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ARCADIA AREA DRAINAGE PROJECT

PROJECT NO. 94-21
FINAL ALTERNATES
HYDROLOGY & HYDRAULICS REPORT

VOLUME II

FLOOD CONTROL DISTRICT OF
MARICOPA COUNTY, ARIZONA
2801 WEST DURANGO STREET
PHOENIX, ARIZONA 85009

MARCH 1997

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Description

This report is Volume II of a two volume report for the Final Alternates Hydrology and Hydraulics for the Arcadia Area Drainage Project Study. This volume contains the hydrologic and hydraulic model results for the final alternates. A complete description of the hydrologic and hydraulic procedures is contained in Volume I. Both of these volumes are provided to support the results and conclusions of the Final Recommendations Report dated May 1996.

Included in Volume II are the printouts for the HEC-1, Pond 2 and WSPG computer models for the five final alternates. A description of the alternates and the results of the analyses is provided in the Final Recommendations Report.

HEC-1 Model Results

Alternate 1

```
*****************************************
*                                       *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *
*            MAY  1991                  *
*          VERSION 4.0.1E               *
*                                       *
*  RUN DATE  01/31/96  TIME  12:59:01   *
*                                       *
*****************************************
```


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


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

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

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


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

              *       ARCADIA AREA
    1         ID
              *       ALT1.DAT
              *       10-YR CAMELBACK CASTILLE CONDOMINIUMS PROTECTION
              *
              *
              *
    2         IT       5                    300
    3         IO       5
              *DIAGRAM
              *

    4         KK    SUB1
    5         KM    SUB-BASIN SUB1
    6         KM    6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
    7         KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
    8         KM      L =  .28  Kb = .108  Adj. Slope = 2120.0
    9         BA    .037
   10         IN      15
```

```
11          KM   RAINFALL DEPTH OF 2.00 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
12          PB   1.933
13          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 2.20
14          PC    .000    .010    .017    .026    .037    .046    .056    .065    .075    .085
15          PC    .097    .111    .131    .175    .263    .455    .689    .829    .893    .933
16          PC    .949    .962    .975    .988   1.000
17          LG    .119    .337   4.650    .260  51.000
18          UC    .154    .110
19          UA       0       3       5       8      12      20      43      75      90      96
20          UA     100
            *

21          KK    R1-2
22          KM         ROUTE FLOW FROM SUB1 TO SUB2
23          RK  3183.8   .0166     .07       0    TRAP       0       3     YES
            *

24          KK    SUB2
25          KM   SUB-BASIN SUB2
26          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
27          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
28          KM     L =  .60  Kb = .041  Adj. Slope =   88.0
29          BA    .117
30          LG    .343    .250   4.650    .440   9.000
31          UC    .587    .463
32          UA       0       5      16      30      65      77      84      90      94      97
33          UA     100
            *

34          KK    DIV2
35          KM         DIVERT FOR IRRIGATED LAWNS SUB2
36          DT       D2      .80
37          DI        0       1
38          DQ        0    .382
            *
```



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

39          KK    C1-2
40          KM         COMBINE HYDROGRAPHS SUB1 AND SUB2 AT CP2
41          HC        2
            *

42          KK   D2-64
43          KM         DIVERT FLOW
44          DT   DSUB2
45          DI        0      15      50      93     100     150
46          DQ        0      15      15      15      15      15
            *

47          KK    R2-3
48          KM         ROUTE FLOW FROM SUB2 TO SUB3
49          RK  1367.5    .009    .016            TRAP      60       1     YES
            *

50          KK    SUB3
51          KM   SUB-BASIN SUB3
52          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
```

```
53          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
54          KM     L =  .26  Kb = .058  Adj. Slope =   47.0
55          BA    .067
56          LG    .298    .250   4.200    .520  16.000
57          UC    .533    .293
58          UA       0       5      16      30      65      77      84      90      94      97
59          UA     100
            *

60          KK    DIV3
61          KM        DIVERT FOR IRRIGATED LAWNS SUB3
62          DT      D3     .88
63          DI       0       1
64          DQ       0    .573
            *

65          KK    C2-3
66          KM        COMBINE HYDROGRAPHS SUB2 & SUB3 AT CP3
67          HC       2
            *

68          KK    R3-4
69          KM        ROUTE FLOW FROM CP3 TO CP4
70          RK    1320    .008    .016            TRAP      44       1     YES
            *

71          KK    SUB4
72          KM   SUB-BASIN SUB4
73          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
74          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
75          KM     L =  .25  Kb = .058  Adj. Slope =   42.0
76          BA    .065
77          LG    .300    .250   4.800    .360  15.000
78          UC    .463    .246
1                                    HEC-1 INPUT                                          PAGE  3

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

79          UA       0       5      16      30      65      77      84      90      94      97
80          UA     100
            *

81          KK    DIV4
82          KM        DIVERT FOR IRRIGATED LAWNS SUB4
83          DT      D4     1.0
84          DI       0       1
85          DQ       0     .55
            *

86          KK    C3-4
87          KM        COMBINE HYDROGRAPHS SUB3 & SUB4 AT CP4
88          HC       2
            *

89          KK   D4-64
90          KM        DIVERT FLOW TO LAFAYETTE S.D.
91          DT   DSUB4
92          DI       0       3      10      50     100
93          DQ       0       3       3       3       3
            *
```

```
 94          KK    R4-5
 95          KM        ROUTE FLOW FROM CP4 TO CP5
 96          RK  2307.4    .005    .016            TRAP      44       1     YES
             *

 97          KK    SUB5
 98          KM   SUB-BASIN SUB5
 99          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
100          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
101          KM     L =  .44  Kb = .058  Adj. Slope =   24.0
102          BA    .067
103          LG    .300    .250   4.800    .360  15.000
104          UC    .837    .736
105          UA       0       5      16      30      65      77      84      90      94      97
106          UA     100
             *

107          KK    DIV5
108          KM        DIVERT FOR IRRIGATED LAWNS SUB5
109          DT      D5     .94
110          DI       0       1
111          DQ       0     .50
             *

112          KK    C4-5
113          KM        COMBINE HYDROGRAPHS SUB4 & SUB5 AT CP5
114          HC       2
             *
```



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


115          KK    SUB6
116          KM   SUB-BASIN SUB6
117          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
118          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
119          KM     L =  .26  Kb = .104  Adj. Slope = 2367.0
120          BA    .090
121          LG    .106    .346   4.700    .240  49.000
122          UC    .142    .057
123          UA       0       3       5       8      12      20      43      75      90      96
124          UA     100
             *

125          KK    R6-7
126          KM        ROUTE FLOW FROM SUB6 TO SUB7
127          RK  2972.0    .013     .07            TRAP       0       3     YES
             *

128          KK    SUB7
129          KM   SUB-BASIN SUB7
130          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
131          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
132          KM     L =  .56  Kb = .053  Adj. Slope =   71.0
133          BA    .153
134          LG    .290    .271   5.400    .280  20.000
135          UC    .546    .346
136          UA       0       5      16      30      65      77      84      90      94      97
```

```
137          UA     100
             *

138          KK    DIV7
139          KM        DIVERT FOR IRRIGATED LAWNS SUB7
140          DT      D7    2.30
141          DI       0       1
142          DQ       0    .427
             *

143          KK    C6-7
144          KM        COMBINE HYDROGRAPHS SUB6 & SUB7 AT CP7
145          HC       2
             *

146          KK   D7-64
147          KM        DIVERT FLOW
148          DT   DSUB7
149          DI       0      27     100     120     150     200
150          DQ       0      27      27      27      27      27
             *

151          KK    R7-8
152          KM        ROUTE FLOW FROM SUB7 TO SUB8
153          RK  2302.1    .001    .016            TRAP      40       1     YES
             *
```



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


154          KK    SUB8
155          KM   SUB-BASIN SUB8
156          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
157          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
158          KM     L =  .44  Kb = .057  Adj. Slope =   52.0
159          BA    .068
160          LG    .300    .250   4.450    .450  15.000
161          UC    .667    .566
162          UA       0       5      16      30      65      77      84      90      94      97
163          UA     100
             *

164          KK    DIV8
165          KM        DIVERT FOR IRRIGATED LAWNS SUB8
166          DT      D8     .99
167          DI       0       1
168          DQ       0      .6
             *

169          KK    C7-8
170          KM        COMBINE HYDROGRAPHS SUB7 & SUB8 AT CP8
171          HC       2
             *

172          KK    R8-9
173          KM        ROUTE FLOW FROM SUB8 TO SUB9
174          RK  1314.7    .010    .016            TRAP      20       1     YES
             *
```

```
KK    SUB9
KM   SUB-BASIN SUB9
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .25  Kb = .058  Adj. Slope =   55.0
BA    .065
LG    .300    .250   4.450    .450  15.000
UC    .463    .246
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK    DIV9
KM        DIVERT FOR IRRIGATED LAWNS SUB9
DT      D9     .94
DI       0       1
DQ       0      .6
*

KK    C8-9
KM        COMBINE HYDROGRAPHS SUB8 & SUB9   AT CP9
HC       2
*
```



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

KK    R9-5
KM        ROUTE FLOW FROM SUB9 TO  SUB5
RK  1784.7    .007    .016            TRAP      40       1     YES
*

KK    C9-5
KM        COMBINE HYDROGRAPH SUB9  & SUB5  AT CP5
HC       2
*

KK   SUB10
KM   SUB-BASIN SUB10
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .34  Kb = .056  Adj. Slope =   37.0
BA    .093
LG    .299    .250   4.800    .360  15.000
UC    .575    .327
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   DIV10
KM        DIVERT FOR IRRIGATED LAWNS SUB10
DT     D10    1.17
DI       0       1
DQ       0    .445
*

KK   C5-10
KM        COMBINE HYDROGRAPH SUB5  & SUB10 AT CP10
HC       2
```

```
*

KK   SUB11
KM   SUB-BASIN SUB11
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .56  Kb = .106  Adj. Slope = 1740.0
BA    .093
LG    .115    .350   4.550    .270  39.000
UC    .237    .183
UA       0       3       5       8      12      20      43      75      90      96
UA     100
*

KK  R11-12
KM        ROUTE FLOW FROM SUB11 TO   SUB12
RK    1632    .058     .07            TRAP       0       3     YES
*
```



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


KK   SUB12
KM   SUB-BASIN SUB12
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .31  Kb = .064  Adj. Slope =  304.0
BA    .120
LG    .269    .277   5.600    .210   9.000
UC    .246    .102
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   DIV12
KM        DIVERT FOR IRRIGATED LAWNS SUB12
DT     D12     .31
DI       0       1
DQ       0    .079
*

KK  C11-12
KM        COMBINE HYDROGRAPH SUB11 & SUB12 AT CP12
HC       2
*

KK  D12-56
KM        DIVERT FLOW
DT  DSUB12
DI       0      10      56     100     150
DQ       0      10      56      56      56
*
*

KK  R12-13
KM        ROUTE FLOW FROM SUB12 TO SUB13
RK  1362.2    .020    .016            TRAP      60       1     YES      50
*
```

```
256          KK   SUB13
257          KM   SUB-BASIN SUB13
258          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
259          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
260          KM     L =  .26  Kb = .054  Adj. Slope =  107.0
261          BA    .129
262          LG    .300    .230   6.200    .200  15.000
263          UC    .283    .100
264          UA       0       5      16      30      65      77      84      90      94      97
265          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  8

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


266          KK   DIV13
267          KM        DIVERT FOR IRRIGATED LAWNS SUB13
268          DT     D13     .98
269          DI       0       1
270          DQ       0      .2
             *

271          KK  D13-56
272          KM        DIVERT FLOW
273          DT  DSUB13
274          DI       0       5       6      10      15      20      25
275          DQ       0       5       6       6       6       6       6
             *

276          KK  C12-13
277          KM        COMBINE HYDROGRAPHS SUB12 & SUB13 AT CP13
278          HC       2
             *

279          KK  R13-14
280          KM        ROUTE FL OW FROM SUB13 TO SUB14
281          RK  1314.7    .014    .016            TRAP      60       1     YES
             *

282          KK   SUB14
283          KM   SUB-BASIN SUB14
284          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
285          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
286          KM     L =  .25  Kb = .054  Adj. Slope =   74.0
287          BA    .126
288          LG    .300    .250   4.100    .550  15.000
289          UC    .429    .155
290          UA       0       5      16      30      65      77      84      90      94      97
291          UA     100
             *

292          KK   DIV14
293          KM        DIVERT FOR IRRIGATED LAWNS SUB14
294          DT     D14    1.57
295          DI       0       1
296          DQ       0      .6
             *
             *
```

```
297          KK  D14-56
298          KM        DIVERT FLOW
299          DT  DSUB14
300          DI        0       1     2.5       5      10      20
301          DQ        0       1     2.5     2.5     2.5     2.5
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


302          KK  C13-14
303          KM        COMBINE HYDROGRAPHS SUB13 & SUB14 AT CP14
304          HC       2
             *

305          KK  R14-15
306          KM        ROUTE FLOW FROM SUB 14 TO SUB15
307          RK  1985.3    .011    .016            TRAP      60       1     YES
             *

308          KK   SUB15
309          KM   SUB-BASIN SUB15
310          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
311          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
312          KM     L =  .38  Kb = .054  Adj. Slope =   56.0
313          BA    .127
314          LG    .296    .250   4.650    .390  16.000
315          UC    .525    .271
316          UA       0       5      16      30      65      77      84      90      94      97
317          UA     100
             *

318          KK   DIV15
319          KM        DIVERT FOR IRRIGATED LAWNS SUB15
320          DT     D15    2.05
321          DI       0       1
322          DQ       0    .585
             *

323          KK  D15-56
324          KM        DIVERT FLOW
325          DT  DSUB15
326          DI       0       1       2       5      10      15
327          DQ       0       1       2       2       2       2
             *

328          KK  C15-14
329          KM        COMBINE SUB14 WITH SUB15
330          HC       2
             *

331          KK  C15-10
332          KM        COMBINE SUB10 WITH SUB15
333          HC       2
             *

334          KK   D56ST
335          KM        DIVERT FLOW THAT CROSSES 56TH ST. BRIDGE
336          DT   D56ST
```

```
337          DI       0     400     650     790    1040    1139    1334    1484    1689    1900
338          DQ       0       0     240     318     400     489     584     684     789     900
             *
```



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

339          KK   SUB16
340          KM   SUB-BASIN SUB16
341          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
342          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
343          KM     L =  .65  Kb = .102  Adj. Slope = 2052.0
344          BA    .129
345          LG    .104    .350   4.700    .240  47.000
346          UC    .233    .167
347          UA       0       3       5       8      12      20      43      75      90      96
348          UA     100
             *

349          KK  R16-17
350          KM        ROUTE FLOW FROM SUB16 TO SUB17
351          RK   1668    .058     .07            TRAP       0       3     YES
             *

352          KK   SUB17
353          KM   SUB-BASIN SUB17
354          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
355          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
356          KM     L =  .32  Kb = .058  Adj. Slope =  183.0
357          BA    .073
358          LG    .298    .252   4.150    .450  10.000
359          UC    .342    .201
360          UA       0       5      16      30      65      77      84      90      94      97
361          UA     100
             *

362          KK   DIV17
363          KM        DIVERT FOR IRRIGATED LAWNS SUB17
364          DT     D17     .11
365          DI       0       1
366          DQ       0    .074
             *

367          KK  C16-17
368          KM        COMBINE HYDROGRAPH SUB16 & SUB17 AT CP17
369          HC       2
             *

370          KK  D17-56
371          KM        DIVERT FLOW
372          DT  DSUB17
373          DI       0       5      10      15      20      24      30
374          DQ       0       5      10      15      20      24      24
             *

375          KK  R17-18
376          KM        ROUTE FLOW FROM SUB17 TO SUB18
377          RK  1378.1    .019    .016            TRAP      40       1     YES
             *
```

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

  378     KK   SUB18
  379     KM   SUB-BASIN SUB18
  380     KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
  381     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
  382     KM     L =  .26  Kb = .058  Adj. Slope =  102.0
  383     BA    .067
  384     LG    .300    .250   3.950    .580  15.000
  385     UC    .417    .222
  386     UA       0       5      16      30      65      77      84      90      94      97
  387     UA     100
          *

  388     KK   DIV18
  389     KM        DIVERT FOR IRRIGATED LAWNS SUB18
  390     DT     D18     .81
  391     DI       0       1
  392     DQ       0      .6
          *

  393     KK  C17-18
  394     KM        COMBINE  HYDROGRAPH SUB17 & SUB18 AT CP18
  395     HC       2
          *

  396     KK  R18-19
  397     KM        ROUTE FLOW SUB18 TO SUB19
  398     RK  1335.8    .014    .016            TRAP      40       1     YES
          *

  399     KK   SUB19
  400     KM   SUB-BASIN SUB19
  401     KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
  402     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
  403     KM     L =  .25  Kb = .057  Adj. Slope =   77.0
  404     BA    .075
  405     LG    .300    .250   3.950    .580  15.000
  406     UC    .446    .218
  407     UA       0       5      16      30      65      77      84      90      94      97
  408     UA     100
          *

  409     KK   DIV19
  410     KM        DIVERT FOR IRRIGATED LAWNS SUB19
  411     DT     D19     .91
  412     DI       0       1
  413     DQ       0      .6
          *

  414     KK  C18-19
  415     KM        COMBINE HYDROGRAPH SUB18 & SUB19 AT CP19
  416     HC       2
          *
```



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

```
417          KK  R19-20
418          KM        ROUTE FLOW FROM SUB19 TO SUB20
419          RK  1473.1    .010    .016            TRAP      30       1     YES
             *

420          KK   SUB20
421          KM   SUB-BASIN SUB20
422          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
423          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
424          KM     L =  .28  Kb = .054  Adj. Slope =   54.0
425          BA    .129
426          LG    .300    .250   4.450    .450  15.000
427          UC    .475    .188
428          UA       0       5      16      30      65      77      84      90      94      97
429          UA     100
             *

430          KK   DIV20
431          KM        DIVERT FOR IRRIGATED LAWNS SUB20
432          DT     D20    1.86
433          DI       0       1
434          DQ       0      .6
             *

435          KK  C20-19
436          KM        COMBINE SUB19 WITH SUB20
437          HC       2
             *

438          KK  C20-15
439          KM        COMBINE SUB15 WITH SUB20
440          HC       2
             *
             *

441          KK   SUB21
442          KM   SUB-BASIN SUB21
443          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
444          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
445          KM     L =  .56  Kb = .102  Adj. Slope = 2352.0
446          BA    .124
447          LG    .106    .350   4.700    .240  46.000
448          UC    .208    .134
449          UA       0       3       5       8      12      20      43      75      90      96
450          UA     100
             *

451          KK  R21-22
452          KM        ROUTE FLOW FROM SUB21 TO SUB22
453          RK    2735    .026     .07            TRAP       0       3     YES
             *
```



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

454          KK   SUB22
455          KM   SUB-BASIN SUB22
```

```
456          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
457          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
458          KM     L =  .52  Kb = .059  Adj. Slope =  134.0
459          BA    .112
460          LG    .286    .261   4.000    .490   9.000
461          UC    .579    .417
462          UA       0       5      16      30      65      77      84      90      94      97
463          UA     100
             *

464          KK   DIV22
465          KM        DIVERT FOR IRRIGATED LAWNS SUB22
466          DT     D22     .12
467          DI       0       1
468          DQ       0    .063
             *

469          KK  C21-22
470          KM        COMBINE HYDROGRAPH SUB21 & SUB22 AT CP22
471          HC       2
             *

472          KK  D22-48
473          KM        DIVERT FLOW
474          DT  DSUB22
475          DI       0      10      20      30      40      44      50      60
476          DQ       0      10      20      30      40      44      44      44
             *

477          KK  R22-23
478          KM        ROUTE FLOW FROM SUB22 TO SUB23
479          RK  1240.8    .025    .016            TRAP      20       1     YES
             *

480          KK   SUB23
481          KM   SUB-BASIN SUB23
482          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
483          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
484          KM     L =  .23  Kb = .058  Adj. Slope =  132.0
485          BA    .060
486          LG    .300    .250   3.950    .580  15.000
487          UC    .346    .175
488          UA       0       5      16      30      65      77      84      90      94      97
489          UA     100
             *

490          KK   DIV23
491          KM        DIVERT FOR IRRIGATED LAWNS SUB23
492          DT     D23     .72
493          DI       0       1
494          DQ       0    .593
             *
```



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

495          KK  C22-23
496          KM        COMBINE HYDROGRAPH SUB22 & SUB23 AT CP23
497          HC       2
```

```
*

KK  R23-24
KM        ROUTE FLOW FROM SUB 23 TO SUB24
RK  1088.9    .015    .016            TRAP      32       1     YES
*

KK   SUB24
KM   SUB-BASIN SUB24
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .28  Kb = .057  Adj. Slope =   78.0
BA    .077
LG    .300    .250   3.950    .580  15.000
UC    .475    .252
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   DIV24
KM        DIVERT FOR IRRIGATED LAWNS SUB24
DT     D24     .93
DI       0       1
DQ       0      .6
*

KK  C23-24
KM        COMBINE HYDROGRAPH SUB23 & SUB24 AT CP24
HC       2
*

KK  R24-25
KM        ROUTE FLOW FROM SUB24 TO SUB25
RK  1346.4    .009    .016            TRAP      40       1     YES
*

KK   SUB25
KM   SUB-BASIN SUB25
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .25  Kb = .057  Adj. Slope =   46.0
BA    .076
LG    .300    .250   3.950    .580  15.000
UC    .546    .271
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*
```



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

KK   DIV25
KM        DIVERT FOR IRRIGATED LAWNS SUB25
DT     D25     .93
DI       0       1
DQ       0      .6
*

KK  C25-24
```

```
KM        COMBINE SUB24 WITH SUB25
HC       2
*

KK  C25-20
KM        COMBINE SUB20 WITH SUB25
HC       2
*
*

KK   SUB26
KM   SUB-BASIN SUB26
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .52  Kb = .063  Adj. Slope =  840.0
BA    .054
LG    .289    .289   4.200    .550  14.000
UC    .313    .318
UA       0       3       5       8      12      20      43      75      90      96
UA     100
*

KK   DIV26
KM        DIVERT FOR GOLF   COURSE
DT     D26     .31
DI       0       1
DQ       0    .312
*

KK  D26-48
KM        DIVERT FLOW
DT  DSUB26
DI       0       1       2       4       5      10
DQ       0       1       2       4       4       4
*

KK  R26-27
KM        ROUTE FLOW FROM SUB26 TO SUB27
RK  1293.6    .024    .016            TRAP      35       1     YES
*
```



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

KK   SUB27
KM   SUB-BASIN SUB27
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .25  Kb = .058  Adj. Slope =  122.0
BA    .061
LG    .300    .250   3.950    .580  15.000
UC    .375    .202
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   DIV27
KM        DIVERT FOR IRRIGATED LAWNS SUB27
DT     D27     .74
```

```
579          DI       0     1.0
580          DQ       0     .60
             *

581          KK  D27-48
582          KM        DIVERT FLOW
583          DT  DSUB27
584          DI       0       1       2       5      10
585          DQ       0       1       1       1       1
             *

586          KK  C26-27
587          KM        COMBINE HYDROGRAPH SUB 26 & SUB27 AT CP27
588          HC       2
             *

589          KK  R27-28
590          KM        ROUTE FLOW FROM SUB 27 TO SUB28
591          RK  1436.2    .017    .016            TRAP      35       1     YES
             *

592          KK   SUB28
593          KM   SUB-BASIN SUB28
594          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
595          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
596          KM     L =  .27  Kb = .057  Adj. Slope =   89.0
597          BA    .078
598          LG    .300    .250   3.950    .580  15.000
599          UC    .442    .224
600          UA       0       5      16      30      65      77      84      90      94      97
601          UA     100
             *

602          KK   DIV28
603          KM        DIVERT FOR IRRIGATED LAWNS SUB28
604          DT     D28     .95
605          DI       0       1
606          DQ       0     .60
             *
```



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

607          KK  D28-48
608          KM        DIVERT FLOW
609          DT  DSUB28
610          DI       0       1       2       5
611          DQ       0       1       1       1
             *

612          KK  C27-28
613          KM        COMBINE HYDROGRAPH SUB27 & SUB28 AT CP28
614          HC       2
             *

615          KK  R28-29
616          KM        ROUTE FLOW FROM SUB 28 TO SUB29
617          RK  1161.6    .009    .016            TRAP      35       1     YES
             *
```

```
618          KK   SUB29
619          KM   SUB-BASIN SUB29
620          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
621          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
622          KM     L =  .22  Kb = .058  Adj. Slope =   47.0
623          BA    .058
624          LG    .299    .250   3.950    .580  15.000
625          UC    .504    .261
626          UA       0       5      16      30      65      77      84      90      94      97
627          UA     100
             *

628          KK   DIV29
629          KM        DIVERT FOR IRRIGATED LAWNS SUB29
630          DT     D29     .70
631          DI       0       1
632          DQ       0    .587
             *

633          KK  D29-48
634          KM        DIVERT FLOW
635          DT  DSUB29
636          DI       0       1       2       5      10
637          DQ       0       1       1       1       1
             *

638          KK  C29-28
639          KM        COMBINE SUB29 WITH SUB28
640          HC       2
             *

641          KK  C29-25
642          KM        COMBINE SUB25 WITH SUB29
643          HC       2
             *
```



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

644          KK   SUB38
645          KM   SUB-BASIN SUB38
646          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
647          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
648          KM     L = 1.28  Kb = .090  Adj. Slope = 1079.0
649          BA    .252
650          LG    .133    .340   4.500    .290  36.000
651          UC    .412    .370
652          UA       0       5      16      30      65      77      84      90      94      97
653          UA     100
             *

654          KK  D38-39
655          KM        DIVERT 16CFS FROM SUB38 TO SUB39
656          DT  D38-39
657          DI       0       5      10      16      50     100     200     400     600
658          DQ       0       5      10      16      16      16      16      16      16
             *
```

```
659          KK  R38-30
660          KM        ROUTE FLOW FROM SUB38 TO   SUB30
661          RK    1200     .035     .016            TRAP       30        1     YES
             *

662          KK   SUB30
663          KM   SUB-BASIN SUB30
664          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
665          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
666          KM     L =  .48  Kb = .064  Adj. Slope =  571.0
667          BA    .064
668          LG    .279     .263   3.950     .480   8.000
669          UC    .313     .271
670          UA       0        5       16       30       65       77       84       90       94       97
671          UA     100
             *

672          KK  C30-38
673          KM        COMBINE SUB38 & SUB30 AT CP30
674          HC       2
             *

675          KK  D30-48
676          KM        DIVERT FLOW
677          DT  DSUB30
678          DI       0       10       20       32       40       50
679          DQ       0       10       20       32       32       32
             *

680          KK  R30-31
681          KM        ROUTE FLOW FROM SUB30 TO SUB31
682          RK    1304    .0225     .025            TRAP       20        1     YES
             *
```



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

683          KK   SUB31
684          KM   SUB-BASIN SUB31
685          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
686          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
687          KM     L =  .25  Kb = .058  Adj. Slope =  118.0
688          BA    .061
689          LG    .300     .260   3.670     .690  15.000
690          UC    .429     .235
691          UA       0        3        5        8       12       20       43       75       90       96
692          UA     100
             *

693          KK   DIV31
694          KM        DIVERT FOR IRRIGATED LAWNS SUB31
695          DT     D31      .45
696          DI       0        1
697          DQ       0     .400
             *

698          KK  C30-31
699          KM        COMBINE SUB30 & SUB31 AT CP31
700          HC       2
```

```
                *

 701            KK  R31-32
 702            KM        ROUTE FLOW FROM SUB31 TO SUB32
 703            RK    1260    .019    .016       0    TRAP      30       1     YES
                *

 704            KK   SUB32
 705            KM   SUB-BASIN SUB32
 706            KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 707            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 708            KM     L =  .27  Kb = .058  Adj. Slope =   77.0
 709            BA    .064
 710            LG    .300    .250   3.950    .580  15.000
 711            UC    .475    .272
 712            UA       0       5      16      30      65      77      84      90      94      97
 713            UA     100
                *

 714            KK   DIV32
 715            KM        DIVERT FOR IRRIGATED LAWNS SUB32
 716            DT     D32     .79
 717            DI     0.0     1.0
 718            DQ       0     .60
                *

 719            KK  C31-32
 720            KM        COMBINE HYDROGRAPH SUB31 & SUB32 AT CP32
 721            HC       2
                *
```



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


 722            KK  R32-33
 723            KM        ROUTE FLOW FROM SUB32 TO SUB33
 724            RK    1447   .0144     .07            TRAP       0       3     YES
                *

 725            KK   SUB33
 726            KM   SUB-BASIN SUB33
 727            KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 728            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 729            KM     L =  .22  Kb = .058  Adj. Slope =   65.0
 730            BA    .062
 731            LG    .277    .250   3.950    .580  22.000
 732            UC    .404    .197
 733            UA       0       5      16      30      65      77      84      90      94      97
 734            UA     100
                *

 735            KK   DIV33
 736            KM        DIVERT FOR IRRIGATED LAWNS SUB33
 737            DT     D33     .62
 738            DI       0       1
 739            DQ       0     .37
                *
                *
```

```
KK  C33-32
KM        COMBINE SUB32 WITH SUB33
HC       2
*
*

KK  C33-29
KM        COMBINE SUB29 WITH SUB33
HC       2
*

KK   SUB34
KM   SUB-BASIN SUB34
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .57  Kb = .050  Adj. Slope =   87.0
BA    .167
LG    .284    .250   3.950    .590  20.000
UC    .613    .380
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   DIV34
KM        DIVERT FOR IRRIGATED LAWNS SUB34
DT     D34    1.53
DI       0       1
DQ       0    .366
*
```



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

KK  R34-35
KM        ROUTE FLOW FROM SUB34 TO SUB35
RK  1531.2    .018    .016            TRAP      40       1     YES
*

KK   SUB35
KM   SUB-BASIN SUB35
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .29  Kb = .048  Adj. Slope =   51.0
BA    .128
LG    .223    .250   3.950    .600  39.000
UC    .400    .160
UA       0       3       5       8      12      20      43      75      90      96
UA     100
*

KK   DIV35
KM        DIVERT FOR IRRIGATED LAWNS SUB35
DT     D35     .53
DI     0.0     1.0
DQ     0.0    .095
*

KK  C35-34
KM        COMBINE SUB34 WITH SUB35
```

```
781          HC       2
             *
             *

782          KK  C35-33
783          KM        COMBINE SUB33 WITH SUB35
784          HC       2
             *

785          KK   SUB40
786          KM   SUB-BASIN SUB40
787          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
788          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
789          KM     L =  .31  Kb = .099  Adj. Slope = 1822.0
790          BA    .074
791          LG    .162    .332   4.250    .350  22.000
792          UC    .183    .097
793          UA       0       5      16      30      65      77      84      90      94      97
794          UA     100
             *

795          KK  R40-41
796          KM        ROUTE FLOW FROM SUB40 TO SUB41
797          RK    1452   .0221     .05            TRAP       6       2     YES
             *
```



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

798          KK   SUB41
799          KM   SUB-BASIN SUB41
800          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
801          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
802          KM     L =  .54  Kb = .054  Adj. Slope =  110.0
803          BA    .144
804          LG    .283    .251   4.600    .360  17.000
805          UC    .479    .301
806          UA       0       5      16      30      65      77      84      90      94      97
807          UA     100
             *

808          KK  C40-41
809          KM        COMBINE HYDROGRAPH SUB40 & SUB41 AT CP41
810          HC       2
             *

811          KK  D41CCW
812          KM        DIVERT FLOW FOR CASTILLE CONDOS
813          DT  DSUB41
814          DI       0      10      40      91      92     150
815          DQ       0      10      40      91      91      91
             *

816          KK  R41-39
817          KM        ROUTE FLOW FROM SUB41 TO   SUB39
818          RK    2865   .0341     .05            TRAP       4       3     YES
             *

819          KK   SUB37
```

```
820          KM   SUB-BASIN SUB37
821          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
822          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
823          KM     L =  .30  Kb = .059  Adj. Slope =  247.0
824          BA    .049
825          LG    .300    .250   3.950    .490   5.000
826          UC    .317    .220
827          UA       0       5      16      30      65      77      84      90      94      97
828          UA     100
             *

829          KK  R37-39
830          KM        ROUTE FLOW FROM SUB37 TO   SUB39
831          RK    3500    .018    .016            TRAP      70       1     YES
             *

832          KK   SUB39
833          KM   SUB-BASIN SUB39
834          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
835          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
836          KM     L =  .84  Kb = .051  Adj. Slope =   79.0
837          BA    .188
838          LG    .220    .262   4.000    .530  34.000
839          UC    .671    .536
```



