	5.03	56.05	13.73
	.625	1100.00	.00	.00	1546.20	52.00	1547.10	.00	1547.20	206.35	2.52	20.63	3.62
	.625	1100.00	.00	.00	1546.20	542.00	1548.36	.00	1548.69	183.71	4.68	119.40	39.99
	.711	450.00	.00	.00	1546.50	542.00	1549.58	.00	1549.61	7.14	1.34	515.70	202.86
	.711	450.00	.00	.00	1546.50	282.00	1549.03	.00	1549.05	6.47	1.08	314.14	110.88
	.711	450.00	.00	.00	1546.50	52.00	1547.99	.00	1547.99	5.94	.59	87.73	21.34
	.711	450.00	.00	.00	1546.50	542.00	1549.75	.00	1549.79	8.85	1.58	353.51	182.22
	.825	600.00	.00	.00	1548.00	542.00	1550.34	.00	1550.40	31.43	1.87	271.90	96.67
	.825	600.00	.00	.00	1548.00	282.00	1549.79	.00	1549.84	38.87	2.23	160.34	45.23
	.825	600.00	.00	.00	1548.00	52.00	1548.82	.00	1548.85	69.73	1.93	35.97	6.23
	.825	600.00	.00	.00	1548.00	542.00	1550.64	.00	1550.78	37.37	2.39	181.75	88.66
	.895	370.00	.00	.00	1547.50	542.00	1550.95	.00	1550.97	9.01	1.51	457.49	180.53
	.895	370.00	.00	.00	1547.50	282.00	1550.42	.00	1550.44	8.75	1.28	270.58	95.31
	.895	370.00	.00	.00	1547.50	52.00	1549.30	.00	1549.30	4.83	.64	80.90	23.66
	.895	370.00	.00	.00	1547.50	542.00	1551.40	.00	1551.45	10.44	1.86	291.77	167.70
	.939	230.00	.00	.00	1548.00	542.00	1551.09	.00	1551.10	4.29	1.11	547.57	262.08
	.939	230.00	.00	.00	1548.00	282.00	1550.54	.00	1550.55	2.83	.81	380.40	166.14
	.939	230.00	.00	.00	1548.00	52.00	1549.36	.00	1549.36	1.65	.40	141.55	40.50
	.939	230.00	.00	.00	1548.00	542.00	1551.66	.00	1551.77	16.55	2.60	208.47	133.22
	1.013	390.00	.00	.00	1548.50	542.00	1551.23	.00	1551.24	3.14	.92	695.35	305.99
	1.013	390.00	.00	.00	1548.50	282.00	1550.65	.00	1550.65	2.75	.71	437.45	169.92
	1.013	390.00	.00	.00	1548.50	52.00	1549.46	.00	1549.46	4.04	.44	118.66	25.87
	1.013	390.00	.00	.00	1548.50	542.00	1552.12	.00	1552.16	6.67	1.64	330.70	209.86
	1.015	10.00	.00	.00	1549.50	542.00	1551.22	.00	1551.25	1.63	1.39	501.01	418.54
	1.015	10.00	.00	.00	1549.50	282.00	1550.63	.00	1550.66	3.92	1.52	219.73	142.39
*	1.015	10.00	.00	.00	1549.50	52.00	1549.86	1549.86	1549.95	86.05	2.42	21.48	5.61
	1.015	10.00	.00	.00	1549.50	542.00	1552.11	.00	1552.17	1.69	1.88	288.72	417.50
	1.023	40.00	.00	.00	1549.50	542.00	1551.23	.00	1551.25	1.70	1.40	497.99	415.26
	1.023	40.00	.00	.00	1549.50	282.00	1550.65	.00	1550.68	3.95	1.52	219.03	141.79
	1.023	40.00	.00	.00	1549.50	52.00	1550.02	.00	1550.04	9.84	1.10	47.32	16.58
	1.023	40.00	.00	.00	1549.50	542.00	1552.16	.00	1552.18	.43	.97	591.51	824.56

	SECND	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10K*S	VCH	AREA	.01K
*	1.117	500.00	.00	.00	1553.70	542.00	1554.27	1554.27	1554.43	472.05	3.34	173.87	24.95
*	1.117	500.00	.00	.00	1553.70	282.00	1554.15	1554.15	1554.26	501.97	2.81	109.27	12.59
*	1.117	500.00	.00	.00	1553.70	52.00	1553.94	1553.94	1554.00	768.95	1.99	26.17	1.88
*	1.117	500.00	.00	.00	1553.70	542.00	1554.34	1554.34	1554.59	463.01	3.99	135.85	25.19
	1.186	365.00	.00	.00	1557.00	542.00	1558.11	.00	1558.13	42.83	1.39	415.68	82.81
	1.186	365.00	.00	.00	1557.00	282.00	1557.91	.00	1557.92	41.54	1.13	259.57	43.76
	1.186	365.00	.00	.00	1557.00	52.00	1557.52	.00	1557.52	35.59	.72	76.98	8.72
	1.186	365.00	.00	.00	1557.00	542.00	1558.47	.00	1558.55	46.90	2.19	247.43	79.15
	1.284	515.00	.00	.00	1561.50	542.00	1562.29	.00	1562.37	215.31	2.29	237.19	36.94
	1.284	515.00	.00	.00	1561.50	282.00	1562.12	.00	1562.18	235.24	2.03	138.65	18.39
	1.284	515.00	.00	.00	1561.50	52.00	1561.72	.00	1561.76	354.52	1.71	30.41	2.76
	1.284	515.00	.00	.00	1561.50	542.00	1562.54	.00	1562.71	168.14	3.34	162.36	41.80
	1.376	485.00	.00	.00	1565.50	542.00	1566.68	.00	1566.73	49.08	2.10	302.87	77.36
	1.376	485.00	.00	.00	1565.50	282.00	1566.41	.00	1566.45	45.67	1.66	190.75	41.73
	1.376	485.00	.00	.00	1565.50	52.00	1565.99	.00	1566.00	38.65	.88	58.80	8.36
	1.376	485.00	.00	.00	1565.50	542.00	1567.06	.00	1567.19	58.19	2.87	188.81	71.05
	1.461	450.00	.00	.00	1569.50	542.00	1570.53	.00	1570.65	191.95	2.92	204.15	39.12
	1.461	450.00	.00	.00	1569.50	282.00	1570.31	.00	1570.41	231.05	2.53	118.86	18.53
	1.461	450.00	.00	.00	1569.50	52.00	1569.95	.00	1570.02	380.73	2.14	24.34	2.66
	1.461	450.00	.00	.00	1569.50	542.00	1570.92	.00	1571.16	146.09	3.98	136.25	44.84
	1.541	425.00	.00	.00	1573.00	542.00	1574.30	.00	1574.34	49.10	1.59	334.94	77.35
	1.541	425.00	.00	.00	1573.00	282.00	1574.04	.00	1574.06	44.40	1.29	219.24	42.32
	1.541	425.00	.00	.00	1573.00	52.00	1573.57	.00	1573.58	35.65	.77	67.20	8.71
	1.541	425.00	.00	.00	1573.00	542.00	1574.74	.00	1574.89	58.05	3.06	177.24	71.13
	1.631	475.00	.00	.00	1577.00	542.00	1578.15	.00	1578.26	164.44	2.68	204.16	42.27
	1.631	475.00	.00	.00	1577.00	282.00	1577.87	.00	1577.96	196.69	2.42	116.43	20.11
	1.631	475.00	.00	.00	1577.00	52.00	1577.42	.00	1577.47	345.19	1.94	26.83	2.80
	1.631	475.00	.00	.00	1577.00	542.00	1578.50	.00	1578.73	118.41	3.80	142.75	49.81
	1.709	410.00	.00	.00	1581.00	542.00	1581.98	.00	1582.03	55.67	1.80	331.41	72.64
	1.709	410.00	.00	.00	1581.00	282.00	1581.77	.00	1581.80	52.17	1.39	217.16	39.04
	1.709	410.00	.00	.00	1581.00	52.00	1581.44	.00	1581.45	43.47	.84	71.82	7.89
	1.709	410.00	.00	.00	1581.00	542.00	1582.59	.00	1582.77	83.27	3.41	158.86	59.40
	1.804	500.00	.00	.00	1584.70	542.00	1585.73	.00	1585.80	107.55	2.12	257.59	52.26
	1.804	500.00	.00	.00	1584.70	282.00	1585.48	.00	1585.53	114.66	1.79	157.95	26.34
	1.804	500.00	.00	.00	1584.70	52.00	1585.10	.00	1585.12	149.00	1.24	41.87	4.26
	1.804	500.00	.00	.00	1585.18	542.00	1586.75	.00	1586.93	83.09	3.41	159.15	59.48

FLOODPLAIN RUN (WEST SP

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	.417	3150.00	1548.43	.00	.00	.00	1138.81	.00
	.417	3150.00	1547.62	-.81	.00	.00	999.38	.00
	.417	3150.00	1546.17	-1.45	.00	.00	729.93	.00
	.417	3150.00	1548.43	2.26	.00	.00	1138.81	.00
	.625	542.00	1548.37	.00	-.06	.00	158.36	1100.00
*	.625	282.00	1547.70	-.68	.08	.00	74.86	1100.00
	.625	52.00	1547.10	-.60	.93	.00	45.42	1100.00
	.625	542.00	1548.36	1.25	-.07	-.02	110.00	1100.00
	.711	542.00	1549.58	.00	1.21	.00	417.18	450.00
	.711	282.00	1549.03	-.55	1.34	.00	313.77	450.00
	.711	52.00	1547.99	-1.05	.88	.00	118.48	450.00
	.711	542.00	1549.75	1.77	1.40	.17	155.00	450.00
	.825	542.00	1550.34	.00	.76	.00	224.96	600.00
	.825	282.00	1549.79	-.55	.76	.00	174.61	600.00
	.825	52.00	1548.82	-.97	.83	.00	82.83	600.00
	.825	542.00	1550.64	1.82	.89	.30	85.00	600.00
	.895	542.00	1550.95	.00	.60	.00	381.28	370.00
	.895	282.00	1550.42	-.53	.62	.00	321.43	370.00
	.895	52.00	1549.30	-1.12	.48	.00	82.23	370.00
	.895	542.00	1551.40	2.10	.76	.45	105.00	370.00
	.939	542.00	1551.09	.00	.14	.00	315.74	230.00
	.939	282.00	1550.54	-.55	.12	.00	252.01	230.00
	.939	52.00	1549.36	-1.17	.06	.00	164.82	230.00
	.939	542.00	1551.66	2.30	.26	.58	60.00	230.00
	1.013	542.00	1551.23	.00	.14	.00	503.92	390.00
	1.013	282.00	1550.65	-.58	.11	.00	378.21	390.00
	1.013	52.00	1549.46	-1.19	.09	.00	194.90	390.00
	1.013	542.00	1552.12	2.66	.46	.89	100.00	390.00
	1.015	542.00	1551.22	.00	-.01	.00	575.77	10.00
	1.015	282.00	1550.63	-.59	-.01	.00	381.93	10.00
*	1.015	52.00	1549.86	-.78	.40	.00	120.86	10.00
	1.015	542.00	1552.11	2.26	-.01	.89	120.00	10.00
	1.023	542.00	1551.23	.00	.01	.00	574.04	40.00
	1.023	282.00	1550.65	-.58	.02	.00	381.33	40.00
	1.023	52.00	1550.02	-.63	.17	.00	179.10	40.00
	1.023	542.00	1552.16	2.14	.05	.93	270.00	40.00

	SECND	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLOH
*	1.117	542.00	1554.27	.00	3.04	.00	545.36	500.00
*	1.117	282.00	1554.15	-.12	3.50	.00	492.24	500.00
*	1.117	52.00	1553.94	-.21	3.91	.00	220.99	500.00
*	1.117	542.00	1554.34	.40	2.18	.07	275.00	500.00
	1.186	542.00	1558.11	.00	3.84	.00	900.05	365.00
	1.186	282.00	1557.91	-.20	3.76	.00	603.38	365.00
	1.186	52.00	1557.52	-.39	3.58	.00	330.49	365.00
	1.186	542.00	1558.47	.96	4.13	.37	220.00	365.00
	1.284	542.00	1562.29	.00	4.18	.00	625.29	515.00
	1.284	282.00	1562.12	-.17	4.21	.00	455.17	515.00
	1.284	52.00	1561.72	-.40	4.20	.00	180.09	515.00
	1.284	542.00	1562.54	.82	4.07	.25	200.00	515.00
	1.376	542.00	1566.68	.00	4.39	.00	445.04	485.00
	1.376	282.00	1566.41	-.26	4.30	.00	376.98	485.00
	1.376	52.00	1565.99	-.42	4.27	.00	177.53	485.00
	1.376	542.00	1567.06	1.07	4.52	.39	130.00	485.00
	1.461	542.00	1570.53	.00	3.85	.00	434.54	450.00
	1.461	282.00	1570.31	-.22	3.90	.00	345.22	450.00
	1.461	52.00	1569.95	-.36	3.96	.00	108.83	450.00
	1.461	542.00	1570.92	.97	3.85	.39	115.00	450.00
	1.541	542.00	1574.30	.00	3.77	.00	507.43	425.00
	1.541	282.00	1574.04	-.26	3.72	.00	418.82	425.00
	1.541	52.00	1573.57	-.47	3.62	.00	233.30	425.00
	1.541	542.00	1574.74	1.17	3.82	.44	110.00	425.00
	1.631	542.00	1578.15	.00	3.85	.00	372.23	475.00
	1.631	282.00	1577.87	-.28	3.83	.00	262.83	475.00
	1.631	52.00	1577.42	-.45	3.84	.00	128.96	475.00
	1.631	542.00	1578.50	1.09	3.76	.35	110.00	475.00
	1.709	542.00	1581.98	.00	3.83	.00	578.83	410.00
	1.709	282.00	1581.77	-.21	3.90	.00	503.75	410.00
	1.709	52.00	1581.44	-.33	4.03	.00	347.11	410.00
	1.709	542.00	1582.59	1.15	4.09	.61	110.00	410.00
	1.804	542.00	1585.73	.00	3.75	.00	456.95	500.00
	1.804	282.00	1585.48	-.25	3.70	.00	375.97	500.00
	1.804	52.00	1585.10	-.38	3.65	.00	203.02	500.00
	1.804	542.00	1586.75	1.65	4.16	1.02	110.00	500.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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CAUTION  SECNO=     .625  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=     .625  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=     .625  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=    1.015  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.015  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.015  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=    1.117  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.117  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.117  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    1.117  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.117  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.117  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    1.117  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.117  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.117  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION  SECNO=    1.117  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    1.117  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    1.117  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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FLOODWAY DATA. FLOODPLAIN RUN (WEST SP
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.417	999.	3018.	1.0	1547.7	1548.4	-.7
.625	75.	56.	5.0	1547.8	1548.4	-.6
.711	314.	314.	.9	1549.2	1549.6	-.4
.825	175.	160.	1.8	1549.9	1550.3	-.4
.895	321.	271.	1.0	1550.5	1550.9	-.4
.939	262.	388.	.7	1550.7	1551.1	-.4
1.013	378.	437.	.6	1550.7	1551.2	-.5
1.015	382.	220.	1.3	1550.7	1551.2	-.5
1.023	381.	219.	1.3	1550.7	1551.2	-.5
1.117	492.	109.	2.6	1554.3	1554.3	.0
1.186	641.	260.	1.1	1558.0	1558.1	-.1
1.284	562.	139.	2.0	1562.2	1562.3	-.1
1.376	377.	195.	1.4	1566.5	1566.7	-.2
1.461	345.	119.	2.4	1570.4	1570.5	-.1
1.541	419.	219.	1.3	1574.1	1574.3	-.2
1.631	263.	116.	2.4	1578.0	1578.2	-.2
1.709	504.	217.	1.3	1581.9	1582.0	-.1
1.804	376.	158.	1.8	1585.5	1585.7	-.2

FLOODWAY DATA. FLOODPLAIN RUN (WEST SP
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
.417	730.	1764.	1.8	1546.2	1548.4	-2.2
.625	45.	21.	2.5	1547.2	1548.4	-1.2
.711	118.	88.	.6	1548.1	1549.6	-1.5
.825	83.	36.	1.4	1548.9	1550.3	-1.4
.895	89.	81.	.6	1549.4	1550.9	-1.5
.939	165.	142.	.4	1549.5	1551.1	-1.6
1.013	195.	119.	.4	1549.5	1551.2	-1.7
1.015	121.	21.	2.4	1549.9	1551.2	-1.3
1.023	179.	47.	1.1	1550.1	1551.2	-1.1
1.117	221.	26.	2.0	1554.1	1554.3	-.2
1.186	485.	77.	.7	1557.6	1558.1	-.5
1.284	180.	30.	1.7	1561.8	1562.3	-.5
1.376	178.	59.	.9	1566.1	1566.7	-.6
1.461	109.	24.	2.1	1570.0	1570.5	-.5
1.541	233.	67.	.8	1573.7	1574.3	-.6
1.631	129.	27.	1.9	1577.6	1578.2	-.6
1.709	347.	72.	.7	1581.6	1582.0	-.4
1.804	209.	42.	1.2	1585.2	1585.7	-.5

FLOODWAY DATA. FLOODPLAIN RUN (WEST SP
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.417	1139.	3886.	.8	1548.4	1548.4	.0
.625	110.	119.	4.5	1548.4	1548.4	.0
.711	155.	354.	1.5	1549.8	1549.6	.2
.825	85.	182.	3.0	1550.6	1550.3	.3
.895	105.	292.	1.9	1551.4	1550.9	.5
.939	60.	208.	2.6	1551.7	1551.1	.6
1.013	100.	331.	1.6	1552.1	1551.2	.9
1.015	120.	289.	1.9	1552.1	1551.2	.9
1.023	270.	592.	.9	1552.1	1551.2	.9
1.117	275.	136.	4.0	1554.4	1554.3	.1
1.186	220.	247.	2.2	1558.5	1558.1	.4
1.284	200.	162.	3.3	1562.6	1562.3	.3
1.376	130.	189.	2.9	1567.1	1566.7	.4
1.461	115.	136.	4.0	1570.9	1570.5	.4
1.541	110.	177.	3.1	1574.7	1574.3	.4
1.631	110.	143.	3.8	1578.6	1578.2	.4
1.709	110.	159.	3.4	1582.6	1582.0	.6
1.804	110.	159.	3.4	1586.7	1585.7	1.0

THIS RUN EXECUTED 11-21-1988 15:53:34.89

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*************************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED AUG 1985
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  MSDOS VERSION JANUARY 1988 BY DODSON & ASSOCIATES, INC.
*************************************************************
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INPUT FILE: NORTHRUN

OUTPUT FILE: NORTHRUN.OUT

THIS RUN EXECUTED 07/31/88 11:35:45

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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T1 WITTWMAN AREA MASTER DRINAGE STUDY.
T2 100-YEAR STORM EVENT. SPLIT FLOW THROUGH THE TOWN OF WITTMANN.
T3 WITTMANN WASH-SPLIT FLOW(NORTH SPLIT)

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	2.	0.	0.	.000000	.00	.5	0.	1680.820	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1.000	.000	.000	.000	.000	.000	.000	.000	.000	15.000

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38.000	43.000	1.000	53.000	21.000	22.000	54.000	51.000	4.000	8.000
42.000	5.000	26.000	.000	110.000	.000	200.000	.000	.000	.000

NC	.070	.070	.035	.100	.300	.000	.000	.000	.000	.000
QT	4.000	2202.000	2202.000	1660.000	749.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4920.000	5025.000
X1	3.892	9.000	4940.000	5025.000	.000	.000	.000	.000	.000	.000
GR	1681.000	4725.000	1680.500	4880.000	1680.000	4940.000	1678.000	4960.000	1676.000	4980.000
GR	1675.000	5000.000	1676.000	5010.000	1678.000	5015.000	1681.000	5025.000	.000	.000
QT	4.000	1050.000	1050.000	792.000	337.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4960.000	5025.000
X1	3.937	9.000	4950.000	5035.000	240.000	245.000	240.000	.000	.000	.000
GR	1683.000	4910.000	1682.000	4950.000	1680.000	4965.000	1678.000	4995.000	1677.000	5000.000
GR	1678.000	5005.000	1680.000	5015.000	1682.000	5035.000	1683.000	5085.000	.000	.000
NH	5.000	.050	4950.000	.050	4985.000	.035	5025.000	.100	5090.000	.050
NH	5150.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4960.000	5025.000
X1	3.973	9.000	4960.000	5025.000	190.000	190.000	190.000	.000	.000	.000
GR	1685.600	4890.000	1684.000	4950.000	1682.000	4960.000	1680.000	4985.000	1679.000	5000.000
GR	1680.000	5015.000	1682.000	5025.000	1684.000	5090.000	1685.000	5150.000	.000	.000
NH	5.000	.050	4930.000	.000	4990.000	.035	5010.000	.050	5030.000	.060
NH	5150.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4970.000	5025.000

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X1      4.021     11.000   4965.000   5030.000    250.000    250.000    250.000       .000       .000       .000
GR   1687.500   4845.000   1687.000   4930.000   1686.000   4965.000   1684.000   4980.000   1682.000   4990.000
GR   1680.500   5000.000   1682.000   5010.000   1684.000   5020.000   1686.000   5030.000   1687.000   5110.000
GR   1687.000   5150.000       .000       .000       .000       .000       .000       .000       .000       .000

NH      3.000       .050   4980.000       .070   5030.000       .050   5200.000       .000       .000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4980.000   5030.000
X1      4.049     11.000   4980.000   5030.000    150.000    150.000    150.000       .000       .000       .000
GR   1689.500   4790.000   1683.000   4870.000   1688.000   4925.000   1686.000   4980.000   1682.000   4995.000
GR   1681.000   5000.000   1682.000   5005.000   1686.000   5015.000   1688.000   5030.000   1688.000   5080.000
GR   1688.000   5200.000       .000       .000       .000       .000       .000       .000       .000       .000

NH      3.000       .040   4980.000       .070   5020.000       .060   5130.000       .000       .000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4980.000   5020.000
X1      4.087      7.000   4980.000   5020.000    205.000    190.000    200.000       .000       .000       .000
GR   1690.000   4880.000   1688.000   4980.000   1683.000   4995.000   1682.500   5000.000   1683.000   5005.000
GR   1688.000   5020.000   1689.000   5130.000       .000       .000       .000       .000       .000       .000

NH      4.000       .080   4990.000       .050   5020.000       .090   5030.000       .070   5125.000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4975.000   5030.000
X1      4.128      7.000   4975.000   5030.000    215.000    215.000    215.000       .000       .000       .000
X5      4.000   1691.200   1691.200   1690.850   1689.750       .000       .000       .000       .000       .000
GR   1692.000   4770.000   1690.000   4975.000   1688.000   4990.000   1686.000   5000.000   1688.000   5020.000
GR   1690.000   5030.000   1691.300   5125.000       .000       .000       .000       .000       .000       .000

NH      4.000       .070   4970.000       .090   4995.000       .040   5005.000       .090   5045.000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4950.000   5015.000
X1      4.153     11.000   4970.000   5015.000    135.000    135.000    135.000       .000       .000       .000
GR   1693.000   4820.000   1692.500   4900.000   1693.000   4935.000   1692.000   4970.000   1690.000   4985.000
GR   1688.000   4995.000   1687.800   5000.000   1688.000   5005.000   1690.000   5015.000   1692.000   5025.000
GR   1693.000   5045.000       .000       .000       .000       .000       .000       .000       .000       .000

NH      4.000       .080   4980.000       .040   5010.000       .030   5025.000       .050   5065.000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4960.000   5025.000
X1      4.192      7.000   4960.000   5025.000    200.000    210.000    205.000       .000       .000       .000
GR   1695.000   4850.000   1694.000   4960.000   1692.000   4980.000   1689.700   5000.000   1692.000   5010.000
GR   1694.000   5025.000   1695.000   5065.000       .000       .000       .000       .000       .000       .000

NH      5.000       .060   4960.000       .090   4990.000       .035   5025.000       .090   5080.000       .070
NH   5215.000       .000       .000       .000       .000       .000       .000       .000       .000       .000
QT      4.000   2163.000   2163.000   1660.000    749.000       .000       .000       .000       .000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4960.000   5100.000
X1      4.234     13.000   4960.000   5050.000    220.000    220.000    220.000       .000       .000       .000
GR   1697.000   4680.000   1696.000   4760.000   1694.000   4960.000   1692.000   4990.000   1691.500   5000.000
GR   1692.000   5010.000   1694.000   5025.000   1696.000   5050.000   1695.000   5080.000   1696.000   5120.000
GR   1695.000   5145.000   1696.000   5150.000   1697.000   5215.000       .000       .000       .000       .000
EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
```



```
SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST


*PROF 1

CCHV=    .100 CEHV=    .300
*SECNO 3.892
    3.89     5.82  1680.82  1679.89  1680.82  1681.58      .76      .00      .00  1680.00
   2202.      43.    2159.       0.      50.     305.       0.       0.       0.  1681.00
     .00      .85     7.09      .00     .070     .035     .070     .000  1675.00  4780.82
  .005112      0.       0.       0.       0       10        0      .00   243.58  5024.40
```

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 FLOW DISTRIBUTION FOR SECNO=      3.89          CWSEL=   1680.82

 STA=    4781.    4880.    4940.    5025.
   PER Q=       .3      1.6     98.1
    AREA=     15.9     34.2    304.7
     VEL=       .4      1.0      7.1

 *SECNO 3.937
      3.94     5.34  1682.34      .00      .00  1682.66      .33     1.03      .04  1682.00
     1050.       1.    1048.       1.       2.     229.       3.       2.       1.   1682.00
       .01      .36     4.58      .36     .070     .035     .070     .000  1677.00  4936.44
   .003142     240.     240.     245.        2        0        0      .00   115.52  5051.96
0
 FLOW DISTRIBUTION FOR SECNO=      3.94          CWSEL=   1682.34

 STA=    4936.    4950.    5035.    5052.
   PER Q=       .1     99.8       .1
    AREA=      2.3    228.8      2.9
     VEL=       .4      4.6       .4

 1490 NH CARD USED
 *SECNO 3.973
      3.97     4.03  1683.03      .00      .00  1683.55      .52      .83      .06  1682.00
     1050.       2.    1034.      13.       3.     177.      17.       3.       1.   1682.00
       .02      .85     5.85      .77     .090     .040     .100     .000  1679.00  4954.85
   .006514     190.     190.     190.        3        0        0      .00   103.63  5058.48
0
 FLOW DISTRIBUTION FOR SECNO=      3.97          CWSEL=   1683.03

 STA=    4955.    4960.    5025.    5058.
   PER Q=       .2     98.5      1.3
    AREA=      2.7    177.0     17.2
     VEL=       .8      5.8       .8

1
  07/31/88    11:35:44                                                                    PAGE    4


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO 4.021

 1645 INT SEC ADDED BY RAISING SEC      4.02,   -.750FT AND MULTIPLYING BY   1.403

      1.01     4.11  1683.86      .00      .00  1684.70      .84     1.05      .10  1685.25
     1050.       0.    1050.       0.       0.     143.       0.       3.       2.   1685.25
       .03      .00     7.37      .00     .090     .035     .100     .000  1679.75  5027.99
   .011225     125.     125.     125.        2        0        0      .00    66.76  5094.76
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1683.86

 STA=    5028.    5105.
   PER Q=     100.0
    AREA=     142.5
     VEL=       7.4


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .750FT AND MULTIPLYING BY    .713

      4.02     4.72  1685.22      .00      .00  1686.19      .97     1.45      .04  1686.00
     1050.       0.    1050.       0.       0.     133.       0.       3.       2.   1686.00
```

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      .03      .00     7.91      .00     .090     .037     .100     .000  1680.50  4970.91
   .011988     125.     125.     125.        3        0        0      .00    55.15  5026.06
0
 FLOW DISTRIBUTION FOR SECNO=      4.02          CWSEL=   1685.22

 STA=    4971.    5030.
   PER Q=    100.0
    AREA=    132.7
     VEL=      7.9

 1490 NH CARD USED
 *SECNO 4.049

 1645 INT SEC ADDED BY RAISING SEC      4.05,   -.250FT AND MULTIPLYING BY   1.278

     1.01     6.03  1686.78      .00      .00  1687.29      .51     1.05      .05  1685.75
    1050.      46.    1004.       0.      19.     173.       0.       4.       2.   1687.75
      .04     2.47     5.81      .00     .050     .070     .100     .000  1680.75  4996.46
   .016627      75.      75.      75.        3        0        0      .00    90.96  5087.42
0
1
  07/31/88    11:35:44                                                                          PAGE    5


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1686.78

 STA=    4996.    5033.    5097.
   PER Q=      4.4     95.6
    AREA=     18.8    172.7
     VEL=      2.5      5.8


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .250FT AND MULTIPLYING BY    .783

     4.05     6.94  1687.94      .00      .00  1688.30      .36      .99      .01  1686.00
    1050.     156.     894.       0.      52.     177.       0.       4.       2.   1688.00
      .04     3.03     5.05      .00     .050     .070     .100     .000  1681.00  4926.71
   .010826      75.      75.      75.        3        0        0      .00   102.83  5029.54
0
 FLOW DISTRIBUTION FOR SECNO=      4.05          CWSEL=   1687.94

 STA=    4927.    4980.    5030.
   PER Q=     14.9     85.1
    AREA=     51.6    176.9
     VEL=      3.0      5.1

 1490 NH CARD USED
 *SECNO 4.087
 3280 CROSS SECTION      4.09 EXTENDED       .49 FEET

     4.09     7.00  1689.50      .00      .00  1689.69      .19     1.38      .02  1688.00
    1050.     118.     747.     185.      56.     187.     109.       5.       3.   1688.00
      .06     2.11     3.99     1.70     .040     .070     .060     .000  1682.50  4905.32
   .004761     205.     200.     190.        1        0        0      .00   224.68  5130.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.09          CWSEL=   1689.50

 STA=    4905.    4980.    5020.    5130.
   PER Q=     11.2     71.1     17.7
    AREA=     55.0    187.9    104.3
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    VEL=      2.1      4.0      1.7

 1490 NH CARD USED
 *SECNO 4.128
1
  07/31/88    11:35:44                                                                                    PAGE    6


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


  WATER EL=X5 CARD=  1691.200
      4.13     5.20  1691.20      .00      .00  1691.54      .34     1.18      .04  1690.00
     1050.      78.     908.      64.      74.     181.      53.       7.       4.   1690.00
       .07     1.06     5.02     1.21     .080     .052     .070     .000  1686.00  4852.00
   .006433     215.     215.     215.        0        0        0      .00   265.68  5117.69
0
 FLOW DISTRIBUTION FOR SECNO=      4.13          CWSEL=   1691.20

 STA=    4852.    4975.    5030.    5118.
   PER Q=      7.4     86.5      6.1
    AREA=     73.8    181.0     52.6
     VEL=      1.1      5.0      1.2

 1490 NH CARD USED
 *SECNO 4.153

 1645 INT SEC ADDED BY RAISING SEC      4.15,   -.900FT AND MULTIPLYING BY   1.062

      1.01     4.69  1691.59      .00      .00  1692.28      .69      .64      .10  1691.10
     1050.       5.     1001.      44.       5.     147.      19.       7.       4.   1689.10
       .07     1.03     6.81     2.36     .070     .056     .090     .000  1686.90  4960.75
   .015063      68.      68.      68.        2        0        0      .00    87.60  5048.34
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1691.59

 STA=    4961.    4979.    5027.    5038.    5048.
   PER Q=      .5     95.4      4.0       .2
    AREA=      4.6    147.1     15.9      2.7
     VEL=      1.0      6.8      2.6       .8


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .900FT AND MULTIPLYING BY    .942


 3265 DIVIDED FLOW

      4.15     4.80  1692.60      .00      .00  1693.32      .72     1.03      .01  1692.00
     1050.       8.      995.      47.       7.     143.      20.       8.       5.   1690.00
       .08     1.05     6.96     2.42     .070     .057     .090     .000  1687.80  4984.22
   .015347      68.      68.      68.        2        0        0      .00   110.61  5035.97
0
1
  07/31/88    11:35:44                                                                                    PAGE    7


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.15          CWSEL=   1692.60
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```
 STA=    4884.    4900.    4907.    4970.    5015.    5025.    5037.
   PER Q=      .0       .0       .7     94.7      4.2       .3
    AREA=      .8       .3      6.3    142.9     16.0      3.6
     VEL=      .4       .4      1.2      7.0      2.8       .9

 1490 NH CARD USED
 *SECNO 4.192
     4.19     5.11  1694.81      .00      .00  1695.26      .45     1.92      .03  1694.00
    1050.      29.    1003.      17.      36.     182.      13.       9.       5.  1694.00
      .09      .81     5.50     1.30     .080     .042     .050     .000  1689.70  4870.53
  .006312     200.     205.     210.        2        0        0      .00   187.00  5057.53
0
 FLOW DISTRIBUTION FOR SECNO=      4.19          CWSEL=   1694.81

 STA=    4871.    4960.    5025.    5058.
   PER Q=      2.8     95.6      1.6
    AREA=     36.4    182.4     13.2
     VEL=       .8      5.5      1.3

 1490 NH CARD USED
 *SECNO 4.234
     4.23     4.78  1696.28      .00      .00  1696.62      .34     1.35      .01  1694.00
    2163.     579.    1482.     102.     258.     270.      80.      11.       7.  1696.00
      .10     2.24     5.49     1.27     .060     .044     .075     .000  1691.50  4737.94
  .006042     220.     220.     220.        2        0        0      .00   429.98  5167.92
0
 FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1696.28

 STA=    4738.    4960.    5050.    5120.    5168.
   PER Q=     26.8     68.5      3.2      1.5
    AREA=    258.2    269.8     54.3     25.7
     VEL=      2.2      5.5      1.3      1.3

1
 PROFILE FOR STREAM  WITTMANN WASH-SPLIT FLOW


 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE.I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


 ELEVATION  1675.     1680.     1685.     1690.     1695.     1700.     1705.     1710.     1715.     1720.
    SECNO   CUMDIS

     3.89      0.  I        C WE     .         .         .         .         .         .         .         .
              20.  I        L WE     .         .         .         .         .         .         .         .
              40.  CI       .LWME    .         .         .         .         .         .         .         .
              60.  CI       .LWME    .         .         .         .         .         .         .         .
              80.  CI       .L WE    .         .         .         .         .         .         .         .
             100.  C I      . LWE    .         .         .         .         .         .         .         .
             120.  C I      . LWE    .         .         .         .         .         .         .         .
             140.  C I      . LWE    .         .         .         .         .         .         .         .
             160.  C  I     .  LWE   .         .         .         .         .         .         .         .
             180.  C  I     .  LWE   .         .         .         .         .         .         .         .
             200.  C  I     .  LWE   .         .         .         .         .         .         .         .
             220.  C   I    .   WEM  .         .         .         .         .         .         .         .
     3.94    240.  C   I    .   LEM  .         .         .         .         .         .         .         .
             260.  C   I    .   LWE  .         .         .         .         .         .         .         .
             280.  C    I   .   LWEM .         .         .         .         .         .         .         .
             300.  C    I   .   LWEM .         .         .         .         .         .         .         .
             320.  C     I  .   LWE M .         .         .         .         .         .         .         .
             340.  C     I  .   LWE M .         .         .         .         .         .         .         .
             360.  C      I .   L E  M.         .         .         .         .         .         .         .
             380.  C      I .   L WE M.         .         .         .         .         .         .         .
             400.  C      I .   L WE M
```

```
       420.  C      I .  _ WE  M        .         .         .         .         .         .         .         .
3.97   440.  C      I .  L WE  M        .         .         .         .         .         .         .         .
       460.  C      I .   LWE  M        .         .         .         .         .         .         .         .
       480.  C      I .    LWE .M       .         .         .         .         .         .         .         .
       500.  C       I.     WE .M       .         .         .         .         .         .         .         .
       520.  C       I.     WLE. M      .         .         .         .         .         .         .         .
       540.  C       I.     W E. M      .         .         .         .         .         .         .         .
1.01   560.  C        I      WE.L M     .         .         .         .         .         .         .         .
       580.  C        I      W EL M     .         .         .         .         .         .         .         .
       600.  C        I       WEL M     .         .         .         .         .         .         .         .
       620.  C        I       W.E M     .         .         .         .         .         .         .         .
       640.  C        I       W.E M     .         .         .         .         .         .         .         .
       660.  C       .I        W E M    .         .         .         .         .         .         .         .
4.02   680.  C       .I        W E M    .         .         .         .         .         .         .         .
       700.  C       .I        .WLEM    .         .         .         .         .         .         .         .
       720.  C       .I        . W EM   .         .         .         .         .         .         .         .
       740.  C       .I        . LWER   .         .         .         .         .         .         .         .
1.01   760.  C       . I       . L WER  .         .         .         .         .         .         .         .
       780.  C       . I       . L WER  .         .         .         .         .         .         .         .
       800.  C       . I       . L  WE  .         .         .         .         .         .         .         .
       820.  C       . I       . L  WE  .         .         .         .         .         .         .         .
4.05   840.  C       . I       . L   WE .         .         .         .         .         .         .         .
       860.  C       . I       . L   WE .         .         .         .         .         .         .         .
       880.  C       .  I      .  L  RE .         .         .         .         .         .         .         .
       900.  C       .  I      .  L  RE .         .         .         .         .         .         .         .
       920.  C       .  I      .   L RWE .        .         .         .         .         .         .         .
       940.  C       .   I     .   L RWE .        .         .         .         .         .         .         .
       960.  C       .   I     .   L RME .        .         .         .         .         .         .         .
       980.  C       .   I     .    LRMWE.        .         .         .         .         .         .         .
      1000.  C       .   I     .    LR WE.        .         .         .         .         .         .         .
      1020.  C       .    I    .     L ME.        .         .         .         .         .         .         .
4.09  1040.  C       .    I    .     L ME.        .         .         .         .         .         .         .
      1060.  C       .     I   .     L MWE        .         .         .         .         .         .         .
      1080.  C       .     I   .      L ME        .         .         .         .         .         .         .
      1100.  C       .      I  .      L ME        .         .         .         .         .         .         .
      1120.  C       .       I .      L  WE        .         .         .         .         .         .         .
      1140.  C       .       I .       L ME        .         .         .         .         .         .         .
      1160.  C       .        I.       L .E        .         .         .         .         .         .         .
      1180.  C       .         I        L.WE       .         .         .         .         .         .         .
      1200.  C       .         I        L.ME       .         .         .         .         .         .         .
      1220.  C       .         .I       L. E       .         .         .         .         .         .         .
      1240.  C       .         . I       L WE      .         .         .         .         .         .         .
4.13  1260.  C       .         . I       L WE      .         .         .         .         .         .         .
      1280.  C       .         .  I     R.L WE     .         .         .         .         .         .         .
      1300.  C       .         .  I     R.L WE     .         .         .         .         .         .         .
1.01  1320.  C       .         .   I   R . LWME    .         .         .         .         .         .         .
      1340.  C       .         .   I    R.  LWE    .         .         .         .         .         .         .
      1360.  C       .         .    I   R.  LWME   .         .         .         .         .         .         .
4.15  1380.  C       .         .     I   R   LWME  .         .         .         .         .         .         .
      1400.  C       .         .     I   .R  L WE  .         .         .         .         .         .         .
      1420.  C       .         .     I   . R  LWE  .         .         .         .         .         .         .
      1440.  C       .         .      I  . R  LWME .         .         .         .         .         .         .
      1460.  C       .         .      I  .  R  LWE .         .         .         .         .         .         .
      1480.  C       .         .      I  .   R LWME.         .         .         .         .         .         .
      1500.  C       .         .       I .    RL WE.         .         .         .         .         .         .
      1520.  C       .         .       I .    R LWE.         .         .         .         .         .         .
      1540.  C       .         .        I.     RL WE         .         .         .         .         .         .
      1560.  C       .         .        I.      RLWE         .         .         .         .         .         .
      1580.  C       .         .        I.       L E         .         .         .         .         .         .
4.19  1600.  C       .         .        I.       L WE        .         .         .         .         .         .
      1620.  C       .         .         I       L WE        .         .         .         .         .         .
      1640.  C       .         .         I       LRWE        .         .         .         .         .         .
      1660.  C       .         .         I       LRWE        .         .         .         .         .         .
      1680.  C       .         .        .I      LR.WE        .         .         .         .         .         .
      1700.  C       .         .        .I      L RWE        .         .         .         .         .         .
      1720.  C                           I      L RWE
```

```
          1740.  C        .        .        . I    L .WEM    .        .        .        .        .        .
          1760.  C        .        .        . I    L .REM    .        .        .        .        .        .
          1780.  C        .        .        . I    L .RWE    .        .        .        .        .        .
          1800.  C        .        .        .  I   L . WEM   .        .        .        .        .        .
     4.23 1820.  C        .        .        .  I   L . REM   .        .        .        .        .        .
1
 07/31/88    11:35:44                                                                                    PAGE    8


                                                                                THIS RUN EXECUTED 07/31/88   11:36:23
*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
*************************************************


T1      WITTTWMAN AREA MASTER DRINAGE STUDY.
T2      100-YEAR STORM EVENT.  SPLIT FLOW THROUGH THE TOWN OF WITTMANN.
T3      WITTMANN WASH (NORTH SPLIT)  ENCROACHMENT RUN

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        3.        0.        0.   .000000      .00       .5        0.  1681.340     .000

MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
 07/31/88    11:35:44                                                                                    PAGE    9


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 2

CCHV=    .100 CEHV=    .300
*SECNO 3.892
3280 CROSS SECTION      3.89 EXTENDED       .34 FEET


3470 ENCROACHMENT STATIONS=    4920.0    5025.0  TYPE=     1  TARGET=     105.000
     3.89      6.34  1681.34      .00  1680.82  1681.93      .59      .00      .00  1680.00
    2202.       35.    2167.       0.      25.     349.       0.       0.       0. 100000.00
      .00      1.37     6.21      .00     .070     .035     .070     .000  1675.00  4920.00
  .003331        0.       0.       0.        0        0        0      .00   105.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=      3.89          CWSEL=   1681.34

 STA=    4920.     4940.     5025.
   PER Q=      1.6      98.4
    AREA=     25.1     348.9
     VEL=      1.4       6.2

 *SECNO 3.937

 3470 ENCROACHMENT STATIONS=    4960.0    5025.0  TYPE=     1  TARGET=      63.000
```

```
      3.94      5.34  1682.34      .00  1682.34  1682.73      .39      .79      .02100040.00
     1050.        0.    1050.       0.       0.     211.       0.       2.        0. 100000.00
       .01       .00     4.98      .00     .070     .035     .070     .000  1677.00  4960.00
   .003081      240.     240.     245.        3        0        0      .00    65.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=      3.94          CWSEL=   1682.34

 STA=    4960.    5035.
   PER Q=    100.0
    AREA=    210.8
     VEL=      5.0

 1490 NH CARD USED
 *SECNO 3.973

 3470 ENCROACHMENT STATIONS=    4960.0    5025.0  TYPE=     1  TARGET=      65.000
      3.97      4.07  1683.07      .00  1683.03  1683.60      .53      .83      .04  1682.00
     1050.        0.    1050.       0.       0.     180.       0.       2.        1. 100000.00
       .02       .00     5.84      .00     .070     .040     .070     .000  1679.00  4960.00
   .006649      190.     190.     190.        3        0        0      .00    65.00  5025.00
0
1
  07/31/88    11:35:44                                                                          PAGE   10


    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=      3.97          CWSEL=   1683.07

 STA=    4960.    5025.
   PER Q=    100.0
    AREA=    179.7
     VEL=      5.8

 1490 NH CARD USED
 *SECNO 4.021

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4970.0    5025.0  TYPE=     1  TARGET=      55.000
      4.02      4.51  1685.01  1684.99  1685.22  1686.17     1.16     2.38      .19100000.00
     1050.        0.    1050.       0.       0.     121.       0.       3.        1. 100000.00
       .03       .00     8.65      .00     .070     .035     .070     .000  1680.50  4972.48
   .014714      250.     250.     250.        4        9        0      .00    52.52  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.02          CWSEL=   1685.01

 STA=    4972.    5030.
   PER Q=    100.0
    AREA=    121.4
     VEL=      8.7

 1490 NH CARD USED
 *SECNO 4.049

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4980.0    5030.0  TYPE=     1  TARGET=      50.000
      4.05      6.96  1687.96      .00  1687.94  1688.50      .54     2.27      .05  1686.00
     1050.        0.    1050.       0.       0.     178.       0.       4.        1. 100000.00
```

```
      .04      .00     5.91      .00     .070     .070     .070     .000  1681.00  4980.00
   .015513     150.     150.     150.        4        0        0      .00    49.66  5029.66
0
 FLOW DISTRIBUTION FOR SECNO=      4.05          CWSEL=   1687.96

 STA=    4980.     5030.
   PER Q=    100.0
    AREA=    177.8
     VEL=      5.9

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  07/31/88    11:35:44                                                                          PAGE   11


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO 4.087
 3280 CROSS SECTION      4.09 EXTENDED      1.13 FEET


 3470 ENCROACHMENT STATIONS=    4980.0    5020.0  TYPE=     1  TARGET=      40.000
      4.09     7.64  1690.14      .00  1689.50  1690.52      .38     2.00      .02  1688.00
     1050.       0.    1050.       0.       0.     213.       0.       5.       1. 100000.00
       .05      .00     4.94      .00     .070     .070     .070     .000  1682.50  4980.00
   .007005     205.     200.     190.        2        0        0      .00    40.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.09          CWSEL=   1690.14

 STA=    4980.     5020.
   PER Q=    100.0
    AREA=    212.7
     VEL=      4.9

 1490 NH CARD USED
 *SECNO 4.128
  WATER EL=X5 CARD=  1691.200

 3470 ENCROACHMENT STATIONS=    4975.0    5030.0  TYPE=     1  TARGET=      55.000
      4.13     5.20  1691.20      .00  1691.20  1691.72      .52     1.60      .04  1690.00
     1050.       0.    1050.       0.       0.     181.       0.       6.       2. 100000.00
       .06      .00     5.80      .00     .070     .051     .070     .000  1686.00  4975.00
   .008747     215.     215.     215.        0        0        0      .00    55.00  5030.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.13          CWSEL=   1691.20

 STA=    4975.     5030.
   PER Q=    100.0
    AREA=    181.0
     VEL=      5.8

 1490 NH CARD USED
 *SECNO 4.153

 3470 ENCROACHMENT STATIONS=    4950.0    5015.0  TYPE=     1  TARGET=      65.000
      4.15     4.82  1692.62      .00  1692.60  1693.42      .81     1.61      .09  1692.00
     1050.       9.    1041.       0.       7.     144.       0.       6.       2. 100000.00
       .06     1.34     7.24      .00     .070     .055     .070     .000  1687.50  4950.00
   .017332     135.     135.     135.        2        0        0      .00    55.00  5015.00
0
1
  07/31/88    11:35:44                                                                          PAGE   12
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      ESTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.15          CWSEL=   1692.62

 STA=    4950.    4970.    5015.
   PER Q=       .9     99.1
    AREA=      6.7    143.9
     VEL=      1.3      7.2

 1490 NH CARD USED
 *SECNO 4.192

 3470 ENCROACHMENT STATIONS=    4960.0    5025.0  TYPE=     1  TARGET=      65.000
      4.19     5.26  1694.96      .00  1694.81  1695.42      .47     1.97      .03  1694.00
     1050.       0.    1050.       0.       0.     192.       0.       7.       2. 100000.00
       .07      .00     5.48      .00     .070     .042     .070     .000  1689.70  4960.00
   .006090     200.     205.     210.        2        0        0      .00    65.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.19          CWSEL=   1694.96

 STA=    4960.    5025.
   PER Q=    100.0
    AREA=    191.6
     VEL=      5.5

 1490 NH CARD USED
 *SECNO 4.234

 3470 ENCROACHMENT STATIONS=    4960.0    5100.0  TYPE=     1  TARGET=     140.000
      4.23     5.04  1696.54      .00  1696.28  1697.26      .72     1.76      .08  1694.00
     2163.       0.     2051.     112.       0.     294.      57.       8.       3.  1696.00
       .08      .00     6.98     1.96     .070     .044     .079     .000  1691.50  4960.00
   .009299     220.     220.     220.        2        0        0      .00   140.00  5100.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1696.54

 STA=    4960.    5050.    5080.    5100.
   PER Q=     94.8      2.4      2.8
    AREA=    293.8     31.3     25.8
     VEL=      7.0      1.6      2.3

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 07/31/88    11:35:44                                                                  PAGE   13


                                                                  THIS RUN EXECUTED 07/31/88   11:36:39
 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ***************************************************


 T1      WITTTWMAN AREA MASTER DRINAGE STUDY.
 T2       50-YEAR STORM EVENT.  SPLIT FLOW THROUGH THE TOWN OF WITTMANN.
 T3      WITTMANN WASH (NORTH SPLIT)
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 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    MVING     Q         WSEL      FQ

       0.        4.        0.        0.   .000000       .00        .5        0.  1680.480      .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      3.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
  07/31/88    11:35:44                                                                                    PAGE   14


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       CLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 3

 CCHV=    .100 CEHV=    .300
 *SECNO 3.892
      3.89     5.48  1680.48      .00  1680.48  1681.03      .55      .00      .00  1680.00
     1660.       7.    1653.       0.      14.     276.       0.       0.       0.   1681.00
       .00      .52     5.98      .00     .070     .035     .070     .000  1675.00  4882.40
   .004079       0.       0.       0.        0        0        0      .00   140.86  5023.27
0
 FLOW DISTRIBUTION FOR SECNO=      3.89          CWSEL=   1680.48

 STA=    4882.    4940.    5025.
   PER Q=       .4     99.6
    AREA=     13.8    276.2
     VEL=       .5      6.0

 *SECNO 3.937
      3.94     4.71  1681.71      .00      .00  1682.03      .31      .97      .02  1682.00
      792.       0.     792.       0.       0.     176.       0.       1.       1.   1682.00
       .01      .00     4.49      .00     .070     .035     .070     .000  1677.00  4952.15
   .003942     240.     240.     245.        3        0        0      .00    79.98  5032.13
0
 FLOW DISTRIBUTION FOR SECNO=      3.94          CWSEL=   1681.71

 STA=    4952.    5035.
   PER Q=    100.0
    AREA=    176.4
     VEL=      4.5

 1490 NH CARD USED
 *SECNO 3.973
      3.97     3.57  1682.57      .00      .00  1683.02      .44      .95      .04  1682.00
      792.       0.     789.       3.       1.     147.       5.       2.       1.   1682.00
       .02      .57     5.36      .52     .090     .039     .100     .000  1679.00  4957.13
   .006582     190.     190.     190.        3        0        0      .00    86.51  5043.64
0
 FLOW DISTRIBUTION FOR SECNO=      3.97          CWSEL=   1682.57

 STA=    4957.    4960.    5025.    5044.
   PER Q=       .1     99.6       .4
    AREA=       .8    147.3      5.3
     VEL=       .6      5.4       .5

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  07/31/88    11:35:44                                                                                    PAGE   15
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO 4.021

 1645 INT SEC ADDED BY RAISING SEC      4.02,   -.750FT AND MULTIPLYING BY   1.445

     1.01     3.65  1683.40      .00      .00  1684.11      .71     1.01      .08  1685.25
     792.       0.     792.       0.       0.     117.       0.       2.       1.   1685.25
      .03      .00     6.75      .00     .090     .034     .100     .000  1679.75  5038.37
  .010235     125.     125.     125.        2        0        0      .00    60.55  5098.92
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1683.40

 STA=    5038.    5112.
   PER Q=    100.0
    AREA=    117.4
     VEL=      6.7


 1645 INT SEC ADDED BY RAISING SEC      1.01,    .750FT AND MULTIPLYING BY    .692

     4.02     4.15  1684.65      .00      .00  1685.56      .91     1.39      .06  1686.00
     792.       0.     792.       0.       0.     104.       0.       3.       1.   1686.00
      .03      .00     7.65      .00     .090     .035     .100     .000  1680.50  4975.13
  .012105     125.     125.     125.        3        0        0      .00    48.11  5023.24
0
 FLOW DISTRIBUTION FOR SECNO=      4.02          CWSEL=   1684.65

 STA=    4975.    5030.
   PER Q=    100.0
    AREA=    103.6
     VEL=      7.6

 1490 NH CARD USED
 *SECNO 4.049
     4.05     6.14  1687.14      .00      .00  1687.57      .43     1.96      .05  1686.00
     792.      43.     749.       0.      18.     140.       0.       3.       2.   1689.00
      .04     2.42     5.37      .00     .050     .070     .100     .000  1681.00  4948.80
  .014175     150.     150.     150.        3        0        0      .00    74.71  5023.51
0
1
 07/31/88    11:35:44                                                                  PAGE   16


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.05          CWSEL=   1687.14

 STA=    4949.    4980.    5030.
   PER Q=      5.4     94.6
    AREA=     17.7    139.5
     VEL=      2.4      5.4

 1490 NH CARD USED
 *SECNO 4.087
 3280 CROSS SECTION      4.09 EXTENDED       .04 FEET
```

```
     4.09     6.54  1689.04      .00      .00  1689.25      .21     1.65      .02  1688.00
     792.      47.     674.      71.      27.     169.      59.       4.       2.   1688.00
      .06     1.77     3.99     1.21     .040     .070     .060     .000  1682.50  4928.24
   .005461     205.     200.     190.        2        0        0      .00   201.76  5130.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.09          CWSEL=   1689.04

 STA=    4928.    4980.    5020.    5130.
   PER Q=      6.0     85.1      9.0
    AREA=     26.8    168.9     58.9
     VEL=      1.8      4.0      1.2

 1490 NH CARD USED
 *SECNO 4.128
  WATER EL=X5 CARD=  1690.850
     4.13     4.85  1690.85      .00      .00  1691.15      .30     1.22      .03  1690.00
     792.      30.     738.      24.      37.     162.      26.       5.       3.   1690.00
      .07      .81     4.56      .92     .080     .051     .070     .000  1686.00  4987.88
   .005902     215.     215.     215.        0        0        0      .00   204.23  5092.11
0
 FLOW DISTRIBUTION FOR SECNO=      4.13          CWSEL=   1690.85

 STA=    4888.    4975.    5030.    5092.
   PER Q=      3.8     93.2      3.1
    AREA=     37.0    161.7     25.4
     VEL=       .8      4.6       .9

 1490 NH CARD USED
 *SECNO 4.153
     4.15     4.05  1691.85      .00      .00  1692.61      .76     1.32      .14  1692.00
     792.       0.     774.      18.       0.     109.       9.       6.       4.   1690.00
      .08      .00     7.07     2.15     .070     .053     .090     .000  1687.80  4971.12
   .019252     135.     135.     135.        3        0        0      .00    53.13  5024.25
0
1
  07/31/88    11:35:44                                                                    PAGE   17


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.15          CWSEL=   1691.85

 STA=    4971.    5015.    5024.
   PER Q=     97.7      2.3
    AREA=    109.4      8.6
     VEL=      7.1      2.1

 1490 NH CARD USED
 *SECNO 4.192
     4.19     4.64  1694.34      .00      .00  1694.75      .42     2.11      .03  1694.00
     792.       3.     788.       2.       6.     151.       2.       6.       4.   1694.00
      .09      .45     5.21      .72     .080     .040     .050     .000  1689.70  4923.11
   .006392     200.     205.     210.        3        0        0      .00   115.30  5033.41
0
 FLOW DISTRIBUTION FOR SECNO=      4.19          CWSEL=   1694.34

 STA=    4923.    4960.    5025.    5038.
   PER Q=       .4     99.4       .2
    AREA=      6.2    151.3      2.2
     VEL=       .5      5.2       .7

 1490 NH CARD USED
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 *SECND 4.234

 3265 DIVIDED FLOW

      4.23     4.38  1695.88      .00      .00  1696.24      .37     1.43      .00  1694.00
     1660.     347.    1277.      36.     176.     234.      39.       8.       5.  1696.00
       .10     1.97     5.46      .95     .060     .043     .075     .000  1691.50  4772.62
   .006937     220.     220.     220.        1        0        0      .00   263.18  5149.37
0
 FLOW DISTRIBUTION FOR SECND=      4.23          CWSEL=   1695.88

 STA=    4773.    4960.    5050.    5080.    5115.    5145.    5149.
   PER Q=     20.9     76.9       .5       .9       .6       .1
    AREA=    175.6    233.7     11.5     15.3      9.5      1.9
     VEL=      2.0      5.5       .8      1.0      1.0      1.0

1
  07/31/88    11:35:44                                                                          PAGE   18


                                                                   THIS RUN EXECUTED 07/31/88   11:36:55
 ***************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ***************************************************


 T1      WITTTWMAN AREA MASTER DRINAGE STUDY.
 T2       10-YEAR STORM EVENT.  SPLIT FLOW THROUGH THE TOWN OF WITTMANN.
 T3      WITTMANN WASH (NORTH SPLIT)

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.       5.       0.       0.   .000000      .00       .5       0.  1679.160     .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     15.000     .000    -1.000     .000      .000      .000      .000      .000      .000     15.000

1
  07/31/88    11:35:44                                                                          PAGE   19


   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 4

 CCHV=    .100 CEHV=    .300
 *SECND 3.892
     3.89     4.16  1679.16      .00  1679.16  1679.45      .29      .00      .00  1680.00
     749.       0.     749.       0.       0.     173.       0.       0.       0.  1681.00
      .00      .00     4.34      .00     .070     .035     .070     .000  1675.00  4949.40
  .003200       0.       0.       0.        0        0        0      .00    70.47  5018.87
0
 FLOW DISTRIBUTION FOR SECND=      3.89          CWSEL=   1679.16

 STA=    4948.    5025.
```

```
  PER Q=    100.0
   AREA=    172.8
    VEL=      4.3

 *SECNO 3.937
     3.94     3.11  1680.11      .00      .00  1680.51      .39     1.03      .03  1682.00
     357.       0.     357.       0.       0.      71.       0.       1.       0.   1682.00
      .01      .00     5.04      .00     .070     .035     .070     .000  1677.00  4964.13
  .009421     240.     240.     245.        3        0        0      .00    52.03  5016.16
0
 FLOW DISTRIBUTION FOR SECNO=      3.94          CWSEL=   1680.11

 STA=    4964.    5035.
  PER Q=    100.0
   AREA=     70.9
    VEL=      5.0

 1490 NH CARD USED
 *SECNO 3.973
     3.97     2.63  1681.63      .00      .00  1681.90      .26     1.37      .01  1682.00
     357.       0.     357.       0.       0.      87.       0.       1.       1.   1682.00
      .03      .00     4.11      .00     .090     .036     .100     .000  1679.00  4964.67
  .005723     190.     190.     190.        2        0        0      .00    58.47  5023.13
0
 FLOW DISTRIBUTION FOR SECNO=      3.97          CWSEL=   1681.63

 STA=    4965.    5025.
  PER Q=    100.0
   AREA=     86.9
    VEL=      4.1

1
  07/31/88    11:35:44                                                                    PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       GLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO 4.021
     4.02     2.90  1683.40      .00      .00  1684.11      .70     2.00      .13  1686.00
     357.       0.     357.       0.       0.      53.       0.       1.       1.   1686.00
      .04      .00     6.73      .00     .090     .034     .100     .000  1680.50  4982.96
  .013185     250.     250.     250.        2        0        0      .00    34.08  5017.04
0
 FLOW DISTRIBUTION FOR SECNO=      4.02          CWSEL=   1683.40

 STA=    4983.    5030.
  PER Q=    100.0
   AREA=     53.1
    VEL=      6.7

 1490 NH CARD USED
 *SECNO 4.049
     4.05     4.73  1685.73      .00      .00  1686.00      .27     1.85      .04  1686.00
     357.       0.     357.       0.       0.      86.       0.       2.       1.   1688.00
      .05      .00     4.17      .00     .090     .070     .100     .000  1681.00  4981.02
  .011530     150.     150.     150.        3        0        0      .00    33.30  5014.32
0
 FLOW DISTRIBUTION FOR SECNO=      4.05          CWSEL=   1685.73

 STA=    4981.    5030.
  PER Q=    100.0
```

```
    AREA=     85.7
     VEL=      4.2

 1490 NH CARD USED
 *SECNO 4.087
      4.09      4.98  1687.48      .00      .00  1687.66      .17     1.65      .01  1688.00
      357.        0.     357.       0.       0.     100.       0.       2.       1.   1688.00
       .06       .00     3.32      .00     .090     .070     .100     .000  1682.50  4981.55
   .006178      205.     200.     190.        2        0        0      .00    36.90  5018.45
0
 FLOW DISTRIBUTION FOR SECNO=      4.09          CWSEL=   1687.48

 STA=    4982.    5020.
   PER Q=    100.0
    AREA=    107.6
     VEL=      3.3

1
  07/31/88    11:35:44                                                                          PAGE   21


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CDRAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO 4.128
  WATER EL=X5 CARD=  1689.750
      4.13      3.75  1689.75      .00      .00  1689.94      .19     1.21      .01  1690.00
      357.        0.     357.       0.       0.     102.       0.       3.       1.   1690.00
       .08       .00     3.51      .00     .090     .047     .100     .000  1686.00  4976.88
   .005149      215.     215.     215.        0        0        0      .00    51.88  5028.75
0
 FLOW DISTRIBUTION FOR SECNO=      4.13          CWSEL=   1689.75

 STA=    4977.    5030.
   PER Q=    100.0
    AREA=    101.6
     VEL=      3.5

 1490 NH CARD USED
 *SECNO 4.153
      4.15      2.88  1690.68      .00      .00  1691.17      .49     1.14      .09  1692.00
      357.        0.     356.       1.       0.      63.       1.       3.       1.   1690.00
       .09       .00     5.63     1.02     .090     .050     .090     .000  1687.80  4979.88
   .016376      135.     135.     135.        3        0        0      .00    38.54  5018.41
0
 FLOW DISTRIBUTION FOR SECNO=      4.15          CWSEL=   1690.68

 STA=    4980.    5015.    5018.
   PER Q=     99.7       .3
    AREA=     63.2      1.2
     VEL=      5.6      1.0

 1490 NH CARD USED
 *SECNO 4.192
      4.19      3.33  1693.03      .00      .00  1693.39      .36     2.20      .01  1694.00
      357.        0.     357.       0.       0.      74.       0.       3.       2.   1694.00
       .10       .00     4.79      .00     .090     .035     .090     .000  1689.70  4969.74
   .007585      200.     205.     210.        3        0        0      .00    47.95  5017.69
0
 FLOW DISTRIBUTION FOR SECNO=      4.19          CWSEL=   1693.03

 STA=    4970.    5025.
```

```
  PER Q=    100.0
   AREA=     74.5
    VEL=      4.8

1
 07/31/88    11:35:44                                                                                    PAGE   22


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO 4.234
     4.23     3.26  1694.76      .00      .00  1695.13      .37     1.74      .00  1694.00
     749.      34.     715.       0.      29.     143.       0.       4.       2.  1696.00
      .11     1.17     5.00      .00     .060     .041     .090     .000  1691.50  4884.02
  .008048     220.     220.     220.        2        0        0      .00   150.47  5034.50
0
 FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1694.76

 STA=    4884.    4960.    5050.
   PER Q=      4.5     95.5
    AREA=     28.9    143.0
     VEL=      1.2      5.0

1
 07/31/88    11:35:44                                                                                    PAGE   23


                                                                                THIS RUN EXECUTED 07/31/88   11:37:10
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST


 WITTMANN WASH-SPLIT FLOW

 SUMMARY PRINTOUT


      SECNO      Q       CWSEL     SSTA      STCHL     STCHR     ENDST    DIFWSX    TOPWID    DEPTH     ELMIN     10K*S     VCH

      3.892   2202.00   1680.82   4780.82   4940.00   5025.00   5024.40      .00    243.58     5.82   1675.00     51.12    7.09
      3.892   2202.00   1681.34   4920.00   4940.00   5025.00   5025.00      .00    105.00     6.34   1675.00     33.31    6.21
      3.892   1660.00   1680.48   4882.40   4940.00   5025.00   5023.27      .00    140.86     5.48   1675.00     40.79    5.98
      3.892    749.00   1679.16   4948.40   4940.00   5025.00   5018.87      .00     70.47     4.16   1675.00     32.00    4.34

      3.937   1050.00   1682.34   4936.44   4950.00   5035.00   5051.96     1.52    115.52     5.34   1677.00     31.42    4.58
      3.937   1050.00   1682.34   4960.00   4950.00   5035.00   5025.00     1.00     65.00     5.34   1677.00     30.81    4.98
      3.937    792.00   1681.71   4952.15   4950.00   5035.00   5032.13     1.23     79.98     4.71   1677.00     39.42    4.49
      3.937    357.00   1680.11   4964.13   4950.00   5035.00   5016.16      .95     52.03     3.11   1677.00     94.21    5.04