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

840          UA       0       3       5       8      12      20      43      75      90      96
841          UA     100
             *

842          KK  RD3839
843          KM        RECALL DIVERSION FROM SUBBASIN 38
844          DR  D38-39
             *

845          KK  C37-39
846          KM        COMBINE SUB39  WITH SUB37 WITH RECALLED HYDROGRAPH FRON SUB38
847          HC       3
             *

848          KK  D39CCW
849          KM        DIVERT FOR 44TH ST SYSTEM
850          DT  DSUB39
851          DI       0      20      40      85     100     150
852          DQ       0      20      40      85      85      85
             *

853          KK  C41-39
854          KM        COMBINE SUB41 WITH SUB39
855          HC       2
             *

856          KK  R39-36
857          KM        ROUTE FLOW FROM SUB39 TO   SUB36
858          RK    1250    .006    .016            TRAP      26       1     YES
             *

859          KK   SUB36
```

```
860          KM   SUB-BASIN SUB36
861          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
862          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
863          KM     L =  .28  Kb = .052  Adj. Slope =   14.0
864          BA    .089
865          LG    .232    .250   3.950    .590  41.000
866          UC    .642    .324
867          UA       0       5      16      30      65      77      84      90      94      97
868          UA     100
             *

869          KK   DIV36
870          KM        DIVERT FOR IRRIGATED LAWNS SUB36
871          DT     D36     .61
872          DI     0.0     1.0
873          DQ     0.0    .150
             *
             *
```



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

874          KK  C39-36
875          KM        COMBINE SUB39 WITH SUB36
876          HC       2
             *

877          KK  C36-35
878          KM        COMBINE SUB36 WITH SUB35
879          HC       2
             *

880          KK   SUB42
881          KM   SUB-BASIN SUB42
882          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
883          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
884          KM     L =  .51  Kb = .044  Adj. Slope =   29.0
885          BA    .251
886          LG    .256    .250   5.600    .250  23.000
887          UC    .596    .267
888          UA       0       5      16      30      65      77      84      90      94      97
889          UA     100
             *

890          KK   DIV42
891          KM        DIVERT FOR IRRIGATED LAWNS SUB42
892          DT     D42     .75
893          DI       0       1
894          DQ       0    .072
             *

895          KK  D42CCW
896          KM        DIVERT FOR CASTILLE CONDOS
897          DT  DSUB42
898          DI       0      20      50     115     150
899          DQ       0      20      50     115     115
             *
             *
```

```
900          KK  C42-36
901          KM        COMBINE HYDROGRAPH SUB42 WITH SUB36
902          HC        2
             *
             *
             *
             *
             * CASTILLE CONDOS 10YR FLOWS TO CCW
             *

903          KK  RSUB41
904          KM        RECALL DIVERSION
905          DR  DSUB41
             *
```



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

906          KK  R44TH1
907          KM        ROUTE FLOW
908          RK     900    .005    .018           CIRC       4            YES
             *

909          KK  RSUB39
910          KM        RECALL DIVERSION
911          DR  DSUB39
             *

912          KK  COMB13
913          KM        COMBINE  FLOW
914          HC        2
             *

915          KK  R44TH2
916          KM        ROUTE FLOW
917          RK    1200    .005    .018           CIRC       6            YES
             *

918          KK  RSUB42
919          KM        RECALL DIVERSION
920          DR  DSUB42
             *

921          KK  COMB13
922          KM        COMBINE  FLOW
923          HC        2
             *
             *
924          ZZ
```

RUNOFF SUMMARY

FLOW IN CUBIC FEET PER SECOND

TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT									
	SUB1	31.	4.08	5.	1.	1.	0.04		

ROUTED TO							
	R1-2	31.	4.25	5.	1.	1.	0.04
HYDROGRAPH AT							
	SUB2	22.	4.33	4.	1.	1.	0.12
DIVERSION TO							
	D2	8.	4.33	2.	0.	0.	0.12
HYDROGRAPH AT							
	DIV2	14.	4.33	3.	1.	1.	0.12
2 COMBINED AT							
	C1-2	44.	4.25	7.	2.	2.	0.15
DIVERSION TO							
	DSUB2	15.	4.25	5.	1.	1.	0.15
HYDROGRAPH AT							
	D2-64	29.	4.25	3.	1.	1.	0.15
ROUTED TO							
	R2-3	28.	4.33	3.	1.	1.	0.15
HYDROGRAPH AT							
	SUB3	18.	4.25	3.	1.	1.	0.07
DIVERSION TO							
	D3	10.	4.25	2.	0.	0.	0.07
HYDROGRAPH AT							
	DIV3	8.	4.25	1.	0.	0.	0.07
2 COMBINED AT							
	C2-3	36.	4.25	4.	1.	1.	0.22
ROUTED TO							
	R3-4	35.	4.33	4.	1.	1.	0.22
HYDROGRAPH AT							
	SUB4	25.	4.17	4.	1.	1.	0.06
DIVERSION TO							
	D4	14.	4.17	2.	1.	0.	0.06
HYDROGRAPH AT							
	DIV4	11.	4.17	2.	0.	0.	0.06
2 COMBINED AT							
	C3-4	46.	4.33	6.	1.	1.	0.29
DIVERSION TO							
	DSUB4	3.	4.33	1.	0.	0.	0.29
HYDROGRAPH AT							
	D4-64	43.	4.33	4.	1.	1.	0.29
ROUTED TO							
	R4-5	42.	4.42	4.	1.	1.	0.29

	HYDROGRAPH AT						
+	SUB5	15.	4.50	4.	1.	1.	0.07
	DIVERSION TO						
+	D5	7.	4.50	2.	0.	0.	0.07
	HYDROGRAPH AT						
+	DIV5	7.	4.50	2.	0.	0.	0.07
	2 COMBINED AT						
+	C4-5	49.	4.42	6.	2.	1.	0.35
	HYDROGRAPH AT						
+	SUB6	81.	4.00	12.	3.	3.	0.09
	ROUTED TO						
+	R6-7	78.	4.17	12.	3.	3.	0.09
	HYDROGRAPH AT						
+	SUB7	61.	4.25	11.	3.	3.	0.15
	DIVERSION TO						
+	D7	26.	4.25	5.	1.	1.	0.15
	HYDROGRAPH AT						
+	DIV7	35.	4.25	6.	2.	2.	0.15
	2 COMBINED AT						
+	C6-7	111.	4.17	18.	4.	4.	0.24
	DIVERSION TO						
+	DSUB7	27.	4.17	10.	2.	2.	0.24
	HYDROGRAPH AT						
+	D7-64	84.	4.17	8.	2.	2.	0.24
	ROUTED TO						
+	R7-8	81.	4.25	8.	2.	2.	0.24
	HYDROGRAPH AT						
+	SUB8	14.	4.42	3.	1.	1.	0.07
	DIVERSION TO						
+	D8	9.	4.42	2.	0.	0.	0.07
	HYDROGRAPH AT						
+	DIV8	6.	4.42	1.	0.	0.	0.07
	2 COMBINED AT						
+	C7-8	87.	4.25	9.	2.	2.	0.31
	ROUTED TO						
+	R8-9	86.	4.33	9.	2.	2.	0.31
	HYDROGRAPH AT						
+	SUB9	21.	4.17	3.	1.	1.	0.06
	DIVERSION TO						
+	D9	13.	4.17	2.	0.	0.	0.06

HYDROGRAPH AT	DIV9	8.	4.17	1.	0.	0.	0.06
2 COMBINED AT	C8-9	93.	4.33	11.	3.	3.	0.38
ROUTED TO	R9-5	92.	4.33	11.	3.	3.	0.38
2 COMBINED AT	C9-5	138.	4.42	17.	4.	4.	0.73
HYDROGRAPH AT	SUB10	31.	4.25	5.	1.	1.	0.09
DIVERSION TO	D10	14.	4.25	2.	1.	1.	0.09
HYDROGRAPH AT	DIV10	17.	4.25	3.	1.	1.	0.09
2 COMBINED AT	C5-10	155.	4.33	20.	5.	5.	0.82
HYDROGRAPH AT	SUB11	64.	4.08	10.	3.	2.	0.09
ROUTED TO	R11-12	64.	4.17	10.	3.	2.	0.09
HYDROGRAPH AT	SUB12	77.	4.08	8.	2.	2.	0.12
DIVERSION TO	D12	6.	4.08	1.	0.	0.	0.12
HYDROGRAPH AT	DIV12	70.	4.08	7.	2.	2.	0.12
2 COMBINED AT	C11-12	131.	4.08	17.	4.	4.	0.21
DIVERSION TO	DSUB12	56.	4.08	12.	3.	3.	0.21
HYDROGRAPH AT	D12-56	75.	4.08	5.	1.	1.	0.21
ROUTED TO	R12-13	71.	4.17	5.	1.	1.	0.21
HYDROGRAPH AT	SUB13	89.	4.08	10.	2.	2.	0.13
DIVERSION TO	D13	18.	4.08	2.	0.	0.	0.13
HYDROGRAPH AT	DIV13	72.	4.08	8.	2.	2.	0.13

	DIVERSION TO						
+		DSUB13	6.	4.08	2.	1.	1.	0.13
	HYDROGRAPH AT						
+		D13-56	66.	4.08	6.	1.	1.	0.13
	2 COMBINED AT						
+		C12-13	134.	4.08	11.	3.	3.	0.34
	ROUTED TO						
+		R13-14	130.	4.17	11.	3.	3.	0.34
	HYDROGRAPH AT						
+		SUB14	39.	4.17	5.	1.	1.	0.13
	DIVERSION TO						
+		D14	24.	4.17	3.	1.	1.	0.13
	HYDROGRAPH AT						
+		DIV14	16.	4.17	2.	1.	1.	0.13
	DIVERSION TO						
+		DSUB14	3.	4.17	1.	0.	0.	0.13
	HYDROGRAPH AT						
+		D14-56	13.	4.17	1.	0.	0.	0.13
	2 COMBINED AT						
+		C13-14	143.	4.17	12.	3.	3.	0.47
	ROUTED TO						
+		R14-15	142.	4.17	12.	3.	3.	0.47
	HYDROGRAPH AT						
+		SUB15	45.	4.25	7.	2.	2.	0.13
	DIVERSION TO						
+		D15	26.	4.25	4.	1.	1.	0.13
	HYDROGRAPH AT						
+		DIV15	19.	4.25	3.	1.	1.	0.13
	DIVERSION TO						
+		DSUB15	2.	4.25	1.	0.	0.	0.13
	HYDROGRAPH AT						
+		D15-56	17.	4.25	2.	0.	0.	0.13
	2 COMBINED AT						
+		C15-14	158.	4.17	14.	4.	3.	0.60
	2 COMBINED AT						
+		C15-10	283.	4.33	34.	8.	8.	1.42
	DIVERSION TO						
+		D56ST	0.	4.33	0.	0.	0.	1.42
	HYDROGRAPH AT						
+		D56ST	283.	4.33	34.	8.	8.	1.42

HYDROGRAPH AT	SUB16	100.	4.08	16.	4.	4.	0.13
ROUTED TO	R16-17	99.	4.17	16.	4.	4.	0.13
HYDROGRAPH AT	SUB17	25.	4.17	3.	1.	1.	0.07
DIVERSION TO	D17	2.	4.17	0.	0.	0.	0.07
HYDROGRAPH AT	DIV17	23.	4.17	3.	1.	1.	0.07
2 COMBINED AT	C16-17	122.	4.17	19.	5.	5.	0.20
DIVERSION TO	DSUB17	24.	4.17	9.	2.	2.	0.20
HYDROGRAPH AT	D17-56	98.	4.17	10.	2.	2.	0.20
ROUTED TO	R17-18	97.	4.17	10.	2.	2.	0.20
HYDROGRAPH AT	SUB18	18.	4.17	3.	1.	1.	0.07
DIVERSION TO	D18	11.	4.17	2.	0.	0.	0.07
HYDROGRAPH AT	DIV18	7.	4.17	1.	0.	0.	0.07
2 COMBINED AT	C17-18	104.	4.17	11.	3.	3.	0.27
ROUTED TO	R18-19	101.	4.17	11.	3.	3.	0.27
HYDROGRAPH AT	SUB19	21.	4.17	3.	1.	1.	0.08
DIVERSION TO	D19	12.	4.17	2.	0.	0.	0.08
HYDROGRAPH AT	DIV19	8.	4.17	1.	0.	0.	0.08
2 COMBINED AT	C18-19	110.	4.17	12.	3.	3.	0.34
ROUTED TO	R19-20	108.	4.25	12.	3.	3.	0.34
HYDROGRAPH AT	SUB20	45.	4.17	6.	2.	2.	0.13

	DIVERSION TO						
+	D20	27.	4.17	4.	1.	1.	0.13
	HYDROGRAPH AT						
+	DIV20	18.	4.17	3.	1.	1.	0.13
	2 COMBINED AT						
+	C20-19	125.	4.25	15.	4.	4.	0.47
	2 COMBINED AT						
+	C20-15	401.	4.25	48.	12.	12.	1.89
	HYDROGRAPH AT						
+	SUB21	101.	4.08	15.	4.	4.	0.12
	ROUTED TO						
+	R21-22	99.	4.17	15.	4.	4.	0.12
	HYDROGRAPH AT						
+	SUB22	23.	4.25	4.	1.	1.	0.11
	DIVERSION TO						
+	D22	1.	4.25	0.	0.	0.	0.11
	HYDROGRAPH AT						
+	DIV22	21.	4.25	4.	1.	1.	0.11
	2 COMBINED AT						
+	C21-22	118.	4.17	19.	5.	5.	0.24
	DIVERSION TO						
+	DSUB22	44.	4.17	13.	3.	3.	0.24
	HYDROGRAPH AT						
+	D22-48	74.	4.17	6.	2.	1.	0.24
	ROUTED TO						
+	R22-23	72.	4.17	6.	2.	1.	0.24
	HYDROGRAPH AT						
+	SUB23	18.	4.08	2.	1.	1.	0.06
	DIVERSION TO						
+	D23	11.	4.08	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV23	7.	4.08	1.	0.	0.	0.06
	2 COMBINED AT						
+	C22-23	79.	4.17	7.	2.	2.	0.30
	ROUTED TO						
+	R23-24	78.	4.25	7.	2.	2.	0.30
	HYDROGRAPH AT						
+	SUB24	20.	4.17	3.	1.	1.	0.08
	DIVERSION TO						
+	D24	12.	4.17	2.	0.	0.	0.08

HYDROGRAPH AT	DIV24	8.	4.17	1.	0.	0.	0.08
2 COMBINED AT	C23-24	85.	4.25	8.	2.	2.	0.37
ROUTED TO	R24-25	85.	4.25	8.	2.	2.	0.37
HYDROGRAPH AT	SUB25	19.	4.25	3.	1.	1.	0.08
DIVERSION TO	D25	11.	4.25	2.	0.	0.	0.08
HYDROGRAPH AT	DIV25	7.	4.25	1.	0.	0.	0.08
2 COMBINED AT	C25-24	92.	4.25	10.	2.	2.	0.45
2 COMBINED AT	C25-20	493.	4.25	58.	15.	14.	2.34
HYDROGRAPH AT	SUB26	12.	4.25	2.	1.	0.	0.05
DIVERSION TO	D26	4.	4.25	1.	0.	0.	0.05
HYDROGRAPH AT	DIV26	8.	4.25	1.	0.	0.	0.05
DIVERSION TO	DSUB26	4.	4.25	1.	0.	0.	0.05
HYDROGRAPH AT	D26-48	4.	4.25	0.	0.	0.	0.05
ROUTED TO	R26-27	4.	4.25	0.	0.	0.	0.05
HYDROGRAPH AT	SUB27	17.	4.17	3.	1.	1.	0.06
DIVERSION TO	D27	10.	4.17	1.	0.	0.	0.06
HYDROGRAPH AT	DIV27	7.	4.17	1.	0.	0.	0.06
DIVERSION TO	DSUB27	1.	4.17	0.	0.	0.	0.06
HYDROGRAPH AT	D27-48	6.	4.17	1.	0.	0.	0.06
2 COMBINED AT	C26-27	9.	4.25	1.	0.	0.	0.12

	ROUTED TO						
+	R27-28	9.	4.33	1.	0.	0.	0.12
	HYDROGRAPH AT						
+	SUB28	21.	4.17	3.	1.	1.	0.08
	DIVERSION TO						
+	D28	13.	4.17	2.	0.	0.	0.08
	HYDROGRAPH AT						
+	DIV28	8.	4.17	1.	0.	0.	0.08
	DIVERSION TO						
+	DSUB28	1.	4.17	1.	0.	0.	0.08
	HYDROGRAPH AT						
+	D28-48	7.	4.17	1.	0.	0.	0.08
	2 COMBINED AT						
+	C27-28	16.	4.25	2.	0.	0.	0.19
	ROUTED TO						
+	R28-29	15.	4.33	2.	0.	0.	0.19
	HYDROGRAPH AT						
+	SUB29	14.	4.17	2.	1.	1.	0.06
	DIVERSION TO						
+	D29	9.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV29	6.	4.17	1.	0.	0.	0.06
	DIVERSION TO						
+	DSUB29	1.	4.17	0.	0.	0.	0.06
	HYDROGRAPH AT						
+	D29-48	5.	4.17	1.	0.	0.	0.06
	2 COMBINED AT						
+	C29-28	20.	4.33	2.	1.	1.	0.25
	2 COMBINED AT						
+	C29-25	512.	4.25	60.	15.	15.	2.59
	HYDROGRAPH AT						
+	SUB38	127.	4.17	26.	6.	6.	0.25
	DIVERSION TO						
+	D38-39	16.	4.17	9.	2.	2.	0.25
	HYDROGRAPH AT						
+	D38-39	111.	4.17	16.	4.	4.	0.25
	ROUTED TO						
+	R38-30	111.	4.25	16.	4.	4.	0.25
	HYDROGRAPH AT						
+	SUB30	18.	4.17	2.	1.	1.	0.06

2 COMBINED AT	C30-38	127.	4.17	19.	5.	4.	0.32
DIVERSION TO	DSUB30	32.	4.17	8.	2.	2.	0.32
HYDROGRAPH AT	D30-48	95.	4.17	10.	3.	2.	0.32
ROUTED TO	R30-31	95.	4.25	10.	3.	2.	0.32
HYDROGRAPH AT	SUB31	13.	4.25	2.	1.	1.	0.06
DIVERSION TO	D31	5.	4.25	1.	0.	0.	0.06
HYDROGRAPH AT	DIV31	8.	4.25	1.	0.	0.	0.06
2 COMBINED AT	C30-31	103.	4.25	12.	3.	3.	0.38
ROUTED TO	R31-32	102.	4.25	12.	3.	3.	0.38
HYDROGRAPH AT	SUB32	16.	4.17	3.	1.	1.	0.06
DIVERSION TO	D32	10.	4.17	2.	0.	0.	0.06
HYDROGRAPH AT	DIV32	6.	4.17	1.	0.	0.	0.06
2 COMBINED AT	C31-32	108.	4.25	13.	3.	3.	0.44
ROUTED TO	R32-33	107.	4.33	13.	3.	3.	0.44
HYDROGRAPH AT	SUB33	22.	4.17	3.	1.	1.	0.06
DIVERSION TO	D33	8.	4.17	1.	0.	0.	0.06
HYDROGRAPH AT	DIV33	14.	4.17	2.	1.	1.	0.06
2 COMBINED AT	C33-32	118.	4.33	15.	4.	4.	0.50
2 COMBINED AT	C33-29	628.	4.25	75.	19.	18.	3.09
HYDROGRAPH AT	SUB34	41.	4.25	8.	2.	2.	0.17

	DIVERSION TO						
+	D34	15.	4.25	3.	1.	1.	0.17
	HYDROGRAPH AT						
+	DIV34	26.	4.25	5.	1.	1.	0.17
	ROUTED TO						
+	R34-35	26.	4.33	5.	1.	1.	0.17
	HYDROGRAPH AT						
+	SUB35	67.	4.25	11.	3.	3.	0.13
	DIVERSION TO						
+	D35	6.	4.25	1.	0.	0.	0.13
	HYDROGRAPH AT						
+	DIV35	60.	4.25	10.	3.	2.	0.13
	2 COMBINED AT						
+	C35-34	85.	4.25	16.	4.	4.	0.30
	2 COMBINED AT						
+	C35-33	713.	4.25	91.	23.	22.	3.39
	HYDROGRAPH AT						
+	SUB40	46.	4.00	5.	1.	1.	0.07
	ROUTED TO						
+	R40-41	44.	4.08	5.	1.	1.	0.07
	HYDROGRAPH AT						
+	SUB41	55.	4.25	9.	2.	2.	0.14
	2 COMBINED AT						
+	C40-41	92.	4.17	14.	4.	3.	0.22
	DIVERSION TO						
+	DSUB41	91.	4.17	14.	4.	3.	0.22
	HYDROGRAPH AT						
+	D41CCW	1.	4.17	0.	0.	0.	0.22
	ROUTED TO						
+	R41-39	1.	4.50	0.	0.	0.	0.22
	HYDROGRAPH AT						
+	SUB37	13.	4.17	1.	0.	0.	0.05
	ROUTED TO						
+	R37-39	13.	4.33	1.	0.	0.	0.05
	HYDROGRAPH AT						
+	SUB39	61.	4.50	15.	4.	4.	0.19
	HYDROGRAPH AT						
+	RD3839	16.	3.50	9.	2.	2.	0.00
	3 COMBINED AT						
+	C37-39	87.	4.50	26.	7.	6.	0.24

DIVERSION TO	DSUB39	85.	4.50	26.	7.	6.	0.24
HYDROGRAPH AT	D39CCW	2.	4.50	0.	0.	0.	0.24
2 COMBINED AT	C41-39	3.	4.50	0.	0.	0.	0.45
ROUTED TO	R39-36	2.	4.67	0.	0.	0.	0.45
HYDROGRAPH AT	SUB36	37.	4.25	8.	2.	2.	0.09
DIVERSION TO	D36	6.	4.25	1.	0.	0.	0.09
HYDROGRAPH AT	DIV36	32.	4.25	7.	2.	2.	0.09
2 COMBINED AT	C39-36	32.	4.25	7.	2.	2.	0.54
2 COMBINED AT	C36-35	745.	4.25	98.	25.	24.	3.93
HYDROGRAPH AT	SUB42	125.	4.25	21.	5.	5.	0.25
DIVERSION TO	D42	9.	4.25	2.	0.	0.	0.25
HYDROGRAPH AT	DIV42	116.	4.25	19.	5.	5.	0.25
DIVERSION TO	DSUB42	115.	4.25	19.	5.	5.	0.25
HYDROGRAPH AT	D42CCW	1.	4.25	0.	0.	0.	0.25
2 COMBINED AT	C42-36	746.	4.25	98.	25.	24.	4.18
HYDROGRAPH AT	RSUB41	91.	4.08	14.	4.	3.	0.00
ROUTED TO	R44TH1	91.	4.17	14.	4.	3.	0.00
HYDROGRAPH AT	RSUB39	85.	4.42	26.	7.	6.	0.00
2 COMBINED AT	COMB13	160.	4.33	40.	10.	10.	0.00
ROUTED TO	R44TH2	160.	4.33	40.	10.	10.	0.00

	HYDROGRAPH AT							
+		RSUB42	115.	4.25	19.	5.	5.	0.00
	2 COMBINED AT							
+		COMB13	272.	4.33	59.	15.	14.	0.00

Alternate 2

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*****************************************
*                                       *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *
*            MAY   1991                 *
*          VERSION 4.0.1E               *
*                                       *
*  RUN DATE  01/31/96  TIME  13:40:35   *
*                                       *
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*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 551-1748              *
*                                       *
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX  XXXXX          XXX
```

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

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


```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
                *       ARCADIA AREA
   1            ID        ALT2.DAT
                *       CAMELBACK ROAD ALTERNATE
                *
                *
                *
   2            IT       5                    300
   3            IO       5
                *DIAGRAM
                *

   4            KK    SUB1
   5            KM   SUB-BASIN SUB1
   6            KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
   7            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
   8            KM     L =  .28  Kb = .108  Adj. Slope = 2120.0
   9            BA    .037
  10            IN      15
  11            KM   RAINFALL DEPTH OF 2.00 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
```

```
12          PB   1.933
13          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 2.20
14          PC    .000    .010    .017    .026    .037    .046    .056    .065    .075    .085
15          PC    .097    .111    .131    .175    .263    .455    .689    .829    .893    .933
16          PC    .949    .962    .975    .988   1.000
17          LG    .119    .337   4.650    .260  51.000
18          UC    .154    .110
19          UA       0       3       5       8      12      20      43      75      90      96
20          UA     100
            *

21          KK    R1-2
22          KM         ROUTE FLOW FROM SUB1 TO SUB2
23          RK  3183.8   .0166     .07       0    TRAP       0       3     YES
            *

24          KK    SUB2
25          KM   SUB-BASIN SUB2
26          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
27          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
28          KM     L =  .60  Kb = .041  Adj. Slope =   88.0
29          BA    .117
30          LG    .343    .250   4.650    .440   9.000
31          UC    .587    .463
32          UA       0       5      16      30      65      77      84      90      94      97
33          UA     100
            *

34          KK    DIV2
35          KM        DIVERT FOR IRRIGATED LAWNS SUB2
36          DT      D2     .80
37          DI       0       1
38          DQ       0    .382
            *
```



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

39          KK    C1-2
40          KM         COMBINE HYDROGRAPHS SUB1 AND SUB2 AT CP2
41          HC       2
            *

42          KK   D2-64
43          KM        DIVERT FLOW
44          DT   DSUB2
45          DI       0      15      43      93     100     150
46          DQ       0      15      43      43      43      43
            *

47          KK    R2-3
48          KM         ROUTE FLOW FROM SUB2 TO SUB3
49          RK  1367.5    .009    .016            TRAP      60       1     YES
            *

50          KK    SUB3
51          KM   SUB-BASIN SUB3
52          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
53          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
```

```
54          KM     L =  .26  Kb = .058  Adj. Slope =   47.0
55          BA    .067
56          LG    .298    .250   4.200    .520  16.000
57          UC    .533    .293
58          UA       0       5      16      30      65      77      84      90      94      97
59          UA     100
            *

60          KK    DIV3
61          KM        DIVERT FOR IRRIGATED LAWNS SUB3
62          DT      D3     .88
63          DI       0       1
64          DQ       0    .573
            *

65          KK    C2-3
66          KM        COMBINE HYDROGRAPHS SUB2 & SUB3 AT CP3
67          HC       2
            *

68          KK    R3-4
69          KM        ROUTE FLOW FROM CP3 TO CP4
70          RK    1320    .008    .016            TRAP      44       1     YES
            *

71          KK    SUB4
72          KM   SUB-BASIN SUB4
73          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
74          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
75          KM     L =  .25  Kb = .058  Adj. Slope =   42.0
76          BA    .065
77          LG    .300    .250   4.800    .360  15.000
78          UC    .463    .246
```



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

79          UA       0       5      16      30      65      77      84      90      94      97
80          UA     100
            *

81          KK    DIV4
82          KM        DIVERT FOR IRRIGATED LAWNS SUB4
83          DT      D4     1.0
84          DI       0       1
85          DQ       0     .55
            *

86          KK    C3-4
87          KM        COMBINE HYDROGRAPHS SUB3 & SUB4 AT CP4
88          HC       2
            *

89          KK   D4-64
90          KM        DIVERT FLOW TO LAFAYETTE S.D.
91          DT   DSUB4
92          DI       0       3      10      50     100
93          DQ       0       3       3       3       3
            *
```

```
 94          KK    R4-5
 95          KM        ROUTE FLOW FROM CP4 TO CP5
 96          RK  2307.4    .005    .016            TRAP      44       1     YES
             *

 97          KK    SUB5
 98          KM   SUB-BASIN SUB5
 99          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
100          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
101          KM     L =  .44  Kb = .058  Adj. Slope =   24.0
102          BA    .067
103          LG    .300    .250   4.800    .360  15.000
104          UC    .837    .736
105          UA       0       5      16      30      65      77      84      90      94      97
106          UA     100
             *

107          KK    DIV5
108          KM        DIVERT FOR IRRIGATED LAWNS SUB5
109          DT      D5     .94
110          DI       0       1
111          DQ       0     .50
             *

112          KK    C4-5
113          KM        COMBINE HYDROGRAPHS SUB4 & SUB5 AT CP5
114          HC       2
             *
```



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


115          KK    SUB6
116          KM   SUB-BASIN SUB6
117          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
118          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
119          KM     L =  .26  Kb = .104  Adj. Slope = 2367.0
120          BA    .090
121          LG    .106    .346   4.700    .240  49.000
122          UC    .142    .057
123          UA       0       3       5       8      12      20      43      75      90      96
124          UA     100
             *

125          KK    R6-7
126          KM        ROUTE FLOW FROM SUB6 TO SUB7
127          RK  2972.0    .013     .07            TRAP       0       3     YES
             *

128          KK    SUB7
129          KM   SUB-BASIN SUB7
130          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
131          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
132          KM     L =  .56  Kb = .053  Adj. Slope =   71.0
133          BA    .153
134          LG    .290    .271   5.400    .280  20.000
135          UC    .546    .346
136          UA       0       5      16      30      65      77      84      90      94      97
137          UA     100
```

```
*

KK    DIV7
KM        DIVERT FOR IRRIGATED LAWNS SUB7
DT      D7    2.30
DI       0       1
DQ       0    .427
*

KK    C6-7
KM        COMBINE HYDROGRAPHS SUB6 & SUB7 AT CP7
HC       2
*

KK   D7-64
KM        DIVERT FLOW
DT   DSUB7
DI       0      27     110     120     150     200
DQ       0      27     110     110     110     110
*

KK    R7-8
KM        ROUTE FLOW FROM SUB7 TO SUB8
RK  2302.1    .001    .016            TRAP      40       1     YES
*
```



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

KK    SUB8
KM   SUB-BASIN SUB8
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .44  Kb = .057  Adj. Slope =   52.0
BA    .068
LG    .300    .250   4.450    .450  15.000
UC    .667    .566
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK    DIV8
KM        DIVERT FOR IRRIGATED LAWNS SUB8
DT      D8     .99
DI       0       1
DQ       0      .6
*

KK    C7-8
KM        COMBINE HYDROGRAPHS SUB7 & SUB8 AT CP8
HC       2
*

KK    R8-9
KM        ROUTE FLOW FROM SUB8 TO SUB9
RK  1314.7    .010    .016            TRAP      20       1     YES
*

KK    SUB9
```

```
176          KM   SUB-BASIN SUB9
177          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
178          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
179          KM     L =  .25  Kb = .058  Adj. Slope =   55.0
180          BA    .065
181          LG    .300    .250   4.450    .450  15.000
182          UC    .463    .246
183          UA       0       5      16      30      65      77      84      90      94      97
184          UA     100
             *

185          KK    DIV9
186          KM        DIVERT FOR IRRIGATED LAWNS SUB9
187          DT      D9     .94
188          DI       0       1
189          DQ       0      .6
             *

190          KK    C8-9
191          KM        COMBINE HYDROGRAPHS SUB8 & SUB9   AT CP9
192          HC       2
             *
```



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

193          KK    R9-5
194          KM        ROUTE FLOW FROM SUB9 TO  SUB5
195          RK  1784.7    .007    .016            TRAP      40       1     YES
             *

196          KK    C9-5
197          KM        COMBINE HYDROGRAPH SUB9  & SUB5  AT CP5
198          HC       2
             *

199          KK   SUB10
200          KM   SUB-BASIN SUB10
201          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
202          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
203          KM     L =  .34  Kb = .056  Adj. Slope =   37.0
204          BA    .093
205          LG    .299    .250   4.800    .360  15.000
206          UC    .575    .327
207          UA       0       5      16      30      65      77      84      90      94      97
208          UA     100
             *

209          KK   DIV10
210          KM        DIVERT FOR IRRIGATED LAWNS SUB10
211          DT     D10    1.17
212          DI       0       1
213          DQ       0    .445
             *

214          KK   C5-10
215          KM        COMBINE HYDROGRAPH SUB5  & SUB10 AT CP10
216          HC       2
             *
```

```
217          KK   SUB11
218          KM   SUB-BASIN SUB11
219          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
220          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
221          KM     L =  .56  Kb = .106  Adj. Slope = 1740.0
222          BA    .093
223          LG    .115    .350   4.550    .270  39.000
224          UC    .237    .183
225          UA       0       3       5       8      12      20      43      75      90      96
226          UA     100
             *