      3.973   1050.00   1683.03   4954.85   4960.00   5025.00   5058.48      .69    103.63     4.03   1679.00     65.14    5.85
      3.973   1050.00   1683.07   4960.00   4960.00   5025.00   5025.00      .73     65.00     4.07   1679.00     66.49    5.84
      3.973    792.00   1683.57   4957.13   4960.00   5025.00   5047.64      .96     96.51     3.57   1679.00     65.83    5.76
```

	3.973	357.00	1681.63	4964.67	4960.00	5025.00	5023.13	1.52	58.47	2.63	1679.00	57.23	4.11
*	4.021	1050.00	1685.22	4970.91	4965.00	5030.00	5026.06	1.36	55.15	4.72	1680.50	119.88	7.91
	4.021	1050.00	1685.01	4972.48	4965.00	5030.00	5025.00	1.94	52.52	4.51	1680.50	147.14	8.65
*	4.021	792.00	1684.65	4975.13	4965.00	5030.00	5023.24	1.25	48.11	4.15	1680.50	121.05	7.65
	4.021	357.00	1683.40	4982.96	4965.00	5030.00	5017.04	1.77	34.08	2.90	1680.50	131.85	6.73
*	4.049	1050.00	1687.94	4926.71	4980.00	5030.00	5029.54	1.16	102.83	6.94	1681.00	108.26	5.05
	4.049	1050.00	1687.96	4980.00	4980.00	5030.00	5029.66	2.95	49.65	6.96	1681.00	155.13	5.91
	4.049	792.00	1687.14	4948.80	4980.00	5030.00	5023.51	2.49	74.71	5.14	1681.00	141.75	5.37
	4.049	357.00	1685.73	4981.02	4980.00	5030.00	5014.32	2.32	33.30	4.73	1681.00	115.30	4.17
	4.087	1050.00	1689.50	4905.32	4980.00	5020.00	5130.00	1.56	224.68	7.00	1682.50	47.61	3.99
	4.087	1050.00	1690.14	4980.00	4980.00	5020.00	5020.00	2.18	40.00	7.64	1682.50	70.05	4.94
	4.087	792.00	1689.04	4928.24	4980.00	5020.00	5130.00	1.90	201.76	6.54	1682.50	54.61	3.99
	4.087	357.00	1687.48	4981.55	4980.00	5020.00	5018.45	1.76	36.90	4.98	1682.50	61.78	3.32
*	4.128	1050.00	1691.20	4852.00	4975.00	5030.00	5117.69	1.70	265.68	5.20	1686.00	64.33	5.02
*	4.128	1050.00	1691.20	4975.00	4975.00	5030.00	5030.00	1.06	55.00	5.20	1686.00	87.47	5.80
*	4.128	792.00	1690.85	4887.88	4975.00	5030.00	5092.11	1.81	204.23	4.85	1686.00	59.02	4.56
*	4.128	357.00	1689.75	4976.88	4975.00	5030.00	5028.75	2.27	51.89	3.75	1686.00	51.49	3.51

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	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
*	4.153	1050.00	1692.60	4884.22	4970.00	5015.00	5036.97	1.01	110.61	4.80	1687.80	153.47	6.96
	4.153	1050.00	1692.62	4950.00	4970.00	5015.00	5015.00	1.42	65.00	4.82	1687.80	173.32	7.24
	4.153	792.00	1691.85	4971.12	4970.00	5015.00	5024.25	1.00	53.13	4.05	1687.80	192.52	7.07
	4.153	357.00	1690.69	4979.88	4970.00	5015.00	5018.41	.93	38.54	2.88	1687.80	163.76	5.63
	4.192	1050.00	1694.81	4870.53	4960.00	5025.00	5057.53	2.22	137.00	5.11	1689.70	63.12	5.50
	4.192	1050.00	1694.95	4960.00	4960.00	5025.00	5025.00	2.34	65.00	5.25	1689.70	60.90	5.49
	4.192	792.00	1694.34	4923.11	4960.00	5025.00	5038.41	2.49	115.30	4.64	1689.70	63.92	5.21
	4.192	357.00	1693.03	4969.74	4960.00	5025.00	5017.69	2.35	47.95	3.33	1689.70	75.85	4.79
	4.234	2163.00	1696.29	4737.94	4960.00	5050.00	5167.92	1.47	429.98	4.78	1691.50	60.42	5.49
	4.234	2163.00	1696.54	4960.00	4960.00	5050.00	5100.00	1.59	140.00	5.04	1691.50	92.99	6.98
	4.234	1660.00	1695.89	4772.62	4960.00	5050.00	5149.37	1.54	353.18	4.38	1691.50	69.37	5.46
	4.234	749.00	1694.76	4884.02	4960.00	5050.00	5034.50	1.73	150.47	3.26	1691.50	80.48	5.00

1

WITTMANN WASH-SPLIT FLOW

SUMMARY PRINTOUT TABLE 110

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
3.892	1680.82	.00	1681.58	243.58	42.78	2159.22	.00	.00	.00	4940.00	5025.00	.00
3.892	1681.34	.52	1681.93	105.00	34.52	2167.48	.00	105.00	4920.00	4940.00	5025.00	5025.00
3.892	1680.48	.00	1681.03	140.86	7.24	1652.76	.00	.00	.00	4940.00	5025.00	.00
3.892	1679.16	.00	1679.45	70.47	.00	749.00	.00	.00	.00	4940.00	5025.00	.00
3.937	1682.34	.00	1682.66	115.52	.84	1048.11	1.05	.00	.00	4950.00	5035.00	.00
3.937	1682.34	.01	1682.73	65.00	.00	1050.00	.00	65.00	4960.00	4950.00	5035.00	5025.00
3.937	1681.71	.00	1682.03	79.98	.00	792.00	.00	.00	.00	4950.00	5035.00	.00
3.937	1680.11	.00	1680.51	52.03	.00	357.00	.00	.00	.00	4950.00	5035.00	.00
3.973	1683.03	.00	1683.55	103.63	2.24	1034.47	13.28	.00	.00	4960.00	5025.00	.00
3.973	1683.07	.04	1683.59	65.00	.00	1050.00	.00	65.00	4960.00	4960.00	5025.00	5025.00

	3.973	1682.57	.00	1683.02	86.51	.47	799.72	2.80	.00	.00	4960.00	5025.00	.00
	3.973	1681.63	.00	1681.90	58.47	.00	357.00	.00	.00	.00	4960.00	5025.00	.00
*	4.021	1685.22	.00	1686.19	55.15	.00	1050.00	.00	.00	.00	4965.00	5030.00	.00
	4.021	1685.01	-.21	1686.17	52.52	.00	1050.00	.00	55.00	4970.00	4965.00	5030.00	5025.00
*	4.021	1684.65	.00	1685.56	48.11	.00	792.00	.00	.00	.00	4965.00	5030.00	.00
	4.021	1683.40	.00	1684.11	34.08	.00	357.00	.00	.00	.00	4965.00	5030.00	.00
*	4.049	1687.94	.00	1688.30	102.83	156.31	893.69	.00	.00	.00	4980.00	5030.00	.00
	4.049	1687.96	.02	1688.50	49.66	.00	1050.00	.00	50.00	4990.00	4980.00	5030.00	5030.00
	4.049	1687.14	.00	1687.57	74.71	42.89	749.10	.00	.00	.00	4980.00	5030.00	.00
	4.049	1685.73	.00	1686.00	33.30	.00	357.00	.00	.00	.00	4980.00	5030.00	.00
	4.087	1689.50	.00	1689.69	224.68	117.67	746.89	185.44	.00	.00	4980.00	5020.00	.00
	4.087	1690.14	.64	1690.52	40.00	.00	1050.00	.00	40.00	4990.00	4980.00	5020.00	5020.00
	4.087	1689.04	.00	1689.25	201.76	47.40	673.60	71.00	.00	.00	4980.00	5020.00	.00
	4.087	1687.48	.00	1687.66	36.90	.00	357.00	.00	.00	.00	4980.00	5020.00	.00
*	4.128	1691.20	.00	1691.54	265.68	78.20	900.08	63.72	.00	.00	4975.00	5030.00	.00
*	4.128	1691.20	.00	1691.72	55.00	.00	1050.00	.00	55.00	4975.00	4975.00	5030.00	5030.00
*	4.128	1690.85	.00	1691.15	204.23	29.87	737.80	24.33	.00	.00	4975.00	5030.00	.00
*	4.128	1689.75	.00	1689.94	51.88	.00	357.00	.00	.00	.00	4975.00	5030.00	.00
*	4.153	1692.60	.00	1693.32	110.61	7.77	994.82	47.40	.00	.00	4970.00	5015.00	.00
	4.153	1692.62	.02	1693.42	65.00	8.94	1041.05	.00	65.00	4950.00	4970.00	5015.00	5015.00
	4.153	1691.85	.00	1692.61	53.13	.00	773.62	18.38	.00	.00	4970.00	5015.00	.00
	4.153	1690.68	.00	1691.17	38.54	.00	355.81	1.19	.00	.00	4970.00	5015.00	.00
	4.192	1694.81	.00	1695.26	187.00	29.47	1003.30	17.14	.00	.00	4960.00	5025.00	.00
	4.192	1694.96	.14	1695.42	65.00	.00	1050.00	.00	55.00	4960.00	4960.00	5025.00	5025.00
	4.192	1694.34	.00	1694.75	115.30	2.79	787.58	1.62	.00	.00	4960.00	5025.00	.00
	4.192	1693.03	.00	1693.39	47.95	.00	357.00	.00	.00	.00	4960.00	5025.00	.00

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SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
4.234	1696.28	.00	1696.62	429.98	579.33	1481.82	101.85	.00	.00	4960.00	5050.00	.00
4.234	1696.54	.25	1697.26	140.00	.00	2051.14	111.86	140.00	4950.00	4960.00	5050.00	5100.00
4.234	1695.88	.00	1696.24	363.18	346.72	1277.05	36.23	.00	.00	4960.00	5050.00	.00
4.234	1694.76	.00	1695.13	150.47	33.64	715.36	.00	.00	.00	4960.00	5050.00	.00

1

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION  SECNO=    4.021  PROFILE= 1  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=    4.021  PROFILE= 3  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=    4.049  PROFILE= 1  INTERPOLATED XSECTIONS USED

NOTE     SECNO=    4.128  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=    4.128  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=    4.128  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=    4.128  PROFILE= 4  WSEL BASED ON X5 CARD

CAUTION  SECNO=    4.153  PROFILE= 1  INTERPOLATED XSECTIONS USED
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FLOODWAY DATA, WITTMANN WASH-SPLIT FLOW
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
3.892	105.	374.	5.9	1681.3	1680.8	.5
3.937	65.	211.	5.0	1682.3	1682.3	.0
3.973	65.	180.	5.8	1683.0	1683.0	.0
4.021	53.	121.	8.7	1685.1	1685.2	-.1
4.049	50.	178.	5.9	1687.9	1687.9	.0
4.087	40.	213.	4.9	1690.1	1689.5	.6
4.128	55.	181.	5.8	1691.2	1691.2	.0
4.153	65.	151.	7.0	1692.6	1692.6	.0
4.192	65.	192.	5.5	1694.9	1694.8	.1
4.234	140.	351.	6.2	1696.6	1696.3	.3

1

FLOODWAY DATA, WITTMANN WASH-SPLIT FLOW
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
3.892	141.	290.	5.7	1680.6	1680.8	-.2
3.937	80.	176.	4.5	1681.8	1682.3	-.5
3.973	87.	153.	5.2	1682.6	1683.0	-.4
4.021	48.	104.	7.6	1684.7	1685.2	-.5
4.049	75.	157.	5.0	1687.2	1687.9	-.7
4.087	202.	255.	3.1	1689.1	1689.5	-.4
4.128	204.	225.	3.5	1691.0	1691.2	-.2
4.153	53.	118.	6.7	1692.0	1692.6	-.6
4.192	115.	160.	5.0	1694.4	1694.8	-.4
4.234	377.	447.	3.7	1696.0	1696.3	-.3

1

FLOODWAY DATA, WITTMANN WASH-SPLIT FLOW
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
3.892	70.	173.	4.3	1679.2	1680.8	-1.6
3.937	52.	71.	5.0	1680.2	1682.3	-2.1
3.973	58.	87.	4.1	1681.7	1683.0	-1.3
4.021	34.	53.	6.7	1683.5	1685.2	-1.7
4.049	33.	86.	4.2	1685.8	1687.9	-2.1

4.087	37.	108.	3.3	1687.6	1689.5	-1.9
4.128	52.	102.	3.5	1689.9	1691.2	-1.3
4.153	39.	64.	5.5	1690.8	1692.6	-1.8
4.192	48.	74.	4.8	1693.1	1694.8	-1.7
4.234	150.	172.	4.4	1694.9	1696.3	-1.4

1

THIS RUN EXECUTED 07/31/88 11:37:23

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************
```

INPUT FILE: SOUTHRUN

OUTPUT FILE: SOUTHRUN.OUT

THIS RUN EXECUTED 07/31/88 11:33:40

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**********************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
**********************************************
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T1 WITTMANN AREA DRAINAGE MASTER STUDY.
T2 100-YEAR STORM EVENT. SPLIT FLOW THROUGH THE TOWN OF WITTMANN.
T3 WITTMANN WASH-SPLIT FLOW(SOUTH SPLIT)

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	2.	0.	0.	.000000	.00	.5	0.	1680.820	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1.000	.000	.000	.000	.000	.000	.000	.000	.000	15.000

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38.000	43.000	1.000	53.000	21.000	22.000	54.000	51.000	4.000	8.000
42.000	5.000	26.000	.000	110.000	.000	200.000	.000	.000	.000

NC	.070	.070	.035	.100	.300	.000	.000	.000	.000	.000
QT	4.000	2202.000	2202.000	1660.000	749.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4920.000	5025.000
X1	3.892	9.000	4940.000	5025.000	.000	.000	.000	.000	.000	.000
GR	1681.000	4725.000	1680.500	4880.000	1680.000	4940.000	1678.000	4960.000	1676.000	4980.000
GR	1675.000	5000.000	1676.000	5010.000	1678.000	5015.000	1681.000	5025.000	.000	.000
NH	3.000	.070	5000.000	.035	5010.000	.080	5040.000	.000	.000	.000
QT	4.000	1152.000	1152.000	868.000	392.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4975.000	5025.000
X1	3.937	9.000	4970.000	5020.000	240.000	245.000	240.000	.000	.000	.000
GR	1683.000	4935.000	1682.000	4970.000	1680.000	4980.000	1678.000	4990.000	1677.000	5000.000
GR	1678.000	5010.000	1680.000	5020.000	1682.000	5030.000	1683.000	5040.000	.000	.000
NH	3.000	.090	4985.000	.035	5010.000	.090	5030.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4955.000	5015.000
X1	3.973	10.000	4970.000	5020.000	190.000	190.000	190.000	.000	.000	.000
GR	1685.000	4850.000	1684.000	4910.000	1683.000	4930.000	1685.000	4955.000	1684.000	4970.000
GR	1680.000	4985.000	1679.000	5000.000	1680.000	5010.000	1684.000	5020.000	1685.000	5030.000
NH	3.000	.070	4990.000	.035	5005.000	.070	5055.000	.000	.000	.000
QT	4.000	1113.000	1113.000	839.000	198.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4975.000	5025.000

```
X1      4.009     12.000   4975.000   5015.000    190.000    190.000    190.000       .000       .000       .000
GR   1687.000   4815.000   1686.000   4855.000   1686.500   4890.000   1686.000   4905.000   1684.000   4940.000
GR   1685.000   4960.000   1684.000   4975.000   1682.000   4990.000   1681.000   5000.000   1682.000   5005.000
GR   1684.000   5015.000   1685.700   5055.000       .000       .000       .000       .000       .000       .000

NH      4.000       .070   4995.000       .040   5005.000       .070   5060.000       .040   5145.000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4970.000   5020.000
X1      4.059      8.000   4960.000   5020.000    260.000    260.000    260.000       .000       .000       .000
GR   1688.000   4850.000   1686.000   4960.000   1684.000   4995.000   1683.000   5000.000   1684.000   5005.000
GR   1688.000   5020.000   1689.000   5060.000   1689.500   5145.000       .000       .000       .000       .000

NH      3.000       .080   4990.000       .040   5010.000       .090   5075.000       .000       .000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4970.000   5030.000
X1      4.088      7.000   4975.000   5020.000    155.000    155.000    155.000       .000       .000       .000
GR   1689.000   4835.000   1688.000   4975.000   1686.000   4990.000   1684.000   5000.000   1686.000   5010.000
GR   1688.000   5020.000   1690.000   5075.000       .000       .000       .000       .000       .000       .000

NH      4.000       .090   4985.000       .050   5015.000       .090   5030.000       .050   5205.000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4970.000   5030.000
X1      4.113      7.000   4970.000   5030.000    130.000    130.000    130.000       .000       .000       .000
X5      4.000   1691.200   1691.200   1690.850   1689.750       .000       .000       .000       .000       .000
GR   1691.300   4900.000   1690.000   4970.000   1688.000   4985.000   1686.000   5000.000   1688.000   5015.000
GR   1690.000   5030.000   1691.300   5205.000       .000       .000       .000       .000       .000       .000

NH      5.000       .050   4980.000       .090   4990.000       .040   5010.000       .090   5040.000       .070
NH   5110.000       .000       .000       .000       .000       .000       .000       .000       .000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4970.000   5040.000
X1      4.150      9.000   4980.000   5040.000    195.000    195.000    195.000       .000       .000       .000
GR   1693.000   4880.000   1690.000   4935.000   1692.500   4965.000   1692.000   4980.000   1690.000   4990.000
GR   1687.800   5000.000   1690.000   5010.000   1692.000   5040.000   1693.000   5110.000       .000       .000

NH      4.000       .070   4995.000       .040   5005.000       .070   5025.000       .060   5170.000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4950.000   5025.000
X1      4.192     11.000   4950.000   5025.000    225.000    225.000    225.000       .000       .000       .000
GR   1695.000   4900.000   1694.000   4950.000   1692.000   4980.000   1690.000   4995.000   1689.800   5000.000
GR   1690.000   5005.000   1692.000   5010.000   1694.000   5025.000   1694.500   5065.000   1694.000   5115.000
GR   1695.000   5170.000       .000       .000       .000       .000       .000       .000       .000       .000

NH      5.000       .060   4960.000       .090   4990.000       .035   5025.000       .090   5080.000       .070
NH   5215.000       .000       .000       .000       .000       .000       .000       .000       .000       .000
QT      4.000   2163.000   2163.000   1630.000    735.000       .000       .000       .000       .000       .000
ET       .000       .000      9.100       .000       .000       .000       .000       .000   4950.000   5100.000
X1      4.234     13.000   4960.000   5050.000    220.000    220.000    220.000       .000       .000       .000
GR   1697.000   4680.000   1696.000   4760.000   1694.000   4960.000   1692.000   4990.000   1691.500   5000.000
GR   1692.000   5010.000   1694.000   5025.000   1696.000   5050.000   1695.000   5080.000   1696.000   5120.000
GR   1695.000   5145.000   1696.000   5150.000   1697.000   5215.000       .000       .000       .000       .000
EJ       .000       .000       .000       .000       .000       .000       .000       .000       .000       .000
1
 07/31/88    11:33:39                                                                                    PAGE    3


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 1

CCHV=    .100 CEHV=    .300
*SECNO 3.892
     3.89      5.82  1680.82  1679.89  1680.82  1681.58      .76      .00      .00  1680.00
    2202.       43.     2159.       0.      50.     305.       0.       0.       0.  1681.00
      .00       .85      7.09      .00     .070     .035     .070     .000  1675.00  4780.82
  .005112        0.        0.        0.        0       10        0      .00   243.58  5024.40
0
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FLOW DISTRIBUTION FOR SECNO=      3.89          CWSEL=   1680.02

STA=    4781.    4880.    4940.    5025.
  PER Q=       .3       1.6     98.1
   AREA=     15.9      34.2    304.7
    VEL=       .4       1.0      7.1

1490 NH CARD USED
*SECNO 3.937
     3.94     5.48  1682.48      .00      .00  1683.03      .55     1.43      .02  1682.00
    1152.       3.    1116.      33.       4.     184.      16.       2.       1.  1680.00
      .01      .75     6.05     2.06     .070     .053     .080     .000  1677.00  4952.97
  .008247     240.     240.     245.        2        0        0      .00    81.89  5034.86
0
 FLOW DISTRIBUTION FOR SECNO=      3.94          CWSEL=   1682.48

STA=    4953.    4970.    5020.    5030.    5035.
  PER Q=       .3     96.9      2.8       .1
   AREA=      4.1    184.3     14.9      1.2
    VEL=       .8      6.1      2.2       .7

1490 NH CARD USED
*SECNO 3.973

3265 DIVIDED FLOW

     3.97     4.81  1683.81      .00      .00  1684.67      .86     1.55      .09  1684.00
    1152.       9.    1143.       0.      11.     153.       0.       2.       1.  1684.00
      .02      .81     7.48      .00     .090     .038     .090     .000  1679.00  4913.88
  .008052     190.     190.     190.        3        0        0      .00    74.97  5019.51
0
1
 07/31/88    11:33:39                                                                    PAGE    4


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      3.97          CWSEL=   1683.81

STA=    4914.    4930.    4940.    5020.
  PER Q=       .5       .3     99.3
   AREA=      6.5      4.1    152.9
    VEL=       .8       .8      7.5

1490 NH CARD USED
*SECNO 4.009
     4.01     4.68  1685.68      .00      .00  1686.32      .65     1.63      .02  1684.00
    1113.     138.     916.      60.      66.     130.      33.       3.       2.  1684.00
      .03     2.09     7.07     1.81     .070     .044     .070     .000  1681.00  4910.65
  .009154     190.     190.     190.        2        0        0      .00   143.81  5054.46
0
FLOW DISTRIBUTION FOR SECNO=      4.01          CWSEL=   1685.68

STA=    4911.    4940.    4960.    4975.    5015.    5054.
  PER Q=      4.0      4.8      3.6     82.3      5.4
   AREA=     24.6     23.5     17.7    129.6     33.1
    VEL=      1.8      2.3      2.3      7.1      1.8

1490 NH CARD USED
*SECNO 4.059
3280 CROSS SECTION      4.06 EXTENDED       .11 FEET
```

```
     4.06      3.11  1688.11      .00      .00  1688.40      .29     2.04      .04  1688.00
     1113.     230.     883.       0.     123.     187.       0.       5.       3.  1688.00
       .04     1.88     4.72      .26     .070     .055     .070     .000  1683.00  4850.00
   .006804     260.     260.     260.        3        0        0      .00   174.55  5024.55
0
 FLOW DISTRIBUTION FOR SECNO=      4.06          CWSEL=   1688.11

 STA=    4850.    4960.    5020.    5025.
   PER Q=     20.7     79.3       .0
    AREA=    122.5    186.8       .3
     VEL=      1.9      4.7       .3

 1490 NH CARD USED
 *SECND 4.088
 3280 CROSS SECTION      4.09 EXTENDED       .14 FEET

1
  07/31/88    11:33:39                                                                                                PAGE    5


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      ARDB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


      4.09     5.14  1689.14  1689.11      .00  1689.82      .68     1.30      .12  1688.00
     1113.     127.     966.      21.      89.     136.      18.       6.       3.  1688.00
       .05     1.42     7.09     1.17     .080     .045     .090     .000  1684.00  4835.00
   .010589     155.     155.     155.        4        5        0      .00   216.30  5051.30
0
 FLOW DISTRIBUTION FOR SECNO=      4.09          CWSEL=   1689.14

 STA=    4835.    4975.    5020.    5051.
   PER Q=     11.4     86.8      1.9
    AREA=     89.4    136.2     17.8
     VEL=      1.4      7.1      1.2

 1490 NH CARD USED
 *SECND 4.113
  WATER EL=X5 CARD=  1691.200
      4.11     5.20  1691.20      .00      .00  1691.50      .30     1.04      .04  1690.00
     1113.      36.     914.     163.      39.     192.      97.       7.       4.  1690.00
       .06      .93     4.76     1.68     .090     .053     .050     .000  1686.00  4905.39
   .006295     130.     130.     130.        0        0        0      .00   286.14  5191.53
0
 FLOW DISTRIBUTION FOR SECNO=      4.11          CWSEL=   1691.20

 STA=    4905.    4970.    5030.    5192.
   PER Q=      3.2     82.1     14.6
    AREA=     38.8    192.0     96.9
     VEL=       .9      4.8      1.7

 1490 NH CARD USED
 *SECND 4.150
      4.15     4.80  1692.60      .00      .00  1692.96      .36     1.45      .02  1692.00
     1113.     354.     748.      12.     108.     138.      13.       8.       5.  1692.00
       .07     3.27     5.41      .90     .050     .045     .070     .000  1687.80  4887.26
   .008885     195.     195.     195.        3        0        0      .00   195.03  5082.29
0
 FLOW DISTRIBUTION FOR SECNO=      4.15          CWSEL=   1692.60

 STA=    4887.    4935.    4965.    4980.    5040.    5082.
   PER Q=     18.6     12.5       .7     67.2      1.0
    AREA=     62.2     40.6      5.3    138.2     12.8
     VEL=      3.3      3.4      1.4      5.4       .9
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


1490 NH CARD USED
*SECNO 4.192
     4.19     4.87  1694.67      .00      .00  1695.07      .40     2.10      .01  1694.00
    1113.      11.    1035.      67.      11.     196.      50.       9.       6.   1694.00
      .08     1.01     5.27     1.33     .070     .053     .060     .000  1689.80  4916.49
  .009794     225.     225.     225.        2        0        0      .00   235.38  5151.87
0
FLOW DISTRIBUTION FOR SECNO=     4.19         CWSEL=   1694.67

STA=    4916.    4950.    5025.    5065.    5115.    5152.
  PER Q=      1.0     93.0      2.1      2.6      1.3
   AREA=     11.2    196.3     16.8     21.0     12.4
    VEL=      1.0      5.3      1.4      1.4      1.2

1490 NH CARD USED
*SECNO 4.234
     4.23     4.78  1696.28      .00      .00  1696.63      .34     1.55      .01  1694.00
    2163.     579.    1482.     102.     258.     270.      80.      11.       8.   1696.00
      .10     2.24     5.50     1.27     .060     .044     .075     .000  1691.50  4738.03
  .006052     220.     220.     220.        1        0        0      .00   429.83  5167.85
0
FLOW DISTRIBUTION FOR SECNO=     4.23         CWSEL=   1696.28

STA=    4738.    4960.    5050.    5120.    5168.
  PER Q=     26.8     68.5      3.2      1.5
   AREA=    257.9    269.7     54.2     25.7
    VEL=      2.2      5.5      1.3      1.3

1
PROFILE FOR STREAM  WITTMANN WASH-SPLIT FLOW


PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


ELEVATION  1675.     1680.     1685.     1690.     1695.     1700.     1705.     1710.     1715.     1720.
    SECNO   CUMDIS

     3.89      0.  I        C WE      .         .         .         .         .         .         .         .
              20.  I        L WE      .         .         .         .         .         .         .         .
              40.  CI       .LWME     .         .         .         .         .         .         .         .
              60.  CI       .LWME     .         .         .         .         .         .         .         .
              80.  CI       .L WE     .         .         .         .         .         .         .         .
             100.  C I      .RLWE     .         .         .         .         .         .         .         .
             120.  C I      .RLWME    .         .         .         .         .         .         .         .
             140.  C I      .RL WE    .         .         .         .         .         .         .         .
             160.  C  I     .R LWE    .         .         .         .         .         .         .         .
             180.  C  I     .R LWE    .         .         .         .         .         .         .         .
             200.  C  I     R  LWME   .         .         .         .         .         .         .         .
             220.  C   I    R   LWE   .         .         .         .         .         .         .         .
     3.94    240.  C   I    R   LWE   .         .         .         .         .         .         .         .
             260.  C   I    .R  LWE   .         .         .         .         .         .         .         .
             280.  C    I   . R  LWE  .         .         .         .         .         .         .         .
             300.  C    I   .  R LWE  .         .         .         .         .         .         .         .
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      320. C   I  .  R WEM.          .         .         .         .         .         .         .         .
      340. C   I  .  R W E .         .         .         .         .         .         .         .         .
      360. C    I .   R WEM.         .         .         .         .         .         .         .         .
      380. C    I .    RWEM.         .         .         .         .         .         .         .         .
      400. C    I .     W E.         .         .         .         .         .         .         .         .
      420. C     I.     WLEM         .         .         .         .         .         .         .         .
3.97  440. C     I.      WEM         .         .         .         .         .         .         .         .
      460. C     I.      W E         .         .         .         .         .         .         .         .
      480. C      I.     W E         .         .         .         .         .         .         .         .
      500. C      I.     LWE         .         .         .         .         .         .         .         .
      520. C       I     LW.E        .         .         .         .         .         .         .         .
      540. C       I     L WE        .         .         .         .         .         .         .         .
      560. C       .I    L WE        .         .         .         .         .         .         .         .
      580. C       .I    L WME       .         .         .         .         .         .         .         .
      600. C       .I    L .WE       .         .         .         .         .         .         .         .
4.01  620. C       . I   L .W E      .         .         .         .         .         .         .         .
      640. C       . I   LR. WE      .         .         .         .         .         .         .         .
      660. C       .  I   L. WE      .         .         .         .         .         .         .         .
      680. C       .  I   LR W E     .         .         .         .         .         .         .         .
      700. C       .  I   LR  WE     .         .         .         .         .         .         .         .
      720. C       .   I   LR WE     .         .         .         .         .         .         .         .
      740. C       .   I   L R WE    .         .         .         .         .         .         .         .
      760. C       .   I   L R WE    .         .         .         .         .         .         .         .
      780. C       .   I   L  RWE    .         .         .         .         .         .         .         .
      800. C       .    I  .L  RWE   .         .         .         .         .         .         .         .
      820. C       .    I  .L  RWE   .         .         .         .         .         .         .         .
      840. C       .    I  .L   WE   .         .         .         .         .         .         .         .
      860. C       .     I  . L  RE  .         .         .         .         .         .         .         .
4.06  880. C       .     I  . L   WE .         .         .         .         .         .         .         .
      900. C       .     I  . L  WE  .         .         .         .         .         .         .         .
      920. C       .      I . L  RWE .         .         .         .         .         .         .         .
      940. C       .      I .  L RWE .         .         .         .         .         .         .         .
      960. C       .      I .  L RWE .         .         .         .         .         .         .         .
      980. C       .      I .   LRMWE.         .         .         .         .         .         .         .
     1000. C       .       I .   LR WE.        .         .         .         .         .         .         .
     1020. C       .       I .    L WE.        .         .         .         .         .         .         .
4.09 1040. .       .       I .    L W E        .         .         .         .         .         .         .
     1060. C       .        I.     L WE        .         .         .         .         .         .         .
     1080. C       .        I.     L MWE       .         .         .         .         .         .         .
     1100. C       .         I      L WE       .         .         .         .         .         .         .
     1120. C       .         I      L .WE      .         .         .         .         .         .         .
     1140. C       .         .I      L.WE      .         .         .         .         .         .         .
     1160. C       .         . I      L WE     .         .         .         .         .         .         .
4.11 1180. C       .         . I      L WE     .         .         .         .         .         .         .
     1200. C       .         . I      L  E     .         .         .         .         .         .         .
     1220. C       .         .  I     .L WE    .         .         .         .         .         .         .
     1240. C       .         .  I     .L WE    .         .         .         .         .         .         .
     1260. C       .         .  I     . L E    .         .         .         .         .         .         .
     1280. C       .         .   I    . L E    .         .         .         .         .         .         .
     1300. C       .         .   I    . L WE   .         .         .         .         .         .         .
     1320. C       .         .    I   .  LWE   .         .         .         .         .         .         .
     1340. C       .         .    I   .  L E   .         .         .         .         .         .         .
4.15 1360. C       .         .     I  .   LWE  .         .         .         .         .         .         .
     1380. C       .         .     I  .   L E  .         .         .         .         .         .         .
     1400. C       .         .     I  .    LWE .         .         .         .         .         .         .
     1420. C       .         .      I .    LWE .         .         .         .         .         .         .
     1440. C       .         .      I .    L E .         .         .         .         .         .         .
     1460. C       .         .      I .     LWE .        .         .         .         .         .         .
     1480. C       .         .       I .    LWE .        .         .         .         .         .         .
     1500. C       .         .       I .    L WE.        .         .         .         .         .         .
     1520. C       .         .       I .     LWE.        .         .         .         .         .         .
     1540. C       .         .        I.     L E.        .         .         .         .         .         .
     1560. C       .         .        I.      LWE        .         .         .         .         .         .
     1580. C       .         .         I      LWE        .         .         .         .         .         .
4.19 1600. C       .         .         I      LWE        .         .         .         .         .         .
     1620. C       .         .         I      L E        .         .         .         .         .         .
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          1640.  C        .        .        I      LRWE      .        .        .        .        .        .
          1660.  C        .        .        .I     LRWE      .        .        .        .        .        .
          1680.  C        .        .        .I     LR.E      .        .        .        .        .        .
          1700.  C        .        .        .I     L RWE     .        .        .        .        .        .
          1720.  C        .        .        .I     L RWE     .        .        .        .        .        .
          1740.  C        .        .        . I    L .WEM    .        .        .        .        .        .
          1760.  C        .        .        . I    L .REM    .        .        .        .        .        .
          1780.  C        .        .        . I    L .RWE    .        .        .        .        .        .
          1800.  C        .        .        .  I   L . WEM   .        .        .        .        .        .
     4.23 1820.  C        .        .        .  I   L . REM   .        .        .        .        .        .
1
 07/31/88    11:33:39                                                                                    PAGE    7


                                                                                THIS RUN EXECUTED 07/31/88   11:34:17
 ************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTTWMAN AREA MASTER DRINAGE STUDY.
 T2      100-YEAR STORM EVENT.  SPLIT FLOW THROUGH THE TOWN OF WITTMANN.
 T3      WITTMANN WASH-SPLIT FLOW(SOUTH SPLIT).  ENCROACHMENT RUN

 J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.       3.       0.       0.   .000000     .00      .5       0.  1681.340     .000

 J2  NPROF    IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      2.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
 07/31/88    11:33:39                                                                                    PAGE    8


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 2

 CCHV=    .100 CEHV=    .300
 *SECNO 3.892
 3280 CROSS SECTION      3.89 EXTENDED       .34 FEET


 3470 ENCROACHMENT STATIONS=    4920.0    5025.0  TYPE=     1  TARGET=     105.000
      3.89     6.34  1681.34      .00  1680.82  1681.93      .59      .00      .00  1680.00
     2202.      35.    2167.       0.      25.     349.       0.       0.       0. 100000.00
       .00     1.37     6.21      .00     .070     .035     .070     .000  1675.00  4920.00
   .003331       0.       0.       0.        0        0        0      .00   105.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=      3.89          CWSEL=   1681.34

 STA=    4920.    4940.    5025.
   PER Q=      1.6     98.4
    AREA=     25.1    348.9
     VEL=      1.4      6.2
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1490 NH CARD USED
*SECNO 3.937

3470 ENCROACHMENT STATIONS=    4975.0    5025.0  TYPE=     1  TARGET=      50.000
     3.94      5.38  1682.38      .00  1682.48  1683.02      .64      1.07      .02100000.00
    1152.        0.    1131.      21.       0.     174.       9.        2.        0.   1680.00
      .01       .00     6.48     2.28     .070     .053     .080      .000  1677.00  4975.00
  .009217      240.     240.     245.        3        0        0       .00    50.00  5025.00
0
FLOW DISTRIBUTION FOR SECNO=      3.94          CWSEL=   1682.38

STA=    4975.    5020.    5025.
  PER Q=     98.1      1.9
   AREA=    174.5      9.4
    VEL=      6.5      2.3

1490 NH CARD USED
*SECNO 3.973

3470 ENCROACHMENT STATIONS=    4955.0    5015.0  TYPE=     1  TARGET=      60.000
     3.97      4.78  1683.78      .00  1683.81  1684.73      .94      1.62      .09  1684.00
    1152.        0.    1152.       0.       0.     148.       0.        2.        1. 100000.00
      .02       .00     7.79      .00     .090     .036     .080      .000  1679.00  4970.81
  .007869      190.     190.     190.        2        0        0       .00    44.19  5015.00
0
1
 07/31/88    11:33:39                                                                          PAGE    9


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


FLOW DISTRIBUTION FOR SECNO=      3.97          CWSEL=   1683.78

STA=    4971.    5020.
  PER Q=    100.0
   AREA=    147.8
    VEL=      7.8

1490 NH CARD USED
*SECNO 4.009

3470 ENCROACHMENT STATIONS=    4975.0    5025.0  TYPE=     1  TARGET=      50.000
     4.01      4.61  1685.61      .00  1685.68  1686.68     1.07      1.92      .04  1684.00
    1113.        0.    1073.      40.       0.     127.      14.        3.        1.   1684.00
      .02       .00     8.44     2.88     .090     .043     .070      .000  1681.00  4975.00
  .013614      190.     190.     190.        2        0        0       .00    50.00  5025.00
0
FLOW DISTRIBUTION FOR SECNO=      4.01          CWSEL=   1685.61

STA=    4975.    5015.    5025.
  PER Q=     96.4      3.6
   AREA=    127.1     14.0
    VEL=      8.4      2.9

1490 NH CARD USED
*SECNO 4.059

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    4970.0    5020.0  TYPE=     1  TARGET=      50.000
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    4.06      5.03  1683.83      .00  1683.11  1683.52      .73      1.52      .03  100000.00
    1113.       0.    1113.       0.       0.     199.       0.       4.       1. 100000.00
      .04      .00     5.60      .00     .090     .054     .070     .000  1683.00  4970.00
  .007538     260.     260.     260.        3        0        0      .00    50.00  5020.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.06          CWSEL=   1688.83

 STA=    4970.    5020.
   PER Q=    100.0
    AREA=    198.7
     VEL=      5.6

1
  07/31/88    11:33:39                                                                          PAGE   10


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1490 NH CARD USED
 *SECNO 4.088

 3470 ENCROACHMENT STATIONS=    4970.0    5030.0  TYPE=     1  TARGET=      60.000
      4.09      5.88  1689.88      .00  1689.14  1690.47      .59     1.12      .03  1688.00
     1113.       18.    1065.       30.       9.     169.      17.       5.       1.   1688.00
       .04      1.89     6.29     1.77     .080     .047     .090     .000  1684.00  4970.00
   .006879     155.     155.     155.        2        0        0      .00    60.00  5030.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.09          CWSEL=   1689.88

 STA=    4970.    4975.    5020.    5030.
   PER Q=      1.6     95.7      2.7
    AREA=      9.3    169.5     16.9
     VEL=      1.9      6.3      1.8

 1490 NH CARD USED
 *SECNO 4.113
  WATER EL=X5 CARD=  1691.200

 3470 ENCROACHMENT STATIONS=    4970.0    5030.0  TYPE=     1  TARGET=      60.000
      4.11      5.20  1691.20      .00  1691.20  1691.72      .52     1.04      .01  1690.00
     1113.       0.    1113.       0.       0.     192.       0.       5.       2. 100000.00
       .05      .00     5.80      .00     .080     .052     .090     .000  1686.00  4970.00
   .009477     130.     130.     130.        0        0        0      .00    60.00  5030.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.11          CWSEL=   1691.20

 STA=    4970.    5030.
   PER Q=    100.0
    AREA=    192.0
     VEL=      5.8

 1490 NH CARD USED
 *SECNO 4.150
 3280 CROSS SECTION      4.15 EXTENDED       .12 FEET


 3470 ENCROACHMENT STATIONS=    4970.0    5040.0  TYPE=     1  TARGET=      70.000
      4.15      5.32  1693.12      .00  1692.60  1693.75      .63     1.99      .03  1692.00
     1113.       27.    1086.       0.       10.     169.       0.       6.       2. 100000.00
       .06      2.88     6.42      .00     .050     .048     .090     .000  1687.80  4970.00
   .011064     195.     195.     195.        2        0        0      .00    70.00  5040.00
0
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


FLOW DISTRIBUTION FOR SECNO=      4.15          CWSEL=   1693.12

STA=    4970.    4980.    5040.
  PER Q=      2.5     97.5
   AREA=      9.5    169.2
    VEL=      2.9      6.4

1490 NH CARD USED
*SECNO 4.192
3280 CROSS SECTION      4.19 EXTENDED       .29 FEET


3470 ENCROACHMENT STATIONS=    4950.0    5025.0  TYPE=     1  TARGET=      75.000
     4.19     5.49  1695.29      .00  1694.67  1695.62      .33     1.84      .03  1694.00
    1113.       0.    1113.       0.       0.     243.       0.       7.       2. 100000.00
      .07      .00     4.59      .00     .050     .055     .090     .000  1689.80  4950.00
  .006279     225.     225.     225.        2        0        0      .00    75.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.19          CWSEL=   1695.29

STA=    4950.    5025.
  PER Q=    100.0
   AREA=    242.6
    VEL=      4.6

1490 NH CARD USED
*SECNO 4.234

3470 ENCROACHMENT STATIONS=    4950.0    5100.0  TYPE=     1  TARGET=     150.000
     4.23     5.16  1696.66      .00  1696.28  1697.25      .59     1.55      .08  1694.00
    2163.      91.     1955.     117.      26.     304.      63.       9.       3.  1696.00
      .08     3.50     6.44     1.87     .060     .045     .079     .000  1691.50  4950.00
  .007532     220.     220.     220.        2        0        0      .00   150.00  5100.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1696.66

STA=    4950.    4960.    5050.    5080.    5100.
  PER Q=      4.2     90.4      2.5      2.9
   AREA=     26.0    303.8     34.6     28.1
    VEL=      3.5      6.4      1.6      2.2
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THIS RUN EXECUTED 07/31/88 11:34:32

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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T1      WITTMANN AREA MASTER DRINAGE STUDY.
T2       50-YEAR STORM EVENT.  SPLIT FLOW THROUGH THE TOWN OF WITTMANN.
T3      WITTMANN WASH-SPLIT FLOW(SOUTH SPLIT).

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        4.        0.        0.   .000000      .00       .5        0.  1680.480     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     3.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

1
 07/31/88    11:33:39                                                                                PAGE   13


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 3

 CCHV=    .100 CEHV=    .300
 *SECNO 3.892
      3.89     5.48  1680.48      .00  1680.48  1681.03      .55      .00      .00  1680.00
     1660.       7.    1653.       0.      14.     276.       0.       0.       0.   1681.00
       .00      .52     5.98      .00     .070     .035     .070     .000  1675.00  4882.40
   .004079       0.       0.       0.        0        0        0      .00   140.86  5023.27
0
 FLOW DISTRIBUTION FOR SECNO=      3.89          CWSEL=   1680.48

 STA=    4882.    4940.    5025.
   PER Q=       .4     99.6
    AREA=     13.8    276.2
     VEL=       .5      6.0

 1490 NH CARD USED
 *SECNO 3.937
      3.94     4.78  1681.78      .00      .00  1682.28      .50     1.24      .00  1682.00
      868.       0.     855.      13.       0.     149.       8.       1.       1.   1680.00
       .01      .00     5.74     1.61     .070     .051     .080     .000  1677.00  4971.10
   .009041     240.     240.     245.        3        0        0      .00    57.79  5028.90
0
 FLOW DISTRIBUTION FOR SECNO=      3.94          CWSEL=   1681.78

 STA=    4971.    5020.    5029.
   PER Q=     98.5      1.5
    AREA=    149.1      7.9
     VEL=      5.7      1.6

 1490 NH CARD USED
 *SECNO 3.973

 3265 DIVIDED FLOW

      3.97     4.20  1683.20      .00      .00  1683.96      .76     1.60      .00  1684.00
      868.       0.     868.       0.       1.     124.       0.       2.       1.   1684.00
       .02      .31     6.98      .00     .090     .037     .080     .000  1679.00  4926.05
   .007863     190.     190.     190.        2        0        0      .00    51.40  5017.99
0
1
 07/31/88    11:33:39                                                                                PAGE   14
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   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      3.97          CWSEL=   1683.20

 STA=    4926.    4930.    4932.    5020.
   PER Q=       .0       .0    100.0
    AREA=       .4       .2    124.4
     VEL=       .3       .3      7.0

 1490 NH CARD USED
 *SECND 4.009
 7185 MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
      4.01     4.04  1685.04  1685.04      .00  1685.84      .80     1.85      .01  1684.00
      839.      44.     775.      20.      28.     104.      13.       2.       1.   1684.00
       .03     1.56     7.45     1.54     .070     .042     .070     .000  1681.00  4921.81
   .012531     190.     190.     190.        3        8        0      .00   117.64  5039.46
0
 FLOW DISTRIBUTION FOR SECNO=      4.01          CWSEL=   1685.04

 STA=    4922.    4940.    4960.    4975.    5015.    5039.
   PER Q=      1.7      2.0      1.5     92.4      2.3
    AREA=      9.5     10.8      8.1    104.1     12.7
     VEL=      1.5      1.6      1.6      7.4      1.5

 1490 NH CARD USED
 *SECND 4.059

 1645 INT SEC ADDED BY RAISING SEC      4.06,  -1.000FT AND MULTIPLYING BY    .919


 3301 HV CHANGED MORE THAN HVINS

      1.01     4.88  1686.88      .00      .00  1687.12      .24     1.23      .06  1685.00
      839.     158.     681.       0.      90.     159.       0.       3.       2.   1687.00
       .04     1.75     4.28      .00     .070     .060     .070     .000  1682.00  4855.73
   .007354     130.     130.     130.        2        0        0      .00   150.17  5005.90
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1686.88

 STA=    4856.    4951.    5006.
   PER Q=     18.8     81.2
    AREA=     90.0    159.3
     VEL=      1.8      4.3

1
  07/31/88    11:33:39                                                                  PAGE   15


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.000FT AND MULTIPLYING BY   1.088

      4.06     4.82  1687.82      .00      .00  1688.04      .22      .92      .00  1686.00
      839.     149.     690.       0.      91.     169.       0.       4.       2.   1689.00
       .05     1.64     4.07      .00     .070     .060     .070     .000  1683.00  4859.89
   .006770     130.     130.     130.        2        0        0      .00   159.44  5019.33
```

```
 FLOW DISTRIBUTION FOR SECNO=      4.06          CWSEL=   1687.82

 STA=    4860.    4960.    5020.
   PER Q=     17.8     82.2
    AREA=     91.1    169.3
     VEL=      1.6      4.1

 1490 NH CARD USED
 *SECNO 4.088
      4.09     4.79  1688.79  1688.52      .00  1689.41      .62     1.25      .12  1688.00
      839.      44.     787.       8.      44.     121.       9.       5.       3.   1688.00
       .05     1.00     6.52      .88     .080     .043     .090     .000  1684.00  4863.88
   .009853     155.     155.     155.        4        8        0      .00   177.94  5041.83
0
 FLOW DISTRIBUTION FOR SECNO=      4.09          CWSEL=   1688.79

 STA=    4864.    4975.    5020.    5042.
   PER Q=      5.2     93.9       .9
    AREA=     44.1    120.7      8.7
     VEL=      1.0      6.5       .9

 1490 NH CARD USED
 *SECNO 4.113
  WATER EL=X5 CARD=  1690.850
      4.11     4.85  1690.85      .00      .00  1691.13      .28      .99      .03  1690.00
      839.      14.     761.      64.      19.     171.      49.       5.       3.   1690.00
       .06      .73     4.45     1.31     .090     .052     .050     .000  1686.00  4924.23
   .006086     130.     130.     130.        0        0        0      .00   220.18  5144.42
0
 FLOW DISTRIBUTION FOR SECNO=      4.11          CWSEL=   1690.85

 STA=    4924.    4970.    5030.    5144.
   PER Q=      1.7     90.7      7.6
    AREA=     19.5    171.0     48.6
     VEL=       .7      4.5      1.3

1
  07/31/88    11:33:39                                                                    PAGE   16


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 1490 NH CARD USED
 *SECNO 4.150

 3265 DIVIDED FLOW

      4.15     4.44  1692.24      .00      .00  1692.59      .35     1.44      .02  1692.00
      839.      231.     607.       1.      76.     116.       2.       6.       4.   1692.00
       .07     3.02     5.24      .48     .050     .042     .070     .000  1687.80  4894.09
   .009104     195.     195.     195.        2        0        0      .00   150.86  5056.22
0
 FLOW DISTRIBUTION FOR SECNO=      4.15          CWSEL=   1692.24

 STA=    4894.    4935.    4962.    4980.    5040.    5056.
   PER Q=     16.6     10.8       .1     72.4       .1
    AREA=     45.7     29.9       .8    115.9      1.9
     VEL=      3.0      3.0       .7      5.2       .5

 1490 NH CARD USED
 *SECNO 4.192
```