227          KK  R11-12
228          KM        ROUTE FLOW FROM SUB11 TO   SUB12
229          RK    1632    .058     .07            TRAP       0       3     YES
             *
```



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

230          KK   SUB12
231          KM   SUB-BASIN SUB12
232          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
233          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
234          KM     L =  .31  Kb = .064  Adj. Slope =  304.0
235          BA    .120
236          LG    .269    .277   5.600    .210   9.000
237          UC    .246    .102
238          UA       0       5      16      30      65      77      84      90      94      97
239          UA     100
             *

240          KK   DIV12
241          KM        DIVERT FOR IRRIGATED LAWNS SUB12
242          DT     D12     .31
243          DI       0       1
244          DQ       0    .079
             *

245          KK  C11-12
246          KM        COMBINE HYDROGRAPH SUB11 & SUB12 AT CP12
247          HC       2
             *

248          KK  D12-48
249          KM        DIVERT FLOW
250          DT  DSUB12
251          DI       0      50     100     130     150
252          DQ       0      50     100     130     130
             *
             *

253          KK  R12-13
254          KM        ROUTE FLOW FROM SUB12 TO SUB13
255          RK  1362.2    .020    .016            TRAP      60       1     YES      50
             *

256          KK   SUB13
```

```
257          KM   SUB-BASIN SUB13
258          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
259          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
260          KM     L =  .26  Kb = .054  Adj. Slope =  107.0
261          BA    .129
262          LG    .300    .230   6.200    .200  15.000
263          UC    .283    .100
264          UA       0       5      16      30      65      77      84      90      94      97
265          UA     100
             *
1                                        HEC-1 INPUT                                        PAGE  8

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


266          KK   DIV13
267          KM        DIVERT FOR IRRIGATED LAWNS SUB13
268          DT     D13     .98
269          DI       0       1
270          DQ       0      .2
             *

271          KK  C12-13
272          KM        COMBINE HYDROGRAPHS SUB12 & SUB13 AT CP13
273          HC       2
             *

274          KK  R13-14
275          KM        ROUTE FL OW FROM SUB13 TO SUB14
276          RK  1314.7    .014    .016            TRAP      60       1     YES
             *

277          KK   SUB14
278          KM   SUB-BASIN SUB14
279          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
280          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
281          KM     L =  .25  Kb = .054  Adj. Slope =   74.0
282          BA    .126
283          LG    .300    .250   4.100    .550  15.000
284          UC    .429    .155
285          UA       0       5      16      30      65      77      84      90      94      97
286          UA     100
             *

287          KK   DIV14
288          KM        DIVERT FOR IRRIGATED LAWNS SUB14
289          DT     D14    1.57
290          DI       0       1
291          DQ       0      .6
             *

292          KK  C13-14
293          KM        COMBINE HYDROGRAPHS SUB13 & SUB14 AT CP14
294          HC       2
             *

295          KK  R14-15
296          KM        ROUTE FLOW FROM SUB 14 TO SUB15
297          RK  1985.3    .011    .016            TRAP      60       1     YES
             *
```

```
298          KK   SUB15
299          KM   SUB-BASIN SUB15
300          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
301          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
302          KM     L =  .38  Kb = .054  Adj. Slope =   56.0
303          BA    .127
304          LG    .296    .250   4.650    .390  16.000
305          UC    .525    .271
```



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

306          UA       0       5      16      30      65      77      84      90      94      97
307          UA     100
             *

308          KK   DIV15
309          KM        DIVERT FOR IRRIGATED LAWNS SUB15
310          DT     D15    2.05
311          DI       0       1
312          DQ       0    .585
             *

313          KK  C15-14
314          KM        COMBINE SUB14 WITH SUB15
315          HC       2
             *

316          KK  C15-10
317          KM        COMBINE SUB10 WITH SUB15
318          HC       2
             *

319          KK   D56ST
320          KM        DIVERT FLOW THAT CROSSES 56TH ST. BRIDGE
321          DT   D56ST
322          DI       0     400     650     790    1040    1139    1334    1484    1689    1900
323          DQ       0       0     240     318     400     489     584     684     789     900
             *

324          KK   SUB16
325          KM   SUB-BASIN SUB16
326          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
327          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
328          KM     L =  .65  Kb = .102  Adj. Slope = 2052.0
329          BA    .129
330          LG    .104    .350   4.700    .240  47.000
331          UC    .233    .167
332          UA       0       3       5       8      12      20      43      75      90      96
333          UA     100
             *

334          KK  R16-17
335          KM        ROUTE FLOW FROM SUB16 TO SUB17
336          RK    1668    .058     .07            TRAP       0       3     YES
             *

337          KK   SUB17
338          KM   SUB-BASIN SUB17
```

```
339          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
340          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
341          KM     L =  .32  Kb = .058  Adj. Slope =  183.0
342          BA    .073
343          LG    .298    .252   4.150    .450  10.000
344          UC    .342    .201
345          UA       0       5      16      30      65      77      84      90      94      97
346          UA     100
             *
```



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

347          KK   DIV17
348          KM        DIVERT FOR IRRIGATED LAWNS SUB17
349          DT     D17     .11
350          DI       0       1
351          DQ       0    .074
             *

352          KK  C16-17
353          KM        COMBINE HYDROGRAPH SUB16 & SUB17 AT CP17
354          HC       2
             *

355          KK  D17-48
356          KM        DIVERT FLOW
357          DT  DSUB17
358          DI       0      50     100     121     150     200
359          DQ       0      50     100     121     121     121
             *

360          KK  R17-18
361          KM        ROUTE FLOW FROM SUB17 TO SUB18
362          RK  1378.1    .019    .016            TRAP      40       1     YES
             *

363          KK   SUB18
364          KM   SUB-BASIN SUB18
365          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
366          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
367          KM     L =  .26  Kb = .058  Adj. Slope =  102.0
368          BA    .067
369          LG    .300    .250   3.950    .580  15.000
370          UC    .417    .222
371          UA       0       5      16      30      65      77      84      90      94      97
372          UA     100
             *

373          KK   DIV18
374          KM        DIVERT FOR IRRIGATED LAWNS SUB18
375          DT     D18     .81
376          DI       0       1
377          DQ       0      .6
             *

378          KK  C17-18
379          KM        COMBINE  HYDROGRAPH SUB17 & SUB18 AT CP18
380          HC       2
```

```
                *
381             KK  R18-19
382             KM        ROUTE FLOW SUB18 TO SUB19
383             RK  1335.8    .014    .016            TRAP      40       1     YES
                *
```



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


384             KK   SUB19
385             KM   SUB-BASIN SUB19
386             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
387             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
388             KM     L =  .25  Kb = .057  Adj. Slope =   77.0
389             BA    .075
390             LG    .300    .250   3.950    .580  15.000
391             UC    .446    .218
392             UA       0       5      16      30      65      77      84      90      94      97
393             UA     100
                *

394             KK   DIV19
395             KM        DIVERT FOR IRRIGATED LAWNS SUB19
396             DT     D19     .91
397             DI       0       1
398             DQ       0      .6
                *

399             KK  C18-19
400             KM        COMBINE HYDROGRAPH SUB18 & SUB19 AT CP19
401             HC       2
                *

402             KK  R19-20
403             KM        ROUTE FLOW FROM SUB19 TO SUB20
404             RK  1473.1    .010    .016            TRAP      30       1     YES
                *

405             KK   SUB20
406             KM   SUB-BASIN SUB20
407             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
408             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
409             KM     L =  .28  Kb = .054  Adj. Slope =   54.0
410             BA    .129
411             LG    .300    .250   4.450    .450  15.000
412             UC    .475    .188
413             UA       0       5      16      30      65      77      84      90      94      97
414             UA     100
                *

415             KK   DIV20
416             KM        DIVERT FOR IRRIGATED LAWNS SUB20
417             DT     D20    1.86
418             DI       0       1
419             DQ       0      .6
                *

420             KK  C20-19
```

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

  421     KM        COMBINE SUB19 WITH SUB20
  422     HC       2
          *

  423     KK  C20-15
  424     KM        COMBINE SUB15 WITH SUB20
  425     HC       2
          *

  426     KK   SUB21
  427     KM   SUB-BASIN SUB21
  428     KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
  429     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
  430     KM     L =  .56  Kb = .102  Adj. Slope = 2352.0
  431     BA    .124
  432     LG    .106    .350   4.700    .240  46.000
  433     UC    .208    .134
  434     UA       0       3       5       8      12      20      43      75      90      96
  435     UA     100
          *

  436     KK  R21-22
  437     KM        ROUTE FLOW FROM SUB21 TO SUB22
  438     RK    2735    .026     .07            TRAP       0       3     YES
          *

  439     KK   SUB22
  440     KM   SUB-BASIN SUB22
  441     KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
  442     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
  443     KM     L =  .52  Kb = .059  Adj. Slope =  134.0
  444     BA    .112
  445     LG    .286    .261   4.000    .490   9.000
  446     UC    .579    .417
  447     UA       0       5      16      30      65      77      84      90      94      97
  448     UA     100
          *

  449     KK   DIV22
  450     KM        DIVERT FOR IRRIGATED LAWNS SUB22
  451     DT    D22     .12
  452     DI       0       1
  453     DQ       0    .063
          *

  454     KK  C21-22
  455     KM        COMBINE HYDROGRAPH SUB21 & SUB22 AT CP22
  456     HC       2
          *

  457     KK  D22-48
  458     KM        DIVERT FLOW
  459     DT  DSUB22
  460     DI       0      50     100     117     150     200
  461     DQ       0      50     100     117     117     117
          *
```

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

462       KK  R22-23
463       KM        ROUTE FLOW FROM SUB22 TO SUB23
464       RK  1240.8    .025    .016            TRAP      20       1     YES
          *

465       KK   SUB23
466       KM   SUB-BASIN SUB23
467       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
468       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
469       KM     L =  .23  Kb = .058  Adj. Slope =  132.0
470       BA    .060
471       LG    .300    .250   3.950    .580  15.000
472       UC    .346    .175
473       UA       0       5      16      30      65      77      84      90      94      97
474       UA     100
          *

475       KK   DIV23
476       KM        DIVERT FOR IRRIGATED LAWNS SUB23
477       DT     D23     .72
478       DI       0       1
479       DQ       0    .593
          *

480       KK  C22-23
481       KM        COMBINE HYDROGRAPH SUB22 & SUB23 AT CP23
482       HC       2
          *

483       KK  R23-24
484       KM        ROUTE FLOW FROM SUB 23 TO SUB24
485       RK  1088.9    .015    .016            TRAP      32       1     YES
          *

486       KK   SUB24
487       KM   SUB-BASIN SUB24
488       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
489       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
490       KM     L =  .28  Kb = .057  Adj. Slope =   78.0
491       BA    .077
492       LG    .300    .250   3.950    .580  15.000
493       UC    .475    .252
494       UA       0       5      16      30      65      77      84      90      94      97
495       UA     100
          *

496       KK   DIV24
497       KM        DIVERT FOR IRRIGATED LAWNS SUB24
498       DT     D24     .93
499       DI       0       1
500       DQ       0      .6
          *
```



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

```
501          KK  C23-24
502          KM        COMBINE HYDROGRAPH SUB23 & SUB24 AT CP24
503          HC       2
             *

504          KK  R24-25
505          KM        ROUTE FLOW FROM SUB24 TO SUB25
506          RK  1346.4    .009    .016            TRAP      40       1     YES
             *

507          KK   SUB25
508          KM   SUB-BASIN SUB25
509          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
510          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
511          KM     L =  .25  Kb = .057  Adj. Slope =   46.0
512          BA    .076
513          LG    .300    .250   3.950    .580  15.000
514          UC    .546    .271
515          UA       0       5      16      30      65      77      84      90      94      97
516          UA     100
             *

517          KK   DIV25
518          KM        DIVERT FOR IRRIGATED LAWNS SUB25
519          DT     D25     .93
520          DI       0       1
521          DQ       0      .6
             *

522          KK  C25-24
523          KM        COMBINE SUB24 WITH SUB25
524          HC       2
             *

525          KK  C25-20
526          KM        COMBINE SUB20 WITH SUB25
527          HC       2
             *

528          KK   SUB26
529          KM   SUB-BASIN SUB26
530          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
531          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
532          KM     L =  .52  Kb = .063  Adj. Slope =  840.0
533          BA    .054
534          LG    .289    .289   4.200    .550  14.000
535          UC    .313    .318
536          UA       0       3       5       8      12      20      43      75      90      96
537          UA     100
             *
```



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

538          KK   DIV26
539          KM        DIVERT FOR GOLF   COURSE
540          DT     D26     .31
```

```
541          DI       0       1
542          DQ       0    .312
             *

543          KK  D26-48
544          KM        DIVERT FLOW
545          DT  DSUB26
546          DI       0       1       2       7      10      15
547          DQ       0       1       2       7       7       7
             *

548          KK  R26-27
549          KM        ROUTE FLOW FROM SUB26 TO SUB27
550          RK  1293.6    .024    .016            TRAP      35       1     YES
             *

551          KK   SUB27
552          KM   SUB-BASIN SUB27
553          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
554          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
555          KM     L =  .25  Kb = .058  Adj. Slope =  122.0
556          BA    .061
557          LG    .300    .250   3.950    .580  15.000
558          UC    .375    .202
559          UA       0       5      16      30      65      77      84      90      94      97
560          UA     100
             *

561          KK   DIV27
562          KM        DIVERT FOR IRRIGATED LAWNS SUB27
563          DT     D27     .74
564          DI       0     1.0
565          DQ       0     .60
             *

566          KK  D27-48
567          KM        DIVERT FLOW
568          DT  DSUB27
569          DI       0       4       6      10      15
570          DQ       0       4       6       6       6
             *

571          KK  C26-27
572          KM        COMBINE HYDROGRAPH SUB 26 & SUB27 AT CP27
573          HC       2
             *
```



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

574          KK  R27-28
575          KM        ROUTE FLOW FROM SUB 27 TO SUB28
576          RK  1436.2    .017    .016            TRAP      35       1     YES
             *

577          KK   SUB28
578          KM   SUB-BASIN SUB28
579          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
580          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
```

```
581          KM     L =  .27  Kb = .057  Adj. Slope =   89.0
582          BA    .078
583          LG    .300    .250   3.950    .580  15.000
584          UC    .442    .224
585          UA       0       5      16      30      65      77      84      90      94      97
586          UA     100
             *

587          KK   DIV28
588          KM        DIVERT FOR IRRIGATED LAWNS SUB28
589          DT     D28     .95
590          DI       0       1
591          DQ       0     .60
             *

592          KK  D28-48
593          KM        DIVERT FLOW
594          DT  DSUB28
595          DI       0       4       7      10      15
596          DQ       0       4       7       7       7
             *

597          KK  C27-28
598          KM        COMBINE HYDROGRAPH SUB27 & SUB28 AT CP28
599          HC       2
             *

600          KK  R28-29
601          KM        ROUTE FLOW FROM SUB 28 TO SUB29
602          RK  1161.6    .009    .016            TRAP      35       1     YES
             *

603          KK   SUB29
604          KM   SUB-BASIN SUB29
605          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
606          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
607          KM     L =  .22  Kb = .058  Adj. Slope =   47.0
608          BA    .058
609          LG    .299    .250   3.950    .580  15.000
610          UC    .504    .261
611          UA       0       5      16      30      65      77      84      90      94      97
612          UA     100
             *
```



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

613          KK   DIV29
614          KM        DIVERT FOR IRRIGATED LAWNS SUB29
615          DT     D29     .70
616          DI       0       1
617          DQ       0    .587
             *

618          KK  D29-48
619          KM        DIVERT FLOW
620          DT  DSUB29
621          DI       0       2       5      10      15
622          DQ       0       2       5       5       5
```

```
*

KK  C29-28
KM        COMBINE SUB29 WITH SUB28
HC       2
*

KK  C29-25
KM        COMBINE SUB25 WITH SUB29
HC       2
*

KK   SUB38
KM   SUB-BASIN SUB38
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L = 1.28  Kb = .090  Adj. Slope = 1079.0
BA    .252
LG    .133    .340   4.500    .290  36.000
UC    .412    .370
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK  D38-39
KM        DIVERT 16CFS FROM SUB38 TO SUB39
DT  D38-39
DI       0       5      10      16      50     100     200     400     600
DQ       0       5      10      16      16      16      16      16      16
*

KK  R38-30
KM        ROUTE FLOW FROM SUB38 TO   SUB30
RK    1200    .035    .016            TRAP      30       1     YES
*

KK   SUB30
KM   SUB-BASIN SUB30
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .48  Kb = .064  Adj. Slope =  571.0
BA    .064
```



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

LG    .279    .263   3.950    .480   8.000
UC    .313    .271
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK  C30-38
KM        COMBINE SUB38 & SUB30 AT CP30
HC       2
*

KK  D30-48
KM        DIVERT FLOW
DT  DSUB30
```

```
663          DI       0      50     100     126     150     200
664          DQ       0      50     100     126     126     126
             *

665          KK  R30-31
666          KM        ROUTE FLOW FROM SUB30 TO SUB31
667          RK    1304   .0225    .025            TRAP      20       1     YES
             *

668          KK   SUB31
669          KM   SUB-BASIN SUB31
670          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
671          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
672          KM     L =  .25  Kb = .058  Adj. Slope =  118.0
673          BA    .061
674          LG    .300    .260   3.670    .690  15.000
675          UC    .429    .235
676          UA       0       3       5       8      12      20      43      75      90      96
677          UA     100
             *

678          KK   DIV31
679          KM        DIVERT FOR IRRIGATED LAWNS SUB31
680          DT     D31     .45
681          DI       0       1
682          DQ       0    .400
             *

683          KK  C30-31
684          KM        COMBINE SUB30 & SUB31 AT CP31
685          HC       2
             *

686          KK  R31-32
687          KM        ROUTE FLOW FROM SUB31 TO SUB32
688          RK    1260    .019    .016       0    TRAP      30       1     YES
             *
```



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

689          KK   SUB32
690          KM   SUB-BASIN SUB32
691          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
692          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
693          KM     L =  .27  Kb = .058  Adj. Slope =   77.0
694          BA    .064
695          LG    .300    .250   3.950    .580  15.000
696          UC    .475    .272
697          UA       0       5      16      30      65      77      84      90      94      97
698          UA     100
             *

699          KK   DIV32
700          KM        DIVERT FOR IRRIGATED LAWNS SUB32
701          DT     D32     .79
702          DI     0.0     1.0
703          DQ       0     .60
             *
```

```
704          KK   DLAF2
705          KM        DIVERT FLOW TO LAFAYETTE S.D.
706          DT   DSUB32
707          DI        0        5       10       13       15       20
708          DQ        0        5       10       13       13       13
             *

709          KK   C31-32
710          KM        COMBINE HYDROGRAPH SUB31 & SUB32 AT CP32
711          HC        2
             *

712          KK   R32-33
713          KM        ROUTE FLOW FROM SUB32 TO SUB33
714          RK     1447    .0144      .07             TRAP        0        3      YES
             *

715          KK   SUB33
716          KM   SUB-BASIN SUB33
717          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
718          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
719          KM     L =  .22  Kb = .058  Adj. Slope =   65.0
720          BA    .062
721          LG    .277     .250   3.950     .580  22.000
722          UC    .404     .197
723          UA       0        5       16       30       65       77       84       90       94       97
724          UA     100
             *

725          KK   DIV33
726          KM        DIVERT FOR IRRIGATED LAWNS SUB33
727          DT     D33      .62
728          DI        0        1
729          DQ        0      .37
             *
             *
```



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


730          KK   C33-32
731          KM        COMBINE SUB32 WITH SUB33
732          HC        2
             *

733          KK   C33-29
734          KM        COMBINE SUB29 WITH SUB33
735          HC        2
             *

736          KK   SUB34
737          KM   SUB-BASIN SUB34
738          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
739          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
740          KM     L =  .57  Kb = .050  Adj. Slope =   87.0
741          BA    .167
742          LG    .284     .250   3.950     .590  20.000
743          UC    .613     .380
```

```
744          UA       0       5      16      30      65      77      84      90      94      97
745          UA     100
             *

746          KK   DIV34
747          KM        DIVERT FOR IRRIGATED LAWNS SUB34
748          DT     D34    1.53
749          DI       0       1
750          DQ       0    .366
             *

751          KK   DLAF1
752          KM        DIVERT FLOW TO LAFAYETTE S.D.
753          DT  DSUB34
754          DI       0      10      25      30      50
755          DQ       0      10      25      25      25
             *

756          KK  R34-35
757          KM        ROUTE FLOW FROM SUB34 TO SUB35
758          RK  1531.2    .018    .016            TRAP      40       1     YES
             *

759          KK   SUB35
760          KM   SUB-BASIN SUB35
761          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
762          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
763          KM     L =  .29  Kb = .048  Adj. Slope =   51.0
764          BA    .128
765          LG    .223    .250   3.950    .600  39.000
766          UC    .400    .160
767          UA       0       3       5       8      12      20      43      75      90      96
768          UA     100
             *
```



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

769          KK   DIV35
770          KM        DIVERT FOR IRRIGATED LAWNS SUB35
771          DT     D35     .53
772          DI     0.0     1.0
773          DQ     0.0    .095
             *

774          KK  C35-34
775          KM        COMBINE SUB34 WITH SUB35
776          HC       2
             *

777          KK  C35-33
778          KM        COMBINE SUB33 WITH SUB35
779          HC       2
             *

780          KK   SUB40
781          KM   SUB-BASIN SUB40
782          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
783          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
```

```
784          KM     L =  .31  Kb = .099  Adj. Slope = 1822.0
785          BA    .074
786          LG    .162    .332   4.250    .350  22.000
787          UC    .183    .097
788          UA       0       5      16      30      65      77      84      90      94      97
789          UA     100
             *

790          KK  R40-41
791          KM        ROUTE FLOW FROM SUB40 TO SUB41
792          RK    1452   .0221     .05            TRAP       6       2     YES
             *

793          KK   SUB41
794          KM   SUB-BASIN SUB41
795          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
796          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
797          KM     L =  .54  Kb = .054  Adj. Slope =  110.0
798          BA    .144
799          LG    .283    .251   4.600    .360  17.000
800          UC    .479    .301
801          UA       0       5      16      30      65      77      84      90      94      97
802          UA     100
             *

803          KK  C40-41
804          KM        COMBINE HYDROGRAPH SUB40 & SUB41 AT CP41
805          HC       2
             *
```



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

806          KK  D41-44
807          KM        DIVERT FLOW FOR 44TH ST. SYSTEM
808          DT  DSUB41
809          DI       0      50      91     100     150
810          DQ       0      50      91      91      91
             *

811          KK  R41-39
812          KM        ROUTE FLOW FROM SUB41 TO   SUB39
813          RK    2865   .0341     .05            TRAP       4       3     YES
             *

814          KK   SUB37
815          KM   SUB-BASIN SUB37
816          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
817          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
818          KM     L =  .30  Kb = .059  Adj. Slope =  247.0
819          BA    .049
820          LG    .300    .250   3.950    .490   5.000
821          UC    .317    .220
822          UA       0       5      16      30      65      77      84      90      94      97
823          UA     100
             *

824          KK  R37-39
825          KM        ROUTE FLOW FROM SUB37 TO   SUB39
```

```
826          RK    3500    .018    .016            TRAP      70       1     YES
             *

827          KK   SUB39
828          KM   SUB-BASIN SUB39
829          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
830          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
831          KM     L =  .84  Kb = .051  Adj. Slope =   79.0
832          BA    .188
833          LG    .220    .262   4.000    .530  34.000
834          UC    .671    .536
835          UA       0       3       5       8      12      20      43      75      90      96
836          UA     100
             *

837          KK  RD3839
838          KM        RECALL DIVERSION FROM SUBBASIN 38
839          DR  D38-39
             *

840          KK  C37-39
841          KM        COMBINE SUB39  WITH SUB37 WITH RECALLED HYDROGRAPH FRON SUB38
842          HC       3
             *
```



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

843          KK  D39-44
844          KM        DIVERT FOR 44TH ST SYSTEM
845          DT  DSUB39
846          DI       0      10      20      96     100     150
847          DQ       0      10      20      96      96      96
             *

848          KK  C41-39
849          KM        COMBINE SUB41 WITH SUB39
850          HC       2
             *

851          KK  R39-36
852          KM        ROUTE FLOW FROM SUB39 TO   SUB36
853          RK    1250    .006    .016            TRAP      26       1     YES
             *

854          KK   SUB36
855          KM   SUB-BASIN SUB36
856          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
857          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
858          KM     L =  .28  Kb = .052  Adj. Slope =   14.0
859          BA    .089
860          LG    .232    .250   3.950    .590  41.000
861          UC    .642    .324
862          UA       0       5      16      30      65      77      84      90      94      97
863          UA     100
             *

864          KK   DIV36
865          KM        DIVERT FOR IRRIGATED LAWNS SUB36
```

```
866          DT     D36      .61
867          DI     0.0      1.0
868          DQ     0.0     .150
             *

869          KK  C39-36
870          KM         COMBINE SUB39 WITH SUB36
871          HC       2
             *

872          KK  C36-35
873          KM         COMBINE SUB36 WITH SUB35
874          HC       2
             *

875          KK   SUB42
876          KM   SUB-BASIN SUB42
877          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
878          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
879          KM     L =  .51  Kb = .044  Adj. Slope =   29.0
880          BA    .251
881          LG    .256    .250   5.600    .250  23.000
882          UC    .596    .267
```



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

883          UA       0       5      16      30      65      77      84      90      94      97
884          UA     100
             *

885          KK   DIV42
886          KM         DIVERT FOR IRRIGATED LAWNS SUB42
887          DT     D42      .75
888          DI       0        1
889          DQ       0     .072
             *

890          KK  C42-36
891          KM         COMBINE HYDROGRAPH SUB42 WITH SUB36
892          HC       2
             *
             *
             *
             *
             *       100-YR PEAK FLOW AFTER 2-YR FLUSH HYDROGRAPH FOR DETENTION SIZING
             *
             *       64TH STREET TRUNK LINE
             *       DIVERTS FIRST 127 CFS TO LAFAYETTE STORM DRAIN
             *       AT LAFAYETTE BLVD. AND 64TH ST.
             *

893          KK   RSUB7
894          KM         RECALL DIVERSION
895          DR   DSUB7
             *

896          KK  R64TH1
897          KM         ROUTE FLOW
898          RK    2400     .005    .018            CIRC       4             YES
```

```
                *
899             KK   RSUB2
900             KM        RECALL DIVERSION
901             DR   DSUB2
                *

902             KK   COMB1
903             KM        COMBINE FLOW
904             HC        2
                *

905             KK  R64TH2
906             KM        ROUTE FLOW
907             RK    2700     .005     .018            CIRC        4             YES
                *
                *
                *
                *
                *
                *
                *       48TH STREET TRUNK LINE
                *       2-YR FLOWS FROM N. OF CAMELBACK AND SUBS 29,30, & 31.
                *
                *
                *
```



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

908             KK  RSUB12
909             KM        RECALL DIVERSION
910             DR  DSUB12
                *

911             KK  R48TH1
912             KM        ROUTE FLOW
913             RK    2200     .005     .018            CIRC        4             YES
                *

914             KK  RSUB17
915             KM        RECALL DIVERSION
916             DR  DSUB17
                *

917             KK   COMB2
918             KM        COMBINE FLOW
919             HC        2
                *

920             KK  R48TH2
921             KM        ROUTE FLOW
922             RK    1300     .005     .018            CIRC      4.5             YES
                *

923             KK  RSUB22
924             KM        RECALL DIVERSION
925             DR  DSUB22
                *
```

```
926          KK   COMB3
927          KM        COMBINE FLOW
928          HC       2
             *

929          KK  R48TH3
930          KM        ROUTE FLOW
931          RK    1000    .005    .018           CIRC       5            YES
             *

932          KK  RSUB26
933          KM        RECALL DIVERSION
934          DR  DSUB26
             *

935          KK   COMB6
936          KM        COMBINE FLOW
937          HC       2
             *
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

938          KK  RSUB30
939          KM        RECALL DIVERSION
940          DR  DSUB30
             *

941          KK   COMB7
942          KM        COMBINE FLOW
943          HC       2
             *

944          KK  R48TH4
945          KM        ROUTE FLOW
946          RK    1300    .005    .018           CIRC     5.5            YES
             *

947          KK  RSUB27
948          KM        RECALL DIVERSION
949          DR  DSUB27
             *

950          KK   COMB9
951          KM        COMBINE FLOW
952          HC       2
             *

953          KK  R48TH5
954          KM        ROUTE FLOW
955          RK    1300    .005    .018           CIRC       6            YES
             *

956          KK  RSUB28
957          KM        RECALL DIVERSION
958          DR  DSUB28
             *
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 959          KK  COMB10
 960          KM        COMBINE FLOW
 961          HC       2
              *

 962          KK  R48TH6
 963          KM        ROUTE FLOW
 964          RK    1175    .005    .018            CIRC     6.5            YES
              *
              *
              *
              *       44TH STREET TRUNK LINE SYSTEM
              *
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 965          KK  RSUB41
 966          KM        RECALL DIVERSION
 967          DR  DSUB41
              *

 968          KK  R44TH1
 969          KM        ROUTE FLOW
 970          RK     900    .005    .018            CIRC       5            YES
              *

 971          KK  RSUB39
 972          KM        RECALL DIVERSION
 973          DR  DSUB39
              *

 974          KK  COMB13
 975          KM        COMBINE  FLOW
 976          HC       2
              *

 977          KK  R-LAF1
 978          KM        ROUTE FLOW
 979          RK    3400    .005    .018            CIRC       6            YES
              *

 980          KK  RSUB34
 981          KM        RECALL DIVERSION
 982          DR  DSUB34
              *

 983          KK  COMB14
 984          KM        COMBINE  FLOW
 985          HC       2
              *

 986          KK  R-LAF2
 987          KM        ROUTE FLOW
 988          RK    1600    .005    .018            CIRC     6.5            YES
              *

 989          KK  RSUB32
 990          KM        RECALL DIVERSION
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 991          DR  DSUB32
              *

 992          KK  COMB15
 993          KM        COMBINE  FLOW
 994          HC       2
              *
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LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

 995          KK  COMB16
 996          KM        COMBINE  FLOW
 997          HC       2
              *

 998          KK  RSUB29
 999          KM        RECALL DIVERSION
1000          DR  DSUB29
              *

1001          KK  COMB11
1002          KM        COMBINE FLOW
1003          HC       2
              *
1004          ZZ
```

1

RUNOFF SUMMARY

FLOW IN CUBIC FEET PER SECOND

TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SUB1	31.	4.08	5.	1.	1.	0.04		
ROUTED TO	R1-2	31.	4.25	5.	1.	1.	0.04		
HYDROGRAPH AT	SUB2	22.	4.33	4.	1.	1.	0.12		
DIVERSION TO	D2	8.	4.33	2.	0.	0.	0.12		
HYDROGRAPH AT	DIV2	14.	4.33	3.	1.	1.	0.12		
2 COMBINED AT	C1-2	44.	4.25	7.	2.	2.	0.15		
DIVERSION TO	DSUB2	43.	4.25	7.	2.	2.	0.15		
HYDROGRAPH AT	D2-64	1.	4.25	0.	0.	0.	0.15		

	ROUTED TO						
+		R2-3	1.	4.58	0.	0.	0.	0.15
	HYDROGRAPH AT						
+		SUB3	18.	4.25	3.	1.	1.	0.07
	DIVERSION TO						
+		D3	10.	4.25	2.	0.	0.	0.07
	HYDROGRAPH AT						
+		DIV3	8.	4.25	1.	0.	0.	0.07
	2 COMBINED AT						
+		C2-3	8.	4.25	1.	0.	0.	0.22
	ROUTED TO						
+		R3-4	8.	4.33	1.	0.	0.	0.22
	HYDROGRAPH AT						
+		SUB4	25.	4.17	4.	1.	1.	0.06
	DIVERSION TO						
+		D4	14.	4.17	2.	1.	0.	0.06
	HYDROGRAPH AT						
+		DIV4	11.	4.17	2.	0.	0.	0.06
	2 COMBINED AT						
+		C3-4	18.	4.25	3.	1.	1.	0.29
	DIVERSION TO						
+		DSUB4	3.	4.25	1.	0.	0.	0.29
	HYDROGRAPH AT						
+		D4-64	15.	4.25	2.	0.	0.	0.29
	ROUTED TO						
+		R4-5	15.	4.42	2.	0.	0.	0.29
	HYDROGRAPH AT						
+		SUB5	15.	4.50	4.	1.	1.	0.07
	DIVERSION TO						
+		D5	7.	4.50	2.	0.	0.	0.07
	HYDROGRAPH AT						
+		DIV5	7.	4.50	2.	0.	0.	0.07
	2 COMBINED AT						
+		C4-5	22.	4.42	4.	1.	1.	0.35
	HYDROGRAPH AT						
+		SUB6	81.	4.00	12.	3.	3.	0.09
	ROUTED TO						
+		R6-7	78.	4.17	12.	3.	3.	0.09
	HYDROGRAPH AT						
+		SUB7	61.	4.25	11.	3.	3.	0.15

DIVERSION TO	D7	26.	4.25	5.	1.	1.	0.15
HYDROGRAPH AT	DIV7	35.	4.25	6.	2.	2.	0.15
2 COMBINED AT	C6-7	111.	4.17	18.	4.	4.	0.24
DIVERSION TO	DSUB7	110.	4.17	18.	4.	4.	0.24
HYDROGRAPH AT	D7-64	1.	4.17	0.	0.	0.	0.24
ROUTED TO	R7-8	1.	5.00	0.	0.	0.	0.24
HYDROGRAPH AT	SUB8	14.	4.42	3.	1.	1.	0.07
DIVERSION TO	D8	9.	4.42	2.	0.	0.	0.07
HYDROGRAPH AT	DIV8	6.	4.42	1.	0.	0.	0.07
2 COMBINED AT	C7-8	6.	4.42	1.	0.	0.	0.31
ROUTED TO	R8-9	6.	4.42	1.	0.	0.	0.31
HYDROGRAPH AT	SUB9	21.	4.17	3.	1.	1.	0.06
DIVERSION TO	D9	13.	4.17	2.	0.	0.	0.06
HYDROGRAPH AT	DIV9	8.	4.17	1.	0.	0.	0.06
2 COMBINED AT	C8-9	13.	4.25	3.	1.	1.	0.38
ROUTED TO	R9-5	13.	4.42	3.	1.	1.	0.38
2 COMBINED AT	C9-5	35.	4.42	6.	2.	2.	0.73
HYDROGRAPH AT	SUB10	31.	4.25	5.	1.	1.	0.09
DIVERSION TO	D10	14.	4.25	2.	1.	1.	0.09
HYDROGRAPH AT	DIV10	17.	4.25	3.	1.	1.	0.09

	2 COMBINED AT						
+	C5-10	52.	4.33	9.	2.	2.	0.82
	HYDROGRAPH AT						
+	SUB11	64.	4.08	10.	3.	2.	0.09
	ROUTED TO						
+	R11-12	64.	4.17	10.	3.	2.	0.09
	HYDROGRAPH AT						
+	SUB12	77.	4.08	8.	2.	2.	0.12
	DIVERSION TO						
+	D12	6.	4.08	1.	0.	0.	0.12
	HYDROGRAPH AT						
+	DIV12	70.	4.08	7.	2.	2.	0.12
	2 COMBINED AT						
+	C11-12	131.	4.08	17.	4.	4.	0.21
	DIVERSION TO						
+	DSUB12	130.	4.08	17.	4.	4.	0.21
	HYDROGRAPH AT						
+	D12-48	1.	4.08	0.	0.	0.	0.21
	ROUTED TO						
+	R12-13	0.	4.42	0.	0.	0.	0.21
	HYDROGRAPH AT						
+	SUB13	89.	4.08	10.	2.	2.	0.13
	DIVERSION TO						
+	D13	18.	4.08	2.	0.	0.	0.13
	HYDROGRAPH AT						
+	DIV13	72.	4.08	8.	2.	2.	0.13
	2 COMBINED AT						
+	C12-13	72.	4.08	8.	2.	2.	0.34
	ROUTED TO						
+	R13-14	70.	4.08	8.	2.	2.	0.34
	HYDROGRAPH AT						
+	SUB14	39.	4.17	5.	1.	1.	0.13
	DIVERSION TO						
+	D14	24.	4.17	3.	1.	1.	0.13
	HYDROGRAPH AT						
+	DIV14	16.	4.17	2.	1.	1.	0.13
	2 COMBINED AT						
+	C13-14	85.	4.08	10.	3.	2.	0.47
	ROUTED TO						
+	R14-15	84.	4.17	10.	3.	2.	0.47

HYDROGRAPH AT	SUB15	45.	4.25	7.	2.	2.	0.13
DIVERSION TO	D15	26.	4.25	4.	1.	1.	0.13
HYDROGRAPH AT	DIV15	19.	4.25	3.	1.	1.	0.13
2 COMBINED AT	C15-14	102.	4.17	13.	3.	3.	0.60
2 COMBINED AT	C15-10	143.	4.25	22.	6.	5.	1.42
DIVERSION TO	D56ST	0.	4.25	0.	0.	0.	1.42
HYDROGRAPH AT	D56ST	143.	4.25	22.	6.	5.	1.42
HYDROGRAPH AT	SUB16	100.	4.08	16.	4.	4.	0.13
ROUTED TO	R16-17	99.	4.17	16.	4.	4.	0.13
HYDROGRAPH AT	SUB17	25.	4.17	3.	1.	1.	0.07
DIVERSION TO	D17	2.	4.17	0.	0.	0.	0.07
HYDROGRAPH AT	DIV17	23.	4.17	3.	1.	1.	0.07
2 COMBINED AT	C16-17	122.	4.17	19.	5.	5.	0.20
DIVERSION TO	DSUB17	121.	4.17	19.	5.	5.	0.20
HYDROGRAPH AT	D17-48	1.	4.17	0.	0.	0.	0.20
ROUTED TO	R17-18	1.	4.42	0.	0.	0.	0.20
HYDROGRAPH AT	SUB18	18.	4.17	3.	1.	1.	0.07
DIVERSION TO	D18	11.	4.17	2.	0.	0.	0.07
HYDROGRAPH AT	DIV18	7.	4.17	1.	0.	0.	0.07
2 COMBINED AT	C17-18	7.	4.17	1.	0.	0.	0.27

	ROUTED TO						
+	R18-19	7.	4.25	1.	0.	0.	0.27
	HYDROGRAPH AT						
+	SUB19	21.	4.17	3.	1.	1.	0.08
	DIVERSION TO						
+	D19	12.	4.17	2.	0.	0.	0.08
	HYDROGRAPH AT						
+	DIV19	8.	4.17	1.	0.	0.	0.08
	2 COMBINED AT						
+	C18-19	15.	4.17	2.	1.	1.	0.34
	ROUTED TO						
+	R19-20	15.	4.25	2.	1.	1.	0.34
	HYDROGRAPH AT						
+	SUB20	45.	4.17	6.	2.	2.	0.13
	DIVERSION TO						
+	D20	27.	4.17	4.	1.	1.	0.13
	HYDROGRAPH AT						
+	DIV20	18.	4.17	3.	1.	1.	0.13
	2 COMBINED AT						
+	C20-19	32.	4.25	5.	1.	1.	0.47
	2 COMBINED AT						
+	C20-15	175.	4.25	27.	7.	7.	1.89
	HYDROGRAPH AT						
+	SUB21	101.	4.08	15.	4.	4.	0.12
	ROUTED TO						
+	R21-22	99.	4.17	15.	4.	4.	0.12
	HYDROGRAPH AT						
+	SUB22	23.	4.25	4.	1.	1.	0.11
	DIVERSION TO						
+	D22	1.	4.25	0.	0.	0.	0.11
	HYDROGRAPH AT						
+	DIV22	21.	4.25	4.	1.	1.	0.11
	2 COMBINED AT						
+	C21-22	118.	4.17	19.	5.	5.	0.24
	DIVERSION TO						
+	DSUB22	117.	4.17	19.	5.	5.	0.24
	HYDROGRAPH AT						
+	D22-48	1.	4.17	0.	0.	0.	0.24
	ROUTED TO						
+	R22-23	1.	4.33	0.	0.	0.	0.24

HYDROGRAPH AT	SUB23	18.	4.08	2.	1.	1.	0.06
DIVERSION TO	D23	11.	4.08	1.	0.	0.	0.06
HYDROGRAPH AT	DIV23	7.	4.08	1.	0.	0.	0.06
2 COMBINED AT	C22-23	7.	4.08	1.	0.	0.	0.30
ROUTED TO	R23-24	7.	4.17	1.	0.	0.	0.30
HYDROGRAPH AT	SUB24	20.	4.17	3.	1.	1.	0.08
DIVERSION TO	D24	12.	4.17	2.	0.	0.	0.08
HYDROGRAPH AT	DIV24	8.	4.17	1.	0.	0.	0.08
2 COMBINED AT	C23-24	15.	4.17	2.	1.	1.	0.37
ROUTED TO	R24-25	15.	4.25	2.	1.	1.	0.37
HYDROGRAPH AT	SUB25	19.	4.25	3.	1.	1.	0.08
DIVERSION TO	D25	11.	4.25	2.	0.	0.	0.08
HYDROGRAPH AT	DIV25	7.	4.25	1.	0.	0.	0.08
2 COMBINED AT	C25-24	22.	4.25	4.	1.	1.	0.45
2 COMBINED AT	C25-20	198.	4.25	31.	8.	8.	2.34
HYDROGRAPH AT	SUB26	12.	4.25	2.	1.	0.	0.05
DIVERSION TO	D26	4.	4.25	1.	0.	0.	0.05
HYDROGRAPH AT	DIV26	8.	4.25	1.	0.	0.	0.05
DIVERSION TO	DSUB26	7.	4.25	1.	0.	0.	0.05
HYDROGRAPH AT	D26-48	1.	4.25	0.	0.	0.	0.05

	ROUTED TO						
+	R26-27	1.	4.33	0.	0.	0.	0.05
	HYDROGRAPH AT						
+	SUB27	17.	4.17	3.	1.	1.	0.06
	DIVERSION TO						
+	D27	10.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV27	7.	4.17	1.	0.	0.	0.06
	DIVERSION TO						
+	DSUB27	6.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	D27-48	1.	4.17	0.	0.	0.	0.06
	2 COMBINED AT						
+	C26-27	1.	4.33	0.	0.	0.	0.12
	ROUTED TO						
+	R27-28	1.	4.50	0.	0.	0.	0.12
	HYDROGRAPH AT						
+	SUB28	21.	4.17	3.	1.	1.	0.08
	DIVERSION TO						
+	D28	13.	4.17	2.	0.	0.	0.08
	HYDROGRAPH AT						
+	DIV28	8.	4.17	1.	0.	0.	0.08
	DIVERSION TO						
+	DSUB28	7.	4.17	1.	0.	0.	0.08
	HYDROGRAPH AT						
+	D28-48	1.	4.17	0.	0.	0.	0.08
	2 COMBINED AT						
+	C27-28	1.	4.17	0.	0.	0.	0.19
	ROUTED TO						
+	R28-29	1.	4.33	0.	0.	0.	0.19
	HYDROGRAPH AT						
+	SUB29	14.	4.17	2.	1.	1.	0.06
	DIVERSION TO						
+	D29	9.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV29	6.	4.17	1.	0.	0.	0.06
	DIVERSION TO						
+	DSUB29	5.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	D29-48	1.	4.17	0.	0.	0.	0.06

2 COMBINED AT	C29-28	2.	4.33	0.	0.	0.	0.25
2 COMBINED AT	C29-25	198.	4.25	31.	8.	8.	2.59
HYDROGRAPH AT	SUB38	127.	4.17	26.	6.	6.	0.25
DIVERSION TO	D38-39	16.	4.17	9.	2.	2.	0.25
HYDROGRAPH AT	D38-39	111.	4.17	16.	4.	4.	0.25
ROUTED TO	R38-30	111.	4.25	16.	4.	4.	0.25
HYDROGRAPH AT	SUB30	18.	4.17	2.	1.	1.	0.06
2 COMBINED AT	C30-38	127.	4.17	19.	5.	4.	0.32
DIVERSION TO	DSUB30	126.	4.17	19.	5.	4.	0.32
HYDROGRAPH AT	D30-48	1.	4.17	0.	0.	0.	0.32
ROUTED TO	R30-31	1.	4.33	0.	0.	0.	0.32
HYDROGRAPH AT	SUB31	13.	4.25	2.	1.	1.	0.06
DIVERSION TO	D31	5.	4.25	1.	0.	0.	0.06
HYDROGRAPH AT	DIV31	8.	4.25	1.	0.	0.	0.06
2 COMBINED AT	C30-31	9.	4.33	1.	0.	0.	0.38
ROUTED TO	R31-32	8.	4.33	1.	0.	0.	0.38
HYDROGRAPH AT	SUB32	16.	4.17	3.	1.	1.	0.06
DIVERSION TO	D32	10.	4.17	2.	0.	0.	0.06
HYDROGRAPH AT	DIV32	6.	4.17	1.	0.	0.	0.06
DIVERSION TO	DSUB32	6.	0.08	1.	0.	0.	0.06

	HYDROGRAPH AT						
+	DLAF2	0.	0.08	0.	0.	0.	0.06
	2 COMBINED AT						
+	C31-32	8.	4.33	1.	0.	0.	0.44
	ROUTED TO						
+	R32-33	8.	4.50	1.	0.	0.	0.44
	HYDROGRAPH AT						
+	SUB33	22.	4.17	3.	1.	1.	0.06
	DIVERSION TO						
+	D33	8.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV33	14.	4.17	2.	1.	1.	0.06
	2 COMBINED AT						
+	C33-32	18.	4.17	4.	1.	1.	0.50
	2 COMBINED AT						
+	C33-29	216.	4.25	35.	9.	8.	3.09
	HYDROGRAPH AT						
+	SUB34	41.	4.25	8.	2.	2.	0.17
	DIVERSION TO						
+	D34	15.	4.25	3.	1.	1.	0.17
	HYDROGRAPH AT						
+	DIV34	26.	4.25	5.	1.	1.	0.17
	DIVERSION TO						
+	DSUB34	25.	4.25	5.	1.	1.	0.17
	HYDROGRAPH AT						
+	DLAF1	1.	4.25	0.	0.	0.	0.17
	ROUTED TO						
+	R34-35	1.	4.50	0.	0.	0.	0.17
	HYDROGRAPH AT						
+	SUB35	67.	4.25	11.	3.	3.	0.13
	DIVERSION TO						
+	D35	6.	4.25	1.	0.	0.	0.13
	HYDROGRAPH AT						
+	DIV35	60.	4.25	10.	3.	2.	0.13
	2 COMBINED AT						
+	C35-34	60.	4.25	10.	3.	2.	0.30
	2 COMBINED AT						
+	C35-33	276.	4.25	45.	11.	11.	3.39
	HYDROGRAPH AT						
+	SUB40	46.	4.00	5.	1.	1.	0.07

ROUTED TO	R40-41	44.	4.08	5.	1.	1.	0.07
HYDROGRAPH AT	SUB41	55.	4.25	9.	2.	2.	0.14
2 COMBINED AT	C40-41	92.	4.17	14.	4.	3.	0.22
DIVERSION TO	DSUB41	91.	4.17	14.	4.	3.	0.22
HYDROGRAPH AT	D41-44	1.	4.17	0.	0.	0.	0.22
ROUTED TO	R41-39	1.	4.50	0.	0.	0.	0.22
HYDROGRAPH AT	SUB37	13.	4.17	1.	0.	0.	0.05
ROUTED TO	R37-39	13.	4.33	1.	0.	0.	0.05
HYDROGRAPH AT	SUB39	61.	4.50	15.	4.	4.	0.19
HYDROGRAPH AT	RD3839	16.	3.50	9.	2.	2.	0.00
3 COMBINED AT	C37-39	87.	4.50	26.	7.	6.	0.24
DIVERSION TO	DSUB39	87.	0.08	26.	7.	6.	0.24
HYDROGRAPH AT	D39-44	0.	0.08	0.	0.	0.	0.24
2 COMBINED AT	C41-39	1.	4.50	0.	0.	0.	0.45
ROUTED TO	R39-36	1.	4.75	0.	0.	0.	0.45
HYDROGRAPH AT	SUB36	37.	4.25	8.	2.	2.	0.09
DIVERSION TO	D36	6.	4.25	1.	0.	0.	0.09
HYDROGRAPH AT	DIV36	32.	4.25	7.	2.	2.	0.09
2 COMBINED AT	C39-36	32.	4.25	7.	2.	2.	0.54
2 COMBINED AT	C36-35	308.	4.25	52.	13.	13.	3.93

	HYDROGRAPH AT						
+	SUB42	125.	4.25	21.	5.	5.	0.25
	DIVERSION TO						
+	D42	9.	4.25	2.	0.	0.	0.25
	HYDROGRAPH AT						
+	DIV42	116.	4.25	19.	5.	5.	0.25
	2 COMBINED AT						
+	C42-36	424.	4.25	71.	18.	17.	4.18
	HYDROGRAPH AT						
+	RSUB7	110.	4.17	18.	4.	4.	0.00
	ROUTED TO						
+	R64TH1	108.	4.25	18.	4.	4.	0.00
	HYDROGRAPH AT						
+	RSUB2	43.	4.25	7.	2.	2.	0.00
	2 COMBINED AT						
+	COMB1	151.	4.25	25.	6.	6.	0.00
	ROUTED TO						
+	R64TH2	149.	4.25	25.	6.	6.	0.00
	HYDROGRAPH AT						
+	RSUB12	130.	4.08	17.	4.	4.	0.00
	ROUTED TO						
+	R48TH1	127.	4.17	17.	4.	4.	0.00
	HYDROGRAPH AT						
+	RSUB17	121.	4.17	19.	5.	5.	0.00
	2 COMBINED AT						
+	COMB2	248.	4.17	36.	9.	9.	0.00
	ROUTED TO						
+	R48TH2	246.	4.17	36.	9.	9.	0.00
	HYDROGRAPH AT						
+	RSUB22	117.	4.17	19.	5.	5.	0.00
	2 COMBINED AT						
+	COMB3	363.	4.17	55.	14.	13.	0.00
	ROUTED TO						
+	R48TH3	360.	4.17	55.	14.	13.	0.00
	HYDROGRAPH AT						
+	RSUB26	7.	4.17	1.	0.	0.	0.00
	2 COMBINED AT						
+	COMB6	367.	4.17	57.	14.	14.	0.00
	HYDROGRAPH AT						
+	RSUB30	126.	4.17	19.	5.	4.	0.00

2 COMBINED AT							
	COMB7	493.	4.17	75.	19.	18.	0.00
ROUTED TO							
	R48TH4	485.	4.17	75.	19.	18.	0.00
HYDROGRAPH AT							
	RSUB27	6.	4.08	1.	0.	0.	0.00
2 COMBINED AT							
	COMB9	491.	4.17	76.	19.	18.	0.00
ROUTED TO							
	R48TH5	491.	4.25	76.	19.	18.	0.00
HYDROGRAPH AT							
	RSUB28	7.	4.08	1.	0.	0.	0.00
2 COMBINED AT							
	COMB10	498.	4.25	78.	19.	19.	0.00
ROUTED TO							
	R48TH6	496.	4.25	78.	19.	19.	0.00
HYDROGRAPH AT							
	RSUB41	91.	4.08	14.	4.	3.	0.00
ROUTED TO							
	R44TH1	91.	4.17	14.	4.	3.	0.00
HYDROGRAPH AT							
	RSUB39	87.	4.50	26.	7.	6.	0.00
2 COMBINED AT							
	COMB13	160.	4.33	40.	10.	10.	0.00
ROUTED TO							
	R-LAF1	159.	4.33	40.	10.	10.	0.00
HYDROGRAPH AT							
	RSUB34	25.	4.25	5.	1.	1.	0.00
2 COMBINED AT							
	COMB14	184.	4.33	45.	12.	11.	0.00
ROUTED TO							
	R-LAF2	183.	4.42	45.	12.	11.	0.00
HYDROGRAPH AT							
	RSUB32	6.	4.17	1.	0.	0.	0.00
2 COMBINED AT							
	COMB15	188.	4.42	46.	12.	11.	0.00
2 COMBINED AT							
	COMB16	676.	4.25	124.	31.	30.	0.00
HYDROGRAPH AT							
	RSUB29	5.	4.08	1.	0.	0.	0.00

2 COMBINED AT

+	COMB11	681.	4.25	125.	32.	30.	0.00
1							

Alternate 3

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*                                       *
*  RUN DATE  02/01/96  TIME  14:38:54   *
*                                       *
*****************************************
```


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


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

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

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


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

              *       ARCADIA AREA
    1         ID        ALT3.DAT
              *       LID 10-YR SYSTEM
              *
              *
              *
    2         IT       5                    300
    3         IO       5
              *DIAGRAM
              *

    4         KK    SUB1
    5         KM   SUB-BASIN SUB1
    6         KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
    7         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
    8         KM     L =  .28  Kb = .108  Adj. Slope = 2120.0
    9         BA    .037
   10         IN      15
   11         KM   RAINFALL DEPTH OF 2.00 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
```

```
 12          PB   1.933
 13          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 2.20
 14          PC    .000    .010    .017    .026    .037    .046    .056    .065    .075    .085
 15          PC    .097    .111    .131    .175    .263    .455    .689    .829    .893    .933
 16          PC    .949    .962    .975    .988   1.000
 17          LG    .119    .337   4.650    .260  51.000
 18          UC    .154    .110
 19          UA       0       3       5       8      12      20      43      75      90      96
 20          UA     100
             *

 21          KK    R1-2
 22          KM         ROUTE FLOW FROM SUB1 TO SUB2
 23          RK  3183.8   .0166     .07       0    TRAP       0       3     YES
             *

 24          KK    SUB2
 25          KM   SUB-BASIN SUB2
 26          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 27          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 28          KM    L =  .60  Kb = .041  Adj. Slope =   88.0
 29          BA    .117
 30          LG    .343    .250   4.650    .440   9.000
 31          UC    .587    .463
 32          UA       0       5      16      30      65      77      84      90      94      97
 33          UA     100
             *

 34          KK    DIV2
 35          KM        DIVERT FOR IRRIGATED LAWNS SUB2
 36          DT      D2     .80
 37          DI       0       1
 38          DQ       0    .382
             *
```



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

 39          KK    C1-2
 40          KM         COMBINE HYDROGRAPHS SUB1 AND SUB2 AT CP2
 41          HC       2
             *

 42          KK   D2-64
 43          KM        DIVERT FLOW
 44          DT   DSUB2
 45          DI       0      15      43      93     100     150
 46          DQ       0      15      15      15      15      15
             *

 47          KK    R2-3
 48          KM         ROUTE FLOW FROM SUB2 TO SUB3
 49          RK  1367.5    .009    .016            TRAP      60       1     YES
             *

 50          KK    SUB3
 51          KM   SUB-BASIN SUB3
 52          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 53          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
```

```
54          KM     L =  .26  Kb = .058  Adj. Slope =   47.0
55          BA    .067
56          LG    .298    .250   4.200    .520  16.000
57          UC    .533    .293
58          UA       0       5      16      30      65      77      84      90      94      97
59          UA     100
            *

60          KK    DIV3
61          KM        DIVERT FOR IRRIGATED LAWNS SUB3
62          DT      D3     .88
63          DI       0       1
64          DQ       0    .573
            *

65          KK    C2-3
66          KM        COMBINE HYDROGRAPHS SUB2 & SUB3 AT CP3
67          HC       2
            *

68          KK    R3-4
69          KM        ROUTE FLOW FROM CP3 TO CP4
70          RK    1320    .008    .016            TRAP      44       1     YES
            *

71          KK    SUB4
72          KM    SUB-BASIN SUB4
73          KM    6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
74          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
75          KM     L =  .25  Kb = .058  Adj. Slope =   42.0
76          BA    .065
77          LG    .300    .250   4.800    .360  15.000
78          UC    .463    .246
```



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

79          UA       0       5      16      30      65      77      84      90      94      97
80          UA     100
            *

81          KK    DIV4
82          KM        DIVERT FOR IRRIGATED LAWNS SUB4
83          DT      D4     1.0
84          DI       0       1
85          DQ       0     .55
            *

86          KK    C3-4
87          KM        COMBINE HYDROGRAPHS SUB3 & SUB4 AT CP4
88          HC       2
            *

89          KK    D4-64
90          KM        DIVERT FLOW TO LAFAYETTE S.D.
91          DT    DSUB4
92          DI       0       3      10      50     100
93          DQ       0       3       3       3       3
            *
```

```
KK    R4-5
KM        ROUTE FLOW FROM CP4 TO CP5
RK  2307.4    .005    .016            TRAP      44       1     YES
*

KK    SUB5
KM   SUB-BASIN SUB5
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .44  Kb = .058  Adj. Slope =   24.0
BA    .067
LG    .300    .250   4.800    .360  15.000
UC    .837    .736
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK    DIV5
KM        DIVERT FOR IRRIGATED LAWNS SUB5
DT      D5     .94
DI       0       1
DQ       0     .50
*

KK    C4-5
KM        COMBINE HYDROGRAPHS SUB4 & SUB5 AT CP5
HC       2
*
```



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

KK    SUB6
KM   SUB-BASIN SUB6
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .26  Kb = .104  Adj. Slope = 2367.0
BA    .090
LG    .106    .346   4.700    .240  49.000
UC    .142    .057
UA       0       3       5       8      12      20      43      75      90      96
UA     100
*

KK    R6-7
KM        ROUTE FLOW FROM SUB6 TO SUB7
RK  2972.0    .013     .07            TRAP       0       3     YES
*

KK    SUB7
KM   SUB-BASIN SUB7
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .56  Kb = .053  Adj. Slope =   71.0
BA    .153
LG    .290    .271   5.400    .280  20.000
UC    .546    .346
UA       0       5      16      30      65      77      84      90      94      97
UA     100
```

```
                *
138             KK    DIV7
139             KM        DIVERT FOR IRRIGATED LAWNS SUB7
140             DT      D7    2.30
141             DI       0       1
142             DQ       0    .427
                *

143             KK    C6-7
144             KM        COMBINE HYDROGRAPHS SUB6 & SUB7 AT CP7
145             HC       2
                *

146             KK   D7-64
147             KM        DIVERT FLOW
148             DT   DSUB7
149             DI       0      27     110     120     150     200
150             DQ       0      27      27      27      27      27
                *

151             KK    R7-8
152             KM        ROUTE FLOW FROM SUB7 TO SUB8
153             RK  2302.1    .001    .016            TRAP      40       1     YES
                *
```



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


154             KK    SUB8
155             KM   SUB-BASIN SUB8
156             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
157             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
158             KM     L =  .44  Kb = .057  Adj. Slope =   52.0
159             BA    .068
160             LG    .300    .250   4.450    .450  15.000
161             UC    .667    .566
162             UA       0       5      16      30      65      77      84      90      94      97
163             UA     100
                *

164             KK    DIV8
165             KM        DIVERT FOR IRRIGATED LAWNS SUB8
166             DT      D8     .99
167             DI       0       1
168             DQ       0      .6
                *

169             KK    C7-8
170             KM        COMBINE HYDROGRAPHS SUB7 & SUB8 AT CP8
171             HC       2
                *

172             KK    R8-9
173             KM        ROUTE FLOW FROM SUB8 TO SUB9
174             RK  1314.7    .010    .016            TRAP      20       1     YES
                *

175             KK    SUB9
```

```
176          KM   SUB-BASIN SUB9
177          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
178          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
179          KM     L =  .25  Kb = .058  Adj. Slope =   55.0
180          BA    .065
181          LG    .300    .250   4.450    .450  15.000
182          UC    .463    .246
183          UA       0       5      16      30      65      77      84      90      94      97
184          UA     100
             *

185          KK    DIV9
186          KM        DIVERT FOR IRRIGATED LAWNS SUB9
187          DT      D9     .94
188          DI       0       1
189          DQ       0      .6
             *

190          KK    C8-9
191          KM        COMBINE HYDROGRAPHS SUB8 & SUB9   AT CP9
192          HC       2
             *
```

1 HEC-1 INPUT PAGE 6

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

193          KK    R9-5
194          KM        ROUTE FLOW FROM SUB9 TO  SUB5
195          RK  1784.7    .007    .016            TRAP      40       1     YES
             *

196          KK    C9-5
197          KM        COMBINE HYDROGRAPH SUB9  & SUB5  AT CP5
198          HC       2
             *

199          KK    D5-9
200          KM        DIVERT 10-YR FLOW TO 56TH ST.
201          DT    D5-9
202          DI       0      50     100     137     150
203          DQ       0      50     100     137     137
             *

204          KK   SUB10
205          KM   SUB-BASIN SUB10
206          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
207          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
208          KM     L =  .34  Kb = .056  Adj. Slope =   37.0
209          BA    .093
210          LG    .299    .250   4.800    .360  15.000
211          UC    .575    .327
212          UA       0       5      16      30      65      77      84      90      94      97
213          UA     100
             *

214          KK   DIV10
215          KM        DIVERT FOR IRRIGATED LAWNS SUB10
216          DT     D10    1.17
217          DI       0       1
```

```
218          DQ       0    .445
             *

219          KK  DSUB10
220          KM        DIVERT 10-YR FLOW TO 56TH ST.
221          DT  DSUB10
222          DI       0      16      50     100
223          DQ       0      16      16      16
             *

224          KK   C5-10
225          KM        COMBINE HYDROGRAPH SUB5  & SUB10 AT CP10
226          HC       2
             *

227          KK   SUB11
228          KM   SUB-BASIN SUB11
229          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
230          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
231          KM     L =  .56  Kb = .106  Adj. Slope = 1740.0
232          BA    .093
```



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

233          LG    .115    .350   4.550    .270  39.000
234          UC    .237    .183
235          UA       0       3       5       8      12      20      43      75      90      96
236          UA     100
             *

237          KK  R11-12
238          KM        ROUTE FLOW FROM SUB11 TO   SUB12
239          RK    1632    .058     .07            TRAP       0       3     YES
             *

240          KK   SUB12
241          KM   SUB-BASIN SUB12
242          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
243          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
244          KM     L =  .31  Kb = .064  Adj. Slope =  304.0
245          BA    .120
246          LG    .269    .277   5.600    .210   9.000
247          UC    .246    .102
248          UA       0       5      16      30      65      77      84      90      94      97
249          UA     100
             *

250          KK   DIV12
251          KM        DIVERT FOR IRRIGATED LAWNS SUB12
252          DT     D12     .31
253          DI       0       1
254          DQ       0    .079
             *

255          KK  C11-12
256          KM        COMBINE HYDROGRAPH SUB11 & SUB12 AT CP12
257          HC       2
             *
```

```
 258          KK  D12-48
 259          KM        DIVERT FLOW
 260          DT  DSUB12
 261          DI       0      56     100     130     150
 262          DQ       0      56      56      56      56
              *
              *

 263          KK  R12-13
 264          KM        ROUTE FLOW FROM SUB12 TO SUB13
 265          RK  1362.2    .020    .016            TRAP      60       1     YES      50
              *

 266          KK   SUB13
 267          KM   SUB-BASIN SUB13
 268          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 269          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 270          KM     L =  .26  Kb = .054  Adj. Slope =  107.0
 271          BA    .129
 272          LG    .300    .230   6.200    .200  15.000
```



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

 273          UC    .283    .100
 274          UA       0       5      16      30      65      77      84      90      94      97
 275          UA     100
              *

 276          KK   DIV13
 277          KM        DIVERT FOR IRRIGATED LAWNS SUB13
 278          DT     D13     .98
 279          DI       0       1
 280          DQ       0      .2
              *

 281          KK  C12-13
 282          KM        COMBINE HYDROGRAPHS SUB12 & SUB13 AT CP13
 283          HC       2
              *

 284          KK  R13-14
 285          KM        ROUTE FL OW FROM SUB13 TO SUB14
 286          RK  1314.7    .014    .016            TRAP      60       1     YES
              *

 287          KK   SUB14
 288          KM   SUB-BASIN SUB14
 289          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 290          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 291          KM     L =  .25  Kb = .054  Adj. Slope =   74.0
 292          BA    .126
 293          LG    .300    .250   4.100    .550  15.000
 294          UC    .429    .155
 295          UA       0       5      16      30      65      77      84      90      94      97
 296          UA     100
              *

 297          KK   DIV14
 298          KM        DIVERT FOR IRRIGATED LAWNS SUB14
```

```
299          DT     D14    1.57
300          DI       0       1
301          DQ       0      .6
             *

302          KK  C13-14
303          KM        COMBINE HYDROGRAPHS SUB13 & SUB14 AT CP14
304          HC       2
             *