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3265 DIVIDED FLOW

     4.19     4.52  1694.32      .00      .00  1694.68      .37     2.09      .01  1694.00
     839.       2.     829.       8.       2.     170.      12.       7.       5.  1694.00
      .09      .60     4.89      .70     .070     .051     .060     .000  1689.80  4934.20
  .009469     225.     225.     225.        2        0        0      .00   165.04  5132.38
0
 FLOW DISTRIBUTION FOR SECNO=      4.19          CWSEL=   1694.32

 STA=    4934.    4950.    5025.    5050.    5115.    5132.
   PER Q=      .2     98.8      .3      .4      .2
    AREA=     2.5    169.7     4.0     5.0     2.7
     VEL=      .6      4.9      .7      .7      .7

 1490 NH CARD USED
 *SECNO 4.234

 3265 DIVIDED FLOW

     4.23     4.42  1695.92      .00      .00  1696.26      .33     1.57      .00  1694.00
    1630.     350.    1240.      39.     184.     238.      42.       9.       6.  1696.00
      .10     1.91     5.22      .93     .060     .043     .075     .000  1691.50  4768.30
  .006276     220.     220.     220.        2        0        0      .00   372.36  5149.58
0
1
  07/31/88    11:33:39                                                                    PAGE   17


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1695.92

 STA=    4768.    4960.    5050.    5080.    5117.    5145.    5150.
   PER Q=     21.5     76.1      .6     1.0      .6      .1
    AREA=    183.7    237.6    12.6    16.8    10.5     2.1
     VEL=      1.9      5.2      .8     1.0     1.0     1.0

1
  07/31/88    11:33:39                                                                    PAGE   18



                                                                THIS RUN EXECUTED 07/31/88   11:34:49
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTTWMAN AREA MASTER DRINAGE STUDY.
 T2       10-YEAR STORM EVENT.  SPLIT FLOW THROUGH THE TOWN OF WITTMANN.
 T3      WITTMANN WASH-SPLIT FLOW(SOUTH SPLIT).

 J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

       0.       5.       0.       0.   .000000      .00       .5       0.  1679.160     .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
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 JC  NPROB    XPEST    PRNTS    XSELV    XSELF    TN       ALEND    IDW      SNCH     ITRACE

     15.000     .000    -1.000     .000     .000     .000     .000     .000     .000    15.000

1
 07/31/88    11:33:39                                                                          PAGE   19


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 4

 CCHV=    .100 CEHV=    .300
 *SECNO 3.892
      3.89     4.16  1679.16      .00  1679.16  1679.45      .29      .00      .00  1680.00
      749.       0.     749.       0.       0.     173.       0.       0.       0.  1681.00
       .00      .00     4.34      .00     .070     .035     .070     .000  1675.00  4948.40
   .003200       0.       0.       0.        0        0        0      .00    70.47  5018.87
0
 FLOW DISTRIBUTION FOR SECNO=      3.89          CWSEL=   1679.16

 STA=    4948.    5025.
   PER Q=    100.0
    AREA=    172.8
     VEL=      4.3

 1490 NH CARD USED
 *SECNO 3.937
      3.94     3.18  1680.18      .00      .00  1680.58      .40     1.09      .03  1682.00
      392.       0.     392.       0.       0.      77.       0.       1.       0.  1680.00
       .01      .00     5.07      .02     .070     .048     .080     .000  1677.00  4979.10
   .011498     240.     240.     245.        3        0        0      .00    41.79  5020.90
0
 FLOW DISTRIBUTION FOR SECNO=      3.94          CWSEL=   1680.18

 STA=    4979.    5020.    5021.
   PER Q=    100.0       .0
    AREA=     77.3       .1
     VEL=      5.1       .0

 1490 NH CARD USED
 *SECNO 3.973
      3.97     2.86  1681.86      .00      .00  1682.35      .49     1.75      .03  1684.00
      392.       0.     392.       0.       0.      70.       0.       1.       0.  1684.00
       .02      .00     5.62      .00     .070     .035     .080     .000  1679.00  4978.03
   .007514     190.     190.     190.        2        0        0      .00    36.61  5014.64
0
 FLOW DISTRIBUTION FOR SECNO=      3.97          CWSEL=   1681.86

 STA=    4978.    5020.
   PER Q=    100.0
    AREA=     69.7
     VEL=      5.6

1
 07/31/88    11:33:39                                                                          PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
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1490 NH CARD USED
*SECNO 4.009
     4.01     2.53  1683.53      .00      .00  1683.83      .30     1.45      .02  1684.00
     198.       0.     198.       0.       0.      45.       0.       1.       1.   1684.00
      .03      .00     4.38      .00     .070     .036     .080     .000  1681.00  4978.50
  .007954     190.     190.     190.        2        0        0      .00    34.16  5012.67
0
 FLOW DISTRIBUTION FOR SECNO=      4.01          CWSEL=   1683.53

 STA=    4979.    5015.
   PER Q=    100.0
    AREA=     45.2
     VEL=      4.4

 1490 NH CARD USED
 *SECNO 4.059
     4.06     2.84  1685.84      .00      .00  1686.01      .17     2.18      .01  1686.00
     198.       0.     198.       0.       0.      59.       0.       2.       1.   1688.00
      .06      .00     3.33      .00     .070     .047     .080     .000  1683.00  4962.77
  .008811     260.     260.     260.        3        0        0      .00    49.13  5011.91
0
 FLOW DISTRIBUTION FOR SECNO=      4.06          CWSEL=   1685.84

 STA=    4963.    5020.
   PER Q=    100.0
    AREA=     59.4
     VEL=      3.3

 1490 NH CARD USED
 *SECNO 4.088
     4.09     2.99  1686.99      .00      .00  1687.28      .29     1.23      .04  1688.00
     198.       0.     198.       0.       0.      46.       0.       2.       1.   1688.00
      .07      .00     4.33      .00     .070     .036     .080     .000  1684.00  4982.61
  .007147     155.     155.     155.        2        0        0      .00    32.32  5014.93
0
 FLOW DISTRIBUTION FOR SECNO=      4.09          CWSEL=   1686.99

 STA=    4983.    5020.
   PER Q=    100.0
    AREA=     45.8
     VEL=      4.3

1
  07/31/88    11:33:39                                                                    PAGE   21


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 1490 NH CARD USED
 *SECNO 4.113
  WATER EL=X5 CARD=  1689.750
     4.11     3.75  1689.75      .00      .00  1689.80      .05      .38      .02  1690.00
     198.       0.     198.       0.       0.     105.       0.       2.       1.   1690.00
      .09      .00     1.88      .00     .070     .048     .080     .000  1686.00  4971.88
  .001595     130.     130.     130.        0        0        0      .00    56.25  5028.13
0
 FLOW DISTRIBUTION FOR SECNO=      4.11          CWSEL=   1689.75

 STA=    4972.    5030.
   PER Q=    100.0
```

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   AREA=     103.3
    VEL=       1.9

1490 NH CARD USED
*SECNO 4.150

3265 DIVIDED FLOW

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     4.15     2.68  1690.48  1690.48     .00  1690.97     .49     .71     .13  1692.00
     198.       5.     193.       0.      3.     34.      0.      2.      1.   1692.00
      .10     1.41     5.71     .00    .050    .035    .070    .000  1687.80  4926.24
  .015184     195.     195.    195.      20      19       0     .00   44.04  5017.17
0
 FLOW DISTRIBUTION FOR SECNO=      4.15          CWSEL=   1690.48

 STA=    4926.    4935.    4941.    5040.
   PER Q=      1.5      1.0     97.5
    AREA=      2.1      1.4     33.8
     VEL=      1.4      1.4      5.7

 1490 NH CARD USED
 *SECNO 4.192
     4.19     2.84  1692.64     .00     .00  1692.79     .14    1.78     .04  1694.00
     198.       0.     198.       0.      0.     65.      0.      3.      2.   1694.00
      .12      .00     3.04     .00    .050    .044    .070    .000  1689.80  4970.26
  .004844     225.     225.    225.       2       0       0     .00   44.61  5014.87
0
1
  07/31/88    11:33:39                                                                PAGE   22


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.19          CWSEL=   1692.64

 STA=    4970.    5025.
   PER Q=    100.0
    AREA=     65.2
     VEL=      3.0

 1490 NH CARD USED
 *SECNO 4.234
     4.23     3.00  1694.50     .00     .00  1695.02     .52    2.12     .11  1694.00
     735.      14.     721.       0.     12.    124.      0.      3.      2.   1696.00
      .13     1.08     5.82     .00    .060    .041    .070    .000  1691.50  4910.04
  .012157     220.     220.    220.       3       0       0     .00  121.21  5031.25
0
 FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1694.50

 STA=    4910.    4960.    5050.
   PER Q=      1.8     98.2
    AREA=     12.5    124.0
     VEL=      1.1      5.8

1
  07/31/88    11:33:39                                                                PAGE   23
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  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

WITTMANN WASH-SPLIT FLOW

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	3.892	2202.00	1680.82	4780.82	4940.00	5025.00	5024.40	.00	243.58	5.82	1675.00	51.12	7.09
	3.892	2202.00	1681.34	4920.00	4940.00	5025.00	5025.00	.00	105.00	6.34	1675.00	33.31	6.21
	3.892	1660.00	1680.48	4882.40	4940.00	5025.00	5023.27	.00	140.86	5.48	1675.00	40.79	5.98
	3.892	749.00	1679.16	4948.40	4940.00	5025.00	5018.87	.00	70.47	4.16	1675.00	32.00	4.34
	3.937	1152.00	1682.48	4952.97	4970.00	5020.00	5034.86	1.66	81.89	5.48	1677.00	82.47	6.05
	3.937	1152.00	1682.38	4975.00	4970.00	5020.00	5025.00	1.04	50.00	5.38	1677.00	92.17	6.48
	3.937	868.00	1681.78	4971.10	4970.00	5020.00	5028.90	1.30	57.79	4.78	1677.00	90.41	5.74
	3.937	392.00	1680.18	4979.10	4970.00	5020.00	5020.90	1.02	41.79	3.18	1677.00	114.98	5.07
	3.973	1152.00	1683.81	4913.88	4970.00	5020.00	5019.51	1.33	74.97	4.81	1679.00	80.52	7.48
	3.973	1152.00	1683.78	4970.81	4970.00	5020.00	5015.00	1.40	44.19	4.78	1679.00	78.69	7.79
	3.973	868.00	1683.20	4926.05	4970.00	5020.00	5017.99	1.42	51.40	4.20	1679.00	78.63	6.98
	3.973	392.00	1681.86	4978.03	4970.00	5020.00	5014.64	1.68	36.61	2.86	1679.00	75.14	5.62
	4.009	1113.00	1685.68	4910.65	4975.00	5015.00	5054.46	1.86	143.81	4.68	1681.00	91.54	7.07
	4.009	1113.00	1685.61	4975.00	4975.00	5015.00	5025.00	1.83	50.00	4.61	1681.00	136.14	8.44
*	4.009	839.00	1685.04	4921.81	4975.00	5015.00	5039.46	1.84	117.64	4.04	1681.00	125.31	7.45
	4.009	198.00	1683.53	4978.50	4975.00	5015.00	5012.67	1.67	34.16	2.53	1681.00	79.54	4.39
	4.059	1113.00	1688.11	4850.00	4960.00	5020.00	5024.55	2.44	174.55	5.11	1683.00	68.04	4.72
	4.059	1113.00	1688.83	4970.00	4960.00	5020.00	5020.00	3.22	50.00	5.83	1683.00	75.38	5.60
*	4.059	839.00	1687.82	4859.89	4960.00	5020.00	5019.33	.94	159.44	4.82	1683.00	67.70	4.07
	4.059	198.00	1685.84	4962.77	4960.00	5020.00	5011.91	2.31	49.13	2.84	1683.00	88.11	3.33
	4.088	1113.00	1689.14	4835.00	4975.00	5020.00	5051.30	1.02	216.30	5.14	1684.00	105.89	7.09
	4.088	1113.00	1689.88	4970.00	4975.00	5020.00	5030.00	1.04	60.00	5.88	1684.00	68.79	6.29
	4.088	839.00	1688.79	4863.88	4975.00	5020.00	5041.83	.97	177.94	4.79	1684.00	98.53	6.52
	4.088	198.00	1686.99	4982.61	4975.00	5020.00	5014.93	1.14	32.32	2.99	1684.00	71.47	4.33
*	4.113	1113.00	1691.20	4905.39	4970.00	5030.00	5191.53	2.06	286.14	5.20	1686.00	62.95	4.76
*	4.113	1113.00	1691.20	4970.00	4970.00	5030.00	5030.00	1.32	60.00	5.20	1686.00	94.77	5.80
*	4.113	839.00	1690.85	4924.23	4970.00	5030.00	5144.42	2.06	220.18	4.85	1686.00	60.86	4.45
*	4.113	198.00	1689.75	4971.88	4970.00	5030.00	5028.13	2.76	56.25	3.75	1686.00	15.95	1.88

1

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	4.150	1113.00	1692.60	4887.26	4980.00	5040.00	5082.23	1.40	195.03	4.80	1687.80	88.85	5.41
	4.150	1113.00	1693.12	4970.00	4980.00	5040.00	5040.00	1.92	70.00	5.32	1687.80	110.64	6.42
	4.150	839.00	1692.24	4894.09	4980.00	5040.00	5056.22	1.39	150.86	4.44	1687.80	91.04	5.24
*	4.150	198.00	1690.48	4926.24	4980.00	5040.00	5017.17	.73	44.04	2.68	1687.80	151.84	5.71

4.192	1113.00	1695.29	4950.00	4950.00	5025.00	5025.00	2.17	75.00	5.49	1689.80	62.79	4.59
4.192	839.00	1694.32	4934.20	4950.00	5025.00	5132.38	2.08	165.04	4.52	1689.80	94.69	4.89
4.192	198.00	1692.64	4970.26	4950.00	5025.00	5014.87	2.17	44.61	2.84	1689.80	48.44	3.04
4.234	2163.00	1696.28	4738.03	4960.00	5050.00	5167.85	1.61	429.83	4.78	1691.50	60.52	5.50
4.234	2163.00	1696.66	4950.00	4960.00	5050.00	5100.00	1.37	150.00	5.16	1691.50	75.32	6.44
4.234	1630.00	1695.92	4768.30	4960.00	5050.00	5149.58	1.61	372.36	4.42	1691.50	62.76	5.22
4.234	735.00	1694.50	4910.04	4960.00	5050.00	5031.25	1.86	121.21	3.00	1691.50	121.57	5.82

1

WITTMANN WASH-SPLIT FLOW

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	3.892	1680.82	.00	1681.58	243.58	42.78	2159.22	.00	.00	.00	4940.00	5025.00	.00
	3.892	1681.34	.52	1681.93	105.00	34.52	2167.48	.00	105.00	4920.00	4940.00	5025.00	5025.00
	3.892	1680.48	.00	1681.03	140.86	7.24	1652.76	.00	.00	.00	4940.00	5025.00	.00
	3.892	1679.16	.00	1679.45	70.47	.00	749.00	.00	.00	.00	4940.00	5025.00	.00
	3.937	1682.48	.00	1683.03	81.89	3.11	1115.88	33.01	.00	.00	4970.00	5020.00	.00
	3.937	1682.38	-.10	1683.02	50.00	.00	1130.57	21.43	50.00	4975.00	4970.00	5020.00	5025.00
	3.937	1681.78	.00	1682.28	57.79	.00	855.23	12.77	.00	.00	4970.00	5020.00	.00
	3.937	1680.18	.00	1680.58	41.79	.00	392.00	.00	.00	.00	4970.00	5020.00	.00
	3.973	1683.81	.00	1684.67	74.97	8.52	1143.48	.00	.00	.00	4970.00	5020.00	.00
	3.973	1683.78	-.03	1684.73	44.19	.00	1152.00	.00	60.00	4955.00	4970.00	5020.00	5015.00
	3.973	1683.20	.00	1683.96	51.40	.20	867.80	.00	.00	.00	4970.00	5020.00	.00
	3.973	1681.86	.00	1682.35	36.61	.00	392.00	.00	.00	.00	4970.00	5020.00	.00
	4.009	1685.68	.00	1686.32	143.81	137.59	915.67	59.73	.00	.00	4975.00	5015.00	.00
	4.009	1685.61	-.06	1686.68	50.00	.00	1072.65	40.34	50.00	4975.00	4975.00	5015.00	5025.00
*	4.009	1685.04	.00	1685.84	117.64	44.19	775.31	19.51	.00	.00	4975.00	5015.00	.00
	4.009	1683.53	.00	1683.83	34.16	.00	198.00	.00	.00	.00	4975.00	5015.00	.00
	4.059	1688.11	.00	1688.40	174.55	230.32	882.61	.07	.00	.00	4960.00	5020.00	.00
	4.059	1688.83	.72	1689.32	50.00	.00	1113.00	.00	50.00	4970.00	4960.00	5020.00	5020.00
*	4.059	1687.82	.00	1688.04	159.44	149.44	689.56	.00	.00	.00	4960.00	5020.00	.00
	4.059	1685.84	.00	1686.01	49.13	.00	198.00	.00	.00	.00	4960.00	5020.00	.00
	4.088	1689.14	.00	1689.82	216.30	126.54	965.68	20.78	.00	.00	4975.00	5020.00	.00
	4.088	1689.88	.74	1690.47	60.00	17.56	1065.41	30.02	60.00	4970.00	4975.00	5020.00	5030.00
	4.088	1688.79	.00	1689.41	177.94	43.91	787.43	7.66	.00	.00	4975.00	5020.00	.00
	4.088	1686.99	.00	1687.28	32.32	.00	198.00	.00	.00	.00	4975.00	5020.00	.00
*	4.113	1691.20	.00	1691.50	286.14	36.12	914.32	162.56	.00	.00	4970.00	5030.00	.00
*	4.113	1691.20	.00	1691.72	60.00	.00	1113.00	.00	60.00	4970.00	4970.00	5030.00	5030.00
*	4.113	1690.85	.00	1691.13	220.18	14.16	761.11	63.73	.00	.00	4970.00	5030.00	.00
*	4.113	1689.75	.00	1689.80	56.25	.00	198.00	.00	.00	.00	4970.00	5030.00	.00
	4.150	1692.60	.00	1692.96	195.03	353.87	747.62	11.51	.00	.00	4980.00	5040.00	.00
	4.150	1693.12	.52	1693.75	70.00	27.45	1085.55	.00	70.00	4970.00	4980.00	5040.00	5040.00
	4.150	1692.24	.00	1692.59	150.86	230.64	607.46	.90	.00	.00	4980.00	5040.00	.00
*	4.150	1690.48	.00	1690.97	44.04	4.87	193.13	.00	.00	.00	4980.00	5040.00	.00
	4.192	1694.67	.00	1695.07	235.38	11.38	1034.99	66.63	.00	.00	4950.00	5025.00	.00
	4.192	1695.29	.62	1695.62	75.00	.00	1113.00	.00	75.00	4950.00	4950.00	5025.00	5025.00
	4.192	1694.32	.00	1694.68	165.04	1.51	829.24	8.26	.00	.00	4950.00	5025.00	.00
	4.192	1692.64	.00	1692.79	44.61	.00	198.00	.00	.00	.00	4950.00	5025.00	.00

SECND	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
4.234	1696.28	.00	1696.63	429.83	578.98	1482.33	101.69	.00	.00	4960.00	5050.00	.00
4.234	1696.66	.37	1697.25	150.00	90.99	1955.10	116.91	150.00	4950.00	4960.00	5050.00	5100.00
4.234	1695.92	.00	1696.26	372.36	350.46	1240.34	39.20	.00	.00	4960.00	5050.00	.00
4.234	1694.50	.00	1695.02	121.21	13.52	721.48	.00	.00	.00	4960.00	5050.00	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 4.009 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4.009 PROFILE= 3 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 4.059 PROFILE= 3 INTERPOLATED XSECTIONS USED

NOTE SECNO= 4.113 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= 4.113 PROFILE= 2 WSEL BASED ON X5 CARD
NOTE SECNO= 4.113 PROFILE= 3 WSEL BASED ON X5 CARD
NOTE SECNO= 4.113 PROFILE= 4 WSEL BASED ON X5 CARD

CAUTION SECNO= 4.150 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4.150 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 4.150 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

FLOODWAY DATA, WITTMANN WASH-SPLIT FLOW
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
3.892	105.	374.	5.9	1681.3	1680.8	.5
3.937	50.	184.	6.3	1682.5	1682.5	.0
3.973	44.	148.	7.8	1683.8	1683.8	.0
4.009	50.	141.	7.9	1685.7	1685.7	.0
4.059	50.	199.	5.6	1688.8	1688.1	.7
4.088	60.	196.	5.7	1689.8	1689.1	.7
4.113	60.	192.	5.8	1691.2	1691.2	.0
4.150	70.	179.	6.2	1693.1	1692.6	.5
4.192	75.	243.	4.6	1695.3	1694.7	.6
4.234	150.	392.	5.5	1696.7	1696.3	.4

FLOODWAY DATA, WITTMANN WASH-SPLIT FLOW
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
3.892	141.	290.	5.7	1680.6	1680.8	-.2
3.937	58.	157.	5.5	1681.9	1682.5	-.6
3.973	92.	125.	6.9	1683.3	1683.8	-.5
4.009	118.	145.	5.8	1685.2	1685.7	-.5
4.059	159.	260.	3.2	1687.9	1688.1	-.2
4.088	178.	173.	4.8	1688.9	1689.1	-.2
4.113	220.	239.	3.5	1691.0	1691.2	-.2
4.150	162.	194.	4.3	1692.3	1692.6	-.3
4.192	198.	184.	4.6	1694.4	1694.7	-.3
4.234	381.	463.	3.5	1696.0	1696.3	-.3

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FLOODWAY DATA, WITTMANN WASH-SPLIT FLOW
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
3.892	70.	173.	4.3	1679.2	1680.8	-1.6
3.937	42.	77.	5.1	1680.3	1682.5	-2.2
3.973	37.	70.	5.6	1681.9	1683.8	-1.9
4.009	34.	45.	4.4	1683.7	1685.7	-2.0
4.059	49.	59.	3.3	1685.9	1688.1	-2.2
4.088	32.	46.	4.3	1687.0	1689.1	-2.1
4.113	56.	105.	1.9	1689.9	1691.2	-1.3
4.150	91.	37.	5.3	1690.6	1692.6	-2.0
4.192	45.	65.	3.0	1692.8	1694.7	-1.9
4.234	121.	137.	5.4	1694.6	1696.3	-1.7

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THIS RUN EXECUTED 07/31/88 11:35:19

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
**************************************************
```