305          KK  R14-15
306          KM        ROUTE FLOW FROM SUB 14 TO SUB15
307          RK  1985.3    .011    .016            TRAP      60       1     YES
             *
```



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

308          KK   SUB15
309          KM   SUB-BASIN SUB15
310          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
311          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
312          KM     L =  .38  Kb = .054  Adj. Slope =   56.0
313          BA    .127
314          LG    .296    .250   4.650    .390  16.000
315          UC    .525    .271
316          UA       0       5      16      30      65      77      84      90      94      97
317          UA     100
             *

318          KK   DIV15
319          KM        DIVERT FOR IRRIGATED LAWNS SUB15
320          DT     D15    2.05
321          DI       0       1
322          DQ       0    .585
             *

323          KK  C15-14
324          KM        COMBINE SUB14 WITH SUB15
325          HC       2
             *

326          KK  DSUB15
327          KM        DIVERT 10YR FLOWS TO 56TH ST. S.D.
328          DT  DSUB15
329          DI       0      50     100     167     200
330          DQ       0      50     100     167     167
             *

331          KK  C15-10
332          KM        COMBINE SUB10 WITH SUB15
333          HC       2
             *

334          KK   D56ST
335          KM        DIVERT FLOW THAT CROSSES 56TH ST. BRIDGE
336          DT   D56ST
337          DI       0     400     650     790    1040    1139    1334    1484    1689    1900
338          DQ       0       0     240     318     400     489     584     684     789     900
```

```
                *
339             KK   SUB16
340             KM   SUB-BASIN SUB16
341             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
342             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
343             KM     L =  .65  Kb = .102  Adj. Slope = 2052.0
344             BA    .129
345             LG    .104    .350   4.700    .240  47.000
346             UC    .233    .167
347             UA       0       3       5       8      12      20      43      75      90      96
348             UA     100
                *
1                                          HEC-1 INPUT                                          PAGE 10

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


349             KK  R16-17
350             KM        ROUTE FLOW FROM SUB16 TO SUB17
351             RK    1668    .058     .07            TRAP       0       3     YES
                *

352             KK   SUB17
353             KM   SUB-BASIN SUB17
354             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
355             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
356             KM     L =  .32  Kb = .058  Adj. Slope =  183.0
357             BA    .073
358             LG    .298    .252   4.150    .450  10.000
359             UC    .342    .201
360             UA       0       5      16      30      65      77      84      90      94      97
361             UA     100
                *

362             KK   DIV17
363             KM        DIVERT FOR IRRIGATED LAWNS SUB17
364             DT     D17     .11
365             DI       0       1
366             DQ       0    .074
                *

367             KK  C16-17
368             KM        COMBINE HYDROGRAPH SUB16 & SUB17 AT CP17
369             HC       2
                *

370             KK  D17-48
371             KM        DIVERT FLOW
372             DT  DSUB17
373             DI       0      24     100     121     150     200
374             DQ       0      24      24      24      24      24
                *

375             KK  R17-18
376             KM        ROUTE FLOW FROM SUB17 TO SUB18
377             RK  1378.1    .019    .016            TRAP      40       1     YES
                *

378             KK   SUB18
```

```
379          KM   SUB-BASIN SUB18
380          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
381          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
382          KM     L =  .26  Kb = .058  Adj. Slope =  102.0
383          BA    .067
384          LG    .300    .250   3.950    .580  15.000
385          UC    .417    .222
386          UA       0       5      16      30      65      77      84      90      94      97
387          UA     100
             *
```



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


388          KK   DIV18
389          KM        DIVERT FOR IRRIGATED LAWNS SUB18
390          DT     D18     .81
391          DI       0       1
392          DQ       0      .6
             *

393          KK  C17-18
394          KM        COMBINE  HYDROGRAPH SUB17 & SUB18 AT CP18
395          HC       2
             *


396          KK  R18-19
397          KM        ROUTE FLOW SUB18 TO SUB19
398          RK  1335.8    .014    .016            TRAP      40       1     YES
             *


399          KK   SUB19
400          KM   SUB-BASIN SUB19
401          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
402          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
403          KM     L =  .25  Kb = .057  Adj. Slope =   77.0
404          BA    .075
405          LG    .300    .250   3.950    .580  15.000
406          UC    .446    .218
407          UA       0       5      16      30      65      77      84      90      94      97
408          UA     100
             *


409          KK   DIV19
410          KM        DIVERT FOR IRRIGATED LAWNS SUB19
411          DT     D19     .91
412          DI       0       1
413          DQ       0      .6
             *


414          KK  C18-19
415          KM        COMBINE HYDROGRAPH SUB18 & SUB19 AT CP19
416          HC       2
             *


417          KK  DSUB19
418          KM        DIVERT 10YR FLOWS TO 56TH ST. S.D.
419          DT  DSUB19
420          DI       0      10      50     109     150
```

```
421         DQ       0      10      50     109     109
            *

422         KK  R19-20
423         KM        ROUTE FLOW FROM SUB19 TO SUB20
424         RK  1473.1    .010    .016            TRAP      30       1     YES
            *
```



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

425         KK   SUB20
426         KM   SUB-BASIN SUB20
427         KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
428         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
429         KM     L =  .28  Kb = .054  Adj. Slope =   54.0
430         BA    .129
431         LG    .300    .250   4.450    .450  15.000
432         UC    .475    .188
433         UA       0       5      16      30      65      77      84      90      94      97
434         UA     100
            *

435         KK   DIV20
436         KM        DIVERT FOR IRRIGATED LAWNS SUB20
437         DT     D20    1.86
438         DI       0       1
439         DQ       0      .6
            *

440         KK  C20-19
441         KM        COMBINE SUB19 WITH SUB20
442         HC       2
            *

443         KK  C20-15
444         KM        COMBINE SUB15 WITH SUB20
445         HC       2
            *

446         KK   SUB21
447         KM   SUB-BASIN SUB21
448         KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
449         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
450         KM     L =  .56  Kb = .102  Adj. Slope = 2352.0
451         BA    .124
452         LG    .106    .350   4.700    .240  46.000
453         UC    .208    .134
454         UA       0       3       5       8      12      20      43      75      90      96
455         UA     100
            *

456         KK  R21-22
457         KM        ROUTE FLOW FROM SUB21 TO SUB22
458         RK    2735    .026     .07            TRAP       0       3     YES
            *

459         KK   SUB22
460         KM   SUB-BASIN SUB22
```

```
461          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
462          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
463          KM     L =  .52  Kb = .059  Adj. Slope =  134.0
464          BA    .112
465          LG    .286    .261   4.000    .490   9.000
466          UC    .579    .417
```



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

467          UA       0       5      16      30      65      77      84      90      94      97
468          UA     100
             *

469          KK   DIV22
470          KM        DIVERT FOR IRRIGATED LAWNS SUB22
471          DT     D22     .12
472          DI       0       1
473          DQ       0    .063
             *

474          KK  C21-22
475          KM        COMBINE HYDROGRAPH SUB21 & SUB22 AT CP22
476          HC       2
             *

477          KK  D22-48
478          KM        DIVERT FLOW
479          DT  DSUB22
480          DI       0      44     100     117     150     200
481          DQ       0      44      44      44      44      44
             *

482          KK  R22-23
483          KM        ROUTE FLOW FROM SUB22 TO SUB23
484          RK  1240.8    .025    .016            TRAP      20       1     YES
             *

485          KK   SUB23
486          KM   SUB-BASIN SUB23
487          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
488          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
489          KM     L =  .23  Kb = .058  Adj. Slope =  132.0
490          BA    .060
491          LG    .300    .250   3.950    .580  15.000
492          UC    .346    .175
493          UA       0       5      16      30      65      77      84      90      94      97
494          UA     100
             *

495          KK   DIV23
496          KM        DIVERT FOR IRRIGATED LAWNS SUB23
497          DT     D23     .72
498          DI       0       1
499          DQ       0    .593
             *

500          KK  C22-23
501          KM        COMBINE HYDROGRAPH SUB22 & SUB23 AT CP23
502          HC       2
```

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
          *
503       KK  R23-24
504       KM        ROUTE FLOW FROM SUB 23 TO SUB24
505       RK  1088.9    .015    .016            TRAP      32       1     YES
          *
506       KK   SUB24
507       KM   SUB-BASIN SUB24
508       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
509       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
510       KM     L =  .28  Kb = .057  Adj. Slope =   78.0
511       BA    .077
512       LG    .300    .250   3.950    .580  15.000
513       UC    .475    .252
514       UA       0       5      16      30      65      77      84      90      94      97
515       UA     100
          *
516       KK   DIV24
517       KM        DIVERT FOR IRRIGATED LAWNS SUB24
518       DT     D24     .93
519       DI       0       1
520       DQ       0      .6
          *
521       KK  C23-24
522       KM        COMBINE HYDROGRAPH SUB23 & SUB24 AT CP24
523       HC       2
          *
524       KK  R24-25
525       KM        ROUTE FLOW FROM SUB24 TO SUB25
526       RK  1346.4    .009    .016            TRAP      40       1     YES
          *
527       KK   SUB25
528       KM   SUB-BASIN SUB25
529       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
530       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
531       KM     L =  .25  Kb = .057  Adj. Slope =   46.0
532       BA    .076
533       LG    .300    .250   3.950    .580  15.000
534       UC    .546    .271
535       UA       0       5      16      30      65      77      84      90      94      97
536       UA     100
          *
537       KK   DIV25
538       KM        DIVERT FOR IRRIGATED LAWNS SUB25
539       DT     D25     .93
540       DI       0       1
541       DQ       0      .6
          *
```

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

542       KK  C25-24
543       KM        COMBINE SUB24 WITH SUB25
544       HC       2
          *

545       KK  DSUB25
546       KM        DIVERT 10YR FLOWS TO ISR S.D.
547       DT  DSUB25
548       DI       0      50      91     100     125
549       DQ       0      50      91      91      91
          *

550       KK  C25-20
551       KM        COMBINE SUB20 WITH SUB25
552       HC       2
          *

553       KK   SUB26
554       KM   SUB-BASIN SUB26
555       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
556       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
557       KM     L =  .52  Kb = .063  Adj. Slope =  840.0
558       BA    .054
559       LG    .289    .289   4.200    .550  14.000
560       UC    .313    .318
561       UA       0       3       5       8      12      20      43      75      90      96
562       UA     100
          *

563       KK   DIV26
564       KM        DIVERT FOR GOLF   COURSE
565       DT     D26     .31
566       DI       0       1
567       DQ       0    .312
          *

568       KK  D26-48
569       KM        DIVERT FLOW
570       DT  DSUB26
571       DI       0       1       2       4      10      15
572       DQ       0       1       2       4       4       4
          *

573       KK  R26-27
574       KM        ROUTE FLOW FROM SUB26 TO SUB27
575       RK  1293.6    .024    .016            TRAP      35       1     YES
          *

576       KK   SUB27
577       KM   SUB-BASIN SUB27
578       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
579       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
580       KM     L =  .25  Kb = .058  Adj. Slope =  122.0
581       BA    .061
```


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

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582          LG    .300    .250   3.950    .580  15.000
583          UC    .375    .202
584          UA       0       5      16      30      65      77      84      90      94      97
585          UA     100
             *

586          KK   DIV27
587          KM        DIVERT FOR IRRIGATED LAWNS SUB27
588          DT     D27     .74
589          DI       0     1.0
590          DQ       0     .60
             *

591          KK  D27-48
592          KM        DIVERT FLOW
593          DT  DSUB27
594          DI       0       4       6      10      15
595          DQ       0       4       6       6       6
             *

596          KK  C26-27
597          KM        COMBINE HYDROGRAPH SUB 26 & SUB27 AT CP27
598          HC       2
             *

599          KK  R27-28
600          KM        ROUTE FLOW FROM SUB 27 TO SUB28
601          RK  1436.2    .017    .016            TRAP      35       1     YES
             *

602          KK   SUB28
603          KM   SUB-BASIN SUB28
604          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
605          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
606          KM     L =  .27  Kb = .057  Adj. Slope =   89.0
607          BA    .078
608          LG    .300    .250   3.950    .580  15.000
609          UC    .442    .224
610          UA       0       5      16      30      65      77      84      90      94      97
611          UA     100
             *

612          KK   DIV28
613          KM        DIVERT FOR IRRIGATED LAWNS SUB28
614          DT     D28     .95
615          DI       0       1
616          DQ       0     .60
             *

617          KK  D28-48
618          KM        DIVERT FLOW
619          DT  DSUB28
620          DI       0       4       7      10      15
621          DQ       0       4       4       4       4
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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```
622          KK  C27-28
623          KM        COMBINE HYDROGRAPH SUB27 & SUB28 AT CP28
624          HC       2
             *

625          KK  R28-29
626          KM        ROUTE FLOW FROM SUB 28 TO SUB29
627          RK  1161.6    .009    .016            TRAP      35       1     YES
             *

628          KK   SUB29
629          KM   SUB-BASIN SUB29
630          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
631          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
632          KM     L =  .22  Kb = .058  Adj. Slope =   47.0
633          BA    .058
634          LG    .299    .250   3.950    .580  15.000
635          UC    .504    .261
636          UA       0       5      16      30      65      77      84      90      94      97
637          UA     100
             *

638          KK   DIV29
639          KM        DIVERT FOR IRRIGATED LAWNS SUB29
640          DT     D29     .70
641          DI       0       1
642          DQ       0    .587
             *

643          KK  D29-48
644          KM        DIVERT FLOW
645          DT  DSUB29
646          DI       0       2       5      10      15
647          DQ       0       2       5       5       5
             *

648          KK  C29-28
649          KM        COMBINE SUB29 WITH SUB28
650          HC       2
             *

651          KK  C29-25
652          KM        COMBINE SUB25 WITH SUB29
653          HC       2
             *

654          KK   SUB38
655          KM   SUB-BASIN SUB38
656          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
657          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
658          KM     L = 1.28  Kb = .090  Adj. Slope = 1079.0
659          BA    .252
660          LG    .133    .340   4.500    .290  36.000
661          UC    .412    .370
```



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

662          UA       0       5      16      30      65      77      84      90      94      97
```

```
663          UA     100
             *

664          KK  D38-39
665          KM        DIVERT 16CFS FROM SUB38 TO SUB39
666          DT  D38-39
667          DI       0       5      10      16      50     100     200     400     600
668          DQ       0       5      10      16      16      16      16      16      16
             *

669          KK  R38-30
670          KM        ROUTE FLOW FROM SUB38 TO   SUB30
671          RK    1200    .035    .016            TRAP      30       1     YES
             *

672          KK   SUB30
673          KM   SUB-BASIN SUB30
674          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
675          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
676          KM     L =  .48  Kb = .064  Adj. Slope =  571.0
677          BA    .064
678          LG    .279    .263   3.950    .480   8.000
679          UC    .313    .271
680          UA       0       5      16      30      65      77      84      90      94      97
681          UA     100
             *

682          KK  C30-38
683          KM        COMBINE SUB38 & SUB30 AT CP30
684          HC       2
             *

685          KK  D30-48
686          KM        DIVERT FLOW
687          DT  DSUB30
688          DI       0      32     100     126     150     200
689          DQ       0      32      32      32      32      32
             *

690          KK  R30-31
691          KM        ROUTE FLOW FROM SUB30 TO SUB31
692          RK    1304   .0225    .025            TRAP      20       1     YES
             *

693          KK   SUB31
694          KM   SUB-BASIN SUB31
695          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
696          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
697          KM     L =  .25  Kb = .058  Adj. Slope =  118.0
698          BA    .061
699          LG    .300    .260   3.670    .690  15.000
700          UC    .429    .235
701          UA       0       3       5       8      12      20      43      75      90      96
702          UA     100
             *
```



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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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```
703          KK   DIV31
704          KM        DIVERT FOR IRRIGATED LAWNS SUB31
705          DT     D31      .45
706          DI       0        1
707          DQ       0     .400
             *

708          KK  C30-31
709          KM        COMBINE SUB30 & SUB31 AT CP31
710          HC       2
             *

711          KK  R31-32
712          KM        ROUTE FLOW FROM SUB31 TO SUB32
713          RK    1260     .019     .016        0     TRAP       30        1      YES
             *

714          KK   SUB32
715          KM   SUB-BASIN SUB32
716          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
717          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
718          KM     L =  .27  Kb = .058  Adj. Slope =   77.0
719          BA    .064
720          LG    .300    .250   3.950    .580  15.000
721          UC    .475    .272
722          UA       0       5      16      30      65      77      84      90      94      97
723          UA     100
             *

724          KK   DIV32
725          KM        DIVERT FOR IRRIGATED LAWNS SUB32
726          DT     D32      .79
727          DI     0.0      1.0
728          DQ       0      .60
             *

729          KK  C31-32
730          KM        COMBINE HYDROGRAPH SUB31 & SUB32 AT CP32
731          HC       2
             *

732          KK   DLAF2
733          KM        DIVERT FLOW TO LAFAYETTE S.D.
734          DT  DSUB32
735          DI       0      10      50     107     150
736          DQ       0      10      50     107     107
             *

737          KK  R32-33
738          KM        ROUTE FLOW FROM SUB32 TO SUB33
739          RK    1447   .0144     .07            TRAP       0       3      YES
             *
```



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

740          KK   SUB33
741          KM   SUB-BASIN SUB33
742          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
```

```
743          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
744          KM     L =  .22  Kb = .058  Adj. Slope =   65.0
745          BA    .062
746          LG    .277    .250   3.950    .580  22.000
747          UC    .404    .197
748          UA       0       5      16      30      65      77      84      90      94      97
749          UA     100
             *

750          KK   DIV33
751          KM        DIVERT FOR IRRIGATED LAWNS SUB33
752          DT     D33     .62
753          DI       0       1
754          DQ       0     .37
             *
             *

755          KK  C33-32
756          KM        COMBINE SUB32 WITH SUB33
757          HC       2
             *

758          KK  C33-29
759          KM        COMBINE SUB29 WITH SUB33
760          HC       2
             *

761          KK   SUB34
762          KM   SUB-BASIN SUB34
763          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
764          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
765          KM     L =  .57  Kb = .050  Adj. Slope =   87.0
766          BA    .167
767          LG    .284    .250   3.950    .590  20.000
768          UC    .613    .380
769          UA       0       5      16      30      65      77      84      90      94      97
770          UA     100
             *

771          KK   DIV34
772          KM        DIVERT FOR IRRIGATED LAWNS SUB34
773          DT     D34    1.53
774          DI       0       1
775          DQ       0    .366
             *
```



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

776          KK   DLAF1
777          KM        DIVERT FLOW TO LAFAYETTE S.D.
778          DT  DSUB34
779          DI       0      10      25      30      50
780          DQ       0      10      25      25      25
             *

781          KK  R34-35
782          KM        ROUTE FLOW FROM SUB34 TO SUB35
783          RK  1531.2    .018    .016            TRAP      40       1     YES
```

```
          *
784       KK   SUB35
785       KM   SUB-BASIN SUB35
786       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
787       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
788       KM     L =  .29  Kb = .048  Adj. Slope =   51.0
789       BA    .128
790       LG    .223    .250   3.950    .600  39.000
791       UC    .400    .160
792       UA       0       3       5       8      12      20      43      75      90      96
793       UA     100
          *
794       KK   DIV35
795       KM        DIVERT FOR IRRIGATED LAWNS SUB35
796       DT     D35     .53
797       DI     0.0     1.0
798       DQ     0.0    .095
          *
799       KK  C35-34
800       KM        COMBINE SUB34 WITH SUB35
801       HC       2
          *
802       KK  C35-33
803       KM        COMBINE SUB33 WITH SUB35
804       HC       2
          *
805       KK   SUB40
806       KM   SUB-BASIN SUB40
807       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
808       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
809       KM     L =  .31  Kb = .099  Adj. Slope = 1822.0
810       BA    .074
811       LG    .162    .332   4.250    .350  22.000
812       UC    .183    .097
813       UA       0       5      16      30      65      77      84      90      94      97
814       UA     100
          *
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
815       KK  R40-41
816       KM        ROUTE FLOW FROM SUB40 TO SUB41
817       RK    1452   .0221     .05            TRAP       6       2     YES
          *
818       KK   SUB41
819       KM   SUB-BASIN SUB41
820       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
821       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
822       KM     L =  .54  Kb = .054  Adj. Slope =  110.0
823       BA    .144
824       LG    .283    .251   4.600    .360  17.000
825       UC    .479    .301
```

```
826          UA       0       5      16      30      65      77      84      90      94      97
827          UA     100
             *

828          KK  C40-41
829          KM         COMBINE HYDROGRAPH SUB40 & SUB41 AT CP41
830          HC       2
             *

831          KK  D41-44
832          KM         DIVERT FLOW FOR 44TH ST. SYSTEM
833          DT  DSUB41
834          DI       0      50      91     100     150
835          DQ       0      50      91      91      91
             *

836          KK  R41-39
837          KM         ROUTE FLOW FROM SUB41 TO   SUB39
838          RK    2865   .0341     .05            TRAP       4       3     YES
             *

839          KK   SUB37
840          KM   SUB-BASIN SUB37
841          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
842          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
843          KM     L =  .30  Kb = .059  Adj. Slope =  247.0
844          BA    .049
845          LG    .300    .250   3.950    .490   5.000
846          UC    .317    .220
847          UA       0       5      16      30      65      77      84      90      94      97
848          UA     100
             *

849          KK  R37-39
850          KM         ROUTE FLOW FROM SUB37 TO   SUB39
851          RK    3500    .018    .016            TRAP      70       1     YES
             *

1                                    HEC-1 INPUT                                          PAGE 23

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

852          KK   SUB39
853          KM   SUB-BASIN SUB39
854          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
855          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
856          KM     L =  .84  Kb = .051  Adj. Slope =   79.0
857          BA    .188
858          LG    .220    .262   4.000    .530  34.000
859          UC    .671    .536
860          UA       0       3       5       8      12      20      43      75      90      96
861          UA     100
             *

862          KK  RD3839
863          KM         RECALL DIVERSION FROM SUBBASIN 38
864          DR  D38-39
             *

865          KK  C37-39
```

```
866          KM        COMBINE SUB39  WITH SUB37 WITH RECALLED HYDROGRAPH FRON SUB38
867          HC       3
             *

868          KK  D39-44
869          KM        DIVERT FOR 44TH ST SYSTEM
870          DT  DSUB39
871          DI       0      10      20      86     100     150
872          DQ       0      10      20      86      86      86
             *

873          KK  C41-39
874          KM        COMBINE SUB41 WITH SUB39
875          HC       2
             *

876          KK  R39-36
877          KM        ROUTE FLOW FROM SUB39 TO   SUB36
878          RK    1250    .006    .016            TRAP      26       1     YES
             *

879          KK   SUB36
880          KM   SUB-BASIN SUB36
881          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
882          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
883          KM     L =  .28  Kb = .052  Adj. Slope =   14.0
884          BA    .089
885          LG    .232    .250   3.950    .590  41.000
886          UC    .642    .324
887          UA       0       5      16      30      65      77      84      90      94      97
888          UA     100
             *
```



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

889          KK   DIV36
890          KM        DIVERT FOR IRRIGATED LAWNS SUB36
891          DT     D36     .61
892          DI     0.0     1.0
893          DQ     0.0    .150
             *

894          KK  C39-36
895          KM        COMBINE SUB39 WITH SUB36
896          HC       2
             *

897          KK  C36-35
898          KM        COMBINE SUB36 WITH SUB35
899          HC       2
             *

900          KK   SUB42
901          KM   SUB-BASIN SUB42
902          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
903          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
904          KM     L =  .51  Kb = .044  Adj. Slope =   29.0
905          BA    .251
```

```
906          LG    .256    .250   5.600    .250  23.000
907          UC    .596    .267
908          UA       0       5      16      30      65      77      84      90      94      97
909          UA     100
             *

910          KK   DIV42
911          KM        DIVERT FOR IRRIGATED LAWNS SUB42
912          DT     D42     .75
913          DI       0       1
914          DQ       0    .072
             *

915          KK  DSUB42
916          KM        DIVERT 10YR FLOWS TO CCW
917          DT  DSUB42
918          DI       0      50     115     150
919          DQ       0      50     115     115
             *

920          KK  C42-36
921          KM        COMBINE HYDROGRAPH SUB42 WITH SUB36
922          HC       2
             *
             *
             *
             *
             *       100-YR PEAK FLOW AFTER 2-YR FLUSH HYDROGRAPH FOR DETENTION SIZING
             *
             *       64TH STREET TRUNK LINE
             *       DIVERTS FIRST 127 CFS TO LAFAYETTE STORM DRAIN
             *       AT LAFAYETTE BLVD. AND 64TH ST.
             *
1                                    HEC-1 INPUT                                    PAGE 25

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

923          KK   RSUB7
924          KM        RECALL DIVERSION
925          DR   DSUB7
             *

926          KK  R64TH1
927          KM        ROUTE FLOW
928          RK    2400    .005    .018           CIRC       4            YES
             *

929          KK   RSUB2
930          KM        RECALL DIVERSION
931          DR   DSUB2
             *

932          KK   COMB1
933          KM        COMBINE FLOW
934          HC       2
             *

935          KK  R64TH2
936          KM        ROUTE FLOW
```

```
937          RK    2700    .005    .018           CIRC       4             YES
             *
             *
             *       56TH ST. S.D.
             *
             *

938          KK  RSUB19
939          KM        RECALL DIVERSION
940          DR  DSUB19
             *

941          KK  R56TH1
942          KM        ROUTE FLOW
943          RK    3300    .005    .018           CIRC       4             YES
             *

944          KK   RD5-9
945          KM        RECALL DIVERSION
946          DR    D5-9
             *

947          KK  R56TH2
948          KM        ROUTE FLOW
949          RK    2000    .005    .018           TRAP       4       2     YES
             *
```



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


950          KK  RSUB10
951          KM        RECALL DIVERSION
952          DR  DSUB10
             *

953          KK  COMB20
954          KM        COMBINE FLOW
955          HC       2
             *

956          KK  R56TH3
957          KM        ROUTE FLOW
958          RK    2800    .005    .018           TRAP       4       2     YES
             *

959          KK  RSUB15
960          KM        RECALL DIVERSION
961          DR  DSUB15
             *

962          KK  COMB21
963          KM        COMBINE FLOW
964          HC       2
             *

965          KK  TOT-56
966          KM        TOTAL FLOW TO 56TH ST. S.D.
967          HC       2
             *
```

```
                *
                *
                *
                *       48TH STREET TRUNK LINE
                *       2-YR FLOWS FROM N. OF CAMELBACK AND SUBS 29,30, & 31.
                *
                *
                *

 968            KK  RSUB12
 969            KM       RECALL DIVERSION
 970            DR  DSUB12
                *

 971            KK  R48TH1
 972            KM       ROUTE FLOW
 973            RK   2200    .005    .018           CIRC       4            YES
                *

 974            KK  RSUB17
 975            KM       RECALL DIVERSION
 976            DR  DSUB17
                *
```



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

 977            KK   COMB2
 978            KM       COMBINE FLOW
 979            HC       2
                *

 980            KK  R48TH2
 981            KM       ROUTE FLOW
 982            RK   1300    .005    .018           CIRC     4.5            YES
                *

 983            KK  RSUB22
 984            KM       RECALL DIVERSION
 985            DR  DSUB22
                *

 986            KK   COMB3
 987            KM       COMBINE FLOW
 988            HC       2
                *

 989            KK  R48TH3
 990            KM       ROUTE FLOW
 991            RK   1000    .005    .018           CIRC       5            YES
                *

 992            KK  RSUB26
 993            KM       RECALL DIVERSION
 994            DR  DSUB26
                *

 995            KK   COMB6
 996            KM       COMBINE FLOW
```

```
 997          HC       2
              *

 998          KK  RSUB30
 999          KM        RECALL DIVERSION
1000          DR  DSUB30
              *

1001          KK   COMB7
1002          KM        COMBINE FLOW
1003          HC       2
              *

1004          KK  R48TH4
1005          KM        ROUTE FLOW
1006          RK    1300    .005    .018            CIRC     5.5             YES
              *
```



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


1007          KK  RSUB27
1008          KM        RECALL DIVERSION
1009          DR  DSUB27
              *

1010          KK   COMB9
1011          KM        COMBINE FLOW
1012          HC       2
              *

1013          KK  R48TH5
1014          KM        ROUTE FLOW
1015          RK    1300    .005    .018            CIRC       6             YES
              *

1016          KK  RSUB28
1017          KM        RECALL DIVERSION
1018          DR  DSUB28
              *

1019          KK  COMB10
1020          KM        COMBINE FLOW
1021          HC       2
              *

1022          KK  R48TH6
1023          KM        ROUTE FLOW
1024          RK    1175    .005    .018            CIRC     6.5             YES
              *
              *
              *
              *       44TH STREET TRUNK LINE SYSTEM
              *

1025          KK  RSUB41
1026          KM        RECALL DIVERSION
1027          DR  DSUB41
              *
```

```
1028        KK  R44TH1
1029        KM        ROUTE FLOW
1030        RK     900    .005    .018            CIRC       5            YES
            *

1031        KK  RSUB39
1032        KM        RECALL DIVERSION
1033        DR  DSUB39
            *
```



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

1034        KK  COMB13
1035        KM        COMBINE  FLOW
1036        HC       2
            *

1037        KK  R-LAF1
1038        KM        ROUTE FLOW
1039        RK    3400    .005    .018            CIRC       6            YES
            *

1040        KK  RSUB34
1041        KM        RECALL DIVERSION
1042        DR  DSUB34
            *

1043        KK  COMB14
1044        KM        COMBINE  FLOW
1045        HC       2
            *

1046        KK  R-LAF2
1047        KM        ROUTE FLOW
1048        RK    1600    .005    .018            CIRC     6.5            YES
            *

1049        KK  RSUB32
1050        KM        RECALL DIVERSION
1051        DR  DSUB32
            *

1052        KK  COMB15
1053        KM        COMBINE  FLOW
1054        HC       2
            *

1055        KK  COMB16
1056        KM        COMBINE  FLOW
1057        HC       2
            *

1058        KK  RSUB29
1059        KM        RECALL DIVERSION
1060        DR  DSUB29
            *
```

```
1061          KK  COMB11
1062          KM        COMBINE FLOW
1063          HC       2
              *
              *
              *       INDIAN SCHOOL ROAD S.D.
              *
              *
```



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


1064          KK  RSUB25
1065          KM        RECALL DIVERSION
1066          DR  DSUB25
              *

1067          KK  T-OCCC
1068          KM        COMBINE FLOW
1069          HC       3
              *
              *
1070          ZZ
```

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

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	SUB1	31.	4.08	5.	1.	1.	0.04		
ROUTED TO	R1-2	31.	4.25	5.	1.	1.	0.04		
HYDROGRAPH AT	SUB2	22.	4.33	4.	1.	1.	0.12		
DIVERSION TO	D2	8.	4.33	2.	0.	0.	0.12		
HYDROGRAPH AT	DIV2	14.	4.33	3.	1.	1.	0.12		
2 COMBINED AT	C1-2	44.	4.25	7.	2.	2.	0.15		
DIVERSION TO	DSUB2	15.	4.25	5.	1.	1.	0.15		
HYDROGRAPH AT	D2-64	29.	4.25	3.	1.	1.	0.15		
ROUTED TO									

+	R2-3	28.	4.33	3.	1.	1.	0.15
HYDROGRAPH AT							
+	SUB3	18.	4.25	3.	1.	1.	0.07
DIVERSION TO							
+	D3	10.	4.25	2.	0.	0.	0.07
HYDROGRAPH AT							
+	DIV3	8.	4.25	1.	0.	0.	0.07
2 COMBINED AT							
+	C2-3	36.	4.25	4.	1.	1.	0.22
ROUTED TO							
+	R3-4	35.	4.33	4.	1.	1.	0.22
HYDROGRAPH AT							
+	SUB4	25.	4.17	4.	1.	1.	0.06
DIVERSION TO							
+	D4	14.	4.17	2.	1.	0.	0.06
HYDROGRAPH AT							
+	DIV4	11.	4.17	2.	0.	0.	0.06
2 COMBINED AT							
+	C3-4	46.	4.33	6.	1.	1.	0.29
DIVERSION TO							
+	DSUB4	3.	4.33	1.	0.	0.	0.29
HYDROGRAPH AT							
+	D4-64	43.	4.33	4.	1.	1.	0.29
ROUTED TO							
+	R4-5	42.	4.42	4.	1.	1.	0.29
HYDROGRAPH AT							
+	SUB5	15.	4.50	4.	1.	1.	0.07
DIVERSION TO							
+	D5	7.	4.50	2.	0.	0.	0.07
HYDROGRAPH AT							
+	DIV5	7.	4.50	2.	0.	0.	0.07
2 COMBINED AT							
+	C4-5	49.	4.42	6.	2.	1.	0.35
HYDROGRAPH AT							
+	SUB6	81.	4.00	12.	3.	3.	0.09
ROUTED TO							
+	R6-7	78.	4.17	12.	3.	3.	0.09
HYDROGRAPH AT							
+	SUB7	61.	4.25	11.	3.	3.	0.15
DIVERSION TO							