INPUT FILE: WITUPRCH

OUTPUT FILE: WITUPRCH.OUT

THIS RUN EXECUTED 07/31/88 11:37:44

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
 ERROR CORR -  01,02,03,04,05,06
 MODIFICATION -  50,51,52,53,54,55,56
 IBM-PC-XT VERSION 1.1
**************************************************
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T1 WITTMANN AREA DRAINAGE MASTER STUDY.
T2 100-YEAR STORM EVENT. UPPER REACH ABOVE SPLIT FLOW ON WITTMANN WASH.
T3 WITTMANN WASH-UPPER REACH

J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	2.	0.	0.	.000000	.00	.5	0.	1695.280	.000

J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1.000	.000	.000	.000	.000	.000	.000	.000	.000	15.000

J3 VARIABLE CODES FOR SUMMARY PRINTOUT

38.000	43.000	1.000	53.000	21.000	22.000	54.000	51.000	4.000	8.000
42.000	5.000	26.000	.000	110.000	.000	200.000	.000	.000	.000

NC	.000	.000	.000	.100	.300	.000	.000	.000	.000	.000
NH	5.000	.060	4960.000	.090	4990.000	.035	5025.000	.090	5080.000	.070
NH	5215.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
QT	4.000	2163.000	2163.000	1630.000	735.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4950.000	5050.000
X1	4.234	13.000	4960.000	5050.000	220.000	220.000	220.000	.000	.000	.000
GR	1697.000	4680.000	1696.000	4760.000	1694.000	4950.000	1692.000	4990.000	1691.500	5000.000
GR	1692.000	5010.000	1694.000	5025.000	1696.000	5050.000	1695.000	5080.000	1696.000	5120.000
GR	1695.000	5145.000	1696.000	5150.000	1697.000	5215.000	.000	.000	.000	.000
NC	.060	.040	.060	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4800.000	5040.000
X1	4.325	14.000	4980.000	5025.000	480.000	460.000	480.000	.000	.000	.000
GR	1702.000	4680.000	1700.000	4770.000	1697.700	4780.000	1700.000	4790.000	1701.000	4815.000
GR	1697.400	4850.000	1700.000	4860.000	1701.000	4920.000	1700.000	4980.000	1697.300	5000.000
GR	1699.000	5025.000	1697.500	5040.000	1700.000	5060.000	1702.000	5150.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4910.000	5100.000
X1	4.402	18.000	4955.000	5045.000	385.000	420.000	405.000	.000	.000	.000
GR	1705.300	4830.000	1704.000	4870.000	1699.000	4885.000	1705.000	4910.000	1702.000	4925.000
GR	1704.000	4935.000	1705.000	4955.000	1704.000	4975.000	1700.000	4995.000	1698.800	5000.000
GR	1700.000	5005.000	1702.000	5030.000	1705.000	5045.000	1702.000	5065.000	1704.000	5075.000
GR	1705.000	5105.000	1704.000	5155.000	1706.000	5190.000	.000	.000	.000	.000

NC	.060	.050	.060	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4940.000	5025.000
X1	4.477	20.000	4965.000	5025.000	410.000	360.000	400.000	.000	.000	.000
GR	1710.000	4700.000	1709.000	4825.000	1708.000	4855.000	1707.000	4860.000	1708.000	4870.000
GR	1709.000	4885.000	1708.000	4900.000	1707.000	4915.000	1708.000	4925.000	1709.000	4945.000
GR	1708.000	4965.000	1704.000	4990.000	1703.500	5000.000	1704.000	5010.000	1708.000	5025.000
GR	1709.000	5035.000	1708.000	5050.000	1707.000	5060.000	1708.000	5065.000	1710.000	5130.000

NC	.070	.070	.050	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4900.000	5015.000
X1	4.540	15.000	4980.000	5010.000	330.000	350.000	330.000	.000	.000	.000
GR	1712.500	4795.000	1712.000	4825.000	1710.000	4930.000	1707.700	4940.000	1710.000	4950.000
GR	1711.000	4960.000	1710.000	4980.000	1707.000	5000.000	1710.000	5010.000	1712.000	5050.000
GR	1713.000	5105.000	1712.000	5160.000	1709.000	5180.000	1712.000	5190.000	1713.000	5250.000

QT	4.000	1195.000	1195.000	900.000	406.000	.000	.000	.000	.000	.000
NC	.070	.060	.060	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4960.000	5080.000
X1	4.613	11.000	4985.000	5020.000	380.000	385.000	385.000	.000	.000	.000
GR	1716.600	4960.000	1714.000	4985.000	1711.500	5000.000	1716.000	5020.000	1716.500	5050.000
GR	1716.000	5070.000	1714.000	5090.000	1713.000	5095.000	1716.000	5105.000	1716.000	5145.000
GR	1717.000	5210.000	.000	.000	.000	.000	.000	.000	.000	.000

NC	.050	.050	.050	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4860.000	5060.000
X1	4.700	16.000	4975.000	5025.000	490.000	430.000	460.000	.000	.000	.000
GR	1721.000	4680.000	1720.000	4745.000	1717.000	4790.000	1720.000	4870.000	1717.000	4890.000
GR	1720.000	4915.000	1720.500	4940.000	1720.000	4955.000	1719.000	4960.000	1720.000	4975.000
GR	1718.000	4990.000	1716.900	5000.000	1720.000	5010.000	1720.500	5025.000	1720.000	5065.000
GR	1721.000	5155.000	.000	.000	.000	.000	.000	.000	.000	.000

NC	.050	.050	.040	.000	.000	.000	.000	.000	.000	.000
ET	.000	.000	9.100	.000	.000	.000	.000	.000	4880.000	5030.000
X1	4.778	13.000	4980.000	5030.000	410.000	410.000	410.000	.000	.000	.000
GR	1725.000	4785.000	1724.000	4840.000	1721.500	4860.000	1722.500	4870.000	1721.500	4880.000
GR	1722.000	4890.000	1724.000	4945.000	1724.000	4980.000	1721.700	5000.000	1723.000	5015.000
GR	1721.800	5030.000	1724.000	5055.000	1725.000	5135.000	.000	.000	.000	.000

ET	.000	.000	9.100	.000	.000	.000	.000	.000	4920.000	5060.000
X1	4.829	19.000	4975.000	5010.000	270.000	270.000	270.000	.000	.000	.000
GR	1727.000	4600.000	1726.000	4670.000	1725.500	4730.000	1726.000	4790.000	1725.000	4815.000
GR	1726.000	4850.000	1725.000	4885.000	1725.500	4920.000	1725.000	4940.000	1726.000	4955.000
GR	1726.500	4975.000	1726.000	4990.000	1724.500	5000.000	1726.000	5010.000	1726.500	5050.000
GR	1726.000	5085.000	1725.000	5100.000	1726.000	5110.000	1727.000	5160.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	DLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PROF 1

CCHV= .100 CEHV= .300
1490 NH CARD USED
*SECNO 4.234

4.23	4.78	1696.28	.00	1696.28	1696.62	.34	.00	.00	1694.00
2163.	581.	1480.	102.	259.	270.	81.	0.	0.	1696.00
.00	2.24	5.48	1.27	.060	.044	.075	.000	1691.50	4737.60
.006002	220.	220.	220.	0	0	0	.00	430.60	5168.20

```
FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1696.28

STA=    4738.    4960.    5050.    5120.    5168.
  PER Q=     26.8     68.4      3.2      1.6
   AREA=    259.1    270.2     54.6     25.9
    VEL=      2.2      5.5      1.3      1.3

*SECNO 4.325

3265 DIVIDED FLOW

     4.32     3.51  1700.81  1700.80      .00  1701.44      .63     4.73      .09  1700.00
    2163.     721.     685.     757.     179.     110.      94.       5.       4.  1699.00
      .02     4.04     6.25     8.04     .060     .060     .040     .000  1697.30  4733.67
  .019564     480.     480.     460.        4       16        0      .00   332.86  5096.33
0
FLOW DISTRIBUTION FOR SECNO=      4.32          CWSEL=   1700.81

STA=    4734.    4770.    4780.    4790.    4810.    4850.    4860.    4908.    4980.    5025.    5040.    5060.    5096.
  PER Q=      1.3      4.8      4.8       .7     12.8      5.4      1.7      1.7     31.7     17.2     15.9      1.9
   AREA=     14.7     19.6     19.6      8.1     56.4     21.1     19.6     19.6    109.6     38.4     41.1     14.7
    VEL=      1.9      5.3      5.3      1.9      4.9      5.6      1.9      1.9      6.2      9.7      8.4      2.8

*SECNO 4.402
     4.40     6.39  1705.19      .00      .00  1705.39      .20     3.91      .04  1705.00
    2163.     749.    1026.     388.     219.     266.     124.      10.       7.  1705.00
      .05     3.42     3.86     3.13     .060     .060     .040     .000  1698.80  4833.20
  .005801     385.     405.     420.        4        0        0      .00   342.73  5175.93
0
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 07/31/88    11:37:43                                                                          PAGE    4


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


FLOW DISTRIBUTION FOR SECNO=      4.40          CWSEL=   1705.19

STA=    4833.    4870.    4885.    4910.    4925.    4935.    4955.    5045.    5065.    5075.    5105.    5155.    5176.
  PER Q=      1.4     11.2     14.8      3.1      3.2      1.0     47.4      6.3      4.8      2.1      3.6      1.2
   AREA=     22.0     55.4     79.9     25.4     22.0     13.9    266.1     33.9     22.0     20.9     34.8     12.5
    VEL=      1.3      4.4      4.0      2.6      3.1      1.5      3.9      4.0      4.7      2.2      2.2      2.0

*SECNO 4.477

1645 INT SEC ADDED BY RAISING SEC      4.48,  -2.350FT AND MULTIPLYING BY    .977


3265 DIVIDED FLOW


3301 HV CHANGED MORE THAN HVINS

     1.01     5.49  1706.64  1706.58      .00  1707.36      .71     1.81      .15  1705.65
    2163.     335.    1654.     173.     107.     220.      50.      12.       9.  1705.65
      .06     3.14     7.54     3.50     .060     .060     .050     .000  1701.15  4822.39
  .016254     205.     200.     180.        6       12        0      .00   255.30  5088.33
0
FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1706.64

STA=    4822.    4866.    4910.    4939.    4959.    5018.    5052.    5088.
  PER Q=      5.5      5.5      3.7       .9     76.5      4.6      3.4
   AREA=     36.4     36.4     24.2      9.6    219.5     26.6     23.0
```

```
    VEL=      3.3      3.3      3.3      2.0      7.5      3.8      3.2


 1645 INT SEC ADDED BY RAISING SEC      1.01,   2.350FT AND MULTIPLYING BY   1.023

      4.48     5.84  1709.34      .00      .00  1709.77      .42     2.38      .03  1703.00
     2163.     448.    1479.     236.     166.     246.      78.      14.      10.   1708.00
       .07     2.70     6.02     3.02     .060     .060     .050     .000  1723.50  4781.71
   .009181     205.     200.     180.        2        0        0      .00   327.04  5103.76
0
 FLOW DISTRIBUTION FOR SECNO=      4.48          CWSEL=   1709.34

 STA=    4782.    4860.    4870.    4915.    4925.    4965.    5025.    5060.    5109.
   PER Q=     4.3      3.0      7.1      3.0      3.3     68.4      6.1      4.8
    AREA=    42.1     18.5     53.1     18.5     33.9    245.8     39.6     38.7
     VEL=     2.2      3.6      2.9      3.6      2.1      6.0      3.3      2.7

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  07/31/88    11:37:43                                                                                    PAGE    5


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    ES       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CONAR    TOPWID     ENDST


 *SECNO 4.540

 3265 DIVIDED FLOW

      4.54     5.47  1712.47      .00      .00  1712.87      .40     3.10      .00  1710.00
     2163.     953.     850.     360.     292.     119.     136.      19.      13.   1710.00
       .09     3.26     7.14     2.64     .070     .050     .070     .000  1707.00  4796.90
   .009455     330.     330.     350.        3        0        0      .00   352.70  5218.10
0
 FLOW DISTRIBUTION FOR SECNO=      4.54          CWSEL=   1712.47

 STA=    4797.    4930.    4940.    4950.    4980.    5010.    5050.    5180.    5218.
   PER Q=    19.2      8.0      8.0      8.8     39.3      7.2      6.3      3.1
    AREA=   160.7     36.2     36.2     59.0    119.0     58.7     51.4     36.3
     VEL=     2.6      4.8      4.8      3.2      7.1      2.7      2.6      2.6

 *SECNO 4.613
      4.61     5.06  1716.56      .00      .00  1717.00      .43     4.12      .01  1714.00
     1195.      93.     714.     388.      32.     113.     116.      22.      15.   1716.00
       .11     2.93     6.29     3.36     .070     .060     .060     .000  1711.50  4960.36
   .013825     380.     385.     385.        2        0        0      .00   221.24  5181.59
0
 FLOW DISTRIBUTION FOR SECNO=      4.61          CWSEL=   1716.56

 STA=    4960.    4985.    5020.    5050.    5070.    5090.    5095.    5105.    5145.    5182.
   PER Q=     7.8     59.8      1.1       .7     10.2      7.8      7.9      3.7      1.1
    AREA=    31.6    113.5      9.4      6.3     31.3     15.3     20.6     22.5     10.3
     VEL=     2.9      6.3      1.3      1.3      3.9      6.1      4.6      2.0      1.3

 *SECNO 4.700

 3265 DIVIDED FLOW

      4.70     3.55  1720.35      .00      .00  1720.49      .13     3.45      .03  1720.00
     1195.     996.     192.       7.     341.      71.      11.      25.      18.   1720.50
       .16     2.92     2.70      .64     .050     .050     .050     .000  1716.80  4722.05
   .004635     480.     460.     430.        5        0        0      .00   346.79  5095.77
0
 FLOW DISTRIBUTION FOR SECNO=      4.70          CWSEL=   1720.35
```

```
STA=    4722.    4745.    4790.    4870.    4890.    4915.    4933.    4955.    4960.    4975.    5025.    5065.    5097.
  PER Q=      .2     21.3     37.9      9.4     11.8      .2      .1      .6     1.9     16.1      .3      .3
   AREA=     4.1     83.4    148.2     37.1     46.3     3.1     1.9     4.3    12.8     71.2     5.0     5.6
    VEL=      .6      3.0      3.1      3.0      3.0      .6      .6     1.8     1.8      2.7      .6      .6

1
 07/31/88    11:37:43                                                                                          PAGE    6


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 4.778

 3265 DIVIDED FLOW

     4.78     2.26  1723.76  1723.72      .00  1724.33      .57     3.72      .13  1724.00
    1195.     682.     411.     102.     119.      60.      22.      28.      21.   1721.80
      .18     5.75     6.83     4.64     .050     .040     .050     .000  1721.50  4841.90
  .025153     410.     410.     410.        6       14        0      .00   166.84  5052.31
0
 FLOW DISTRIBUTION FOR SECNO=      4.78          CWSEL=   1723.76

 STA=    4842.    4860.    4870.    4880.    4890.    4938.    5030.    5052.
   PER Q=      8.7     10.1     10.1     12.6     15.5     34.4      8.5
    AREA=     20.5     17.6     17.6     20.1     42.7     60.1     21.9
     VEL=      5.1      6.9      6.9      7.5      4.3      6.8      4.6

 *SECNO 4.829
     4.83     2.46  1726.96      .00      .00  1727.05      .09     2.66      .05  1726.50
    1195.     827.     143.     225.     361.      45.     114.      31.      23.   1726.00
      .21     2.29     3.17     1.98     .050     .040     .050     .000  1724.50  4602.32
  .005229     270.     270.     270.        5        0        0      .00   556.02  5158.34
0
 FLOW DISTRIBUTION FOR SECNO=      4.83          CWSEL=   1726.96

 STA=    4602.    4670.    4730.    4790.    4815.    4850.    4885.    4920.    4940.    4955.    4975.    5010.    5050.
   PER Q=      3.6      6.2      6.2      8.5     11.9     11.9      8.7      5.0      5.1      2.1     11.9      4.1
    AREA=     32.7     43.0     43.0     36.7     51.3     51.3     42.6     24.3     22.0     14.3     45.1     28.7
     VEL=      1.3      1.7      1.7      2.8      2.8      2.8      2.4      2.4      2.8      1.7      3.2      1.7
 STA=    5050.    5085.    5100.    5110.    5158.
   PER Q=      3.6      5.1      3.4      2.6
    AREA=     25.1     22.0     14.7     23.4
     VEL=      1.7      2.8      2.8      1.3

1
 PROFILE FOR STREAM  WITTMANN WASH-UPPER REAC



 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


 ELEVATION  1690.     1695.     1700.     1705.     1710.     1715.     1720.     1725.     1730.     1735.
    SECNO   CUMDIS

     4.23      0.  C  I    L . REM    .         .         .         .         .         .         .         .         .
              50.  C   I    L.  REM   .         .         .         .         .         .         .         .         .
             100.  C    I    .L RWEM  .         .         .         .         .         .         .         .         .
             150.  C      I  . L RWEM .         .         .         .         .         .         .         .         .
             200.  C       I .  L RWEM .         .         .         .         .         .         .         .         .
             250.  C        I.   L RWEM
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        300.  C        I     L WEM        .         .         .         .         .         .         .         .
        350.  C       .I    RL WEM        .         .         .         .         .         .         .         .
        400.  C        .  I   RL WEM      .         .         .         .         .         .         .         .
        450.  C        .   I   RL.WEM     .         .         .         .         .         .         .         .
4.32    500.  .        .    I  R L WEM    .         .         .         .         .         .         .         .
        550.  C        .    I   R.L WEM   .         .         .         .         .         .         .         .
        600.  C        .    I    .RL WEM  .         .         .         .         .         .         .         .
        650.  C        .     I   . R LWE  .         .         .         .         .         .         .         .
        700.  C        .     I   .   RLWE .         .         .         .         .         .         .         .
        750.  C        .     I   .    RLWE.         .         .         .         .         .         .         .
        800.  C        .      I .      LWE.         .         .         .         .         .         .         .
        850.  C        .      I .       RWE         .         .         .         .         .         .         .
4.40    900.  C        .       I .        WE        .         .         .         .         .         .         .
        950.  C        .        I.        LWE       .         .         .         .         .         .         .
       1000.  C        .         I        .LWE      .         .         .         .         .         .         .
       1050.  C        .         .I       .L WE     .         .         .         .         .         .         .
1.01   1100.  .        .         . I      .L W E    .         .         .         .         .         .         .
       1150.  C        .         .  I     . L  WE   .         .         .         .         .         .         .
       1200.  C        .         .   I    .   L WEM .         .         .         .         .         .         .
       1250.  C        .         .    I   .    L WEM.         .         .         .         .         .         .
4.48   1300.  C        .         .     I  .     L  WE         .         .         .         .         .         .
       1350.  C        .         .      I .      L  EM        .         .         .         .         .         .
       1400.  C        .         .       I.      L  .EM       .         .         .         .         .         .
       1450.  C        .         .        I       L . E       .         .         .         .         .         .
       1500.  C        .         .        .I      L . WE      .         .         .         .         .         .
       1550.  C        .         .        . I     L.  WE      .         .         .         .         .         .
       1600.  C        .         .        .  I     L   WE     .         .         .         .         .         .
4.54   1650.  C        .         .        .   I    L    WE    .         .         .         .         .         .
       1700.  C        .         .        .    I   .LR   WE   .         .         .         .         .         .
       1750.  C        .         .        .     I  . LR   WE .         .         .         .         .         .
       1800.  C        .         .        .      I . L R  WE.         .         .         .         .         .
       1850.  C        .         .        .       I.  L R  WE         .         .         .         .         .
       1900.  C        .         .        .        I   L  R WE        .         .         .         .         .
       1950.  C        .         .        .        .I   L  R.WE       .         .         .         .         .
4.61   2000.  C        .         .        .         . I   L . RWE     .         .         .         .         .
       2050.  C        .         .        .         .  I   L.  RWE    .         .         .         .         .
       2100.  C        .         .        .         .   I   .L  RWE   .         .         .         .         .
       2150.  C        .         .        .         .    I   . L  RE  .         .         .         .         .
       2200.  C        .         .        .         .     I . L  WE   .         .         .         .         .
       2250.  C        .         .        .         .      I.   L WE  .         .         .         .         .
       2300.  C        .         .        .         .       I    L WE.         .         .         .         .
       2350.  C        .         .        .         .       .I    L EM         .         .         .         .
       2400.  C        .         .        .         .       . I    L EM        .         .         .         .
       2450.  C        .         .        .         .       .  I     LEM       .         .         .         .
4.70   2500.  C        .         .        .         .       .   I    LEM       .         .         .         .
       2550.  C        .         .        .         .       .    I   .LEM      .         .         .         .
       2600.  C        .         .        .         .       .     I  . WEM     .         .         .         .
       2650.  C        .         .        .         .       .      I . RWEM    .         .         .         .
       2700.  C        .         .        .         .       .       I . R WEM  .         .         .         .
       2750.  C        .         .        .         .       .        I.  R WEM .         .         .         .
       2800.  C        .         .        .         .       .        I  R  WEM .         .         .         .
       2850.  C        .         .        .         .       .        . IR   WEM.         .         .         .
4.78   2900.  .        .         .        .         .       .        .  IR  CWEM         .         .         .
       2950.  C        .         .        .         .       .        .   IR   WEM        .         .         .
       3000.  C        .         .        .         .       .        .    I R  WE        .         .         .
       3050.  C        .         .        .         .       .        .     I R .WE       .         .         .
       3100.  C        .         .        .         .       .        .      I  R WE      .         .         .
4.83   3150.  C        .         .        .         .       .        .       I. RLE      .         .         .
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  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN AREA DRAINAGE MASTER STUDY.
 T2      100-YEAR STORM EVENT.  UPPER REACH ABOVE SPLIT FLOW ON WITTMANN WASH.
 T3      WITTMANN WASH-UPPER REACH  (ENCROACHMENT RUN)

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        3.        0.        0.   .000000      .00       .5        0.  1696.680      .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      2.000     .000    -1.000     .000      .000      .000      .000      .000      .000    15.000

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  07/31/88    11:37:43                                                                                    PAGE    8


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 2

 CCHV=    .100 CEHV=    .300
 1490 NH CARD USED
 *SECNO 4.234

 3470 ENCROACHMENT STATIONS=    4950.0    5050.0  TYPE=     1  TARGET=     100.000
     4.23     5.18  1696.68      .00  1696.28  1697.36      .68      .00      .00  1694.00
    2163.      97.    2066.       0.      26.     306.       0.       0.       0. 100000.00
      .00     3.68     6.75      .00     .060     .045     .000     .000  1691.50  4950.00
  .008238     220.     220.     220.        0        0        0      .00   100.00  5050.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1696.68

 STA=    4950.    4960.    5050.
   PER Q=      4.5     95.5
    AREA=     26.3    306.2
     VEL=      3.7      6.7

 *SECNO 4.325

 3470 ENCROACHMENT STATIONS=    4900.0    5040.0  TYPE=     1  TARGET=     240.000
     4.32     4.28  1701.58      .00  1700.81  1702.04      .45     4.65      .02  1700.00
    2163.     946.     837.     380.     255.     144.      50.       4.       2.   1699.00
      .03     3.70     5.79     7.60     .060     .060     .040     .000  1697.30  4800.00
  .011634     480.     480.     460.        4        0        0      .00   240.00  5040.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.32          CWSEL=   1701.58

 STA=    4800.    4815.    4850.    4860.    4920.    4980.    5025.    5040.
   PER Q=      1.4     18.3      7.1      8.5      8.5     38.7     17.6
    AREA=     13.2     83.4     29.8     65.0     65.0    144.5     50.0
     VEL=      2.3      4.7      5.3      2.8      2.8      5.8      7.6

 *SECNO 4.402
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 3470 ENCROACHMENT STATIONS=    4910.0    5100.0  TYPE=     1  TARGET=     190.000
      4.40      6.74  1705.54      .00  1705.19  1705.88      .35      3.84      .01  1705.00
     2163.      254.     1441.     468.      77.     297.      94.       9.       4.  1705.00
       .05      3.32      4.86     4.97     .060     .060     .040     .000  1698.80  4910.00
   .007959      385.      405.     420.        4        0        0      .00   190.00  5100.00
0
1
 07/31/88    11:37:43                                                                          PAGE    9


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.40          CWSEL=   1705.54

 STA=    4910.    4925.    4935.    4955.    5045.    5065.    5075.    5100.
   PER Q=      4.8      4.8      2.2     66.6     10.0      7.1      4.5
    AREA=     30.5     25.4     20.7    296.8     40.7     25.4     28.0
     VEL=      3.4      4.1      2.3      4.9      5.3      6.1      3.5

 *SECNO 4.477

 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4940.0    5025.0  TYPE=     1  TARGET=      85.000
      4.48      6.00  1709.50      .00  1709.34  1710.51     1.02      4.43      .20  1708.00
     2163.       71.     2092.       0.      23.     255.       0.       12.       5. 100000.00
       .06      3.06      8.21     .00     .060     .060     .050     .000  1703.50  4940.00
   .016815      410.      400.     360.        2        0        0      .00    85.00  5025.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.48          CWSEL=   1709.50

 STA=    4940.    4945.    4965.    5025.
   PER Q=       .3      3.0     96.7
    AREA=      3.1     20.0    254.9
     VEL=      2.1      3.2      8.2

 *SECNO 4.540
 3280 CROSS SECTION      4.54 EXTENDED       .43 FEET


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4900.0    5015.0  TYPE=     1  TARGET=     115.000
      4.54      6.43  1713.43      .00  1712.47  1713.92      .49      3.35      .05  1710.00
     2163.     1083.     1034.      46.     274.     148.      17.       15.       6.  1710.00
       .08      3.95      6.99     2.79     .070     .050     .070     .000  1707.00  4900.00
   .006786      330.      330.     350.        3        0        0      .00   115.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.54          CWSEL=   1713.43

 STA=    4900.    4930.    4940.    4950.    4960.    4980.    5010.    5015.
   PER Q=     15.4     10.0     10.0      4.8      9.7     47.8      2.1
    AREA=     94.4     45.8     45.8     29.3     58.6    147.9     16.5
     VEL=      3.5      4.7      4.7      3.6      3.6      7.0      2.8

1
 07/31/88    11:37:43                                                                          PAGE   10

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
```

```
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO 4.613

 3470 ENCROACHMENT STATIONS=    4960.0    5080.0  TYPE=     1  TARGET=     120.000
      4.61     5.28  1716.78      .00  1716.56  1717.56     .78     3.55      .09  1714.00
     1195.     142.     944.     109.     37.     121.     40.      17.       7.   1716.00
       .10     3.81     7.77     2.72    .070     .060    .060    .000  1711.50  4960.00
   .019223     380.     385.     385.       2        0       0     .00   120.00  5080.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.61          CWSEL=   1716.78

 STA=    4960.    4985.    5020.    5050.    5070.    5080.
   PER Q=     11.9     79.0      3.1      2.1      3.9
    AREA=     37.3    121.5     16.3     10.9     12.9
     VEL=      3.8      7.8      2.3      2.3      3.6

 *SECNO 4.700
 3280 CROSS SECTION      4.70 EXTENDED       .28 FEET


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4860.0    5060.0  TYPE=     1  TARGET=     200.000
      4.70     4.48  1721.28      .00  1720.35  1721.45     .17     3.83      .06  1720.00
     1195.     716.     411.      68.     217.     117.     35.      20.       9.   1720.50
       .13     3.30     3.50     1.96    .050     .050    .050    .000  1716.80  4860.00
   .004547     480.     460.     430.       5        0       0     .00   200.00  5060.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.70          CWSEL=   1721.28

 STA=    4860.    4870.    4890.    4915.    4940.    4955.    4960.    4975.    5025.    5060.
   PER Q=      2.9     18.3     22.9      4.4      2.6      2.2      6.6     34.4      5.7
    AREA=     14.7     55.6     69.5     25.8     15.5      8.9     26.7    117.3     35.0
     VEL=      2.3      3.9      3.9      2.0      2.0      2.9      2.9      3.5      2.0

 *SECNO 4.778

 3470 ENCROACHMENT STATIONS=    4880.0    5030.0  TYPE=     1  TARGET=     150.000
      4.78     2.83  1724.33      .00  1723.76  1724.95     .62     3.37      .13  1724.00
     1195.     556.     639.       0.     111.      88.      0.      23.      10. 100000.00
       .15     5.02     7.23     .00    .050     .040    .050    .000  1721.50  4880.00
   .019072     410.     410.     410.       3        0       0     .00   150.00  5030.00
0
1
  07/31/88    11:37:43                                                                    PAGE   11


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.78          CWSEL=   1724.33

 STA=    4880.    4890.    4945.    4980.    5030.
   PER Q=     14.1     30.5      1.9     53.5
    AREA=     25.8     73.3     11.6     88.4
     VEL=      6.5      5.0      2.0      7.2

 *SECNO 4.823
```

```
3280 CROSS SECTION      4.83 EXTENDED       .87 FEET


3470 ENCROACHMENT STATIONS=    4920.0    5060.0  TYPE=     1  TARGET=     140.000
     4.83      3.37  1727.87      .00  1726.96  1728.22      .34      3.24      .03  1726.50
    1195.      472.     435.     287.     111.      77.      79.      25.      11.   1726.00
      .17      4.27     5.67     3.62     .050     .040     .050     .000  1724.50  4920.00
  .008234      270.     270.     270.        5        0        0      .00   140.00  5060.00
0
 FLOW DISTRIBUTION FOR SECNO=      4.83          CWSEL=   1727.87

 STA=    4920.    4940.    4955.    4975.    5010.    5050.    5060.
   PER Q=     15.1     14.3     10.1     36.4     20.2      3.8
    AREA=     42.5     35.6     32.5     76.8     64.9     14.4
     VEL=      4.3      4.8      3.7      5.7      3.7      3.1

1
 07/31/88    11:37:43                                                                          PAGE   12



                                                                          THIS RUN EXECUTED 07/31/88   11:38:49
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION 1.1
 ************************************************


 T1      WITTMANN AREA DRAINAGE MASTER STUDY.
 T2       50-YEAR STORM EVENT.  UPPER REACH ABOVE SPLIT FLOW ON WITTMANN WASH.
 T3      WITTMANN WASH-UPPER REACH

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        4.        0.        0.   .000000       .00       .5        0.  1695.680      .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      3.000      .000    -1.000      .000      .000      .000      .000      .000      .000    15.000

1
 07/31/88    11:37:43                                                                          PAGE   13


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 3

 CCHV=    .100 CEHV=    .300
 1490 NH CARD USED
 *SECNO 4.234

 3265 DIVIDED FLOW

     4.23      4.18  1695.68      .00  1695.68  1696.15      .47      .00      .00  1694.00
    1630.      294.     1315.     21.      141.     217.      23.      0.       0.   1696.00
      .00      2.08     6.06     .91      .060     .043     .075     .000  1691.50  4791.99
  .008928      220.     220.     220.        0        0        0      .00   382.01  5149.40
```

0
FLOW DISTRIBUTION FOR SECNO= 4.23 CWSEL= 1695.68

STA=	4792.	4960.	5050.	5080.	5107.	5145.	5148.
PER Q=	18.0	80.7	.3	.6	.3	.1	
AREA=	141.1	216.8	6.9	9.2	5.8	1.2	
VEL=	2.1	6.1	.8	1.0	1.0	1.0	

*SECNO 4.325

3265 DIVIDED FLOW

4.32	3.45	1700.75	.00	.00	1701.14	.39	4.98	.01	1700.00
1630.	534.	523.	573.	166.	107.	90.	4.	3.	1699.00
.03	3.22	4.89	6.36	.060	.060	.040	.000	1697.30	4736.34
.012408	480.	480.	460.	4	0	0	.00	318.31	5093.66

0
FLOW DISTRIBUTION FOR SECNO= 4.32 CWSEL= 1700.75

STA=	4736.	4770.	4780.	4790.	4809.	4850.	4860.	4905.	4980.	5025.	5040.	5060.	5094.
PER Q=	1.1	4.8	4.8	.6	13.0	5.5	1.5	1.5	32.1	17.5	16.0	1.7	
AREA=	12.6	19.0	19.0	7.0	54.5	20.5	16.8	16.8	106.9	37.5	40.0	12.6	
VEL=	1.4	4.2	4.2	1.4	3.9	4.4	1.4	1.4	4.9	7.6	6.5	2.1	

*SECNO 4.402

3265 DIVIDED FLOW

4.40	5.84	1704.64	.00	.00	1704.86	.22	3.70	.02	1705.00
1630.	574.	870.	186.	157.	217.	59.	8.	6.	1705.00
.06	3.65	4.00	3.13	.060	.060	.040	.000	1698.80	4850.42
.007112	385.	405.	420.	4	0	0	.00	264.50	5166.14

0
1
07/31/88 11:37:43 PAGE 14

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FLOW DISTRIBUTION FOR SECNO= 4.40 CWSEL= 1704.64

STA=	4850.	4870.	4885.	4908.	4925.	4935.	4948.	5045.	5065.	5075.	5094.	5155.	5166.
PER Q=	.4	12.5	15.6	2.6	2.9	.2	53.4	5.3	4.3	.5	.9	.3	
AREA=	6.2	47.0	66.2	17.4	15.4	4.0	217.4	23.2	16.4	6.1	10.1	3.5	
VEL=	1.0	4.3	4.1	2.5	2.9	1.0	4.0	3.7	4.3	1.5	1.5	1.5	

*SECNO 4.477

3265 DIVIDED FLOW

4.48	5.03	1708.53	1708.36	.00	1709.23	.70	4.23	.14	1708.00
1630.	154.	1403.	74.	55.	196.	23.	11.	8.	1708.00
.07	2.81	7.14	3.16	.060	.060	.050	.000	1703.50	4839.27
.017418	410.	400.	360.	5	15	0	.00	197.58	5082.04

0
FLOW DISTRIBUTION FOR SECNO= 4.48 CWSEL= 1708.53

STA=	4839.	4870.	4915.	4965.	5025.	5065.	5082.
PER Q=	3.4	3.5	2.5	86.0	4.1	.4	
AREA=	19.5	19.5	15.7	196.5	18.8	4.5	
VEL=	2.9	2.9	2.6	7.1	3.5	1.6	

```
*SECNO 4.540

3265 DIVIDED FLOW

     4.54     5.34  1712.34      .00      .00  1712.62      .27     3.34      .04  1710.00
    1630.     706.     668.     256.     268.     115.     118.      14.      10.  1710.00
      .10     2.63     5.81     2.17     .070     .050     .070     .000  1707.00  4804.94
  .006557     330.     330.     350.        3        0        0      .00   331.90  5210.06
0
 FLOW DISTRIBUTION FOR SECNO=      4.54          CWSEL=   1712.34

 STA=    4805.    4930.    4940.    4950.    4980.    5010.    5050.    5180.    5210.
   PER Q=     18.0      8.3      8.3      8.7     41.0      6.8      6.0      2.9
    AREA=    143.5     34.8     34.8     55.0    115.0     53.4     42.8     21.7
     VEL=      2.0      3.9      3.9      2.6      5.8      2.1      2.3      2.2

 *SECNO 4.613
1
  07/31/88    11:37:43                                                                    PAGE   15


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST



 3265 DIVIDED FLOW

     4.61     4.28  1715.78      .00      .00  1716.51      .73     3.76      .14  1714.00
     900.      49.     647.     204.      15.      86.      40.      17.      12.  1716.00
      .11     3.24     7.51     5.07     .070     .060     .060     .000  1711.50  4967.89
  .027377     380.     385.     385.        1        0        0      .00    83.19  5104.27
0
 FLOW DISTRIBUTION FOR SECNO=      4.61          CWSEL=   1715.78

 STA=    4968.    4985.    5020.    5090.    5095.    5104.
   PER Q=      5.5     71.9      6.6      8.9      7.1
    AREA=     15.2     86.1     15.8     11.4     12.9
     VEL=      3.2      7.5      3.8      7.0      5.0

 *SECNO 4.700

 1645 INT SEC ADDED BY RAISING SEC      4.70,  -2.650FT AND MULTIPLYING BY    .901


 3301 HV CHANGED MORE THAN HVINS

     1.01     3.70  1717.85      .00      .00  1717.92      .07     1.35      .07  1717.35
     900.     750.     138.      11.     341.      71.      19.      18.      13.  1717.85
      .14     2.20     1.96      .59     .050     .050     .050     .000  1714.15  4709.16
  .002443     240.     230.     215.        3        0        0      .00   358.63  5067.79
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1717.85

 STA=    4709.    4739.    4779.    4851.    4869.    4892.    4914.    4928.    4932.    4946.    4991.    5027.    5068.
   PER Q=      .5     21.0     37.4      9.3     11.6      .4      .2      .7      2.2     15.4      .6      .7
    AREA=      7.4     81.2    144.4     36.1     45.1     5.7     3.4     4.5     13.6     70.6     9.1    10.2
     VEL=      .6      2.3      2.3      2.3      2.3      .6      .6     1.4      1.5      2.0      .6      .6


 1645 INT SEC ADDED BY RAISING SEC      1.01,   2.650FT AND MULTIPLYING BY   1.109


 3265 DIVIDED FLOW
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7185 MINIMUM SPECIFIC ENERGY

1


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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


3720 CRITICAL DEPTH ASSUMED
     4.70     2.28  1719.08  1719.08      .00  1719.63      .54     1.47      .14  1720.00
     900.     718.     182.       0.     123.     29.       0.      20.      15.   1720.50
      .15     5.83     6.21      .00     .050     .050     .050     .000  1716.80  4758.74
  .036587     240.     230.     215.        4       14        0      .00   145.05  5007.14
0
 FLOW DISTRIBUTION FOR SECNO=      4.70          CWSEL=   1719.08

 STA=    4759.    4790.    4846.    4890.    4907.    4961.    5025.
   PER Q=     21.1     37.6      9.3     11.7       .0     20.3
    AREA=     32.6     57.9     14.5     18.1       .1     29.4
     VEL=      5.8      5.8      5.8      5.8       .1      6.2

 *SECNO 4.778
     4.78     2.69  1724.19      .00      .00  1724.35      .16     4.69      .04  1724.00
     900.     507.     308.      85.     170.      81.      34.      22.      16.   1721.80
      .19     2.98     3.80     2.51     .050     .040     .050     .000  1721.50  4829.62
  .005509     410.     410.     410.        6        0        0      .00   240.48  5070.10
0
 FLOW DISTRIBUTION FOR SECNO=      4.78          CWSEL=   1724.19

 STA=    4830.    4840.    4860.    4870.    4880.    4890.    4945.    4980.    5030.    5055.    5070.
   PER Q=       .0      8.9      9.0      9.0     10.8     18.0       .5     34.3      9.3       .1
    AREA=      1.0     28.8     21.9     21.9     24.4     65.4      6.6     81.2     32.2      1.4
     VEL=       .5      2.8      3.7      3.7      4.0      2.5       .7      3.8      2.6       .5

 *SECNO 4.829
     4.83     2.03  1726.53      .00      .00  1726.69      .16     2.33      .00  1726.50
     900.     637.     123.     140.     205.      30.      54.      24.      19.   1726.00
      .21     3.11     4.13     2.62     .050     .040     .050     .000  1724.50  4632.98
  .015482     270.     270.     270.        4        0        0      .00   503.46  5136.44
0
 FLOW DISTRIBUTION FOR SECNO=      4.83          CWSEL=   1726.53

 STA=    4633.    4730.    4815.    4850.    4885.    4920.    4940.    4955.    4975.    5010.    5085.    5100.    5110.
   PER Q=      4.6     13.7     15.1     15.1      9.5      5.4      6.5      1.0     13.7      3.7      6.5      4.3
    AREA=     26.5     42.4     35.0     36.0     27.3     15.6     15.4      5.6     29.8     20.9     15.4     10.3
     VEL=      1.6      2.9      3.8      3.8      3.1      3.1      3.8      1.6      4.1      1.6      3.8      3.8
 STA=    5110.    5136.
   PER Q=      1.2
    AREA=      7.0
     VEL=      1.5
```

1

THIS RUN EXECUTED 07/31/88 11:39:15

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
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  IBM-PC-XT VERSION 1.1
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T1      WITTMANN AREA DRAINAGE MASTER STUDY.
T2       10-YEAR STORM EVENT.  UPPER REACH ABOVE SPLIT FLOW ON WITTMANN WASH.
T3      WITTMANN WASH-UPPER REACH

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        5.        0.        0.   .000000      .00       .5        0.  1694.500      .000

MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     15.000     .000   -1.000     .000      .000      .000      .000      .000      .000    15.000

1
 07/31/88    11:37:43                                                                                PAGE   18


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 4

CCHV=    .100 CEHV=    .300
1490 NH CARD USED
*SECNO 4.234
     4.23     3.00  1694.50      .00  1694.50  1695.02      .52      .00      .00  1694.00
     735.      14.     721.       0.      13.     124.       0.       0.       0.  1696.00
      .00     1.08     5.82      .00     .060     .041     .000     .000  1691.50  4910.00
  .012149     220.     220.     220.        0        0        0      .00   121.25  5031.25
0
 FLOW DISTRIBUTION FOR SECNO=      4.23          CWSEL=   1694.50

STA=    4910.    4960.    5050.
  PER Q=      1.8     98.2
   AREA=     12.5    124.1
    VEL=      1.1      5.8

*SECNO 4.325

3265 DIVIDED FLOW

     4.32     2.75  1700.05      .00      .00  1700.29      .24     5.25      .03  1700.00
     735.     208.     264.     263.      72.      76.      53.       2.       1.  1699.00
      .03     2.89     3.49     4.96     .060     .060     .040     .000  1697.30  4767.72
  .010039     480.     480.     460.        4        0        0      .00   147.68  5062.28
0
 FLOW DISTRIBUTION FOR SECNO=      4.32          CWSEL=   1700.05

STA=    4768.    4780.    4790.    4850.    4860.    4980.    5025.    5040.    5060.    5062.
  PER Q=      4.5      4.5     13.9      5.5       .0     35.9     20.2     15.6       .0
   AREA=     12.1     12.0     34.2     13.5       .2     75.5     27.0     26.0       .1
    VEL=      2.7      2.8      3.0      3.0       .0      3.5      5.5      4.4       .0

*SECNO 4.402

3265 DIVIDED FLOW

     4.40     4.59  1703.39      .00      .00  1703.56      .17     3.26      .01  1705.00
     735.     246.     469.      87.      79.     133.      11.       4.       3.  1705.00
```

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      .07     3.12     3.46     2.37     .060     .060     .040     .000  1698.00  4871.82
  .006710     385.     405.     420.        4        0        0      .00   120.57  5071.96
0
1
 07/31/88    11:37:43                                                                    PAGE   19


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.40          CWSEL=   1703.39

 STA=    4872.    4885.    4903.    4925.    4932.    5045.    5065.    5072.
   PER Q=     13.0     18.4      1.0      1.0     62.9      2.1      1.6
    AREA=     28.9     40.2      4.8      4.8    133.3      6.5      4.8
     VEL=      3.3      3.4      1.6      1.6      3.5      2.4      2.4

 *SECNO 4.477

 3265 DIVIDED FLOW

     4.48     3.80  1707.30      .00      .00  1707.83      .53     4.16      .11  1708.00
     735.       2.     733.       1.       2.     125.       1.       5.       4.   1708.00
      .09      .92     5.86     1.10     .060     .060     .050     .000  1703.50  4858.54
  .018104     410.     400.     360.        2        0        0      .00    69.02  5061.46
0
 FLOW DISTRIBUTION FOR SECNO=      4.48          CWSEL=   1707.30

 STA=    4859.    4860.    4863.    4915.    4918.    5025.    5060.    5061.
   PER Q=       .0       .1       .1       .1     99.7       .1       .0
    AREA=       .2       .4       .6       .4    125.1       .4       .2
     VEL=       .9       .9       .9       .9      5.9      1.1      1.1

 *SECNO 4.540

 3265 DIVIDED FLOW

     4.54     4.26  1711.26      .00      .00  1711.51      .25     3.65      .03  1710.00
     735.     249.     413.      72.     114.      83.      42.       7.       5.   1710.00
      .11     2.19     4.97     1.72     .070     .050     .070     .000  1707.00  4863.32
  .007413     330.     330.     350.        4        0        0      .00   194.79  5187.57
0
 FLOW DISTRIBUTION FOR SECNO=      4.54          CWSEL=   1711.26

 STA=    4863.    4930.    4940.    4950.    4960.    4980.    5010.    5035.    5180.    5188.
   PER Q=      7.8     10.7     10.7      1.6      3.2     56.2      3.0      4.6      2.3
    AREA=     42.3     24.2     24.2      7.7     15.4     83.1     16.1     17.2      8.6
     VEL=      1.4      3.2      3.2      1.5      1.5      5.0      1.3      2.0      1.9

 *SECNO 4.613
1
 07/31/88    11:37:43                                                                    PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3265 DIVIDED FLOW
```

```
     4.61     3.49  1714.99      .00      .00  1715.40      .41     3.84      .05  1714.00
     406.       9.     331.      66.       5.      61.      19.       8.       6.   1716.00
      .13     1.87     5.47     3.52     .070     .060     .060     .000  1711.50  4975.52
   .020034     380.     385.     385.        2        0        0      .00    61.45  5101.62
0
 FLOW DISTRIBUTION FOR SECNO=      4.61          CWSEL=   1714.99

 STA=    4976.    4985.    5020.    5090.    5095.    5102.
   PER Q=      2.1     81.5      2.6      8.2      5.5
    AREA=      4.7     60.5      4.9      7.4      6.6
     VEL=      1.9      5.5      2.2      4.5      3.4

 *SECNO 4.700

 3265 DIVIDED FLOW

     4.70     2.48  1719.28      .00      .00  1719.36      .08     3.92      .03  1720.00
     406.     325.      81.       0.     148.      35.       0.      10.       7.   1720.50
      .19     2.19     2.33      .00     .050     .050     .050     .000  1716.80  4755.75
   .004612     480.     460.     430.        5        0        0      .00   162.42  5007.76
0
 FLOW DISTRIBUTION FOR SECNO=      4.70          CWSEL=   1719.28

 STA=    4756.    4790.    4851.    4890.    4909.    4960.    4964.    5025.
   PER Q=     21.2     37.7      9.4     11.7       .0       .1     19.9
    AREA=     39.1     69.5     17.4     21.7       .2       .6     34.6
     VEL=      2.2      2.2      2.2      2.2       .5       .5      2.3

 *SECNO 4.778

 3265 DIVIDED FLOW

     4.78     1.49  1722.99      .00      .00  1723.32      .33     3.89      .08  1724.00
     406.     256.     121.      29.      55.      26.       8.      11.       8.   1721.80
      .22     4.66     4.68     3.62     .050     .040     .050     .000  1721.50  4848.05
   .029630     410.     410.     410.        4        0        0      .00   123.98  5043.57
0
1
 07/31/88    11:37:43                                                                    PAGE   21


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN       SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID      ENDST


 FLOW DISTRIBUTION FOR SECNO=      4.78          CWSEL=   1722.99

 STA=    4848.    4860.    4870.    4880.    4890.    4917.    5030.    5044.
   PER Q=      9.2     12.4     12.4     18.1     10.7     29.8      7.2
    AREA=      8.9      9.9      9.9     12.4     13.6     25.9      8.1
     VEL=      4.2      5.1      5.1      5.9      3.2      4.7      3.6

 *SECNO 4.829

 3265 DIVIDED FLOW

     4.83     1.88  1726.38      .00      .00  1726.44      .06     3.09      .03  1726.50
     406.     288.      61.      58.     157.      25.      37.      12.      10.   1726.00
      .26     1.83     2.45     1.58     .050     .040     .050     .000  1724.50  4643.31
   .006015     270.     270.     270.        6        0        0      .00   426.76  5129.06
0
 FLOW DISTRIBUTION FOR SECNO=      4.83          CWSEL=   1726.38

 STA=    4663.    4790.    4815.    4850.    4885.    4917.    4940.    4955.    4970.    5010.    5100.    5110.    5129.
```

PER Q=	4.2	11.5	16.1	16.1	9.9	5.6	6.9	.5	15.0	8.9	4.6	.7
AREA=	22.5	22.0	30.8	30.8	22.3	12.7	13.2	2.9	24.8	24.1	8.8	3.6
VEL=	.8	2.1	2.1	2.1	1.8	1.8	2.1	.8	2.4	1.5	2.1	.8

THIS RUN EXECUTED 07/31/88 11:39:35

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

WITTMANN WASH-UPPER REAC

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	4.234	2163.00	1696.28	4737.60	4960.00	5050.00	5168.20	.00	430.60	4.78	1691.50	60.02	5.48
	4.234	2163.00	1696.68	4950.00	4960.00	5050.00	5050.00	.00	100.00	5.18	1691.50	82.38	6.75
	4.234	1630.00	1695.68	4791.99	4960.00	5050.00	5148.40	.00	322.01	4.18	1691.50	89.28	6.06
	4.234	735.00	1694.50	4910.00	4960.00	5050.00	5031.25	.00	121.25	3.00	1691.50	121.49	5.82
	4.325	2163.00	1700.81	4733.67	4980.00	5025.00	5096.33	4.53	332.86	3.51	1697.30	195.64	6.25
	4.325	2163.00	1701.58	4800.00	4980.00	5025.00	5040.00	4.90	240.00	4.28	1697.30	116.34	5.79
	4.325	1630.00	1700.75	4736.34	4980.00	5025.00	5093.66	5.07	318.31	3.45	1697.30	124.08	4.89
	4.325	735.00	1700.05	4767.72	4980.00	5025.00	5062.28	5.55	147.68	2.75	1697.30	100.39	3.49
	4.402	2163.00	1705.19	4833.20	4955.00	5045.00	5175.93	4.38	342.73	6.39	1698.80	58.01	3.86
	4.402	2163.00	1705.54	4910.00	4955.00	5045.00	5100.00	3.95	190.00	6.74	1698.80	79.59	4.86
	4.402	1630.00	1704.64	4850.42	4955.00	5045.00	5166.14	3.89	264.50	5.84	1698.80	71.12	4.00
	4.402	735.00	1703.39	4871.82	4955.00	5045.00	5071.96	3.34	120.57	4.59	1698.80	67.10	3.46
*	4.477	2163.00	1709.34	4781.71	4965.00	5025.00	5108.76	2.70	327.04	5.84	1703.50	91.81	6.02
	4.477	2163.00	1709.50	4940.00	4965.00	5025.00	5025.00	3.96	85.00	6.00	1703.50	168.15	8.21
	4.477	1630.00	1708.53	4839.27	4965.00	5025.00	5082.04	3.89	197.58	5.03	1703.50	174.18	7.14
	4.477	735.00	1707.30	4858.54	4965.00	5025.00	5061.46	3.91	69.02	3.80	1703.50	181.04	5.86
	4.540	2163.00	1712.47	4796.90	4980.00	5010.00	5218.10	3.12	362.70	5.47	1707.00	94.55	7.14
	4.540	2163.00	1713.43	4900.00	4980.00	5010.00	5015.00	3.94	115.00	6.43	1707.00	67.86	6.99
	4.540	1630.00	1712.34	4804.94	4980.00	5010.00	5210.06	3.81	331.90	5.34	1707.00	65.57	5.81
	4.540	735.00	1711.26	4863.32	4980.00	5010.00	5187.57	3.96	194.79	4.26	1707.00	74.13	4.97
	4.613	1195.00	1716.56	4960.36	4985.00	5020.00	5181.59	4.10	221.24	5.06	1711.50	138.25	6.29
	4.613	1195.00	1716.78	4960.00	4985.00	5020.00	5080.00	3.35	120.00	5.28	1711.50	192.23	7.77
	4.613	900.00	1715.78	4967.89	4985.00	5020.00	5104.27	3.44	83.19	4.28	1711.50	273.77	7.51
	4.613	406.00	1714.99	4975.52	4985.00	5020.00	5101.62	3.73	61.45	3.49	1711.50	200.34	5.47
	4.700	1195.00	1720.35	4722.05	4975.00	5025.00	5096.77	3.79	346.79	3.55	1716.80	46.35	2.70
	4.700	1195.00	1721.28	4860.00	4975.00	5025.00	5060.00	4.50	200.00	4.48	1716.80	45.47	3.50
*	4.700	900.00	1719.08	4758.74	4975.00	5025.00	5007.14	1.23	145.05	2.28	1716.80	365.87	6.21
	4.700	406.00	1719.28	4755.75	4975.00	5025.00	5007.75	4.29	162.42	2.48	1716.80	46.12	2.33

SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
4.778	1195.00	1723.76	4841.90	4980.00	5030.00	5052.31	3.41	166.84	2.26	1721.50	251.53	6.83
4.778	1195.00	1724.33	4880.00	4980.00	5030.00	5030.00	3.05	150.00	2.83	1721.50	190.72	7.23
4.778	900.00	1724.19	4829.62	4980.00	5030.00	5070.10	5.10	240.48	2.69	1721.50	55.09	3.80
4.778	406.00	1722.99	4848.05	4980.00	5030.00	5043.57	3.71	123.98	1.49	1721.50	296.30	4.68
4.829	1195.00	1726.96	4602.32	4975.00	5010.00	5158.34	3.20	556.02	2.46	1724.50	52.29	3.17
4.829	1195.00	1727.87	4920.00	4975.00	5010.00	5060.00	3.54	140.00	3.37	1724.50	82.34	5.67
4.829	900.00	1726.53	4632.98	4975.00	5010.00	5136.44	2.34	503.46	2.03	1724.50	154.82	4.13
4.829	406.00	1726.38	4643.31	4975.00	5010.00	5129.06	3.39	426.76	1.88	1724.50	60.15	2.45

1

WITTMANN WASH-UPPER REAC

SUMMARY PRINTOUT TABLE 110

	SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
	4.234	1696.28	.00	1696.62	430.60	580.69	1479.83	102.48	.00	.00	4960.00	5050.00	.00
	4.234	1696.68	.40	1697.36	100.00	96.66	2066.34	.00	100.00	4950.00	4960.00	5050.00	5050.00
	4.234	1695.68	.00	1696.15	322.01	294.02	1314.92	21.07	.00	.00	4960.00	5050.00	.00
	4.234	1694.50	.00	1695.02	121.25	13.54	721.46	.00	.00	.00	4960.00	5050.00	.00
	4.325	1700.81	.00	1701.44	332.86	721.07	684.68	757.25	.00	.00	4980.00	5025.00	.00
	4.325	1701.58	.77	1702.04	240.00	946.05	837.20	379.75	240.00	4800.00	4980.00	5025.00	5040.00
	4.325	1700.75	.00	1701.14	318.31	534.22	523.27	572.51	.00	.00	4980.00	5025.00	.00
	4.325	1700.05	.00	1700.29	147.68	208.14	263.77	263.09	.00	.00	4980.00	5025.00	.00
	4.402	1705.19	.00	1705.39	342.73	748.89	1026.16	387.95	.00	.00	4955.00	5045.00	.00
	4.402	1705.54	.34	1705.88	190.00	254.28	1441.07	467.65	190.00	4910.00	4955.00	5045.00	5100.00
	4.402	1704.64	.00	1704.86	264.50	573.91	870.39	185.70	.00	.00	4955.00	5045.00	.00
	4.402	1703.39	.00	1703.56	120.57	246.25	461.98	26.77	.00	.00	4955.00	5045.00	.00
*	4.477	1709.34	.00	1709.77	327.04	447.82	1479.07	236.11	.00	.00	4965.00	5025.00	.00
	4.477	1709.50	.15	1710.51	85.00	70.60	2092.40	.00	85.00	4940.00	4965.00	5025.00	5025.00
	4.477	1708.53	.00	1709.23	197.58	153.95	1402.53	73.52	.00	.00	4965.00	5025.00	.00
	4.477	1707.30	.00	1707.83	69.02	1.58	732.71	.71	.00	.00	4965.00	5025.00	.00
	4.540	1712.47	.00	1712.87	362.70	953.39	849.84	359.77	.00	.00	4980.00	5010.00	.00
	4.540	1713.43	.96	1713.92	115.00	1082.52	1034.30	46.18	115.00	4900.00	4980.00	5010.00	5015.00
	4.540	1712.34	.00	1712.62	331.90	705.81	668.40	255.79	.00	.00	4980.00	5010.00	.00
	4.540	1711.26	.00	1711.51	194.79	249.36	413.37	72.28	.00	.00	4980.00	5010.00	.00
	4.613	1716.56	.00	1717.00	221.24	92.67	714.09	388.24	.00	.00	4985.00	5020.00	.00
	4.613	1716.78	.22	1717.56	120.00	142.21	943.78	109.01	120.00	4960.00	4985.00	5020.00	5080.00
	4.613	1715.78	.00	1716.51	83.19	49.29	647.17	203.53	.00	.00	4985.00	5020.00	.00
	4.613	1714.99	.00	1715.40	61.45	8.73	330.94	66.34	.00	.00	4985.00	5020.00	.00
	4.700	1720.35	.00	1720.48	346.79	996.20	192.05	6.74	.00	.00	4975.00	5025.00	.00
	4.700	1721.28	.93	1721.45	200.00	715.65	410.91	68.43	200.00	4850.00	4975.00	5025.00	5060.00
*	4.700	1719.08	.00	1719.63	145.05	717.52	182.48	.00	.00	.00	4975.00	5025.00	.00
	4.700	1719.28	.00	1719.36	162.42	325.30	80.70	.00	.00	.00	4975.00	5025.00	.00
	4.778	1723.76	.00	1724.33	166.84	682.36	410.98	101.66	.00	.00	4980.00	5030.00	.00
	4.778	1724.33	.57	1724.95	150.00	555.71	639.29	.00	150.00	4880.00	4980.00	5030.00	5030.00
	4.778	1724.19	.00	1724.35	240.48	507.11	308.29	84.60	.00	.00	4980.00	5030.00	.00
	4.778	1722.99	.00	1723.32	123.98	255.62	121.06	29.32	.00	.00	4980.00	5030.00	.00
	4.829	1726.96	.00	1727.05	556.02	827.24	142.78	224.98	.00	.00	4975.00	5010.00	.00

4.829	1727.87	.91	1728.22	140.00	472.26	435.49	287.24	140.00	4920.00	4975.00	5010.00	5060.00
4.829	1726.53	.00	1726.69	503.46	636.73	122.91	140.36	.00	.00	4975.00	5010.00	.00
4.829	1726.38	.00	1726.44	426.76	287.60	60.73	57.67	.00	.00	4975.00	5010.00	.00

1

SUMMARY OF ERRORS AND SPECIAL NOTES

CAUTION SECNO= 4.477 PROFILE= 1 INTERPOLATED XSECTIONS USED

CAUTION SECNO= 4.700 PROFILE= 3 INTERPOLATED XSECTIONS USED

1

FLOODWAY DATA, WITTMANN WASH-UPPER REAC
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
4.234	100.	333.	6.5	1696.7	1696.3	.4
4.325	240.	450.	4.8	1701.6	1700.8	.8
4.402	190.	467.	4.6	1705.5	1705.2	.3
4.477	85.	278.	7.8	1709.5	1709.3	.2
4.540	115.	438.	4.9	1713.5	1712.5	1.0
4.613	120.	199.	6.0	1716.8	1716.6	.2
4.700	200.	369.	3.2	1721.3	1720.4	.9
4.778	150.	199.	6.0	1724.4	1723.8	.6
4.829	140.	267.	4.5	1727.9	1727.0	.9

1

FLOODWAY DATA, WITTMANN WASH-UPPER REAC
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
4.234	356.	381.	4.3	1695.8	1696.3	-.5
4.325	357.	363.	4.5	1700.8	1700.8	.0
4.402	316.	434.	3.8	1704.7	1705.2	-.5
4.477	243.	274.	5.9	1708.6	1709.3	-.7
4.540	405.	501.	3.3	1712.5	1712.5	.0
4.613	136.	141.	6.4	1715.9	1716.6	-.7
4.700	248.	153.	5.9	1719.2	1720.4	-1.2
4.778	240.	285.	3.2	1724.2	1723.8	.4
4.829	503.	288.	3.1	1726.7	1727.0	-.3

1

FLOODWAY DATA, WITTMANN WASH-UPPER REAC
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WITHOUT FLOODWAY	DIFFERENCE
4.234	121.	137.	5.4	1694.6	1696.3	-1.7
4.325	295.	201.	3.7	1700.1	1700.8	-.7
4.402	200.	223.	3.3	1703.5	1705.2	-1.7
4.477	203.	127.	5.8	1707.4	1709.3	-1.9
4.540	324.	239.	3.1	1711.4	1712.5	-1.1
4.613	126.	84.	4.8	1715.1	1716.6	-1.5
4.700	252.	183.	2.2	1719.4	1720.4	-1.0
4.778	196.	89.	4.6	1723.1	1723.8	-.7
4.829	486.	219.	1.9	1726.5	1727.0	-.5

1

THIS RUN EXECUTED 07/31/88 11:39:46

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION 1.1
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INPUT FILE: WITRRPAR

OUTPUT FILE: WITRRPAR.OUT

THIS RUN EXECUTED 08/17/88 10:49:11

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION
**************************************************
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T1      WITTMANN AREA DRAINAGE MASTER STUDY.
T2      100-YEAR STORM EVENT.  WASH PARALLEL TO AT&SF RR NORTHWEST OF WITTMANN.
T3      AT&SF WASH NW OF WITTMANN

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       2.       0.       0.   .000000      .00       .5       0.  1682.480    .000

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC    IBW      CHNIM    ITRACE

     1.000     .000     .000     .000     .000     .000     .000     .000     .000   15.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000   43.000    1.000   53.000   21.000   22.000   54.000   51.000    4.000    8.000

    42.000    5.000   26.000     .000  110.000     .000  200.000     .000     .000     .000

NC      .070     .070     .035     .100     .300     .000     .000     .000     .000     .000
QT     4.000 1152.000 1152.000  868.000  392.000     .000     .000     .000     .000     .000
ET      .000     .000    9.100     .000     .000     .000     .000     .000 4975.000 5025.000
X1      .000    9.000 4970.000 5020.000     .000     .000     .000     .000     .000     .000
GR  1683.000 4935.000 1682.000 4970.000 1680.000 4980.000 1678.000 4990.000 1677.000 5000.000
GR  1678.000 5010.000 1680.000 5020.000 1682.000 5030.000 1683.000 5040.000     .000     .000

NH     3.000     .090 4985.000     .035 5010.000     .090 5030.000     .000     .000     .000
ET      .000     .000    9.100     .000     .000     .000     .000     .000 4955.000 5015.000
X1      .036   10.000 4970.000 5020.000  190.000  190.000  190.000     .000     .000     .000
GR  1685.000 4850.000 1684.000 4910.000 1683.000 4930.000 1685.000 4955.000 1684.000 4970.000
GR  1680.000 4985.000 1679.000 5000.000 1680.000 5010.000 1684.000 5020.000 1685.000 5030.000

NC      .070     .070     .040     .000     .000     .000     .000     .000     .000     .000
QT     4.000  172.000  172.000  128.000   55.000     .000     .000     .000     .000     .000
ET      .000     .000   10.400     .000     .000     .000     .000     .000     .000     .000
X1      .067    6.000 4990.000 5020.000  165.000  165.000  165.000     .000     .000     .000
GR  1685.500 4960.000 1684.000 4990.000 1682.000 4995.000 1681.000 5000.000 1682.000 5005.000
GR  1687.000 5020.000     .000     .000     .000     .000     .000     .000     .000     .000