	D7	26.	4.25	5.	1.	1.	0.15
HYDROGRAPH AT							
	DIV7	35.	4.25	6.	2.	2.	0.15
2 COMBINED AT							
	C6-7	111.	4.17	18.	4.	4.	0.24
DIVERSION TO							
	DSUB7	27.	4.17	10.	2.	2.	0.24
HYDROGRAPH AT							
	D7-64	84.	4.17	8.	2.	2.	0.24
ROUTED TO							
	R7-8	81.	4.25	8.	2.	2.	0.24
HYDROGRAPH AT							
	SUB8	14.	4.42	3.	1.	1.	0.07
DIVERSION TO							
	D8	9.	4.42	2.	0.	0.	0.07
HYDROGRAPH AT							
	DIV8	6.	4.42	1.	0.	0.	0.07
2 COMBINED AT							
	C7-8	87.	4.25	9.	2.	2.	0.31
ROUTED TO							
	R8-9	86.	4.33	9.	2.	2.	0.31
HYDROGRAPH AT							
	SUB9	21.	4.17	3.	1.	1.	0.06
DIVERSION TO							
	D9	13.	4.17	2.	0.	0.	0.06
HYDROGRAPH AT							
	DIV9	8.	4.17	1.	0.	0.	0.06
2 COMBINED AT							
	C8-9	93.	4.33	11.	3.	3.	0.38
ROUTED TO							
	R9-5	92.	4.33	11.	3.	3.	0.38
2 COMBINED AT							
	C9-5	138.	4.42	17.	4.	4.	0.73
DIVERSION TO							
	D5-9	137.	4.42	17.	4.	4.	0.73
HYDROGRAPH AT							
	D5-9	1.	4.42	0.	0.	0.	0.73
HYDROGRAPH AT							
	SUB10	31.	4.25	5.	1.	1.	0.09
DIVERSION TO							

+	D10	14.	4.25	2.	1.	1.	0.09
HYDROGRAPH AT							
+	DIV10	17.	4.25	3.	1.	1.	0.09
DIVERSION TO							
+	DSUB10	16.	4.25	3.	1.	1.	0.09
HYDROGRAPH AT							
+	DSUB10	1.	4.25	0.	0.	0.	0.09
2 COMBINED AT							
+	C5-10	2.	4.33	0.	0.	0.	0.82
HYDROGRAPH AT							
+	SUB11	64.	4.08	10.	3.	2.	0.09
ROUTED TO							
+	R11-12	64.	4.17	10.	3.	2.	0.09
HYDROGRAPH AT							
+	SUB12	77.	4.08	8.	2.	2.	0.12
DIVERSION TO							
+	D12	6.	4.08	1.	0.	0.	0.12
HYDROGRAPH AT							
+	DIV12	70.	4.08	7.	2.	2.	0.12
2 COMBINED AT							
+	C11-12	131.	4.08	17.	4.	4.	0.21
DIVERSION TO							
+	DSUB12	56.	4.08	12.	3.	3.	0.21
HYDROGRAPH AT							
+	D12-48	75.	4.08	5.	1.	1.	0.21
ROUTED TO							
+	R12-13	71.	4.17	5.	1.	1.	0.21
HYDROGRAPH AT							
+	SUB13	89.	4.08	10.	2.	2.	0.13
DIVERSION TO							
+	D13	18.	4.08	2.	0.	0.	0.13
HYDROGRAPH AT							
+	DIV13	72.	4.08	8.	2.	2.	0.13
2 COMBINED AT							
+	C12-13	140.	4.08	13.	3.	3.	0.34
ROUTED TO							
+	R13-14	136.	4.17	13.	3.	3.	0.34
HYDROGRAPH AT							
+	SUB14	39.	4.17	5.	1.	1.	0.13
DIVERSION TO							

D14	24.	4.17	3.	1.	1.	0.13
HYDROGRAPH AT						
DIV14	16.	4.17	2.	1.	1.	0.13
2 COMBINED AT						
C13-14	152.	4.17	15.	4.	4.	0.47
ROUTED TO						
R14-15	150.	4.17	15.	4.	4.	0.47
HYDROGRAPH AT						
SUB15	45.	4.25	7.	2.	2.	0.13
DIVERSION TO						
D15	26.	4.25	4.	1.	1.	0.13
HYDROGRAPH AT						
DIV15	19.	4.25	3.	1.	1.	0.13
2 COMBINED AT						
C15-14	168.	4.17	18.	5.	4.	0.60
DIVERSION TO						
DSUB15	167.	4.17	18.	5.	4.	0.60
HYDROGRAPH AT						
DSUB15	1.	4.17	0.	0.	0.	0.60
2 COMBINED AT						
C15-10	2.	4.33	0.	0.	0.	1.42
DIVERSION TO						
D56ST	0.	4.33	0.	0.	0.	1.42
HYDROGRAPH AT						
D56ST	2.	4.33	0.	0.	0.	1.42
HYDROGRAPH AT						
SUB16	100.	4.08	16.	4.	4.	0.13
ROUTED TO						
R16-17	99.	4.17	16.	4.	4.	0.13
HYDROGRAPH AT						
SUB17	25.	4.17	3.	1.	1.	0.07
DIVERSION TO						
D17	2.	4.17	0.	0.	0.	0.07
HYDROGRAPH AT						
DIV17	23.	4.17	3.	1.	1.	0.07
2 COMBINED AT						
C16-17	122.	4.17	19.	5.	5.	0.20
DIVERSION TO						
DSUB17	24.	4.17	9.	2.	2.	0.20
HYDROGRAPH AT						

+	D17-48	98.	4.17	10.	2.	2.	0.20
ROUTED TO							
+	R17-18	97.	4.17	10.	2.	2.	0.20
HYDROGRAPH AT							
+	SUB18	18.	4.17	3.	1.	1.	0.07
DIVERSION TO							
+	D18	11.	4.17	2.	0.	0.	0.07
HYDROGRAPH AT							
+	DIV18	7.	4.17	1.	0.	0.	0.07
2 COMBINED AT							
+	C17-18	104.	4.17	11.	3.	3.	0.27
ROUTED TO							
+	R18-19	101.	4.17	11.	3.	3.	0.27
HYDROGRAPH AT							
+	SUB19	21.	4.17	3.	1.	1.	0.08
DIVERSION TO							
+	D19	12.	4.17	2.	0.	0.	0.08
HYDROGRAPH AT							
+	DIV19	8.	4.17	1.	0.	0.	0.08
2 COMBINED AT							
+	C18-19	110.	4.17	12.	3.	3.	0.34
DIVERSION TO							
+	DSUB19	109.	4.17	12.	3.	3.	0.34
HYDROGRAPH AT							
+	DSUB19	1.	4.17	0.	0.	0.	0.34
ROUTED TO							
+	R19-20	1.	4.42	0.	0.	0.	0.34
HYDROGRAPH AT							
+	SUB20	45.	4.17	6.	2.	2.	0.13
DIVERSION TO							
+	D20	27.	4.17	4.	1.	1.	0.13
HYDROGRAPH AT							
+	DIV20	18.	4.17	3.	1.	1.	0.13
2 COMBINED AT							
+	C20-19	18.	4.17	3.	1.	1.	0.47
2 COMBINED AT							
+	C20-15	20.	4.17	3.	1.	1.	1.89
HYDROGRAPH AT							
+	SUB21	101.	4.08	15.	4.	4.	0.12
ROUTED TO							

	R21-22	99.	4.17	15.	4.	4.	0.12
HYDROGRAPH AT							
	SUB22	23.	4.25	4.	1.	1.	0.11
DIVERSION TO							
	D22	1.	4.25	0.	0.	0.	0.11
HYDROGRAPH AT							
	DIV22	21.	4.25	4.	1.	1.	0.11
2 COMBINED AT							
	C21-22	118.	4.17	19.	5.	5.	0.24
DIVERSION TO							
	DSUB22	44.	4.17	13.	3.	3.	0.24
HYDROGRAPH AT							
	D22-48	74.	4.17	6.	2.	1.	0.24
ROUTED TO							
	R22-23	72.	4.17	6.	2.	1.	0.24
HYDROGRAPH AT							
	SUB23	18.	4.08	2.	1.	1.	0.06
DIVERSION TO							
	D23	11.	4.08	1.	0.	0.	0.06
HYDROGRAPH AT							
	DIV23	7.	4.08	1.	0.	0.	0.06
2 COMBINED AT							
	C22-23	79.	4.17	7.	2.	2.	0.30
ROUTED TO							
	R23-24	78.	4.25	7.	2.	2.	0.30
HYDROGRAPH AT							
	SUB24	20.	4.17	3.	1.	1.	0.08
DIVERSION TO							
	D24	12.	4.17	2.	0.	0.	0.08
HYDROGRAPH AT							
	DIV24	8.	4.17	1.	0.	0.	0.08
2 COMBINED AT							
	C23-24	85.	4.25	8.	2.	2.	0.37
ROUTED TO							
	R24-25	85.	4.25	8.	2.	2.	0.37
HYDROGRAPH AT							
	SUB25	19.	4.25	3.	1.	1.	0.08
DIVERSION TO							
	D25	11.	4.25	2.	0.	0.	0.08
HYDROGRAPH AT							

+	DIV25	7.	4.25	1.	0.	0.	0.08
2 COMBINED AT							
+	C25-24	92.	4.25	10.	2.	2.	0.45
DIVERSION TO							
+	DSUB25	91.	4.25	10.	2.	2.	0.45
HYDROGRAPH AT							
+	DSUB25	1.	4.25	0.	0.	0.	0.45
2 COMBINED AT							
+	C25-20	20.	4.25	3.	1.	1.	2.34
HYDROGRAPH AT							
+	SUB26	12.	4.25	2.	1.	0.	0.05
DIVERSION TO							
+	D26	4.	4.25	1.	0.	0.	0.05
HYDROGRAPH AT							
+	DIV26	8.	4.25	1.	0.	0.	0.05
DIVERSION TO							
+	DSUB26	4.	4.25	1.	0.	0.	0.05
HYDROGRAPH AT							
+	D26-48	4.	4.25	0.	0.	0.	0.05
ROUTED TO							
+	R26-27	4.	4.25	0.	0.	0.	0.05
HYDROGRAPH AT							
+	SUB27	17.	4.17	3.	1.	1.	0.06
DIVERSION TO							
+	D27	10.	4.17	1.	0.	0.	0.06
HYDROGRAPH AT							
+	DIV27	7.	4.17	1.	0.	0.	0.06
DIVERSION TO							
+	DSUB27	6.	4.17	1.	0.	0.	0.06
HYDROGRAPH AT							
+	D27-48	1.	4.17	0.	0.	0.	0.06
2 COMBINED AT							
+	C26-27	4.	4.25	0.	0.	0.	0.12
ROUTED TO							
+	R27-28	4.	4.33	0.	0.	0.	0.12
HYDROGRAPH AT							
+	SUB28	21.	4.17	3.	1.	1.	0.08
DIVERSION TO							
+	D28	13.	4.17	2.	0.	0.	0.08
HYDROGRAPH AT							

	DIV28	8.	4.17	1.	0.	0.	0.08
DIVERSION TO	DSUB28	4.	4.17	1.	0.	0.	0.08
HYDROGRAPH AT	D28-48	4.	4.17	0.	0.	0.	0.08
2 COMBINED AT	C27-28	7.	4.33	1.	0.	0.	0.19
ROUTED TO	R28-29	7.	4.42	1.	0.	0.	0.19
HYDROGRAPH AT	SUB29	14.	4.17	2.	1.	1.	0.06
DIVERSION TO	D29	9.	4.17	1.	0.	0.	0.06
HYDROGRAPH AT	DIV29	6.	4.17	1.	0.	0.	0.06
DIVERSION TO	DSUB29	5.	4.17	1.	0.	0.	0.06
HYDROGRAPH AT	D29-48	1.	4.17	0.	0.	0.	0.06
2 COMBINED AT	C29-28	7.	4.42	1.	0.	0.	0.25
2 COMBINED AT	C29-25	25.	4.25	3.	1.	1.	2.59
HYDROGRAPH AT	SUB38	127.	4.17	26.	6.	6.	0.25
DIVERSION TO	D38-39	16.	4.17	9.	2.	2.	0.25
HYDROGRAPH AT	D38-39	111.	4.17	16.	4.	4.	0.25
ROUTED TO	R38-30	111.	4.25	16.	4.	4.	0.25
HYDROGRAPH AT	SUB30	18.	4.17	2.	1.	1.	0.06
2 COMBINED AT	C30-38	127.	4.17	19.	5.	4.	0.32
DIVERSION TO	DSUB30	32.	4.17	8.	2.	2.	0.32
HYDROGRAPH AT	D30-48	95.	4.17	10.	3.	2.	0.32
ROUTED TO							

+	R30-31	95.	4.25	10.	3.	2.	0.32
HYDROGRAPH AT							
+	SUB31	13.	4.25	2.	1.	1.	0.06
DIVERSION TO							
+	D31	5.	4.25	1.	0.	0.	0.06
HYDROGRAPH AT							
+	DIV31	8.	4.25	1.	0.	0.	0.06
2 COMBINED AT							
+	C30-31	103.	4.25	12.	3.	3.	0.38
ROUTED TO							
+	R31-32	102.	4.25	12.	3.	3.	0.38
HYDROGRAPH AT							
+	SUB32	16.	4.17	3.	1.	1.	0.06
DIVERSION TO							
+	D32	10.	4.17	2.	0.	0.	0.06
HYDROGRAPH AT							
+	DIV32	6.	4.17	1.	0.	0.	0.06
2 COMBINED AT							
+	C31-32	108.	4.25	13.	3.	3.	0.44
DIVERSION TO							
+	DSUB32	107.	4.25	13.	3.	3.	0.44
HYDROGRAPH AT							
+	DLAF2	1.	4.25	0.	0.	0.	0.44
ROUTED TO							
+	R32-33	1.	4.58	0.	0.	0.	0.44
HYDROGRAPH AT							
+	SUB33	22.	4.17	3.	1.	1.	0.06
DIVERSION TO							
+	D33	8.	4.17	1.	0.	0.	0.06
HYDROGRAPH AT							
+	DIV33	14.	4.17	2.	1.	1.	0.06
2 COMBINED AT							
+	C33-32	14.	4.17	2.	1.	1.	0.50
2 COMBINED AT							
+	C33-29	38.	4.17	6.	1.	1.	3.09
HYDROGRAPH AT							
+	SUB34	41.	4.25	8.	2.	2.	0.17
DIVERSION TO							
+	D34	15.	4.25	3.	1.	1.	0.17
HYDROGRAPH AT							

	DIV34	26.	4.25	5.	1.	1.	0.17
DIVERSION TO	DSUB34	25.	4.25	5.	1.	1.	0.17
HYDROGRAPH AT	DLAF1	1.	4.25	0.	0.	0.	0.17
ROUTED TO	R34-35	1.	4.50	0.	0.	0.	0.17
HYDROGRAPH AT	SUB35	67.	4.25	11.	3.	3.	0.13
DIVERSION TO	D35	6.	4.25	1.	0.	0.	0.13
HYDROGRAPH AT	DIV35	60.	4.25	10.	3.	2.	0.13
2 COMBINED AT	C35-34	60.	4.25	10.	3.	2.	0.30
2 COMBINED AT	C35-33	98.	4.25	16.	4.	4.	3.39
HYDROGRAPH AT	SUB40	46.	4.00	5.	1.	1.	0.07
ROUTED TO	R40-41	44.	4.08	5.	1.	1.	0.07
HYDROGRAPH AT	SUB41	55.	4.25	9.	2.	2.	0.14
2 COMBINED AT	C40-41	92.	4.17	14.	4.	3.	0.22
DIVERSION TO	DSUB41	91.	4.17	14.	4.	3.	0.22
HYDROGRAPH AT	D41-44	1.	4.17	0.	0.	0.	0.22
ROUTED TO	R41-39	1.	4.50	0.	0.	0.	0.22
HYDROGRAPH AT	SUB37	13.	4.17	1.	0.	0.	0.05
ROUTED TO	R37-39	13.	4.33	1.	0.	0.	0.05
HYDROGRAPH AT	SUB39	61.	4.50	15.	4.	4.	0.19
HYDROGRAPH AT	RD3839	16.	3.50	9.	2.	2.	0.00
3 COMBINED AT							

+	C37-39	87.	4.50	26.	7.	6.	0.24
DIVERSION TO							
+	DSUB39	86.	4.50	26.	7.	6.	0.24
HYDROGRAPH AT							
+	D39-44	1.	4.50	0.	0.	0.	0.24
2 COMBINED AT							
+	C41-39	2.	4.50	0.	0.	0.	0.45
ROUTED TO							
+	R39-36	2.	4.67	0.	0.	0.	0.45
HYDROGRAPH AT							
+	SUB36	37.	4.25	8.	2.	2.	0.09
DIVERSION TO							
+	D36	6.	4.25	1.	0.	0.	0.09
HYDROGRAPH AT							
+	DIV36	32.	4.25	7.	2.	2.	0.09
2 COMBINED AT							
+	C39-36	32.	4.25	7.	2.	2.	0.54
2 COMBINED AT							
+	C36-35	129.	4.25	23.	6.	6.	3.93
HYDROGRAPH AT							
+	SUB42	125.	4.25	21.	5.	5.	0.25
DIVERSION TO							
+	D42	9.	4.25	2.	0.	0.	0.25
HYDROGRAPH AT							
+	DIV42	116.	4.25	19.	5.	5.	0.25
DIVERSION TO							
+	DSUB42	115.	4.25	19.	5.	5.	0.25
HYDROGRAPH AT							
+	DSUB42	1.	4.25	0.	0.	0.	0.25
2 COMBINED AT							
+	C42-36	131.	4.25	23.	6.	6.	4.18
HYDROGRAPH AT							
+	RSUB7	27.	3.75	10.	2.	2.	0.00
ROUTED TO							
+	R64TH1	27.	3.83	10.	2.	2.	0.00
HYDROGRAPH AT							
+	RSUB2	15.	3.92	5.	1.	1.	0.00
2 COMBINED AT							
+	COMB1	42.	3.92	15.	4.	4.	0.00
ROUTED TO							

	R64TH2	42.	4.08	15.	4.	4.	0.00
HYDROGRAPH AT							
	RSUB19	109.	4.17	12.	3.	3.	0.00
ROUTED TO							
	R56TH1	108.	4.25	12.	3.	3.	0.00
HYDROGRAPH AT							
	RD5-9	137.	4.33	17.	4.	4.	0.00
ROUTED TO							
	R56TH2	137.	4.42	17.	4.	4.	0.00
HYDROGRAPH AT							
	RSUB10	16.	4.17	3.	1.	1.	0.00
2 COMBINED AT							
	COMB20	153.	4.42	20.	5.	5.	0.00
ROUTED TO							
	R56TH3	150.	4.50	20.	5.	5.	0.00
HYDROGRAPH AT							
	RSUB15	167.	4.17	18.	5.	4.	0.00
2 COMBINED AT							
	COMB21	255.	4.42	38.	9.	9.	0.00
2 COMBINED AT							
	TOT-56	352.	4.33	50.	13.	12.	0.00
HYDROGRAPH AT							
	RSUB12	56.	3.83	12.	3.	3.	0.00
ROUTED TO							
	R48TH1	56.	3.92	12.	3.	3.	0.00
HYDROGRAPH AT							
	RSUB17	24.	3.67	9.	2.	2.	0.00
2 COMBINED AT							
	COMB2	80.	3.92	22.	5.	5.	0.00
ROUTED TO							
	R48TH2	80.	4.00	22.	5.	5.	0.00
HYDROGRAPH AT							
	RSUB22	44.	3.83	13.	3.	3.	0.00
2 COMBINED AT							
	COMB3	124.	4.00	35.	9.	8.	0.00
ROUTED TO							
	R48TH3	124.	4.08	35.	9.	8.	0.00
HYDROGRAPH AT							
	RSUB26	4.	4.00	1.	0.	0.	0.00
2 COMBINED AT							

+	COMB6	128.	4.08	36.	9.	9.	0.00
HYDROGRAPH AT							
+	RSUB30	32.	3.83	8.	2.	2.	0.00
2 COMBINED AT							
+	COMB7	160.	4.08	44.	11.	11.	0.00
ROUTED TO							
+	R48TH4	160.	4.17	44.	11.	11.	0.00
HYDROGRAPH AT							
+	RSUB27	6.	4.08	1.	0.	0.	0.00
2 COMBINED AT							
+	COMB9	166.	4.17	45.	11.	11.	0.00
ROUTED TO							
+	R48TH5	166.	4.25	45.	11.	11.	0.00
HYDROGRAPH AT							
+	RSUB28	4.	3.92	1.	0.	0.	0.00
2 COMBINED AT							
+	COMB10	170.	4.25	46.	12.	11.	0.00
ROUTED TO							
+	R48TH6	170.	4.25	46.	12.	11.	0.00
HYDROGRAPH AT							
+	RSUB41	91.	4.08	14.	4.	3.	0.00
ROUTED TO							
+	R44TH1	91.	4.17	14.	4.	3.	0.00
HYDROGRAPH AT							
+	RSUB39	86.	4.42	26.	7.	6.	0.00
2 COMBINED AT							
+	COMB13	160.	4.33	40.	10.	10.	0.00
ROUTED TO							
+	R-LAF1	159.	4.33	40.	10.	10.	0.00
HYDROGRAPH AT							
+	RSUB34	25.	4.25	5.	1.	1.	0.00
2 COMBINED AT							
+	COMB14	184.	4.33	45.	12.	11.	0.00
ROUTED TO							
+	R-LAF2	183.	4.42	45.	12.	11.	0.00
HYDROGRAPH AT							
+	RSUB32	107.	4.25	13.	3.	3.	0.00
2 COMBINED AT							
+	COMB15	287.	4.33	58.	15.	14.	0.00
2 COMBINED AT							

	COMB16	456.	4.33	104.	26.	25.	0.00
HYDROGRAPH AT							
	RSUB29	5.	4.08	1.	0.	0.	0.00
2 COMBINED AT							
	COMB11	461.	4.33	105.	27.	26.	0.00
HYDROGRAPH AT							
	RSUB25	91.	4.25	10.	2.	2.	0.00
3 COMBINED AT							
	T-OCCC	899.	4.33	164.	41.	40.	0.00

Alternate 4

```
*****************************************
*                                       *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *
*            MAY   1991                 *
*          VERSION 4.0.1E               *
*                                       *
*  RUN DATE  01/31/96  TIME  13:59:27   *
*                                       *
*****************************************
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*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*          (916) 551-1748               *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX  XXXXX          XXX
```

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

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


```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
                *
                *       ALT4-10.DAT
                *       THIS MODEL USED TO CALCULATE TO 10-YR OUTFLOWS FOR THE REGOINAL
                *       DETENTION PONDS
                *
   1            ID
   2            ID   DDM MCUHP1 ARCADIA AREA 10-yr 6hr
   3            IT       5                    300
   4            IO       5
                *DIAGRAM
                *

   5            KK    SUB1
   6            KM   SUB-BASIN SUB1
   7            KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
   8            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
   9            KM     L =  .28  Kb = .100  Adj. Slope = 2120.0
  10            BA    .037
  11            IN      15
```

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 12          KM   RAINFALL DEPTH OF 2.00 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
 13          PB   1.924
 14          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 2.20
 15          PC    .000    .010    .017    .026    .037    .046    .056    .065    .075    .085
 16          PC    .097    .111    .131    .175    .263    .455    .689    .829    .893    .933
 17          PC    .949    .962    .975    .988   1.000
 18          LG    .142    .322   4.550    .310  52.000
 19          UC    .150    .107
 20          UA       0       3       5       8      12      20      43      75      90      96
 21          UA     100
             *

 22          KK    R1-2
 23          KM         ROUTE FLOW FROM SUB1 TO SUB2
 24          RK  3183.8   .0166     .07       0    TRAP       0       3     YES
             *

 25          KK    SUB2
 26          KM   SUB-BASIN SUB2
 27          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 28          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 29          KM    L =  .60  Kb = .041  Adj. Slope =   88.0
 30          BA    .119
 31          LG    .342    .250   4.650    .440   9.000
 32          UC    .596    .466
 33          UA       0       5      16      30      65      77      84      90      94      97
 34          UA     100
             *

 35          KK    DIV2
 36          KM        DIVERT FOR IRRIGATED LAWNS SUB2
 37          DT      D2     .80
 38          DI       0       1
 39          DQ       0    .382
             *
```



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


 40          KK    C1-2
 41          KM        COMBINE HYDROGRAPHS SUB1 AND SUB2 AT CP2
 42          HC       2
             *

 43          KK    R2-3
 44          KM        ROUTE FLOW FROM SUB2 TO SUB3
 45          RK  1367.5    .009    .016            TRAP      60       1     YES
             *

 46          KK    SUB3
 47          KM   SUB-BASIN SUB3
 48          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 49          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 50          KM    L =  .26  Kb = .058  Adj. Slope =   47.0
 51          BA    .067
 52          LG    .298    .250   4.250    .510  16.000
 53          UC    .533    .293
 54          UA       0       5      16      30      65      77      84      90      94      97
 55          UA     100
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                *

 56             KK    DIV3
 57             KM        DIVERT FOR IRRIGATED LAWNS SUB3
 58             DT      D3      .88
 59             DI       0        1
 60             DQ       0     .573
                *

 61             KK    C2-3
 62             KM        COMBINE HYDROGRAPHS SUB2 & SUB3 AT CP3
 63             HC       2
                *

 64             KK    R3-4
 65             KM        ROUTE FLOW FROM CP3 TO CP4
 66             RK    1320     .008     .016            TRAP      44        1      YES
                *

 67             KK    SUB4
 68             KM   SUB-BASIN SUB4
 69             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 70             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 71             KM     L =  .25  Kb = .058  Adj. Slope =   42.0
 72             BA    .065
 73             LG    .300     .250   4.800     .360  15.000
 74             UC    .467     .249
 75             UA       0        5       16       30       65       77       84       90       94       97
 76             UA     100
                *
```



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

 77             KK    DIV4
 78             KM        DIVERT FOR IRRIGATED LAWNS SUB4
 79             DT      D4      1.0
 80             DI       0        1
 81             DQ       0      .55
                *

 82             KK    C3-4
 83             KM        COMBINE HYDROGRAPHS SUB3 & SUB4 AT CP4
 84             HC       2
                *

 85             KK  DIVIBW
 86             KM        DIVERT LAFAYETTE DRAIN INTERCETION TO INDIAN BEND WASH
 87             DT    DIBW
 88             DI      25       63      101      193      241      306
 89             DQ    12.5     31.5     50.5     96.5      121     55.1
                *

 90             KK    R4-5
 91             KM        ROUTE FLOW FROM CP4 TO CP5
 92             RK  2307.4     .005     .016            TRAP      44        1      YES
                *

 93             KK    SUB5
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```
 94          KM   SUB-BASIN SUB5
 95          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 96          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 97          KM     L =  .44  Kb = .058  Adj. Slope =   24.0
 98          BA    .067
 99          LG    .300    .250   4.800    .360  15.000
100          UC    .846    .744
101          UA       0       5      16      30      65      77      84      90      94      97
102          UA     100
             *

103          KK    DIV5
104          KM        DIVERT FOR IRRIGATED LAWNS SUB5
105          DT      D5     .94
106          DI       0       1
107          DQ       0     .50
             *

108          KK    C4-5
109          KM        COMBINE HYDROGRAPHS SUB4 & SUB5 AT CP5
110          HC       2
             *

111          KK    SUB6
112          KM   SUB-BASIN SUB6
113          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
114          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
115          KM     L =  .26  Kb = .102  Adj. Slope = 2367.0
116          BA    .090
```



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

117          LG    .113    .341   4.700    .250  50.000
118          UC    .142    .057
119          UA       0       3       5       8      12      20      43      75      90      96
120          UA     100
             *

121          KK    R6-7
122          KM        ROUTE FLOW FROM SUB6 TO SUB7
123          RK  2972.0    .013     .07            TRAP       0       3     YES
             *

124          KK    SUB7
125          KM   SUB-BASIN SUB7
126          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
127          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
128          KM     L =  .56  Kb = .052  Adj. Slope =   71.0
129          BA    .153
130          LG    .295    .269   5.400    .280  18.000
131          UC    .546    .346
132          UA       0       5      16      30      65      77      84      90      94      97
133          UA     100
             *

134          KK    DIV7
135          KM        DIVERT FOR IRRIGATED LAWNS SUB7
136          DT      D7    2.30
137          DI       0       1
```

```
138          DQ       0    .427
             *

139          KK    C6-7
140          KM        COMBINE HYDROGRAPHS SUB6 & SUB7 AT CP7
141          HC       2
             *

142          KK    R7-8
143          KM        ROUTE FLOW FROM SUB7 TO SUB8
144          RK  2302.1    .001    .016            TRAP      40       1     YES
             *

145          KK    SUB8
146          KM   SUB-BASIN SUB8
147          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
148          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
149          KM     L =  .44  Kb = .057  Adj. Slope =   52.0
150          BA    .068
151          LG    .300    .250   4.350    .480  15.000
152          UC    .696    .594
153          UA       0       5      16      30      65      77      84      90      94      97
154          UA     100
             *
```



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

155          KK    DIV8
156          KM        DIVERT FOR IRRIGATED LAWNS SUB8
157          DT      D8     .99
158          DI       0       1
159          DQ       0      .6
             *

160          KK    C7-8
161          KM        COMBINE HYDROGRAPHS SUB7 & SUB8 AT CP8
162          HC       2
             *

163          KK    R8-9
164          KM        ROUTE FLOW FROM SUB8 TO SUB9
165          RK  1314.7    .010    .016            TRAP      20       1     YES
             *

166          KK    SUB9
167          KM   SUB-BASIN SUB9
168          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
169          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
170          KM     L =  .25  Kb = .058  Adj. Slope =   55.0
171          BA    .065
172          LG    .300    .250   4.500    .430  15.000
173          UC    .454    .241
174          UA       0       5      16      30      65      77      84      90      94      97
175          UA     100
             *

176          KK    DIV9
177          KM        DIVERT FOR IRRIGATED LAWNS SUB9
```

```
178          DT      D9      .94
179          DI       0        1
180          DQ       0       .6
             *

181          KK    C8-9
182          KM        COMBINE HYDROGRAPHS SUB8 & SUB9   AT CP9
183          HC       2
             *

184          KK    R9-5
185          KM        ROUTE FLOW FROM SUB9 TO  SUB5
186          RK  1784.7    .007    .016            TRAP      40       1     YES
             *

187          KK    C9-5
188          KM        COMBINE HYDROGRAPH SUB9  & SUB5  AT CP5
189          HC       2
             *
             *
1                                    HEC-1 INPUT                                                PAGE  6

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


190          KK   SUB10
191          KM   SUB-BASIN SUB10
192          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
193          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
194          KM     L =  .34  Kb = .056  Adj. Slope =   37.0
195          BA    .093
196          LG    .299    .250   4.800    .360  15.000
197          UC    .579    .330
198          UA       0       5      16      30      65      77      84      90      94      97
199          UA     100
             *

200          KK   DIV10
201          KM        DIVERT FOR IRRIGATED LAWNS SUB10
202          DT     D10    1.17
203          DI       0       1
204          DQ       0    .445
             *

205          KK   C5-10
206          KM        COMBINE HYDROGRAPH SUB5  & SUB10 AT CP10
207          HC       2
             *

208          KK   SUB11
209          KM   SUB-BASIN SUB11
210          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
211          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
212          KM     L =  .56  Kb = .106  Adj. Slope = 1740.0
213          BA    .093
214          LG    .115    .350   4.550    .270  39.000
215          UC    .237    .183
216          UA       0       3       5       8      12      20      43      75      90      96
217          UA     100
             *
```

```
218          KK  R11-12
219          KM        ROUTE FLOW FROM SUB11 TO   SUB12
220          RK    1632    .058     .07            TRAP       0       3     YES
             *