X1      .131    7.000 4985.000 5020.000  335.000  335.000  335.000     .000     .000     .000
GR  1689.000 4940.000 1688.000 4985.000 1684.000 4995.000 1683.800 5000.000 1684.000 5005.000
GR  1687.000 5020.000 1689.500 5030.000     .000     .000     .000     .000     .000     .000
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NC      .070      .070      .030      .000      .000      .000      .000      .000      .000      .000
ET      .000      .000     9.100      .000      .000      .000      .000      .000     4940.000  5040.000
X1      .159     5.000   4980.000   5010.000   150.000   150.000   150.000    .000      .000      .000
X5     4.000  1690.000   1690.000   1689.500  1688.200     .000      .000      .000      .000      .000
GR  1689.500  4940.000   1688.000   4980.000  1686.500  5000.000  1688.000  5010.000  1690.000  5105.000

ET      .000      .000    10.400      .000      .000      .000      .000      .000      .000      .000
X1      .180     7.000   4985.000   5030.000   110.000   110.000   110.000    .000      .000      .000
GR  1691.000  4935.000   1690.000   4985.000  1688.000  4995.000  1687.000  5000.000  1688.000  5005.000
GR  1690.000  5030.000   1691.000   5040.000     .000      .000      .000      .000      .000      .000

X1      .216     7.000   4970.000   5010.000   190.000   190.000   190.000    .000      .000      .000
GR  1692.500  4940.000   1692.000   4970.000  1690.000  4990.000  1688.500  5000.000  1690.000  5010.000
GR  1692.000  5025.000   1692.500   5060.000     .000      .000      .000      .000      .000      .000

X1      .292     7.000   4980.000   5020.000   400.000   400.000   400.000    .000      .000      .000
GR  1695.700  4930.000   1694.000   4980.000  1692.000  4995.000  1691.500  5000.000  1692.000  5005.000
GR  1696.000  5020.000   1697.000   5030.000     .000      .000      .000      .000      .000      .000

NC      .070      .070      .040      .000      .000      .000      .000      .000      .000      .000
X1      .371     9.000   4975.000   5020.000   420.000   420.000   420.000    .000      .000      .000
GR  1701.000  4930.000   1700.000   4975.000  1698.000  4985.000  1696.000  4995.000  1695.000  5000.000
GR  1696.000  5005.000   1698.000   5015.000  1700.000  5020.000  1700.500  5030.000     .000      .000

X1      .450     7.000   4985.000   5020.000   415.000   420.000   420.000    .000      .000      .000
GR  1704.000  4890.000   1702.000   4950.000  1700.000  4985.000  1698.500  5000.000  1700.000  5010.000
GR  1702.000  5020.000   1702.500   5035.000     .000      .000      .000      .000      .000      .000

X1      .529     7.000   4985.000   5020.000   420.000   420.000   420.000    .000      .000      .000
GR  1706.500  4970.000   1706.000   4985.000  1704.000  4995.000  1702.000  5000.000  1704.000  5010.000
GR  1706.000  5020.000   1706.500   5040.000     .000      .000      .000      .000      .000      .000

X1      .597     7.000   4985.000   5015.000   355.000   355.000   355.000    .000      .000      .000
GR  1710.000  4920.000   1708.000   4985.000  1706.000  4995.000  1705.500  5000.000  1706.000  5005.000
GR  1708.000  5015.000   1709.000   5040.000     .000      .000      .000      .000      .000      .000
EJ      .000      .000      .000      .000      .000      .000      .000      .000      .000      .000
1
 08/17/88    10:49:11                                                                          PAGE    3


   SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST


 *PROF 1

 CCHV=    .100 CEHV=    .300
 *SECND  .000
      .00     5.48  1682.48     .00  1682.48  1683.05     .57     .00     .00  1682.00
    1152.      2.    1125.     25.      4.     184.     16.      0.      0.   1680.00
      .00     .50     6.11    1.58    .070    .035    .070    .000  1677.00  4953.20
  .003717      0.       0.      0.       0       0       0     .00    81.60  5034.80
0
 FLOW DISTRIBUTION FOR SECND=      .00          CWSEL=   1682.48

 STA=    4953.    4970.    5020.    5030.    5035.
   PER Q=      .2     97.6      2.1       .0
    AREA=     4.0    184.0     14.8      1.2
     VEL=      .5      6.1      1.7       .5

 1490 NH CARD USED
 *SECND  .036

 1645 INT SEC ADDED BY RAISING SEC       .04,  -1.000FT AND MULTIPLYING BY    .993
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3265 DIVIDED FLOW

     1.01     4.76  1682.76      .00      .00  1683.66      .90      .51      .10  1683.00
    1152.       7.    1145.       0.       9.     150.       0.       0.       0.   1683.00
      .00      .80     7.64      .00     .090     .037     .090     .000  1678.00  4914.31
  .008466      95.      95.      95.        2        0        0      .00    72.82  5018.27
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1682.76

 STA=    4914.    4929.    4939.    5019.
   PER Q=       .4       .3     99.3
    AREA=      5.8      3.6    149.8
     VEL=       .8       .8      7.6


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.000FT AND MULTIPLYING BY   1.007

1
  08/17/88    10:49:11                                                                          PAGE    4


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3265 DIVIDED FLOW

      .04     4.54  1683.54      .00      .00  1684.58     1.04      .88      .04  1684.00
    1152.       3.    1149.       0.       5.     140.       0.       1.       0.   1684.00
      .01      .69     8.21      .00     .090     .037     .090     .000  1679.00  4919.27
  .010169      95.      95.      95.        2        0        0      .00    64.54  5018.84
0
 FLOW DISTRIBUTION FOR SECNO=       .04          CWSEL=   1683.54

 STA=    4919.    4930.    4937.    5020.
   PER Q=       .2       .1     99.7
    AREA=      2.9      1.8    140.0
     VEL=       .7       .7      8.2

 *SECNO  .067

 1645 INT SEC ADDED BY RAISING SEC      .07,  -1.000FT AND MULTIPLYING BY   1.474

 3280 CROSS SECTION      1.01 EXTENDED       .39 FEET


 3301 HV CHANGED MORE THAN HVINS

     1.01     4.89  1684.89      .00      .00  1685.23      .34      .57      .07  1683.00
     662.      74.     588.       0.      50.     119.       0.       1.       0.   1686.00
      .01     1.47     4.93      .00     .070     .040     .070     .000  1680.00  4960.00
  .004115      83.      83.      83.        3        0        0      .00    83.53  5043.53
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1684.89

 STA=    4960.    5004.    5048.
   PER Q=      11.2     88.8
    AREA=      50.2    119.3
     VEL=       1.5      4.9
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1645 INT SEC ADDED BY RAISING SEC      1.01,   1.000F! AND MULTIPLYING BY    .578

      .07     4.41  1685.41      .00      .00  1685.49      .08      .24      .03  1684.00
     172.      11.     161.       0.      20.      69.       0.       1.       1.   1687.00
      .02      .56     2.34      .00     .070     .040     .070     .000  1681.00  4961.73
   .001109     83.      83.      83.        2        0        0      .00    53.51  5015.24
0
1
  08/17/88    10:49:11                                                                          PAGE    5


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1685.41

 STA=    4962.    4990.    5020.
   PER Q=      6.5     93.5
    AREA=     20.0     68.7
     VEL=       .6      2.3

 *SECNO  .131
      .13     2.26  1686.06      .00      .00  1686.39      .33      .82      .07  1688.00
     172.       0.     172.       0.       0.      37.       0.       2.       1.   1687.00
      .04      .00     4.60      .00     .070     .040     .070     .000  1683.80  4989.86
   .009430    335.     335.     335.        2        0        0      .00    25.42  5015.28
0
 FLOW DISTRIBUTION FOR SECNO=       .13          CWSEL=   1686.06

 STA=    4990.    5020.
   PER Q=    100.0
    AREA=     37.4
     VEL=      4.6

 *SECNO  .159
  WATER EL=X5 CARD=  1690.000
 3280 CROSS SECTION       .16 EXTENDED       .50 FEET

      .16     3.50  1690.00      .00      .00  1690.02      .02      .18      .03  1688.00
     172.      26.     103.      43.      50.      83.      95.       2.       1.   1688.00
      .09      .52     1.24      .45     .070     .050     .070     .000  1686.50  4940.00
   .000459    150.     150.     150.        0        0        0      .00   165.00  5105.00
0
 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1690.00

 STA=    4940.    4980.    5010.    5105.
   PER Q=     15.2     59.7     25.1
    AREA=     50.0     82.5     95.0
     VEL=       .5      1.2       .5

 *SECNO  .180
      .18     3.05  1690.05      .00      .00  1690.17      .12      .12      .03  1690.00
     172.       0.     172.       0.       0.      63.       0.       3.       1.   1690.00
      .10      .02     2.75      .02     .070     .050     .070     .000  1687.00  4982.16
   .005595    110.     110.     110.        2        0        0      .00    48.41  5030.57
0
1
  08/17/88    10:49:11                                                                          PAGE    6


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
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   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST


 FLOW DISTRIBUTION FOR SECNO=      .18          CWSEL=   1690.05

 STA=    4982.    4985.    5030.    5031.
   PER Q=       .0    100.0       .0
    AREA=       .1     62.6       .0
     VEL=       .0      2.7       .0

 *SECNO  .216
       .22     2.76  1691.26      .00      .00  1691.44      .17     1.25      .02  1692.00
      172.       0.     164.       8.       0.      48.       6.       3.       2.  1690.00
       .11      .00     3.40     1.38     .070     .050     .070     .000  1688.50  4977.38
   .007860     190.     190.     190.        2        0        0      .00    42.08  5019.46
0
 FLOW DISTRIBUTION FOR SECNO=      .22          CWSEL=   1691.26

 STA=    4977.    5010.    5019.
   PER Q=     95.2      4.8
    AREA=     48.2      6.0
     VEL=      3.4      1.4

 *SECNO  .292
       .29     2.71  1694.21      .00      .00  1694.38      .17     2.94      .00  1694.00
      172.       0.     172.       0.       1.      52.       0.       3.       2.  1696.00
       .15      .40     3.30      .00     .070     .050     .070     .000  1691.50  4973.66
   .006905     400.     400.     400.        2        0        0      .00    39.65  5013.31
0
 FLOW DISTRIBUTION FOR SECNO=      .29          CWSEL=   1694.21

 STA=    4974.    4980.    5020.
   PER Q=       .2     99.8
    AREA=       .7     52.1
     VEL=       .4      3.3

 *SECNO  .371
       .37     2.70  1697.70      .00      .00  1698.05      .34     3.61      .05  1700.00
      172.       0.     172.       0.       0.      37.       0.       4.       2.  1700.00
       .17      .00     4.71      .00     .070     .040     .070     .000  1695.00  4986.48
   .011023     420.     420.     420.        2        0        0      .00    27.04  5013.52
0
1
  08/17/88    10:49:11                                                                          PAGE    7


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      .37          CWSEL=   1697.70

 STA=    4986.    5020.
   PER Q=    100.0
    AREA=     36.5
     VEL=      4.7

 *SECNO  .450
       .45     2.48  1700.98      .00      .00  1701.17      .19     3.11      .02  1700.00
      172.       8.     164.       0.       8.      46.       0.       4.       3.  1702.00
       .21      .96     3.58      .00     .070     .040     .070     .000  1698.50  4967.76
   .005323     415.     420.     420.        4        0        0      .00    47.16  5014.92
0
 FLOW DISTRIBUTION FOR SECNO=      .45          CWSEL=   1700.98
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 STA=    4968.    4985.    5020.
   PER Q=      4.8     95.2
    AREA=      8.5     45.8
     VEL=      1.0      3.6

 *SECND  .529
       .53     2.68  1704.68  1704.64     .00  1705.29     .60     3.99     .12  1706.00
      172.       0.     172.       0.      0.     28.       0.       5.      3.  1706.00
       .22      .00     6.23      .00    .070    .040    .070    .000  1702.00  4991.58
   .021518     420.     420.     420.       4       8       0      .00    21.84  5013.42
0
 FLOW DISTRIBUTION FOR SECNO=       .53          CWSEL=   1704.68

 STA=    4992.    5020.
   PER Q=    100.0
    AREA=     27.6
     VEL=      6.2

 *SECND  .597
       .60     2.72  1708.22      .00     .00  1708.40     .19     3.08     .04  1708.00
      172.       0.     172.       0.      1.     49.       1.       5.      3.  1708.00
       .25      .34     3.49      .34    .070    .040    .070    .000  1705.50  4977.75
   .004647     355.     355.     355.       2       0       0      .00    42.82  5020.58
0
1
  08/17/88    10:49:11                                                                    PAGE    8


    SECND    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .60          CWSEL=   1708.22

 STA=    4978.    4985.    5015.    5021.
   PER Q=      .2     99.7      .1
    AREA=      .8     49.2      .6
     VEL=      .3      3.5      .3

1
 PROFILE FOR STREAM  AT&SF WASH NW OF WITTMAN


 PLOTTED POINTS (BY PRIORITY)-E-ENERGY,W-WATER SURFACE,I-INVERT,C-CRITICAL W.S.,L-LEFT BANK,R-RIGHT BANK,M-LOWER END STA


 ELEVATION  1675.     1680.     1685.     1690.     1695.     1700.     1705.     1710.     1715.     1720.
    SECNO   CUMDIS

       .00      0.  C  I     R  LWE  .        .        .        .        .        .        .        .        .
               50.  C   I    .  R W E .        .        .        .        .        .        .        .        .
      1.01    100.  C    I   .    WEM .        .        .        .        .        .        .        .        .
              150.  C     I  .    WLEM.        .        .        .        .        .        .        .        .
       .04    200.  C      I .     WLEM        .        .        .        .        .        .        .        .
              250.  C       I.     L WE        .        .        .        .        .        .        .        .
      1.01    300.  C        I    L  ME R      .        .        .        .        .        .        .        .
              350.  C        .I    L  WE R      .        .        .        .        .        .        .        .
       .07    400.  C        . I    L .E  R     .        .        .        .        .        .        .        .
              450.  C        .  I    L.EM R      .        .        .        .        .        .        .        .
              500.  C        .   I    LWEMR      .        .        .        .        .        .        .        .
              550.  C        .    I   .WE R      .        .        .        .        .        .        .        .
              600.  C        .    I   . ELRM     .        .        .        .        .        .        .        .
```

```
        650.  C        .      I . E L M .        .        .        .        .        .        .
 .13    700.  C        .       I . WER L M .     .        .        .        .        .        .
        750.  C        .        I.    EL M .     .        .        .        .        .        .
        800.  C        .         .I   RLWEM.     .        .        .        .        .        .
 .16    850.  C        .         . I  L  ME      .        .        .        .        .        .
        900.  C        .         . I    L E      .        .        .        .        .        .
 .18    950.  C        .         .  I     E M    .        .        .        .        .        .
       1000.  C        .         .   I    RE M   .        .        .        .        .        .
       1050.  C        .         .    I   RWE M  .        .        .        .        .        .
       1100.  C        .         .    I   R ELM  .        .        .        .        .        .
 .22   1150.  C        .         .     I  R  ELM .        .        .        .        .        .
       1200.  C        .         .      I . RWELM .        .        .        .        .        .
       1250.  C        .         .       I.  REL M .       .        .        .        .        .
       1300.  C        .         .       I.    ELM .       .        .        .        .        .
       1350.  C        .         .        I    WE M .      .        .        .        .        .
       1400.  C        .         .        .I    WERM.      .        .        .        .        .
       1450.  C        .         .        . I    E RM      .        .        .        .        .
       1500.  C        .         .        . I     E .R     .        .        .        .        .
 .29   1550.  C        .         .        .  I    WE.MR    .        .        .        .        .
       1600.  C        .         .        .   I    WE  R   .        .        .        .        .
       1650.  C        .         .        .    I    WE  R  .        .        .        .        .
       1700.  C        .         .        .     I  .EL  R  .        .        .        .        .
       1750.  C        .         .        .     I  . E L R .        .        .        .        .
       1800.  C        .         .        .      I . E L R .        .        .        .        .
       1850.  C        .         .        .       I . WE  LR .      .        .        .        .
       1900.  C        .         .        .        I.   WE  LR.     .        .        .        .
       1950.  C        .         .        .         I    WE  LRM    .        .        .        .
 .37   2000.  C        .         .        .         I    WE   LM    .        .        .        .
       2050.  C        .         .        .         .I    WE  LM    .        .        .        .
       2100.  C        .         .        .         . I    WE LRM   .        .        .        .
       2150.  C        .         .        .         .  I    E LRM  .        .        .        .
       2200.  C        .         .        .         .  I     EL RM .        .        .        .
       2250.  C        .         .        .         .   I    WE RM .        .        .        .
       2300.  C        .         .        .         .    I    WE RM .        .        .        .
       2350.  C        .         .        .         .     I   LE RM .        .        .        .
 .45   2400.  C        .         .        .         .      I  L E RM .        .        .        .
       2450.  C        .         .        .         .       I .L E RM .       .        .        .
       2500.  C        .         .        .         .        I.  LE RM .      .        .        .
       2550.  C        .         .        .         .         I   LE RM .     .        .        .
       2600.  C        .         .        .         .         I    WE RM.     .        .        .
       2650.  C        .         .        .         .         .I    WE RM     .        .        .
       2700.  C        .         .        .         .         . I    WELRM    .        .        .
       2750.  C        .         .        .         .         .  I    WELRM   .        .        .
 .53   2800.  .        .         .        .         .         .   I    W.ELM  .        .        .
       2850.  C        .         .        .         .         .    I    WE LM .        .        .
       2900.  C        .         .        .         .         .     I   .WELM .        .        .
       2950.  C        .         .        .         .         .      I  . WELM .        .        .
       3000.  C        .         .        .         .         .       I . WE M .        .        .
       3050.  C        .         .        .         .         .        I.   WE M .      .        .
       3100.  C        .         .        .         .         .         I    WEM .      .        .
       3150.  C        .         .        .         .         .         .I    WEM .     .        .
 .60   3200.  C        .         .        .         .         .         .I    WEM .     .        .
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1

THIS RUN EXECUTED 08/17/88 10:49:21

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
  ERROR CORR -  01,02,03,04,05,06
  MODIFICATION -  50,51,52,53,54,55,56
  IBM-PC-XT VERSION
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T1      WITTMANN AREA DRAINAGE MASTER STUDY.
T2      100-YEAR STORM EVENT.  WASH PARALLEL TO AT&SF RR NORTHWEST OF WITTMANN.
T3      AT&SF WASH NW OF WITTMANN  (ENCROACHMENT RUN)

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0.       3.       0.       0.   .000000      .00       .5       0.  1682.380     .000

MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     2.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
 08/17/88    10:49:11                                                                          PAGE   10


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


*PROF 2

CCHV=    .100 CEHV=    .300
*SECNO  .000

3470 ENCROACHMENT STATIONS=    4975.0    5025.0  TYPE=     1  TARGET=      50.000
     .00     5.38  1682.38      .00  1682.48  1683.03      .65      .00      .00100000.00
    1152.      0.    1136.      16.       0.     175.       9.       0.       0.   1680.00
     .00     .00     6.50     1.74     .070     .035     .070     .000  1677.00  4975.00
  .004076      0.       0.       0.        0        0        0      .00    50.00  5025.00
0
FLOW DISTRIBUTION FOR SECNO=      .00         CWSEL=   1682.38

STA=    4975.    5020.    5025.
  PER Q=     98.6      1.4
   AREA=    174.6      9.4
    VEL=      6.5      1.7

1490 NH CARD USED
*SECNO  .036

3301 HV CHANGED MORE THAN HVINS


3470 ENCROACHMENT STATIONS=    4955.0    5015.0  TYPE=     1  TARGET=      60.000
     .04     4.14  1683.14  1683.11  1683.54  1684.56     1.42     1.30      .23  1684.00
    1152.      0.    1152.       0.       0.     121.       0.       1.       0. 100000.00
     .01     .00     9.55      .00     .090     .036     .070     .000  1679.00  4973.18
  .013754    190.     190.     190.        6       15        0      .00    41.82  5015.00
0
FLOW DISTRIBUTION FOR SECNO=      .04         CWSEL=   1683.14

STA=    4973.    5020.
  PER Q=    100.0
   AREA=    120.6
    VEL=      9.5

*SECNO  .067
 2800 NAT Q1=     51.66  WSEL=   1685.41  ENC Q1=     77.36  WSEL=   1686.41  RATIO=  -.4977
 NAT Q1=     92.  RATIOS LOB,CH,ROB=   .1581   .8419   .0000  WSEL=   1686.41
1
 08/17/88    10:49:11                                                                          PAGE   11
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 3280 CROSS SECTION      .07 EXTENDED      .32 FEET


 3301 HV CHANGED MORE THAN HVINS


 3470 ENCROACHMENT STATIONS=    4990.0    5020.0  TYPE=     4  TARGET=       .158
      .07     4.82  1685.82      .00  1685.41  1685.90      .07     1.20      .13  1684.00
     172.       0.     172.       0.       0.      79.       0.       1.       0.  1687.00
      .03      .00     2.17      .00     .070     .040     .070     .000  1681.00  4990.00
   .000917     165.     165.     165.        2        0        0      .00    26.46  5016.46
0
 FLOW DISTRIBUTION FOR SECNO=      .07          CWSEL=   1685.82

 STA=    4990.    5020.
   PER Q=    100.0
    AREA=     79.1
     VEL=      2.2

 *SECNO  .131
  2800 NAT Q1=     17.71  WSEL=   1686.06  ENC Q1=     39.20  WSEL=   1687.06  RATIO= -1.2133
  NAT Q1=     39.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1687.06

 3470 ENCROACHMENT STATIONS=    4985.0    5020.0  TYPE=     4  TARGET=       .000
      .13     2.54  1686.34      .00  1686.06  1686.57      .23      .63      .05  1688.00
     172.       0.     172.       0.       0.      45.       0.       2.       1.  1687.00
      .05      .00     3.83      .00     .070     .040     .070     .000  1683.80  4989.15
   .005735     335.     335.     335.        3        0        0      .00    27.54  5016.69
0
 FLOW DISTRIBUTION FOR SECNO=      .13          CWSEL=   1686.34

 STA=    4989.    5020.
   PER Q=    100.0
    AREA=     44.9
     VEL=      3.8

 *SECNO  .159
  WATER EL=X5 CARD=  1690.000

 3470 ENCROACHMENT STATIONS=    4940.0    5040.0  TYPE=     1  TARGET=     100.000
      .16     3.50  1690.00      .00  1690.00  1690.02      .02      .19      .02  1688.00
     172.      28.     110.      34.      50.      83.      51.       2.       1.  1688.00
      .09      .56     1.33      .67     .070     .050     .070     .000  1686.50  4940.00
   .000527     150.     150.     150.        0        0        0      .00   100.00  5040.00
0
1
 08/17/88    10:49:11                                                                    PAGE   12


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      .16          CWSEL=   1690.00

 STA=    4940.    4980.    5010.    5040.
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  PER Q=     18.3     64.0     19.7
   AREA=     50.0     82.5     50.5
    VEL=       .6      1.3       .7

 *SECNO  .180
  2800 NAT Q1=     23.00  WSEL=   1690.05  ENC Q1=     56.51  WSEL=   1691.05  RATIO= -1.4576
  NAT Q1=     61.  RATIOS LOB,CH,ROB=   .0641   .9231   .0128  WSEL=   1691.05

 3470 ENCROACHMENT STATIONS=    4985.0    5030.0  TYPE=     4  TARGET=        .077
      .18     3.07  1690.07      .00  1690.05  1690.18      .11      .13      .03  1690.00
     172.       0.     172.       0.       0.      63.       0.       2.       1.   1690.00
      .10      .00     2.72      .00     .070     .050     .070     .000  1687.00  4985.00
   .005398     110.     110.     110.        2        0        0      .00    45.00  5030.00
0
 FLOW DISTRIBUTION FOR SECNO=       .18          CWSEL=   1690.07

 STA=    4985.    5030.
   PER Q=    100.0
    AREA=     63.3
     VEL=      2.7

 *SECNO  .216
  2800 NAT Q1=     19.40  WSEL=   1691.26  ENC Q1=     41.97  WSEL=   1692.26  RATIO= -1.1636
  NAT Q1=     47.  RATIOS LOB,CH,ROB=   .0024   .8950   .1025  WSEL=   1692.26

 3470 ENCROACHMENT STATIONS=    4970.0    5010.0  TYPE=     4  TARGET=        .105
      .22     2.79  1691.29      .00  1691.26  1691.48      .19     1.28      .02  1692.00
     172.       0.     172.       0.       0.      49.       0.       2.       1.   1690.00
      .12      .00     3.50      .00     .070     .050     .070     .000  1688.50  4977.08
   .008620     190.     190.     190.        2        0        0      .00    32.93  5010.00
0
 FLOW DISTRIBUTION FOR SECNO=       .22          CWSEL=   1691.29

 STA=    4977.    5010.
   PER Q=    100.0
    AREA=     49.2
     VEL=      3.5

1
  08/17/88    10:49:11                                                                    PAGE   13


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .292
  2800 NAT Q1=     20.70  WSEL=   1694.21  ENC Q1=     45.30  WSEL=   1695.21  RATIO= -1.1888
  NAT Q1=     49.  RATIOS LOB,CH,ROB=   .0675   .9325   .0000  WSEL=   1695.21

 3470 ENCROACHMENT STATIONS=    4980.0    5020.0  TYPE=     4  TARGET=        .067
      .29     2.77  1694.27      .00  1694.21  1694.42      .16     2.94      .00  1694.00
     172.       0.     172.       0.       0.      54.       0.       3.       1.   1696.00
      .15      .00     3.20      .00     .070     .050     .070     .000  1691.50  4980.00
   .006331     400.     400.     400.        2        0        0      .00    33.50  5013.50
0
 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1694.27

 STA=    4980.    5020.
   PER Q=    100.0
    AREA=     53.8
     VEL=      3.2

 *SECNO  .371
```

```
 2800 NAT Q1=      16.38  WSEL=   1697.70  ENC Q1=      33.30  WSEL=   1698.70  RATIO= -1.0000
 NAT Q1=      39.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1698.70

 3470 ENCROACHMENT STATIONS=    4975.0    5020.0  TYPE=     4  TARGET=        .000
      .37     2.67  1697.67      .00  1697.70  1698.03      .36     3.54      .06  1700.00
     172.       0.     172.       0.       0.      36.       0.       3.       2.   1700.00
      .17      .00     4.83      .00     .070     .040     .070     .000  1695.00  4986.65
   .011783     420.     420.     420.        2        0        0      .00    26.70  5013.35
0
 FLOW DISTRIBUTION FOR SECNO=       .37          CWSEL=   1697.67

 STA=    4987.    5020.
   PER Q=    100.0
    AREA=     35.6
     VEL=      4.8

 *SECNO  .450
 2800 NAT Q1=      23.57  WSEL=   1700.98  ENC Q1=      49.39  WSEL=   1701.98  RATIO= -1.0948
 NAT Q1=      57.  RATIOS LOB,CH,ROB=   .1284   .8716   .0000  WSEL=   1701.98

 3470 ENCROACHMENT STATIONS=    4985.0    5020.0  TYPE=     4  TARGET=        .128
      .45     2.55  1701.05      .00  1700.98  1701.25      .20     3.21      .02  1700.00
     172.       0.     172.       0.       0.      48.       0.       4.       2.   1702.00
      .21      .00     3.59      .00     .070     .040     .070     .000  1698.50  4985.00
   .005359     415.     420.     420.        3        0        0      .00    30.28  5015.28
0
1
 08/17/88    10:49:11                                                                          PAGE   14


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .45          CWSEL=   1701.05

 STA=    4985.    5020.
   PER Q=    100.0
    AREA=     47.9
     VEL=      3.6

 *SECNO  .529
 2800 NAT Q1=      11.73  WSEL=   1704.68  ENC Q1=      28.38  WSEL=   1705.68  RATIO= -1.4200
 NAT Q1=      28.  RATIOS LOB,CH,ROB=   .0000  1.0000   .0000  WSEL=   1705.68

 3470 ENCROACHMENT STATIONS=    4985.0    5020.0  TYPE=     4  TARGET=        .000
      .53     2.72  1704.72      .00  1704.68  1705.29      .58     3.93      .11  1706.00
     172.       0.     172.       0.       0.      28.       0.       4.       2.   1706.00
      .23      .00     6.09      .00     .070     .040     .070     .000  1702.00  4991.43
   .020243     420.     420.     420.        2        0        0      .00    22.14  5013.57
0
 FLOW DISTRIBUTION FOR SECNO=       .53          CWSEL=   1704.72

 STA=    4991.    5020.
   PER Q=    100.0
    AREA=     28.3
     VEL=      6.1

 *SECNO  .597
 2800 NAT Q1=      25.23  WSEL=   1708.22  ENC Q1=      55.40  WSEL=   1709.22  RATIO= -1.1957
 NAT Q1=      62.  RATIOS LOB,CH,ROB=   .0590   .8923   .0487  WSEL=   1709.22

 3470 ENCROACHMENT STATIONS=    4985.0    5015.0  TYPE=     4  TARGET=        .108
      .60     2.72  1708.22      .00  1708.22  1708.41      .19     3.08      .04  1708.00
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      .25      .00     3.50      .00     .070     .040     .070     .000  1705.50  4985.00
   .004793     355.     355.     355.        2        0        0      .00    30.00  5015.00
0
 FLOW DISTRIBUTION FOR SECNO=       .60          CWSEL=   1708.22

 STA=    4985.    5015.
   PER Q=    100.0
    AREA=     49.1
     VEL=      3.5

1
  08/17/88    10:49:11                                                                          PAGE   15


                                                                          THIS RUN EXECUTED 08/17/88   10:49:26
 ***********************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION
 ***********************************************


 T1      WITTMANN AREA DRAINAGE MASTER STUDY.
 T2       50-YEAR STORM EVENT.  WASH PARALLEL TO AT&SF RR NORTHWEST OF WITTMANN.
 T3      AT&SF WASH NW OF WITTMAN

 J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0.        4.        0.        0.   .000000       .00        .5        0.  1681.780      .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      3.000      .000    -1.000      .000      .000      .000      .000      .000      .000    15.000

1
  08/17/88    10:49:11                                                                          PAGE   16


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *PROF 3

 CCHV=    .100 CEHV=    .300
 *SECNO  .000
       .00     4.78  1681.78      .00  1681.78  1682.29      .51      .00      .00  1682.00
      868.       0.     858.      10.       0.     149.       8.       0.       0.  1680.00
       .00      .00     5.75     1.26     .070     .035     .070     .000  1677.00  4971.10
   .004229       0.       0.       0.        0        0        0      .00    57.80  5028.90
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1681.78

 STA=    4971.    5020.    5029.
   PER Q=     98.8      1.2
    AREA=    149.1      7.9
     VEL=      5.8      1.3

 1490 NH CARD USED
```

```
*SECNO  .036

1645 INT SEC ADDED BY RAISING SEC       .04,  -1.000FT AND MULTIPLYING BY    .992


3265 DIVIDED FLOW

     1.01     4.12  1682.12      .00      .00  1682.93      .81      .55      .09  1683.00
     868.       0.     868.       0.       0.     120.       0.       0.       0.  1683.00
      .00      .15     7.23      .00     .090     .036     .070     .000  1678.00  4926.88
  .008575      95.      95.      95.        3        0        0      .00    48.14  5016.41
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1682.12

 STA=    4927.    4931.    5019.
   PER Q=       .0    100.0
    AREA=       .2    120.1
     VEL=       .2      7.2


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.000FT AND MULTIPLYING BY   1.008

      .04     3.93  1682.93      .00      .00  1683.86      .93      .89      .03  1684.00
     868.       0.     868.       0.       0.     112.       0.       1.       0.  1684.00
      .01      .00     7.72      .00     .090     .036     .070     .000  1679.00  4974.02
  .010228      95.      95.      95.        2        0        0      .00    43.29  5017.32
0
1
  08/17/88    10:49:11                                                                          PAGE   17


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .04          CWSEL=   1682.93

 STA=    4974.    5020.
   PER Q=    100.0
    AREA=    112.4
     VEL=      7.7

 *SECNO  .067

 1645 INT SEC ADDED BY RAISING SEC       .07,  -1.000FT AND MULTIPLYING BY   1.489


 3301 HV CHANGED MORE THAN HVINS

     1.01     4.18  1684.18      .00      .00  1684.56      .38      .65      .05  1683.00
     498.      23.     475.       0.      21.      94.       0.       1.       0.  1686.00
      .01     1.10     5.05      .00     .070     .040     .070     .000  1680.00  4969.17
  .005386      83.      83.      83.        2        0        0      .00    72.09  5041.26
0
 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1684.18

 STA=    4969.    5005.    5049.
   PER Q=      4.7     95.3
    AREA=     21.2     94.1
     VEL=      1.1      5.0


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.000FT AND MULTIPLYING BY    .672
```

```
      .07      3.82  1684.82      .00      .00  1684.90      .08      .31      .08  1684.00
     128.        3.     125.       0.       7.       54.       0.       1.       0.  1687.00
      .02       .43      2.31     .00     .070     .040     .070     .000  1681.00  4973.63
   .001340      83.       83.      83.        2        0        0      .00    39.83  5013.46
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1684.82

 STA=    4974.    4990.    5020.
   PER Q=      2.2     97.8
    AREA=      6.7     54.2
     VEL=       .4      2.3

1
  08/17/88    10:49:11                                                                    PAGE   18

    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 *SECNO  .131
       .13     1.85  1685.65      .00      .00  1685.98      .33     1.01      .08  1688.00
     128.        0.     128.       0.       0.       28.       0.       1.       1.  1687.00
      .04       .00      4.63     .00     .070     .040     .070     .000  1683.80  4990.88
   .012038     335.     335.     335.        3        0        0      .00    22.35  5013.24
0
 FLOW DISTRIBUTION FOR SECNO=       .13          CWSEL=   1685.65

 STA=    4991.    5020.
   PER Q=    100.0
    AREA=     27.6
     VEL=      4.6

 *SECNO  .159
  WATER EL=X5 CARD=  1689.500
       .16     3.00  1689.50      .00      .00  1689.52      .02      .27      .03  1688.00
     128.       14.      90.      24.      30.       68.      53.       2.       1.  1688.00
      .08       .46      1.33     .46     .070     .050     .070     .000  1686.50  4940.00
   .000684     150.     150.     150.        0        0        0      .00   141.25  5081.25
0
 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1689.50

 STA=    4940.    4980.    5010.    5081.
   PER Q=     10.7     70.1     19.1
    AREA=     30.0     67.5     53.4
     VEL=       .5      1.3       .5

 *SECNO  .180
       .18     2.60  1689.60      .00      .00  1689.74      .13      .18      .03  1690.00
     128.        0.     128.       0.       0.       44.       0.       2.       1.  1690.00
      .09       .00      2.92     .00     .070     .050     .070     .000  1687.00  4986.95
   .008176     110.     110.     110.        2        0        0      .00    38.18  5025.13
0
 FLOW DISTRIBUTION FOR SECNO=       .18          CWSEL=   1689.60

 STA=    4987.    5030.
   PER Q=    100.0
    AREA=     43.8
     VEL=      2.9

1
  08/17/88    10:49:11                                                                    PAGE   19
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   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .216
       .22     2.53  1691.03      .00      .00  1691.17      .14     1.43      .00  1692.00
      128.       0.     123.       5.       0.      41.       4.       2.       1.   1690.00
       .11      .00     3.01     1.13     .070     .050     .070     .000  1688.50  4979.68
   .006964     190.     190.     190.        2        0        0      .00    38.07  5017.74
0
 FLOW DISTRIBUTION FOR SECNO=       .22          CWSEL=   1691.03

 STA=    4980.    5010.    5018.
   PER Q=     96.5      3.5
    AREA=     41.0      4.0
     VEL=      3.0      1.1

 *SECNO  .292
       .29     2.40  1693.90      .00      .00  1694.04      .15     2.87      .00  1694.00
      128.       0.     128.       0.       0.      42.       0.       2.       2.   1696.00
       .15      .00     3.07      .00     .070     .050     .070     .000  1691.50  4980.77
   .007409     400.     400.     400.        3        0        0      .00    31.35  5012.12
0
 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1693.90

 STA=    4981.    5020.
   PER Q=    100.0
    AREA=     41.7
     VEL=      3.1

 *SECNO  .371
       .37     2.45  1697.45      .00      .00  1697.73      .28     3.65      .04  1700.00
      128.       0.     128.       0.       0.      30.       0.       3.       2.   1700.00
       .17      .00     4.26      .00     .070     .040     .070     .000  1695.00  4987.75
   .010306     420.     420.     420.        2        0        0      .00    24.51  5012.25
0
 FLOW DISTRIBUTION FOR SECNO=       .37          CWSEL=   1697.45

 STA=    4988.    5020.
   PER Q=    100.0
    AREA=     30.0
     VEL=      4.3

1
  08/17/88    10:49:11                                                                    PAGE   20


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS    BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 *SECNO  .450
       .45     2.20  1700.70      .00      .00  1700.87      .17     3.13      .01  1700.00
      128.       3.     125.       0.       4.      37.       0.       3.       2.   1702.00
       .21      .79     3.33      .00     .070     .040     .070     .000  1698.50  4972.75
   .005632     415.     420.     420.        4        0        0      .00    40.74  5013.50
0
 FLOW DISTRIBUTION FOR SECNO=       .45          CWSEL=   1700.70

 STA=    4973.    4985.    5020.
   PER Q=      2.6     97.4
    AREA=      4.3     37.5
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    VEL=       .8      3.3

 *SECNO  .529
      .53     2.46  1704.46      .00      .00  1704.95      .49     3.99      .10  1706.00
     128.       0.     128.       0.       0.      23.       0.       3.       3.  1706.00
      .23      .00     5.60      .00     .070     .040     .070     .000  1702.00  4992.72
   .019258     420.     420.     420.        2        0        0      .00    19.56  5012.28
0
 FLOW DISTRIBUTION FOR SECNO=       .53          CWSEL=   1704.46

 STA=    4993.    5020.
   PER Q=    100.0
    AREA=     22.9
     VEL=      5.6

 *SECNO  .597
      .60     2.41  1707.91      .00      .00  1708.07      .16     3.09      .03  1708.00
     128.       0.     128.       0.       0.      40.       0.       4.       3.  1708.00
      .26      .00     3.19      .00     .070     .040     .070     .000  1705.50  4985.41
   .004932     355.     355.     355.        2        0        0      .00    29.19  5014.59
0
 FLOW DISTRIBUTION FOR SECNO=       .60          CWSEL=   1707.91

 STA=    4985.    5015.
   PER Q=    100.0
    AREA=     40.1
     VEL=      3.2

1
  08/17/88    10:49:11                                                                    PAGE   21


                                                                  THIS RUN EXECUTED 08/17/88   10:49:30
 ************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED MAY  1984
   ERROR CORR -  01,02,03,04,05,06
   MODIFICATION -  50,51,52,53,54,55,56
   IBM-PC-XT VERSION
 ************************************************


 T1      WITTMANN AREA DRAINAGE MASTER STUDY.
 T2       10-YEAR STORM EVENT.  WASH PARALLEL TO AT&SF RR NORTHWEST OF WITTMANN.
 T3      AT&SF WASH NW OF WITTMANN

 J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC    HVINS     Q        WSEL     FQ

       0.       5.       0.       0.   .000000      .00       .5       0.   1680.180     .000

 MULTIPLE PROFILE RUN WITH INTERPOLATED CROSS SECTIONS
 J2  NPROF    IPLOT    PRFVS    XSECV    XSECH     FN      ALLDC     IBW      CHNIM    ITRACE

     15.000     .000   -1.000     .000     .000     .000     .000     .000     .000   15.000

1
  08/17/88    10:49:11                                                                    PAGE   22


   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID    ENDST
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*PROF 4

CCHV=    .100 CEHV=    .300
*SECNO  .000
      .00     3.18  1680.18      .00  1680.18  1680.58      .40      .00      .00  1682.00
     392.       0.     392.       0.       0.      77.       0.       0.       0.   1680.00
      .00      .00     5.07      .02     .070     .035     .070     .000  1677.00  4979.10
   .006212       0.       0.       0.        0        0        0      .00    41.80  5020.90
0
 FLOW DISTRIBUTION FOR SECNO=       .00          CWSEL=   1680.18

 STA=    4979.    5020.    5021.
   PER Q=    100.0       .0
    AREA=     77.3       .1
     VEL=      5.1       .0

 1490 NH CARD USED
 *SECNO  .036
      .04     2.57  1681.57      .00      .00  1682.24      .68     1.58      .08  1684.00
     392.       0.     392.       0.       0.      59.       0.       0.       0.   1684.00
      .01      .00     6.60      .00     .070     .034     .070     .000  1679.00  4979.12
   .011737     190.     190.     190.        3        0        0      .00    34.80  5013.92
0
 FLOW DISTRIBUTION FOR SECNO=       .04          CWSEL=   1681.57

 STA=    4979.    5020.
   PER Q=    100.0
    AREA=     59.4
     VEL=      6.6

 *SECNO  .067

 1645 INT SEC ADDED BY RAISING SEC       .07,  -1.000FT AND MULTIPLYING BY   1.582

     1.01     2.80  1682.80      .00      .00  1683.10      .30      .82      .04  1683.00
     224.       0.     223.       0.       0.      51.       0.       0.       0.   1686.00
      .01      .00     4.41      .00     .070     .040     .070     .000  1680.00  5008.22
   .007647      83.      83.      83.        2        0        0      .00    31.54  5039.76
0
1
  08/17/88    10:49:11                                                                    PAGE   23


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA    LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=      1.01          CWSEL=   1682.80

 STA=    5008.    5055.
   PER Q=    100.0
    AREA=     50.7
     VEL=      4.4


 1645 INT SEC ADDED BY RAISING SEC      1.01,   1.000FT AND MULTIPLYING BY    .632

      .07     2.51  1683.51      .00      .00  1683.58      .07      .45      .02  1684.00
      55.       0.      55.       0.       0.      26.       0.       0.       0.   1687.00
      .02      .00     2.09      .00     .070     .040     .070     .000  1681.00  4991.23
   .002049      83.      83.      83.        2        0        0      .00    18.29  5009.52
0
 FLOW DISTRIBUTION FOR SECNO=       .07          CWSEL=   1683.51
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 STA=    4991.    5020.
   PER Q=    100.0
    AREA=     26.3
     VEL=      2.1

 *SECNO  .131
       .13     1.10  1684.90      .00      .00  1685.18      .28     1.54      .06  1688.00
       55.       0.      55.       0.       0.      13.       0.       1.       0.   1687.00
       .05      .00     4.21      .00     .070     .040     .070     .000  1683.80  4992.75
   .018299     335.     335.     335.        3        0        0      .00    16.76  5009.51
0
 FLOW DISTRIBUTION FOR SECNO=       .13          CWSEL=   1684.90

 STA=    4993.    5020.
   PER Q=    100.0
    AREA=     13.1
     VEL=      4.2

 *SECNO  .159
  WATER EL=X5 CARD=  1688.200
       .16     1.70  1688.20      .00      .00  1688.26      .06     1.20      .02  1688.00
       55.       0.      55.       0.       1.      28.       1.       1.       1.   1688.00
       .07      .31     1.91      .31     .070     .050     .070     .000  1686.50  4974.67
   .004475     150.     150.     150.        0        0        0      .00    44.83  5019.50
0
1
  08/17/88    10:49:11                                                                          PAGE   24


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       DLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .16          CWSEL=   1688.20

 STA=    4975.    4980.    5010.    5019.
   PER Q=       .3     99.2       .5
    AREA=       .5     28.5       .9
     VEL=       .3      1.9       .3

 *SECNO  .180
       .18     1.89  1688.89      .00      .00  1689.00      .11      .72      .02  1690.00
       55.       0.      55.       0.       0.      21.       0.       1.       1.   1690.00
       .08      .00     2.65      .00     .070     .050     .070     .000  1687.00  4990.56
   .010628     110.     110.     110.        2        0        0      .00    25.53  5016.10
0
 FLOW DISTRIBUTION FOR SECNO=       .18          CWSEL=   1688.89

 STA=    4991.    5030.
   PER Q=    100.0
    AREA=     20.8
     VEL=      2.6

 *SECNO  .216
       .22     1.91  1690.41      .00      .00  1690.49      .08     1.49      .00  1692.00
       55.       0.      55.       0.       0.      24.       1.       1.       1.   1690.00
       .10      .00     2.28      .57     .070     .050     .070     .000  1688.50  4985.93
   .006006     190.     190.     190.        2        0        0      .00    27.12  5013.05
0
 FLOW DISTRIBUTION FOR SECNO=       .22          CWSEL=   1690.41

 STA=    4986.    5010.    5013.
   PER Q=     99.4       .6
    AREA=     24.0       .6
```

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    VEL=      2.3       .8

 *SECNO  .292
      .29     1.66  1693.16      .00      .00  1693.26      .10     2.77      .01  1694.00
      55.       0.      55.       0.       0.      22.       0.      1.       1.   1696.00
      .15      .00     2.54      .00     .070     .050     .070     .000  1691.50  4986.30
   .008058     400.     400.     400.        4        0        0      .00    23.04  5009.35
0
1
  08/17/88    10:49:11                                                                    PAGE   25


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST


 FLOW DISTRIBUTION FOR SECNO=       .29          CWSEL=   1693.16

 STA=    4986.    5020.
   PER Q=    100.0
    AREA=     21.7
     VEL=      2.5

 *SECNO  .371
      .37     1.81  1696.81      .00      .00  1696.98      .18     3.70      .02  1700.00
      55.       0.      55.       0.       0.      16.       0.      1.       1.   1700.00
      .18      .00     3.37      .00     .070     .040     .070     .000  1695.00  4990.97
   .009670     420.     420.     420.        4        0        0      .00    18.07  5009.03
0
 FLOW DISTRIBUTION FOR SECNO=       .37          CWSEL=   1696.81

 STA=    4991.    5020.
   PER Q=    100.0
    AREA=     16.3
     VEL=      3.4

 *SECNO  .450
      .45     1.61  1700.11      .00      .00  1700.21      .10     3.22      .01  1700.00
      55.       0.      55.       0.       0.      21.       0.      1.       1.   1702.00
      .23      .02     2.58      .00     .070     .040     .070     .000  1698.50  4983.25
   .006223     415.     420.     420.        4        0        0      .00    27.25  5010.50
0
 FLOW DISTRIBUTION FOR SECNO=       .45          CWSEL=   1700.11

 STA=    4983.    4985.    5020.
   PER Q=       .0    100.0
    AREA=       .1     21.3
     VEL=       .0      2.6

 *SECNO  .529
      .53     1.86  1703.86      .00      .00  1704.14      .28     3.88      .05  1706.00
      55.       0.      55.       0.       0.      13.       0.      2.       2.   1706.00
      .25      .00     4.24      .00     .070     .040     .070     .000  1702.00  4995.35
   .015094     420.     420.     420.        4        0        0      .00    13.95  5009.30
0
1
  08/17/88    10:49:11                                                                    PAGE   26


    SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
    Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
    TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
    SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST
```

FLOW DISTRIBUTION FOR SECNO= .53 CWSEL= 1703.86

STA= 4995. 5020.
PER Q= 100.0
AREA= 13.0
VEL= 4.2

*SECNO .597

.60	1.64	1707.14	.00	.00	1707.26	.11	3.10	.02	1708.00
55.	0.	55.	0.	0.	20.	0.	2.	2.	1708.00
.29	.00	2.69	.00	.070	.040	.070	.000	1705.50	4989.29
.005690	355.	355.	355.	4	0	0	.00	21.41	5010.71

0
FLOW DISTRIBUTION FOR SECNO= .60 CWSEL= 1707.14

STA= 4989. 5015.
PER Q= 100.0
AREA= 20.4
VEL= 2.7

1
08/17/88 10:49:11 PAGE 27

THIS RUN EXECUTED 08/17/88 10:49:35

****
HEC2 RELEASE DATED NOV 76 UPDATED MAY 1984
ERROR CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

AT&SF WASH NW OF WITTMAN

SUMMARY PRINTOUT

	SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
	.000	1152.00	1682.48	4953.20	4970.00	5020.00	5034.80	.00	81.60	5.48	1677.00	37.17	6.11
	.000	1152.00	1682.38	4975.00	4970.00	5020.00	5025.00	.00	50.00	5.38	1677.00	40.76	6.50
	.000	868.00	1681.78	4971.10	4970.00	5020.00	5028.90	.00	57.80	4.78	1677.00	42.29	5.75
	.000	392.00	1680.18	4979.10	4970.00	5020.00	5020.90	.00	41.80	3.18	1677.00	62.12	5.07
*	.036	1152.00	1683.54	4919.27	4970.00	5020.00	5018.84	.78	64.54	4.54	1679.00	101.69	8.21
	.036	1152.00	1683.14	4973.18	4970.00	5020.00	5015.00	.76	41.82	4.14	1679.00	137.54	9.55
*	.036	868.00	1682.93	4974.02	4970.00	5020.00	5017.32	.81	43.29	3.93	1679.00	102.28	7.72
	.036	392.00	1681.57	4979.12	4970.00	5020.00	5013.92	1.39	34.80	2.57	1679.00	117.37	6.60
*	.067	172.00	1685.41	4961.73	4990.00	5020.00	5015.24	.52	53.51	4.41	1681.00	11.09	2.34
	.067	172.00	1685.82	4990.00	4990.00	5020.00	5016.46	2.68	26.46	4.82	1681.00	9.17	2.17
*	.067	128.00	1684.82	4973.63	4990.00	5020.00	5013.46	.63	39.83	3.82	1681.00	13.40	2.31
*	.067	55.00	1683.51	4991.23	4990.00	5020.00	5009.52	.71	18.29	2.51	1681.00	20.49	2.09
	.131	172.00	1686.06	4989.86	4985.00	5020.00	5015.28	.65	25.42	2.26	1683.80	94.30	4.60
	.131	172.00	1686.34	4989.15	4985.00	5020.00	5016.69	.52	27.54	2.54	1683.80	57.35	3.83
	.131	128.00	1685.65	4990.88	4985.00	5020.00	5013.24	.83	22.35	1.85	1683.80	120.38	4.63
	.131	55.00	1684.90	4992.75	4985.00	5020.00	5009.51	1.40	16.76	1.10	1683.80	182.99	4.21

*	.159	172.00	1690.00	4940.00	4980.00	5010.00	5040.00	3.66	100.00	3.50	1686.50	5.27	1.33
*	.159	128.00	1689.50	4940.00	4980.00	5010.00	5081.25	3.85	141.25	3.00	1686.50	6.84	1.33
*	.159	55.00	1688.20	4974.67	4980.00	5010.00	5019.50	3.30	44.83	1.70	1686.50	44.75	1.91
	.180	172.00	1690.05	4982.16	4985.00	5030.00	5030.57	.05	48.41	3.05	1687.00	55.95	2.75
	.180	172.00	1690.07	4985.00	4985.00	5030.00	5030.00	.07	45.00	3.07	1687.00	53.98	2.72
	.180	128.00	1689.60	4986.95	4985.00	5030.00	5025.13	.10	38.18	2.60	1687.00	81.76	2.92
	.180	55.00	1688.89	4990.56	4985.00	5030.00	5016.10	.69	25.53	1.89	1687.00	106.28	2.65
	.216	172.00	1691.26	4977.38	4970.00	5010.00	5019.46	1.21	42.08	2.76	1688.50	78.60	3.40
	.216	172.00	1691.29	4977.08	4970.00	5010.00	5010.00	1.23	32.93	2.79	1688.50	86.20	3.50
	.216	128.00	1691.03	4979.68	4970.00	5010.00	5017.74	1.43	38.07	2.53	1688.50	69.64	3.01
	.216	55.00	1690.41	4985.93	4970.00	5010.00	5013.05	1.52	27.12	1.91	1688.50	60.06	2.28

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SECNO	Q	CWSEL	SSTA	STCHL	STCHR	ENDST	DIFWSX	TOPWID	DEPTH	ELMIN	10K*S	VCH
.292	172.00	1694.21	4973.66	4980.00	5020.00	5013.31	2.95	39.65	2.71	1691.50	69.05	3.30
.292	172.00	1694.27	4980.00	4980.00	5020.00	5013.50	2.97	33.50	2.77	1691.50	63.31	3.20
.292	128.00	1693.90	4980.77	4980.00	5020.00	5012.12	2.87	31.35	2.40	1691.50	74.09	3.07
.292	55.00	1693.16	4986.30	4980.00	5020.00	5009.35	2.75	23.04	1.66	1691.50	80.58	2.54
.371	172.00	1697.70	4986.48	4975.00	5020.00	5013.52	3.49	27.04	2.70	1695.00	110.23	4.71
.371	172.00	1697.67	4986.65	4975.00	5020.00	5013.35	3.40	26.70	2.67	1695.00	117.83	4.83
.371	128.00	1697.45	4987.75	4975.00	5020.00	5012.25	3.55	24.51	2.45	1695.00	103.06	4.26
.371	55.00	1696.81	4990.97	4975.00	5020.00	5009.03	3.65	18.07	1.81	1695.00	96.70	3.37
.450	172.00	1700.98	4967.76	4985.00	5020.00	5014.92	3.28	47.16	2.48	1698.50	53.23	3.58
.450	172.00	1701.05	4985.00	4985.00	5020.00	5015.28	3.39	30.28	2.55	1698.50	53.59	3.59
.450	128.00	1700.70	4972.75	4985.00	5020.00	5013.50	3.25	40.74	2.20	1698.50	56.32	3.33
.450	55.00	1700.11	4983.25	4985.00	5020.00	5010.50	3.30	27.25	1.61	1698.50	62.23	2.58
.529	172.00	1704.68	4991.58	4985.00	5020.00	5013.42	3.70	21.94	2.68	1702.00	215.18	6.23
.529	172.00	1704.72	4991.43	4985.00	5020.00	5013.57	3.66	22.14	2.72	1702.00	202.43	6.09
.529	128.00	1704.46	4992.72	4985.00	5020.00	5012.28	3.76	19.56	2.46	1702.00	192.58	5.60
.529	55.00	1703.86	4995.35	4985.00	5020.00	5009.30	3.75	13.95	1.86	1702.00	150.94	4.24
.597	172.00	1708.22	4977.75	4985.00	5015.00	5020.58	3.53	42.82	2.72	1705.50	46.47	3.49
.597	172.00	1708.22	4985.00	4985.00	5015.00	5015.00	3.50	30.00	2.72	1705.50	47.93	3.50
.597	128.00	1707.91	4985.41	4985.00	5015.00	5014.59	3.45	29.19	2.41	1705.50	49.32	3.19
.597	55.00	1707.14	4989.29	4985.00	5015.00	5010.71	3.28	21.41	1.64	1705.50	56.90	2.69

1

AT&SF WASH NW OF WITTMAN

SUMMARY PRINTOUT TABLE 110

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
.000	1682.48	.00	1683.05	81.60	2.01	1124.86	25.13	.00	.00	4970.00	5020.00	.00
.000	1682.38	-.10	1683.03	50.00	.00	1135.68	16.32	50.00	4975.00	4970.00	5020.00	5025.00
.000	1681.78	.00	1682.29	57.80	.00	858.01	9.99	.00	.00	4970.00	5020.00	.00
.000	1680.18	.00	1680.58	41.80	.00	392.00	.00	.00	.00	4970.00	5020.00	.00
* .036	1683.54	.00	1684.58	64.54	3.23	1148.76	.00	.00	.00	4970.00	5020.00	.00
.036	1683.14	-.40	1684.56	41.82	.00	1152.00	.00	60.00	4955.00	4970.00	5020.00	5015.00
* .036	1682.93	.00	1683.86	43.29	.00	868.00	.00	.00	.00	4970.00	5020.00	.00
.036	1681.57	.00	1682.24	34.80	.00	392.00	.00	.00	.00	4970.00	5020.00	.00

*	.067	1685.41	.00	1685.49	53.51	11.20	160.80	.00	.00	.00	4990.00	5020.00	.00
	.067	1685.82	.41	1685.90	26.46	.00	172.00	.00	.16	4990.00	4990.00	5020.00	5020.00
*	.067	1684.82	.00	1684.90	39.83	2.87	125.13	.00	.00	.00	4990.00	5020.00	.00
*	.067	1683.51	.00	1683.58	18.29	.00	55.00	.00	.00	.00	4990.00	5020.00	.00
	.131	1686.06	.00	1686.39	25.42	.00	172.00	.00	.00	.00	4985.00	5020.00	.00
	.131	1686.34	.28	1686.57	27.54	.00	172.00	.00	.00	4985.00	4985.00	5020.00	5020.00
	.131	1685.65	.00	1685.98	22.35	.00	128.00	.00	.00	.00	4985.00	5020.00	.00
	.131	1684.90	.00	1685.18	16.76	.00	55.00	.00	.00	.00	4985.00	5020.00	.00
*	.159	1690.00	.00	1690.02	165.00	26.14	102.68	43.18	.00	.00	4980.00	5010.00	.00
*	.159	1690.00	.00	1690.02	100.00	28.04	110.12	33.84	100.00	4940.00	4980.00	5010.00	5040.00
*	.159	1689.50	.00	1689.52	141.25	13.74	89.77	24.49	.00	.00	4980.00	5010.00	.00
*	.159	1688.20	.00	1688.26	44.83	.16	54.55	.29	.00	.00	4980.00	5010.00	.00
	.180	1690.05	.00	1690.17	48.41	.00	172.00	.00	.00	.00	4985.00	5030.00	.00
	.180	1690.07	.02	1690.18	45.00	.00	172.00	.00	.08	4985.00	4985.00	5030.00	5030.00
	.180	1689.60	.00	1689.74	38.18	.00	128.00	.00	.00	.00	4985.00	5030.00	.00
	.180	1688.89	.00	1689.00	25.53	.00	55.00	.00	.00	.00	4985.00	5030.00	.00
	.216	1691.26	.00	1691.44	42.08	.00	163.78	8.22	.00	.00	4970.00	5010.00	.00
	.216	1691.29	.03	1691.48	32.93	.00	172.00	.00	.10	4970.00	4970.00	5010.00	5010.00
	.216	1691.03	.00	1691.17	38.07	.00	123.47	4.53	.00	.00	4970.00	5010.00	.00
	.216	1690.41	.00	1690.49	27.12	.00	54.65	.35	.00	.00	4970.00	5010.00	.00
	.292	1694.21	.00	1694.38	39.65	.27	171.73	.00	.00	.00	4980.00	5020.00	.00
	.292	1694.27	.05	1694.42	33.50	.00	172.00	.00	.07	4980.00	4980.00	5020.00	5020.00
	.292	1693.90	.00	1694.04	31.35	.00	128.00	.00	.00	.00	4980.00	5020.00	.00
	.292	1693.16	.00	1693.26	23.04	.00	55.00	.00	.00	.00	4980.00	5020.00	.00
	.371	1697.70	.00	1698.05	27.04	.00	172.00	.00	.00	.00	4975.00	5020.00	.00
	.371	1697.67	-.04	1698.03	26.70	.00	172.00	.00	.00	4975.00	4975.00	5020.00	5020.00
	.371	1697.45	.00	1697.73	24.51	.00	128.00	.00	.00	.00	4975.00	5020.00	.00
	.371	1696.81	.00	1696.98	18.07	.00	55.00	.00	.00	.00	4975.00	5020.00	.00

SECNO	CWSEL	DIFKWS	EG	TOPWID	QLOB	QCH	QROB	PERENC	STENCL	STCHL	STCHR	STENCR
.450	1700.98	.00	1701.17	47.16	8.19	163.81	.00	.00	.00	4985.00	5020.00	.00
.450	1701.05	.07	1701.25	30.28	.00	172.00	.00	.13	4985.00	4985.00	5020.00	5020.00
.450	1700.70	.00	1700.87	40.74	3.38	124.61	.00	.00	.00	4985.00	5020.00	.00
.450	1700.11	.00	1700.21	27.25	.00	55.00	.00	.00	.00	4985.00	5020.00	.00
.529	1704.68	.00	1705.29	21.84	.00	172.00	.00	.00	.00	4985.00	5020.00	.00
.529	1704.72	.03	1705.29	22.14	.00	172.00	.00	.00	4985.00	4985.00	5020.00	5020.00
.529	1704.46	.00	1704.95	19.56	.00	128.00	.00	.00	.00	4985.00	5020.00	.00
.529	1703.86	.00	1704.14	13.95	.00	55.00	.00	.00	.00	4985.00	5020.00	.00
.597	1708.22	.00	1708.40	42.82	.27	171.52	.21	.00	.00	4985.00	5015.00	.00
.597	1708.22	.00	1708.41	30.00	.00	172.00	.00	.11	4985.00	4985.00	5015.00	5015.00
.597	1707.91	.00	1708.07	29.19	.00	128.00	.00	.00	.00	4985.00	5015.00	.00
.597	1707.14	.00	1707.26	21.41	.00	55.00	.00	.00	.00	4985.00	5015.00	.00

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION  SECNO=     .036  PROFILE= 3  INTERPOLATED XSECTIONS USED

CAUTION  SECNO=     .067  PROFILE= 1  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .067  PROFILE= 3  INTERPOLATED XSECTIONS USED
CAUTION  SECNO=     .067  PROFILE= 4  INTERPOLATED XSECTIONS USED

NOTE     SECNO=     .159  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE     SECNO=     .159  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE     SECNO=     .159  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE     SECNO=     .159  PROFILE= 4  WSEL BASED ON X5 CARD
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FLOODWAY DATA, AT&SF WASH NW OF WITTMAN
PROFILE NO. 2

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	50.	184.	6.3	1682.5	1682.5	.0
.036	42.	121.	9.5	1683.2	1683.5	-.3
.067	26.	79.	2.2	1685.8	1685.4	.4
.131	28.	45.	3.8	1686.4	1686.1	.3
.159	100.	183.	.9	1690.0	1690.0	.0
.180	45.	63.	2.7	1690.1	1690.1	.0
.216	33.	49.	3.5	1691.3	1691.3	.0
.292	34.	54.	3.2	1694.3	1694.2	.1
.371	27.	36.	4.8	1697.7	1697.7	.0
.450	30.	48.	3.6	1701.1	1701.0	.1
.529	22.	28.	6.1	1704.7	1704.7	.0
.597	30.	49.	3.5	1708.2	1708.2	.0

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FLOODWAY DATA, AT&SF WASH NW OF WITTMAN
PROFILE NO. 3

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	58.	157.	5.5	1681.9	1682.5	-.6
.036	43.	112.	7.7	1683.0	1683.5	-.5
.067	40.	61.	2.1	1684.9	1685.4	-.5
.131	22.	28.	4.6	1685.8	1686.1	-.3
.159	141.	151.	.8	1689.6	1690.0	-.4
.180	38.	44.	2.9	1689.8	1690.1	-.3
.216	38.	45.	2.8	1691.2	1691.3	-.1
.292	31.	42.	3.1	1694.0	1694.2	-.2
.371	25.	30.	4.3	1697.5	1697.7	-.2
.450	41.	42.	3.1	1700.8	1701.0	-.2
.529	20.	23.	5.6	1704.6	1704.7	-.1
.597	29.	40.	3.2	1708.0	1708.2	-.2

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FLOODWAY DATA, AT&SF WASH NW OF WITTMAN
PROFILE NO. 4

STATION	FLOODWAY WIDTH	FLOODWAY SECTION AREA	FLOODWAY MEAN VELOCITY	WATER SURFACE ELEVATION WITH FLOODWAY	WATER SURFACE ELEVATION WITHOUT FLOODWAY	DIFFERENCE
.000	42.	77.	5.1	1680.3	1682.5	-2.2
.036	35.	59.	6.6	1681.6	1683.5	-1.9
.067	18.	26.	2.1	1683.6	1685.4	-1.8
.131	17.	13.	4.2	1685.0	1686.1	-1.1
.159	45.	30.	1.8	1688.3	1690.0	-1.7
.180	26.	21.	2.6	1689.0	1690.1	-1.1
.216	27.	25.	2.2	1690.5	1691.3	-.8
.292	23.	22.	2.5	1693.2	1694.2	-1.0
.371	18.	16.	3.4	1696.9	1697.7	-.8
.450	27.	21.	2.6	1700.2	1701.0	-.8
.529	14.	13.	4.2	1704.0	1704.7	-.7
.597	21.	20.	2.7	1707.2	1708.2	-1.0

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08/17/88 10:49:39 PAGE 1

THIS RUN EXECUTED 08/17/88 10:49:39

****
[redacted] RELEASE DATED NOV 76 UPDATED MAY 1984
[redacted] CORR - 01,02,03,04,05,06
MODIFICATION - 50,51,52,53,54,55,56
IBM-PC-XT VERSION
****

PROJECT: WITTMANN WASH

DESIGNER JSE

DATE 1-5-88

HYDROLOGIC AND CHANNEL INFORMATION

1ST CULVERTS NORTH OF ATSSFR.R. ON CENTER STREET.

Q_1 = ____

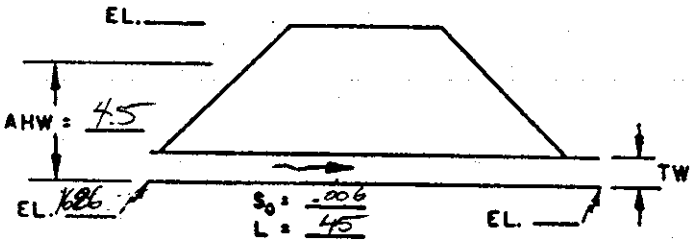
Q_2 = ____

TW_1 = ____

TW_2 = ____

SKETCH

STATION: ____



ALLOWABLE OUTLET VELOCITY = ____

CULVERT TYPE	Q	SIZE	HEADWATER COMPUTATION: INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL K_e	d_c	$\frac{d_c+D}{2}$	h_o	H	LS_o	HW	CONTROLLING HW	OUTLET VELOCITY	COST	COMMENTS
2 - 30" CP	90	30"	2	5	.5	2.25	2.38	2.38	2.1	.27	4.2	5.0			INLET CONTROL
↓															
1 - 48" CP	93	48"	1.25	5	.5	3	3.5	3.5	1.35	.27	4.8	5			INLET CONTROL
Total	183	cfs													
100-YEAR 2 - 30" CP	84	30"	1.8	4.5	.5	2.25	2.38	2.38	2.2	.27	4.31	4.5			
1 - 48" CP	86	48"	1.125	4.5	.5	3	3.5	3.5	1.25	.27	4.48	4.5			
Total	170	cfs													

SUMMARY & RECOMMENDATIONS:

50-YEAR
2 - 30" CP 66 1.4 3.5
1 - 48" CP 62 .88 3.5
Total 128 cfs

10-YEAR
2 - 30" CP 36 .88 2.2
1 - 48" CP 28 .55 2.2
Total 64 cfs

Figure 5