221          KK   SUB12
222          KM   SUB-BASIN SUB12
223          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
224          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
225          KM     L =  .31  Kb = .064  Adj. Slope =  304.0
226          BA    .120
227          LG    .269    .279   5.700    .200   9.000
228          UC    .246    .102
229          UA       0       5      16      30      65      77      84      90      94      97
230          UA     100
             *
```



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

231          KK   DIV12
232          KM        DIVERT FOR IRRIGATED LAWNS SUB12
233          DT     D12     .31
234          DI       0       1
235          DQ       0    .079
             *

236          KK  C11-12
237          KM        COMBINE HYDROGRAPH SUB11 & SUB12 AT CP12
238          HC       2
             *

239          KK  R12-13
240          KM        ROUTE FLOW FROM SUB12 TO SUB13
241          RK  1362.2    .020    .016            TRAP      60       1     YES      50
             *

242          KK   SUB13
243          KM   SUB-BASIN SUB13
244          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
245          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
246          KM     L =  .26  Kb = .054  Adj. Slope =  107.0
247          BA    .129
248          LG    .300    .230   6.200    .200  15.000
249          UC    .283    .100
250          UA       0       5      16      30      65      77      84      90      94      97
251          UA     100
             *

252          KK   DIV13
253          KM        DIVERT FOR IRRIGATED LAWNS SUB13
254          DT     D13     .98
255          DI       0       1
256          DQ       0      .2
             *

257          KK  C12-13
258          KM        COMBINE HYDROGRAPHS SUB12 & SUB13 AT CP13
```

```
 259          HC       2
              *

 260          KK  R13-14
 261          KM        ROUTE FL OW FROM SUB13 TO SUB14
 262          RK  1314.7    .014    .016            TRAP      60       1     YES
              *

 263          KK   SUB14
 264          KM   SUB-BASIN SUB14
 265          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 266          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 267          KM     L =  .25  Kb = .054  Adj. Slope =   74.0
 268          BA    .126
 269          LG    .300    .250   4.100    .550  15.000
 270          UC    .433    .157
1                                          HEC-1 INPUT                                                    PAGE  8

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

 271          UA       0       5      16      30      65      77      84      90      94      97
 272          UA     100
              *

 273          KK   DIV14
 274          KM        DIVERT FOR IRRIGATED LAWNS SUB14
 275          DT     D14    1.57
 276          DI       0       1
 277          DQ       0      .6
              *

 278          KK  C13-14
 279          KM        COMBINE HYDROGRAPHS SUB13 & SUB14 AT CP14
 280          HC       2
              *

 281          KK  R14-15
 282          KM        ROUTE FLOW FROM SUB 14 TO SUB15
 283          RK  1985.3    .011    .016            TRAP      60       1     YES
              *

 284          KK   SUB15
 285          KM   SUB-BASIN SUB15
 286          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 287          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 288          KM     L =  .38  Kb = .054  Adj. Slope =   56.0
 289          BA    .126
 290          LG    .297    .250   4.650    .390  16.000
 291          UC    .529    .274
 292          UA       0       5      16      30      65      77      84      90      94      97
 293          UA     100
              *

 294          KK   DIV15
 295          KM        DIVERT FOR IRRIGATED LAWNS SUB15
 296          DT     D15    2.05
 297          DI       0       1
 298          DQ       0    .585
              *
```

```
299          KK  OUT-15
300          KM        COMBINE SUB 15 WITH SUB14
301          HC       2
             *

302          KK  C15-10
303          KM        COMBINE SUB15 WITH SUB10
304          HC       2
             *
             *
```



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

305          KK   D56ST
306          KM        DIVERT FLOW THAT CROSSES 56TH ST. BRIDGE
307          DT   D56ST
308          DI       0     400     650     790    1040    1139    1334    1484    1689    1900
309          DQ       0       0     240     318     400     489     584     684     789     900
             *

310          KK   SUB16
311          KM   SUB-BASIN SUB16
312          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
313          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
314          KM     L =  .65  Kb = .102  Adj. Slope = 2052.0
315          BA    .129
316          LG    .104    .350   4.700    .240  47.000
317          UC    .233    .167
318          UA       0       3       5       8      12      20      43      75      90      96
319          UA     100
             *

320          KK  R16-17
321          KM        ROUTE FLOW FROM SUB16 TO SUB17
322          RK    1668    .058     .07            TRAP       0       3     YES
             *

323          KK   SUB17
324          KM   SUB-BASIN SUB17
325          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
326          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
327          KM     L =  .32  Kb = .058  Adj. Slope =  183.0
328          BA    .073
329          LG    .298    .252   4.350    .400  10.000
330          UC    .329    .193
331          UA       0       5      16      30      65      77      84      90      94      97
332          UA     100
             *

333          KK   DIV17
334          KM        DIVERT FOR IRRIGATED LAWNS SUB17
335          DT    D17     .11
336          DI       0       1
337          DQ       0    .074
             *

338          KK  C16-17
339          KM        COMBINE HYDROGRAPH SUB16 & SUB17 AT CP17
```

```
 340          HC       2
              *

 341          KK  R17-18
 342          KM        ROUTE FLOW FROM SUB17 TO SUB18
 343          RK  1378.1    .019    .016            TRAP      40       1     YES
              *
1
                                        HEC-1 INPUT                                                    PAGE 10

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


 344          KK   SUB18
 345          KM   SUB-BASIN SUB18
 346          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 347          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 348          KM     L =  .26  Kb = .058  Adj. Slope =  102.0
 349          BA    .067
 350          LG    .300    .250   4.150    .530  15.000
 351          UC    .404    .215
 352          UA       0       5      16      30      65      77      84      90      94      97
 353          UA     100
              *

 354          KK   DIV18
 355          KM        DIVERT FOR IRRIGATED LAWNS SUB18
 356          DT     D18     .81
 357          DI       0       1
 358          DQ       0      .6
              *

 359          KK  C17-18
 360          KM        COMBINE  HYDROGRAPH SUB17 & SUB18 AT CP18
 361          HC       2
              *

 362          KK  R18-19
 363          KM        ROUTE FLOW SUB18 TO SUB19
 364          RK  1335.8    .014    .016            TRAP      40       1     YES
              *

 365          KK   SUB19
 366          KM   SUB-BASIN SUB19
 367          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 368          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 369          KM     L =  .25  Kb = .057  Adj. Slope =   77.0
 370          BA    .075
 371          LG    .300    .250   3.950    .580  15.000
 372          UC    .450    .220
 373          UA       0       5      16      30      65      77      84      90      94      97
 374          UA     100
              *

 375          KK   DIV19
 376          KM        DIVERT FOR IRRIGATED LAWNS SUB19
 377          DT     D19     .91
 378          DI       0       1
 379          DQ       0      .6
              *
```

```
380          KK  C18-19
381          KM        COMBINE HYDROGRAPH SUB18 & SUB19 AT CP19
382          HC       2
             *
```



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

383          KK  R19-20
384          KM        ROUTE FLOW FROM SUB19 TO SUB20
385          RK  1473.1    .010    .016            TRAP      30       1     YES
             *

386          KK   SUB20
387          KM   SUB-BASIN SUB20
388          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
389          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
390          KM     L =  .28  Kb = .054  Adj. Slope =   54.0
391          BA    .129
392          LG    .300    .250   4.450    .450  15.000
393          UC    .479    .190
394          UA       0       5      16      30      65      77      84      90      94      97
395          UA     100
             *

396          KK   DIV20
397          KM        DIVERT FOR IRRIGATED LAWNS SUB20
398          DT     D20    1.86
399          DI       0       1
400          DQ       0      .6
             *

401          KK  OUT-20
402          KM        COMBINE SUB20 WITH SUB19
403          HC       2
             *

404          KK  C20-15
405          KM        COMBINE SUB20 WITH SUB15
406          HC       2
             *

407          KK   SUB21
408          KM   SUB-BASIN SUB21
409          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
410          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
411          KM     L =  .56  Kb = .102  Adj. Slope = 2352.0
412          BA    .124
413          LG    .104    .350   4.700    .240  46.000
414          UC    .208    .134
415          UA       0       3       5       8      12      20      43      75      90      96
416          UA     100
             *

417          KK  R21-22
418          KM        ROUTE FLOW FROM SUB21 TO SUB22
419          RK    2735    .026     .07            TRAP       0       3     YES
             *
```

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

 420      KK   SUB22
 421      KM   SUB-BASIN SUB22
 422      KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 423      KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 424      KM     L =  .52  Kb = .060  Adj. Slope =  134.0
 425      BA    .112
 426      LG    .281    .266   4.000    .480  11.000
 427      UC    .571    .410
 428      UA       0       5      16      30      65      77      84      90      94      97
 429      UA     100
          *

 430      KK   DIV22
 431      KM        DIVERT FOR IRRIGATED LAWNS SUB22
 432      DT     D22     .12
 433      DI       0       1
 434      DQ       0    .063
          *

 435      KK  C21-22
 436      KM        COMBINE HYDROGRAPH SUB21 & SUB22 AT CP22
 437      HC       2
          *

 438      KK  R22-23
 439      KM        ROUTE FLOW FROM SUB22 TO SUB23
 440      RK  1240.8    .025    .016            TRAP      20       1     YES
          *

 441      KK   SUB23
 442      KM   SUB-BASIN SUB23
 443      KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 444      KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 445      KM     L =  .23  Kb = .058  Adj. Slope =  132.0
 446      BA    .060
 447      LG    .300    .250   3.950    .580  15.000
 448      UC    .350    .177
 449      UA       0       5      16      30      65      77      84      90      94      97
 450      UA     100
          *

 451      KK   DIV23
 452      KM        DIVERT FOR IRRIGATED LAWNS SUB23
 453      DT     D23     .72
 454      DI       0       1
 455      DQ       0    .593
          *

 456      KK  C22-23
 457      KM        COMBINE HYDROGRAPH SUB22 & SUB23 AT CP23
 458      HC       2
          *
```


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

```
459          KK  R23-24
460          KM        ROUTE FLOW FROM SUB 23 TO SUB24
461          RK  1088.9    .015    .016            TRAP      32       1     YES
             *

462          KK   SUB24
463          KM   SUB-BASIN SUB24
464          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
465          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
466          KM     L =  .28  Kb = .057  Adj. Slope =   78.0
467          BA    .077
468          LG    .300    .250   3.950    .580  15.000
469          UC    .479    .255
470          UA       0       5      16      30      65      77      84      90      94      97
471          UA     100
             *

472          KK   DIV24
473          KM        DIVERT FOR IRRIGATED LAWNS SUB24
474          DT     D24      .93
475          DI       0        1
476          DQ       0       .6
             *

477          KK  C23-24
478          KM        COMBINE HYDROGRAPH SUB23 & SUB24 AT CP24
479          HC       2
             *

480          KK  R24-25
481          KM        ROUTE FLOW FROM SUB24 TO SUB25
482          RK  1346.4    .009    .016            TRAP      40       1     YES
             *

483          KK   SUB25
484          KM   SUB-BASIN SUB25
485          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
486          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
487          KM     L =  .25  Kb = .057  Adj. Slope =   46.0
488          BA    .076
489          LG    .300    .250   3.950    .580  15.000
490          UC    .550    .273
491          UA       0       5      16      30      65      77      84      90      94      97
492          UA     100
             *

493          KK   DIV25
494          KM        DIVERT FOR IRRIGATED LAWNS SUB25
495          DT     D25      .93
496          DI       0        1
497          DQ       0       .6
             *
```



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


498          KK  OUT-25
499          KM        COMBINE SUB25 WITH SUB24
```

```
500          HC       2
             *

501          KK  C25-20
502          KM        COMBINE SUB25 WITH SUB20
503          HC       2
             *

504          KK   SUB26
505          KM   SUB-BASIN SUB26
506          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
507          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
508          KM     L =  .52  Kb = .067  Adj. Slope =  840.0
509          BA    .053
510          LG    .272    .295   4.250    .520  17.000
511          UC    .304    .312
512          UA       0       5      16      30      65      77      84      90      94      97
513          UA     100
             *

514          KK   DIV26
515          KM        DIVERT FOR GOLF   COURSE
516          DT     D26     .31
517          DI       0       1
518          DQ       0    .312
             *

519          KK  R26-27
520          KM        ROUTE FLOW FROM SUB26 TO SUB27
521          RK  1293.6    .024    .016            TRAP      35       1     YES
             *

522          KK   SUB27
523          KM   SUB-BASIN SUB27
524          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
525          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
526          KM     L =  .25  Kb = .058  Adj. Slope =  122.0
527          BA    .061
528          LG    .300    .250   3.950    .580  15.000
529          UC    .379    .205
530          UA       0       5      16      30      65      77      84      90      94      97
531          UA     100
             *

532          KK   DIV27
533          KM        DIVERT FOR IRRIGATED LAWNS SUB27
534          DT     D27     .74
535          DI       0     1.0
536          DQ       0     .60
             *
```



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

537          KK  C26-27
538          KM        COMBINE HYDROGRAPH SUB 26 & SUB27 AT CP27
539          HC       2
             *
```

```
540          KK  R27-28
541          KM        ROUTE FLOW FROM SUB 27 TO SUB28
542          RK  1436.2    .017    .016            TRAP      35       1     YES
             *

543          KK   SUB28
544          KM   SUB-BASIN SUB28
545          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
546          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
547          KM     L =  .27  Kb = .057  Adj. Slope =   89.0
548          BA    .078
549          LG    .300    .250   3.950    .580  15.000
550          UC    .446    .227
551          UA       0       5      16      30      65      77      84      90      94      97
552          UA     100
             *

553          KK   DIV28
554          KM        DIVERT FOR IRRIGATED LAWNS SUB28
555          DT     D28      .95
556          DI       0        1
557          DQ       0      .60
             *

558          KK  C27-28
559          KM        COMBINE HYDROGRAPH SUB27 & SUB28 AT CP28
560          HC       2
             *

561          KK  R28-29
562          KM        ROUTE FLOW FROM SUB 28 TO SUB29
563          RK  1161.6    .009    .016            TRAP      35       1     YES
             *

564          KK   SUB29
565          KM   SUB-BASIN SUB29
566          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
567          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
568          KM     L =  .22  Kb = .058  Adj. Slope =   47.0
569          BA    .058
570          LG    .299    .250   3.950    .580  15.000
571          UC    .508    .264
572          UA       0       5      16      30      65      77      84      90      94      97
573          UA     100
             *
```



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

574          KK   DIV29
575          KM        DIVERT FOR IRRIGATED LAWNS SUB29
576          DT     D29      .70
577          DI       0        1
578          DQ       0     .587
             *

579          KK  OUT-29
580          KM        COMBINE SUB29 WITH SUB28
581          HC       2
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                *
582             KK  C29-25
583             KM        COMBINE SUB29 WITH SUB25
584             HC       2
                *

585             KK   SUB38
586             KM   SUB-BASIN SUB38
587             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
588             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
589             KM     L = 1.28  Kb = .090  Adj. Slope = 1079.0
590             BA    .252
591             LG    .131    .340   4.550    .280  37.000
592             UC    .408    .366
593             UA       0       3       5       8      12      20      43      75      90      96
594             UA     100
                *

595             KK  D38-39
596             KM        DIVERT 16CFS FROM SUB38 TO SUB39
597             DT  D38-39
598             DI       0       5      10      16      50     100     200     400     600
599             DQ       0       5      10      16      16      16      16      16      16
                *

600             KK  R38-30
601             KM        ROUTE FLOW FROM SUB38 TO   SUB30
602             RK    1200    .035    .016            TRAP      30       1     YES
                *

603             KK   SUB30
604             KM   SUB-BASIN SUB30
605             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
606             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
607             KM     L =  .48  Kb = .067  Adj. Slope =  571.0
608             BA    .064
609             LG    .272    .267   4.000    .460  10.000
610             UC    .313    .271
611             UA       0       5      16      30      65      77      84      90      94      97
612             UA     100
                *
```



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

613             KK  C30-38
614             KM        COMBINE SUB38 & SUB30 AT CP30
615             HC       2
                *

616             KK  R30-31
617             KM        ROUTE FLOW FROM SUB30 TO SUB31
618             RK    1304   .0225    .025            TRAP      20       1     YES
                *

619             KK   SUB31
620             KM   SUB-BASIN SUB31
621             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
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622          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
623          KM     L =  .25  Kb = .058  Adj. Slope =  118.0
624          BA    .061
625          LG    .300    .260   3.670    .690  15.000
626          UC    .433    .238
627          UA       0       5      16      30      65      77      84      90      94      97
628          UA     100
             *

629          KK   DIV31
630          KM        DIVERT FOR IRRIGATED LAWNS SUB31
631          DT     D31     .45
632          DI       0       1
633          DQ       0    .400
             *

634          KK  C30-31
635          KM        COMBINE SUB30 & SUB31 AT CP31
636          HC       2
             *

637          KK  R31-32
638          KM        ROUTE FLOW FROM SUB31 TO SUB32
639          RK    1260    .019    .016       0    TRAP      30       1     YES
             *

640          KK   SUB32
641          KM   SUB-BASIN SUB32
642          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
643          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
644          KM     L =  .27  Kb = .058  Adj. Slope =   77.0
645          BA    .065
646          LG    .300    .250   3.950    .580  15.000
647          UC    .479    .272
648          UA       0       5      16      30      65      77      84      90      94      97
649          UA     100
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

650          KK   DIV32
651          KM        DIVERT FOR IRRIGATED LAWNS SUB32
652          DT     D32     .79
653          DI     0.0     1.0
654          DQ       0     .60
             *

655          KK  C31-32
656          KM        COMBINE HYDROGRAPH SUB31 & SUB32 AT CP32
657          HC       2
             *

658          KK  R32-33
659          KM        ROUTE FLOW FROM SUB32 TO SUB33
660          RK    1447   .0144     .07            TRAP       0       3     YES
             *

661          KK   SUB33
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662          KM   SUB-BASIN SUB33
663          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
664          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
665          KM     L =  .22  Kb = .058  Adj. Slope =   65.0
666          BA    .062
667          LG    .277    .250   3.950    .580  22.000
668          UC    .408    .199
669          UA       0       5      16      30      65      77      84      90      94      97
670          UA     100
             *

671          KK   DIV33
672          KM        DIVERT FOR IRRIGATED LAWNS SUB33
673          DT     D33     .62
674          DI       0       1
675          DQ       0     .37
             *

676          KK  OUT-33
677          KM        COMBINE SUB33 WITH SUB32
678          HC       2
             *

679          KK  C33-29
680          KM        COMBINE SUB33 WITH SUB29
681          HC       2
             *

682          KK   SUB34
683          KM   SUB-BASIN SUB34
684          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
685          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
686          KM     L =  .57  Kb = .050  Adj. Slope =   87.0
687          BA    .167
688          LG    .284    .250   3.950    .590  20.000
689          UC    .617    .383
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LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

690          UA       0       5      16      30      65      77      84      90      94      97
691          UA     100
             *

692          KK   DIV34
693          KM        DIVERT FOR IRRIGATED LAWNS SUB34
694          DT     D34    1.53
695          DI       0       1
696          DQ       0    .366
             *

697          KK  R34-35
698          KM        ROUTE FLOW FROM SUB34 TO SUB35
699          RK  1531.2    .018    .016            TRAP      40       1     YES
             *

700          KK   SUB35
701          KM   SUB-BASIN SUB35
702          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
703          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
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704          KM     L =  .29  Kb = .048  Adj. Slope =   51.0
705          BA    .128
706          LG    .223    .250   3.950    .600  39.000
707          UC    .400    .160
708          UA       0       5      16      30      65      77      84      90      94      97
709          UA     100
             *

710          KK   DIV35
711          KM        DIVERT FOR IRRIGATED LAWNS SUB35
712          DT     D35     .53
713          DI     0.0     1.0
714          DQ     0.0    .095
             *

715          KK  OUT-35
716          KM        COMBINE SUB35 WITH SUB34
717          HC       2
             *

718          KK  C35-33
719          KM        COMBINE SUB35 WITH SUB33
720          HC       2
             *

721          KK   SUB40
722          KM   SUB-BASIN SUB40
723          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
724          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
725          KM    L =  .31  Kb = .090  Adj. Slope = 1822.0
726          BA    .074
727          LG    .203    .314   4.000    .420  11.000
728          UC    .188    .100
729          UA       0       3       5       8      12      20      43      75      90      96
730          UA     100
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

731          KK  R40-41
732          KM        ROUTE FLOW FROM SUB40 TO SUB41
733          RK    1452   .0221     .05            TRAP       6       2     YES
             *

734          KK   SUB41
735          KM   SUB-BASIN SUB41
736          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
737          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
738          KM    L =  .54  Kb = .053  Adj. Slope =  110.0
739          BA    .156
740          LG    .281    .252   4.350    .420  16.000
741          UC    .508    .308
742          UA       0       5      16      30      65      77      84      90      94      97
743          UA     100
             *

744          KK  C40-41
745          KM        COMBINE HYDROGRAPH SUB40 & SUB41 AT CP41
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```
746          HC       2
             *

747          KK  R41-39
748          KM        ROUTE FLOW FROM SUB41 TO   SUB39
749          RK    2865    .0341      .05            TRAP        4        3      YES
             *

750          KK   SUB37
751          KM   SUB-BASIN SUB37
752          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
753          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
754          KM     L =  .30  Kb = .059  Adj. Slope =  247.0
755          BA    .049
756          LG    .300    .250   3.950    .490   5.000
757          UC    .321    .223
758          UA       0       5      16      30      65      77      84      90      94      97
759          UA     100
             *

760          KK  R37-39
761          KM        ROUTE FLOW FROM SUB37 TO   SUB39
762          RK    3500    .018    .016            TRAP       70        1      YES
             *

763          KK   SUB39
764          KM   SUB-BASIN SUB39
765          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
766          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
767          KM     L =  .84  Kb = .050  Adj. Slope =   79.0
768          BA    .224
769          LG    .233    .259   4.300    .450  29.000
770          UC    .667    .481
771          UA       0       5      16      30      65      77      84      90      94      97
772          UA     100
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

773          KK  D39-36
774          KM        DIVERT FLOW OF CAMELBACK RD. OVERTOPPING AND RUNNING TO    SUB36
775          DT  D39-36
776          DI       0    99.5     160     200     300     500     700    1000
777          DQ       0       0       0      40     140     340     540     840
             *

778          KK   DCBR1
779          KM        DIVERT 55 CFS FROM WATERSHED STORM DRAIN OUTLETS TO 40TH STREET SYSTEM
780          DT   DCBR1
781          DI       0      20      50      55     100     200     500    1000    2000    3000
782          DQ       0      20      50      55      55      55      55      55      55      55
             *

783          KK   DCBR2
784          KM        DIVERT 60 CFS FOR STORM DRAIN THAT OUTLETS INTO AZ. CANAL IN SUBBASIN 36
785          DT   DCBR2
786          DI       0      20      50      60     150     300     600    1000    2000    3000
787          DQ       0      20      50      60      60      60      60      60      60      60
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                *
788             KK  RD3839
789             KM        RECALL DIVERSION FROM SUBBASIN 38
790             DR  D38-39
                *

791             KK  C37-41
792             KM        COMBINE HYDROGRAPHS SUB41, SUB37 & SUB39 AT CP39 AND RECALLED DIVERSION
793             HC       4
                *

794             KK  R39-36
795             KM        ROUTE FLOW FROM SUB39 TO   SUB36
796             RK    1250    .006    .016            TRAP      26       1     YES
                *

797             KK   SUB36
798             KM   SUB-BASIN SUB36
799             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
800             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
801             KM     L =  .28  Kb = .052  Adj. Slope =   14.0
802             BA    .089
803             LG    .232    .250   3.950    .590  41.000
804             UC    .646    .327
805             UA       0       5      16      30      65      77      84      90      94      97
806             UA     100
                *

807             KK   DIV36
808             KM        DIVERT FOR IRRIGATED LAWNS SUB36
809             DT     D36     .61
810             DI     0.0     1.0
811             DQ     0.0    .150
                *
                                        HEC-1 INPUT                                          PAGE 22

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


812             KK  RDCBR2
813             KM        RECALL DIVERSION FOR STORM DRAIN ALONG CAMELBACK RD.
814             DR   DCBR2
                *

815             KK  RD39366
816             KM        RECALL DIVERSION FROM SUB 39 TO    SUB36
817             DR  D39-36
                *

818             KK   SUB42
819             KM   SUB-BASIN SUB42
820             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
821             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
822             KM     L =  .51  Kb = .044  Adj. Slope =   29.0
823             BA    .206
824             LG    .247    .250   5.600    .250  27.000
825             UC    .587    .294
826             UA       0       5      16      30      65      77      84      90      94      97
827             UA     100
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                *
828             KK   DIV42
829             KM        DIVERT FOR IRRIGATED LAWNS SUB42
830             DT     D42      .75
831             DI       0        1
832             DQ       0     .072
                *
                *

833             KK  OUT-36
834             KM        COMBINE SUBS 36, 39, 41,& SUB42 & DIVERSION
835             HC       5
                *

836             KK   TOTAL
837             KM        COMBINE HYDROGRAPH SUB42 WITH SUB36
838             HC       2
                *
                *
839             ZZ
```

1

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

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	SUB1	30.	4.08	5.	1.	1.	0.04		
ROUTED TO	R1-2	30.	4.25	5.	1.	1.	0.04		
HYDROGRAPH AT	SUB2	22.	4.33	4.	1.	1.	0.12		
DIVERSION TO	D2	8.	4.33	2.	0.	0.	0.12		
HYDROGRAPH AT	DIV2	14.	4.33	3.	1.	1.	0.12		
2 COMBINED AT	C1-2	43.	4.25	7.	2.	2.	0.16		
ROUTED TO	R2-3	42.	4.25	7.	2.	2.	0.16		
HYDROGRAPH AT	SUB3	18.	4.25	3.	1.	1.	0.07		
DIVERSION TO	D3	10.	4.25	2.	0.	0.	0.07		
HYDROGRAPH AT	DIV3	8.	4.25	1.	0.	0.	0.07		

2 COMBINED AT							
	C2-3	50.	4.25	9.	2.	2.	0.22
ROUTED TO							
	R3-4	49.	4.33	9.	2.	2.	0.22
HYDROGRAPH AT							
	SUB4	24.	4.17	4.	1.	1.	0.06
DIVERSION TO							
	D4	13.	4.17	2.	1.	0.	0.06
HYDROGRAPH AT							
	DIV4	11.	4.17	2.	0.	0.	0.06
2 COMBINED AT							
	C3-4	60.	4.33	10.	3.	2.	0.29
DIVERSION TO							
	DIBW	30.	4.33	7.	2.	2.	0.29
HYDROGRAPH AT							
	DIVIBW	30.	4.33	4.	1.	1.	0.29
ROUTED TO							
	R4-5	29.	4.42	4.	1.	1.	0.29
HYDROGRAPH AT							
	SUB5	14.	4.50	4.	1.	1.	0.07
DIVERSION TO							
	D5	7.	4.50	2.	0.	0.	0.07
HYDROGRAPH AT							
	DIV5	7.	4.50	2.	0.	0.	0.07
2 COMBINED AT							
	C4-5	36.	4.42	6.	1.	1.	0.35
HYDROGRAPH AT							
	SUB6	80.	4.00	12.	3.	3.	0.09
ROUTED TO							
	R6-7	78.	4.17	12.	3.	3.	0.09
HYDROGRAPH AT							
	SUB7	58.	4.25	10.	3.	2.	0.15
DIVERSION TO							
	D7	25.	4.25	4.	1.	1.	0.15
HYDROGRAPH AT							
	DIV7	33.	4.25	6.	1.	1.	0.15
2 COMBINED AT							
	C6-7	109.	4.17	17.	4.	4.	0.24
ROUTED TO							
	R7-8	107.	4.25	17.	4.	4.	0.24

	HYDROGRAPH AT						
+	SUB8	13.	4.42	3.	1.	1.	0.07
	DIVERSION TO						
+	D8	8.	4.42	2.	0.	0.	0.07
	HYDROGRAPH AT						
+	DIV8	5.	4.42	1.	0.	0.	0.07
	2 COMBINED AT						
+	C7-8	112.	4.25	19.	5.	5.	0.31
	ROUTED TO						
+	R8-9	110.	4.33	19.	5.	5.	0.31
	HYDROGRAPH AT						
+	SUB9	22.	4.17	3.	1.	1.	0.06
	DIVERSION TO						
+	D9	13.	4.17	2.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV9	9.	4.17	1.	0.	0.	0.06
	2 COMBINED AT						
+	C8-9	118.	4.33	20.	5.	5.	0.38
	ROUTED TO						
+	R9-5	118.	4.33	20.	5.	5.	0.38
	2 COMBINED AT						
+	C9-5	152.	4.33	26.	6.	6.	0.73
	HYDROGRAPH AT						
+	SUB10	31.	4.25	5.	1.	1.	0.09
	DIVERSION TO						
+	D10	14.	4.25	2.	1.	1.	0.09
	HYDROGRAPH AT						
+	DIV10	17.	4.25	3.	1.	1.	0.09
	2 COMBINED AT						
+	C5-10	169.	4.33	28.	7.	7.	0.82
	HYDROGRAPH AT						
+	SUB11	64.	4.08	10.	3.	2.	0.09
	ROUTED TO						
+	R11-12	63.	4.17	10.	3.	2.	0.09
	HYDROGRAPH AT						
+	SUB12	77.	4.08	8.	2.	2.	0.12
	DIVERSION TO						
+	D12	6.	4.08	1.	0.	0.	0.12
	HYDROGRAPH AT						
+	DIV12	71.	4.08	7.	2.	2.	0.12

2 COMBINED AT	C11-12	131.	4.08	17.	4.	4.	0.21
ROUTED TO	R12-13	126.	4.17	17.	4.	4.	0.21
HYDROGRAPH AT	SUB13	89.	4.08	10.	2.	2.	0.13
DIVERSION TO	D13	18.	4.08	2.	0.	0.	0.13
HYDROGRAPH AT	DIV13	71.	4.08	8.	2.	2.	0.13
2 COMBINED AT	C12-13	197.	4.08	25.	6.	6.	0.34
ROUTED TO	R13-14	191.	4.08	25.	6.	6.	0.34
HYDROGRAPH AT	SUB14	39.	4.17	5.	1.	1.	0.13
DIVERSION TO	D14	23.	4.17	3.	1.	1.	0.13
HYDROGRAPH AT	DIV14	15.	4.17	2.	1.	1.	0.13
2 COMBINED AT	C13-14	207.	4.17	27.	7.	7.	0.47
ROUTED TO	R14-15	206.	4.17	27.	7.	7.	0.47
HYDROGRAPH AT	SUB15	44.	4.25	7.	2.	2.	0.13
DIVERSION TO	D15	26.	4.25	4.	1.	1.	0.13
HYDROGRAPH AT	DIV15	18.	4.25	3.	1.	1.	0.13
2 COMBINED AT	OUT-15	224.	4.17	30.	8.	7.	0.59
2 COMBINED AT	C15-10	370.	4.25	58.	15.	14.	1.42
DIVERSION TO	D56ST	0.	4.25	0.	0.	0.	1.42
HYDROGRAPH AT	D56ST	370.	4.25	58.	15.	14.	1.42
HYDROGRAPH AT	SUB16	99.	4.08	16.	4.	4.	0.13

	ROUTED TO							
+		R16-17	98.	4.17	16.	4.	4.	0.13
	HYDROGRAPH AT							
+		SUB17	28.	4.08	3.	1.	1.	0.07
	DIVERSION TO							
+		D17	2.	4.08	0.	0.	0.	0.07
	HYDROGRAPH AT							
+		DIV17	26.	4.08	3.	1.	1.	0.07
	2 COMBINED AT							
+		C16-17	123.	4.17	19.	5.	5.	0.20
	ROUTED TO							
+		R17-18	123.	4.17	19.	5.	5.	0.20
	HYDROGRAPH AT							
+		SUB18	20.	4.17	3.	1.	1.	0.07
	DIVERSION TO							
+		D18	12.	4.17	2.	0.	0.	0.07
	HYDROGRAPH AT							
+		DIV18	8.	4.17	1.	0.	0.	0.07
	2 COMBINED AT							
+		C17-18	130.	4.17	20.	5.	5.	0.27
	ROUTED TO							
+		R18-19	128.	4.17	20.	5.	5.	0.27
	HYDROGRAPH AT							
+		SUB19	20.	4.17	3.	1.	1.	0.08
	DIVERSION TO							
+		D19	12.	4.17	2.	0.	0.	0.08
	HYDROGRAPH AT							
+		DIV19	8.	4.17	1.	0.	0.	0.08
	2 COMBINED AT							
+		C18-19	137.	4.17	22.	5.	5.	0.34
	ROUTED TO							
+		R19-20	134.	4.25	22.	5.	5.	0.34
	HYDROGRAPH AT							
+		SUB20	45.	4.17	6.	2.	2.	0.13
	DIVERSION TO							
+		D20	27.	4.17	4.	1.	1.	0.13
	HYDROGRAPH AT							
+		DIV20	18.	4.17	3.	1.	1.	0.13
	2 COMBINED AT							
+		OUT-20	151.	4.17	24.	6.	6.	0.47

2 COMBINED AT	C20-15	521.	4.25	83.	21.	20.	1.89
HYDROGRAPH AT	SUB21	100.	4.08	15.	4.	4.	0.12
ROUTED TO	R21-22	98.	4.17	15.	4.	4.	0.12
HYDROGRAPH AT	SUB22	24.	4.25	4.	1.	1.	0.11
DIVERSION TO	D22	2.	4.25	0.	0.	0.	0.11
HYDROGRAPH AT	DIV22	23.	4.25	4.	1.	1.	0.11
2 COMBINED AT	C21-22	119.	4.17	19.	5.	5.	0.24
ROUTED TO	R22-23	117.	4.17	19.	5.	5.	0.24
HYDROGRAPH AT	SUB23	18.	4.08	2.	1.	1.	0.06
DIVERSION TO	D23	11.	4.08	1.	0.	0.	0.06
HYDROGRAPH AT	DIV23	7.	4.08	1.	0.	0.	0.06
2 COMBINED AT	C22-23	124.	4.17	20.	5.	5.	0.30
ROUTED TO	R23-24	123.	4.25	20.	5.	5.	0.30
HYDROGRAPH AT	SUB24	19.	4.17	3.	1.	1.	0.08
DIVERSION TO	D24	12.	4.17	2.	0.	0.	0.08
HYDROGRAPH AT	DIV24	8.	4.17	1.	0.	0.	0.08
2 COMBINED AT	C23-24	130.	4.25	22.	5.	5.	0.37
ROUTED TO	R24-25	130.	4.25	22.	5.	5.	0.37
HYDROGRAPH AT	SUB25	18.	4.25	3.	1.	1.	0.08
DIVERSION TO	D25	11.	4.25	2.	0.	0.	0.08

	HYDROGRAPH AT						
+	DIV25	7.	4.25	1.	0.	0.	0.08
	2 COMBINED AT						
+	OUT-25	137.	4.25	23.	6.	6.	0.45
	2 COMBINED AT						
+	C25-20	658.	4.25	105.	27.	26.	2.34
	HYDROGRAPH AT						
+	SUB26	14.	4.17	2.	1.	1.	0.05
	DIVERSION TO						
+	D26	4.	4.17	1.	0.	0.	0.05
	HYDROGRAPH AT						
+	DIV26	9.	4.17	2.	0.	0.	0.05
	ROUTED TO						
+	R26-27	9.	4.17	2.	0.	0.	0.05
	HYDROGRAPH AT						
+	SUB27	17.	4.17	2.	1.	1.	0.06
	DIVERSION TO						
+	D27	10.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV27	7.	4.17	1.	0.	0.	0.06
	2 COMBINED AT						
+	C26-27	16.	4.17	3.	1.	1.	0.11
	ROUTED TO						
+	R27-28	16.	4.25	3.	1.	1.	0.11
	HYDROGRAPH AT						
+	SUB28	21.	4.17	3.	1.	1.	0.08
	DIVERSION TO						
+	D28	12.	4.17	2.	0.	0.	0.08
	HYDROGRAPH AT						
+	DIV28	8.	4.17	1.	0.	0.	0.08
	2 COMBINED AT						
+	C27-28	24.	4.17	4.	1.	1.	0.19
	ROUTED TO						
+	R28-29	24.	4.25	4.	1.	1.	0.19
	HYDROGRAPH AT						
+	SUB29	14.	4.17	2.	1.	1.	0.06
	DIVERSION TO						
+	D29	8.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV29	6.	4.17	1.	0.	0.	0.06

2 COMBINED AT	OUT-29	29.	4.25	5.	1.	1.	0.25
2 COMBINED AT	C29-25	687.	4.25	110.	28.	27.	2.59
HYDROGRAPH AT	SUB38	131.	4.33	26.	7.	6.	0.25
DIVERSION TO	D38-39	16.	4.33	9.	2.	2.	0.25
HYDROGRAPH AT	D38-39	115.	4.33	17.	4.	4.	0.25
ROUTED TO	R38-30	115.	4.33	17.	4.	4.	0.25
HYDROGRAPH AT	SUB30	19.	4.17	3.	1.	1.	0.06
2 COMBINED AT	C30-38	131.	4.25	19.	5.	5.	0.32
ROUTED TO	R30-31	131.	4.33	19.	5.	5.	0.32
HYDROGRAPH AT	SUB31	13.	4.17	2.	1.	1.	0.06
DIVERSION TO	D31	5.	4.17	1.	0.	0.	0.06
HYDROGRAPH AT	DIV31	8.	4.17	1.	0.	0.	0.06
2 COMBINED AT	C30-31	137.	4.33	21.	5.	5.	0.38
ROUTED TO	R31-32	137.	4.33	21.	5.	5.	0.38
HYDROGRAPH AT	SUB32	16.	4.17	3.	1.	1.	0.06
DIVERSION TO	D32	10.	4.17	2.	0.	0.	0.06
HYDROGRAPH AT	DIV32	6.	4.17	1.	0.	0.	0.06
2 COMBINED AT	C31-32	142.	4.33	22.	5.	5.	0.44
ROUTED TO	R32-33	140.	4.42	22.	5.	5.	0.44
HYDROGRAPH AT	SUB33	21.	4.17	3.	1.	1.	0.06

	DIVERSION TO						
+	D33	8.	4.17	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV33	13.	4.17	2.	1.	1.	0.06
	2 COMBINED AT						
+	OUT-33	150.	4.33	24.	6.	6.	0.50
	2 COMBINED AT						
+	C33-29	828.	4.25	134.	34.	33.	3.09
	HYDROGRAPH AT						
+	SUB34	40.	4.25	8.	2.	2.	0.17
	DIVERSION TO						
+	D34	15.	4.25	3.	1.	1.	0.17
	HYDROGRAPH AT						
+	DIV34	25.	4.25	5.	1.	1.	0.17
	ROUTED TO						
+	R34-35	25.	4.33	5.	1.	1.	0.17
	HYDROGRAPH AT						
+	SUB35	65.	4.08	11.	3.	3.	0.13
	DIVERSION TO						
+	D35	6.	4.08	1.	0.	0.	0.13
	HYDROGRAPH AT						
+	DIV35	59.	4.08	10.	3.	2.	0.13
	2 COMBINED AT						
+	OUT-35	80.	4.17	15.	4.	4.	0.30
	2 COMBINED AT						
+	C35-33	903.	4.25	150.	38.	36.	3.39
	HYDROGRAPH AT						
+	SUB40	36.	4.08	3.	1.	1.	0.07
	ROUTED TO						
+	R40-41	33.	4.17	3.	1.	1.	0.07
	HYDROGRAPH AT						
+	SUB41	51.	4.25	8.	2.	2.	0.16
	2 COMBINED AT						
+	C40-41	83.	4.17	12.	3.	3.	0.23
	ROUTED TO						
+	R41-39	81.	4.25	12.	3.	3.	0.23
	HYDROGRAPH AT						
+	SUB37	13.	4.17	1.	0.	0.	0.05
	ROUTED TO						
+	R37-39	13.	4.33	1.	0.	0.	0.05

HYDROGRAPH AT	SUB39	72.	4.33	17.	4.	4.	0.22
DIVERSION TO	D39-36	0.	4.33	0.	0.	0.	0.22
HYDROGRAPH AT	D39-36	72.	4.33	17.	4.	4.	0.22
DIVERSION TO	DCBR1	55.	4.33	16.	4.	4.	0.22
HYDROGRAPH AT	DCBR1	17.	4.33	1.	0.	0.	0.22
DIVERSION TO	DCBR2	17.	0.08	1.	0.	0.	0.22
HYDROGRAPH AT	DCBR2	0.	0.08	0.	0.	0.	0.22
HYDROGRAPH AT	RD3839	16.	3.58	9.	2.	2.	0.00
4 COMBINED AT	C37-41	108.	4.25	23.	6.	6.	0.50
ROUTED TO	R39-36	105.	4.33	23.	6.	6.	0.50
HYDROGRAPH AT	SUB36	37.	4.25	8.	2.	2.	0.09
DIVERSION TO	D36	6.	4.25	1.	0.	0.	0.09
HYDROGRAPH AT	DIV36	31.	4.25	7.	2.	2.	0.09
HYDROGRAPH AT	RDCBR2	17.	4.33	1.	0.	0.	0.00
HYDROGRAPH AT	RD3936	0.	0.08	0.	0.	0.	0.00
HYDROGRAPH AT	SUB42	103.	4.25	18.	5.	4.	0.21
DIVERSION TO	D42	7.	4.25	1.	0.	0.	0.21
HYDROGRAPH AT	DIV42	96.	4.25	17.	4.	4.	0.21
5 COMBINED AT	OUT-36	247.	4.33	48.	12.	12.	0.80
2 COMBINED AT	TOTAL	1150.	4.25	197.	50.	48.	4.19

```
*****************************************
*                                       *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)    *
*            MAY   1991                 *
*          VERSION 4.0.1E               *
*                                       *
*  RUN DATE  01/31/96  TIME  13:55:40   *
*                                       *
*****************************************
```


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


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

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

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


```
LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
              *
    1         ID
    2         ID        ALT4-100.DAT
              *
              *
              *       THIS MODEL USED TO CALCULATE THE 100-YR INFLOW FOR
              *       DETENTION POND SIZING
              *
    3         IT       5                    300
    4         IO       5
              *DIAGRAM
              *

    5         KK    SUB1
    6         KM   SUB-BASIN SUB1
    7         KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
    8         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
    9         KM     L =  .28  Kb = .108  Adj. Slope = 2120.0
   10         BA    .037
```

```
11          IN      15
12          KM   RAINFALL DEPTH OF 3.19 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
13          PB   3.084
14          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 2.20
15          PC    .000    .010    .017    .026    .037    .046    .056    .065    .075    .085
16          PC    .097    .111    .131    .175    .263    .455    .689    .829    .893    .933
17          PC    .949    .962    .975    .988   1.000
18          LG    .119    .337   4.650    .260  51.000
19          UC    .125    .087
20          UA       0       3       5       8      12      20      43      75      90      96
21          UA     100
            *

22          KK    R1-2
23          KM        ROUTE FLOW FROM SUB1 TO SUB2
24          RK  3183.8   .0166     .07       0    TRAP       0       3     YES
            *

25          KK    SUB2
26          KM   SUB-BASIN SUB2
27          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
28          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
29          KM     L =  .60  Kb = .041  Adj. Slope =   88.0
30          BA    .117
31          LG    .343    .250   4.650    .440   9.000
32          UC    .333    .247
33          UA       0       5      16      30      65      77      84      90      94      97
34          UA     100
            *

35          KK    DIV2
36          KM        DIVERT FOR IRRIGATED LAWNS SUB2
37          DT      D2     .80
38          DI       0       1
39          DQ       0    .382
            *
```



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

40          KK    C1-2
41          KM        COMBINE HYDROGRAPHS SUB1 AND SUB2 AT CP2
42          HC       2
            *

43          KK    R2-3
44          KM        ROUTE FLOW FROM SUB2 TO SUB3
45          RK  1367.5    .009    .016            TRAP      60       1     YES
            *

46          KK    SUB3
47          KM   SUB-BASIN SUB3
48          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
49          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
50          KM     L =  .26  Kb = .058  Adj. Slope =   47.0
51          BA    .067
52          LG    .298    .250   4.200    .520  16.000
53          UC    .317    .164
54          UA       0       5      16      30      65      77      84      90      94      97
```

```
 55          UA     100
             *

 56          KK    DIV3
 57          KM        DIVERT FOR IRRIGATED LAWNS SUB3
 58          DT      D3     .88
 59          DI       0       1
 60          DQ       0    .573
             *

 61          KK    C2-3
 62          KM        COMBINE HYDROGRAPHS SUB2 & SUB3 AT CP3
 63          HC       2
             *

 64          KK    R3-4
 65          KM        ROUTE FLOW FROM CP3 TO CP4
 66          RK    1320    .008    .016            TRAP      44       1     YES
             *

 67          KK    SUB4
 68          KM   SUB-BASIN SUB4
 69          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 70          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 71          KM     L =  .25  Kb = .058  Adj. Slope =   42.0
 72          BA    .065
 73          LG    .300    .250   4.800    .360  15.000
 74          UC    .308    .157
 75          UA       0       5      16      30      65      77      84      90      94      97
 76          UA     100
             *
1                                      HEC-1 INPUT                                          PAGE  3

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

 77          KK    DIV4
 78          KM        DIVERT FOR IRRIGATED LAWNS SUB4
 79          DT      D4     1.0
 80          DI       0       1
 81          DQ       0     .55
             *

 82          KK    C3-4
 83          KM        COMBINE HYDROGRAPHS SUB3 & SUB4 AT CP4
 84          HC       2
             *

 85          KK  DIVIBW
 86          KM        DIVERT LAFAYETTE DRAIN INTERCETION TO INDIAN BEND WASH
 87          DT    DIBW
 88          DI      25      63     101     193     241     306
 89          DQ    12.5    31.5    50.5    96.5     121    55.1
             *

 90          KK    R4-5
 91          KM        ROUTE FLOW FROM CP4 TO CP5
 92          RK  2307.4    .005    .016            TRAP      44       1     YES
             *
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```
 93          KK    SUB5
 94          KM    SUB-BASIN SUB5
 95          KM    6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 96          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 97          KM      L =  .44  Kb = .058  Adj. Slope =   24.0
 98          BA    .067
 99          LG    .300    .250   4.800    .360  15.000
100          UC    .512    .426
101          UA       0       5      16      30      65      77      84      90      94      97
102          UA     100
             *

103          KK    DIV5
104          KM        DIVERT FOR IRRIGATED LAWNS SUB5
105          DT      D5     .94
106          DI       0       1
107          DQ       0     .50
             *

108          KK    C4-5
109          KM        COMBINE HYDROGRAPHS SUB4 & SUB5 AT CP5
110          HC       2
             *

111          KK    SUB6
112          KM    SUB-BASIN SUB6
113          KM    6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
114          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
115          KM      L =  .26  Kb = .104  Adj. Slope = 2367.0
116          BA    .090
```



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

117          LG    .106    .346   4.700    .240  49.000
118          UC    .112    .044
119          UA       0       3       5       8      12      20      43      75      90      96
120          UA     100
             *

121          KK    R6-7
122          KM        ROUTE FLOW FROM SUB6 TO SUB7
123          RK  2972.0    .013     .07            TRAP       0       3     YES
             *

124          KK    SUB7
125          KM    SUB-BASIN SUB7
126          KM    6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
127          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
128          KM      L =  .56  Kb = .053  Adj. Slope =   71.0
129          BA    .153
130          LG    .290    .271   5.400    .280  20.000
131          UC    .375    .228
132          UA       0       5      16      30      65      77      84      90      94      97
133          UA     100
             *

134          KK    DIV7
135          KM        DIVERT FOR IRRIGATED LAWNS SUB7
136          DT      D7    2.30
```

```
137          DI       0       1
138          DQ       0    .427
             *

139          KK    C6-7
140          KM        COMBINE HYDROGRAPHS SUB6 & SUB7 AT CP7
141          HC       2
             *

142          KK    R7-8
143          KM        ROUTE FLOW FROM SUB7 TO SUB8
144          RK  2302.1    .001    .016            TRAP      40       1     YES
             *

145          KK    SUB8
146          KM   SUB-BASIN SUB8
147          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
148          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
149          KM     L =  .44  Kb = .057  Adj. Slope =   52.0
150          BA    .068
151          LG    .300    .250   4.450    .450  15.000
152          UC    .400    .321
153          UA       0       5      16      30      65      77      84      90      94      97
154          UA     100
             *
```



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

155          KK    DIV8
156          KM        DIVERT FOR IRRIGATED LAWNS SUB8
157          DT      D8     .99
158          DI       0       1
159          DQ       0      .6
             *

160          KK    C7-8
161          KM        COMBINE HYDROGRAPHS SUB7 & SUB8 AT CP8
162          HC       2
             *

163          KK    R8-9
164          KM        ROUTE FLOW FROM SUB8 TO SUB9
165          RK  1314.7    .010    .016            TRAP      20       1     YES
             *

166          KK    SUB9
167          KM   SUB-BASIN SUB9
168          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
169          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
170          KM     L =  .25  Kb = .058  Adj. Slope =   55.0
171          BA    .065
172          LG    .300    .250   4.450    .450  15.000
173          UC    .287    .145
174          UA       0       5      16      30      65      77      84      90      94      97
175          UA     100
             *

176          KK    DIV9
```

```
177          KM        DIVERT FOR IRRIGATED LAWNS SUB9
178          DT      D9     .94
179          DI       0       1
180          DQ       0      .6
             *

181          KK    C8-9
182          KM        COMBINE HYDROGRAPHS SUB8 & SUB9   AT CP9
183          HC       2
             *

184          KK    R9-5
185          KM        ROUTE FLOW FROM SUB9 TO  SUB5
186          RK  1784.7    .007    .016            TRAP      40       1     YES
             *

187          KK    C9-5
188          KM        COMBINE HYDROGRAPH SUB9  & SUB5  AT CP5
189          HC       2
             *
             *
```



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

190          KK   SUB10
191          KM   SUB-BASIN SUB10
192          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
193          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
194          KM     L =  .34  Kb = .056  Adj. Slope =   37.0
195          BA    .093
196          LG    .299    .250   4.800    .360  15.000
197          UC    .375    .203
198          UA       0       5      16      30      65      77      84      90      94      97
199          UA     100
             *

200          KK   DIV10
201          KM        DIVERT FOR IRRIGATED LAWNS SUB10
202          DT     D10    1.17
203          DI       0       1
204          DQ       0    .445
             *

205          KK   C5-10
206          KM        COMBINE HYDROGRAPH SUB5  & SUB10 AT CP10
207          HC       2
             *

208          KK   SUB11
209          KM   SUB-BASIN SUB11
210          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
211          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
212          KM     L =  .56  Kb = .106  Adj. Slope = 1740.0
213          BA    .093
214          LG    .115    .350   4.550    .270  39.000
215          UC    .188    .141
216          UA       0       3       5       8      12      20      43      75      90      96
217          UA     100
```

```
                *

 218            KK  R11-12
 219            KM        ROUTE FLOW FROM SUB11 TO   SUB12
 220            RK    1632    .058     .07            TRAP       0       3     YES
                *

 221            KK   SUB12
 222            KM   SUB-BASIN SUB12
 223            KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 224            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 225            KM     L =  .31  Kb = .064  Adj. Slope =  304.0
 226            BA    .120
 227            LG    .269    .277   5.600    .210   9.000
 228            UC    .188    .076
 229            UA       0       5      16      30      65      77      84      90      94      97
 230            UA     100
                *
```



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


 231            KK   DIV12
 232            KM        DIVERT FOR IRRIGATED LAWNS SUB12
 233            DT     D12     .31
 234            DI       0       1
 235            DQ       0    .079
                *

 236            KK  C11-12
 237            KM        COMBINE HYDROGRAPH SUB11 & SUB12 AT CP12
 238            HC       2
                *

 239            KK  R12-13
 240            KM        ROUTE FLOW FROM SUB12 TO SUB13
 241            RK  1362.2    .020    .016            TRAP      60       1     YES      50
                *

 242            KK   SUB13
 243            KM   SUB-BASIN SUB13
 244            KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 245            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 246            KM     L =  .26  Kb = .054  Adj. Slope =  107.0
 247            BA    .129
 248            LG    .300    .230   6.200    .200  15.000
 249            UC    .217    .074
 250            UA       0       5      16      30      65      77      84      90      94      97
 251            UA     100
                *

 252            KK   DIV13
 253            KM        DIVERT FOR IRRIGATED LAWNS SUB13
 254            DT     D13     .98
 255            DI       0       1
 256            DQ       0      .2
                *

 257            KK  C12-13
```

```
258          KM        COMBINE HYDROGRAPHS SUB12 & SUB13 AT CP13
259          HC       2
             *

260          KK  R13-14
261          KM        ROUTE FL OW FROM SUB13 TO SUB14
262          RK  1314.7    .014    .016            TRAP      60       1     YES
             *

263          KK   SUB14
264          KM   SUB-BASIN SUB14
265          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
266          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
267          KM     L =  .25  Kb = .054  Adj. Slope =   74.0
268          BA    .126
269          LG    .300    .250   4.100    .550  15.000
270          UC    .258    .088
```



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

271          UA       0       5      16      30      65      77      84      90      94      97
272          UA     100
             *

273          KK   DIV14
274          KM        DIVERT FOR IRRIGATED LAWNS SUB14
275          DT     D14    1.57
276          DI       0       1
277          DQ       0      .6
             *

278          KK  C13-14
279          KM        COMBINE HYDROGRAPHS SUB13 & SUB14 AT CP14
280          HC       2
             *

281          KK  R14-15
282          KM        ROUTE FLOW FROM SUB 14 TO SUB15
283          RK  1985.3    .011    .016            TRAP      60       1     YES
             *

284          KK   SUB15
285          KM   SUB-BASIN SUB15
286          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
287          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
288          KM     L =  .38  Kb = .054  Adj. Slope =   56.0
289          BA    .127
290          LG    .296    .250   4.650    .390  16.000
291          UC    .342    .168
292          UA       0       5      16      30      65      77      84      90      94      97
293          UA     100
             *

294          KK   DIV15
295          KM        DIVERT FOR IRRIGATED LAWNS SUB15
296          DT     D15    2.05
297          DI       0       1
298          DQ       0    .585
             *
```

```
299          KK  OUT-15
300          KM        COMBINE SUB 15 WITH SUB14
301          HC       2
             *
             *

302          KK  C15-10
303          KM        COMBINE SUB15 WITH SUB10
304          HC       2
             *
             *
```



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


305          KK   D56ST
306          KM        DIVERT FLOW THAT CROSSES 56TH ST. BRIDGE
307          DT   D56ST
308          DI       0     400     650     790    1040    1139    1334    1484    1689    1900
309          DQ       0       0     240     318     400     489     584     684     789     900
             *

310          KK   SUB16
311          KM   SUB-BASIN SUB16
312          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
313          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
314          KM     L =  .65  Kb = .102  Adj. Slope = 2052.0
315          BA    .129
316          LG    .104    .350   4.700    .240  47.000
317          UC    .183    .128
318          UA       0       3       5       8      12      20      43      75      90      96
319          UA     100
             *

320          KK  R16-17
321          KM        ROUTE FLOW FROM SUB16 TO SUB17
322          RK    1668    .058     .07            TRAP       0       3     YES
             *

323          KK   SUB17
324          KM   SUB-BASIN SUB17
325          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
326          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
327          KM     L =  .32  Kb = .058  Adj. Slope =  183.0
328          BA    .073
329          LG    .298    .252   4.150    .450  10.000
330          UC    .225    .126
331          UA       0       5      16      30      65      77      84      90      94      97
332          UA     100
             *

333          KK   DIV17
334          KM        DIVERT FOR IRRIGATED LAWNS SUB17
335          DT     D17     .11
336          DI       0       1
337          DQ       0    .074
             *
```

```
338          KK  C16-17
339          KM        COMBINE HYDROGRAPH SUB16 & SUB17 AT CP17
340          HC       2
             *

341          KK  R17-18
342          KM        ROUTE FLOW FROM SUB17 TO SUB18
343          RK  1378.1    .019    .016            TRAP      40       1     YES
             *
```



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

344          KK   SUB18
345          KM   SUB-BASIN SUB18
346          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
347          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
348          KM     L =  .26  Kb = .058  Adj. Slope =  102.0
349          BA    .067
350          LG    .300    .250   3.950    .580  15.000
351          UC    .246    .124
352          UA       0       5      16      30      65      77      84      90      94      97
353          UA     100
             *

354          KK   DIV18
355          KM        DIVERT FOR IRRIGATED LAWNS SUB18
356          DT     D18     .81
357          DI       0       1
358          DQ       0      .6
             *

359          KK  C17-18
360          KM        COMBINE  HYDROGRAPH SUB17 & SUB18 AT CP18
361          HC       2
             *

362          KK  R18-19
363          KM        ROUTE FLOW SUB18 TO SUB19
364          RK  1335.8    .014    .016            TRAP      40       1     YES
             *

365          KK   SUB19
366          KM   SUB-BASIN SUB19
367          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
368          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
369          KM     L =  .25  Kb = .057  Adj. Slope =   77.0
370          BA    .075
371          LG    .300    .250   3.950    .580  15.000
372          UC    .262    .121
373          UA       0       5      16      30      65      77      84      90      94      97
374          UA     100
             *

375          KK   DIV19
376          KM        DIVERT FOR IRRIGATED LAWNS SUB19
377          DT     D19     .91
378          DI       0       1
379          DQ       0      .6
```

```
                *
380             KK  C18-19
381             KM        COMBINE HYDROGRAPH SUB18 & SUB19 AT CP19
382             HC       2
                *
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


383             KK  R19-20
384             KM        ROUTE FLOW FROM SUB19 TO SUB20
385             RK  1473.1    .010    .016            TRAP      30       1     YES
                *

386             KK   SUB20
387             KM   SUB-BASIN SUB20
388             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
389             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
390             KM     L =  .28  Kb = .054  Adj. Slope =   54.0
391             BA    .129
392             LG    .300    .250   4.450    .450  15.000
393             UC    .296    .111
394             UA       0       5      16      30      65      77      84      90      94      97
395             UA     100
                *

396             KK   DIV20
397             KM        DIVERT FOR IRRIGATED LAWNS SUB20
398             DT     D20    1.86
399             DI       0       1
400             DQ       0      .6
                *

401             KK  OUT-20
402             KM        COMBINE SUB20 WITH SUB19
403             HC       2
                *
                *

404             KK  C20-15
405             KM        COMBINE SUB20 WITH SUB15
406             HC       2
                *

407             KK   SUB21
408             KM   SUB-BASIN SUB21
409             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
410             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
411             KM     L =  .56  Kb = .102  Adj. Slope = 2352.0
412             BA    .124
413             LG    .106    .350   4.700    .240  46.000
414             UC    .167    .105
415             UA       0       3       5       8      12      20      43      75      90      96
416             UA     100
                *

417             KK  R21-22
418             KM        ROUTE FLOW FROM SUB21 TO SUB22
```

```
 419          RK    2735    .026     .07            TRAP       0       3     YES
              *
```



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

 420          KK   SUB22
 421          KM   SUB-BASIN SUB22
 422          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 423          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 424          KM     L =  .52  Kb = .059  Adj. Slope =  134.0
 425          BA    .112
 426          LG    .286    .261   4.000    .490   9.000
 427          UC    .329    .222
 428          UA       0       5      16      30      65      77      84      90      94      97
 429          UA     100
              *

 430          KK   DIV22
 431          KM        DIVERT FOR IRRIGATED LAWNS SUB22
 432          DT     D22     .12
 433          DI       0       1
 434          DQ       0    .063
              *

 435          KK  C21-22
 436          KM        COMBINE HYDROGRAPH SUB21 & SUB22 AT CP22
 437          HC       2
              *

 438          KK  R22-23
 439          KM        ROUTE FLOW FROM SUB22 TO SUB23
 440          RK  1240.8    .025    .016            TRAP      20       1     YES
              *

 441          KK   SUB23
 442          KM   SUB-BASIN SUB23
 443          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 444          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 445          KM     L =  .23  Kb = .058  Adj. Slope =  132.0
 446          BA    .060
 447          LG    .300    .250   3.950    .580  15.000
 448          UC    .213    .102
 449          UA       0       5      16      30      65      77      84      90      94      97
 450          UA     100
              *

 451          KK   DIV23
 452          KM        DIVERT FOR IRRIGATED LAWNS SUB23
 453          DT     D23     .72
 454          DI       0       1
 455          DQ       0    .593
              *

 456          KK  C22-23
 457          KM        COMBINE HYDROGRAPH SUB22 & SUB23 AT CP23
 458          HC       2
              *
```

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

 459      KK  R23-24
 460      KM        ROUTE FLOW FROM SUB 23 TO SUB24
 461      RK  1088.9    .015    .016            TRAP      32       1     YES
          *

 462      KK   SUB24
 463      KM   SUB-BASIN SUB24
 464      KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 465      KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 466      KM     L =  .28  Kb = .057  Adj. Slope =   78.0
 467      BA    .077
 468      LG    .300    .250   3.950    .580  15.000
 469      UC    .279    .140
 470      UA       0       5      16      30      65      77      84      90      94      97
 471      UA     100
          *

 472      KK   DIV24
 473      KM        DIVERT FOR IRRIGATED LAWNS SUB24
 474      DT     D24     .93
 475      DI       0       1
 476      DQ       0      .6
          *

 477      KK  C23-24
 478      KM        COMBINE HYDROGRAPH SUB23 & SUB24 AT CP24
 479      HC       2
          *

 480      KK  R24-25
 481      KM        ROUTE FLOW FROM SUB24 TO SUB25
 482      RK  1346.4    .009    .016            TRAP      40       1     YES
          *

 483      KK   SUB25
 484      KM   SUB-BASIN SUB25
 485      KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
 486      KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
 487      KM     L =  .25  Kb = .057  Adj. Slope =   46.0
 488      BA    .076
 489      LG    .300    .250   3.950    .580  15.000
 490      UC    .317    .148
 491      UA       0       5      16      30      65      77      84      90      94      97
 492      UA     100
          *

 493      KK   DIV25
 494      KM        DIVERT FOR IRRIGATED LAWNS SUB25
 495      DT     D25     .93
 496      DI       0       1
 497      DQ       0      .6
          *
```


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

```
498          KK  OUT-25
499          KM        COMBINE SUB25 WITH SUB24
500          HC       2
             *

501          KK  C25-20
502          KM        COMBINE SUB25 WITH SUB20
503          HC       2
             *

504          KK   SUB26
505          KM   SUB-BASIN SUB26
506          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
507          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
508          KM     L =  .52  Kb = .063  Adj. Slope =  840.0
509          BA    .054
510          LG    .289    .289   4.200    .550  14.000
511          UC    .192    .185
512          UA       0       3       5       8      12      20      43      75      90      96
513          UA     100
             *

514          KK   DIV26
515          KM        DIVERT FOR GOLF   COURSE
516          DT     D26     .31
517          DI       0       1
518          DQ       0    .312
             *

519          KK  R26-27
520          KM        ROUTE FLOW FROM SUB26 TO SUB27
521          RK  1293.6    .024    .016            TRAP      35       1     YES
             *

522          KK   SUB27
523          KM   SUB-BASIN SUB27
524          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
525          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
526          KM     L =  .25  Kb = .058  Adj. Slope =  122.0
527          BA    .061
528          LG    .300    .250   3.950    .580  15.000
529          UC    .229    .117
530          UA       0       5      16      30      65      77      84      90      94      97
531          UA     100
             *

532          KK   DIV27
533          KM        DIVERT FOR IRRIGATED LAWNS SUB27
534          DT     D27     .74
535          DI       0     1.0
536          DQ       0     .60
             *
```



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

537          KK  C26-27
538          KM        COMBINE HYDROGRAPH SUB 26 & SUB27 AT CP27
```

```
539          HC       2
             *

540          KK  R27-28
541          KM        ROUTE FLOW FROM SUB 27 TO SUB28
542          RK  1436.2    .017    .016            TRAP      35       1     YES
             *

543          KK   SUB28
544          KM   SUB-BASIN SUB28
545          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
546          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
547          KM     L =  .27  Kb = .057  Adj. Slope =   89.0
548          BA    .078
549          LG    .300    .250   3.950    .580  15.000
550          UC    .262    .126
551          UA       0       5      16      30      65      77      84      90      94      97
552          UA     100
             *

553          KK   DIV28
554          KM        DIVERT FOR IRRIGATED LAWNS SUB28
555          DT     D28     .95
556          DI       0       1
557          DQ       0     .60
             *

558          KK  C27-28
559          KM        COMBINE HYDROGRAPH SUB27 & SUB28 AT CP28
560          HC       2
             *

561          KK  R28-29
562          KM        ROUTE FLOW FROM SUB 28 TO SUB29
563          RK  1161.6    .009    .016            TRAP      35       1     YES
             *

564          KK   SUB29
565          KM   SUB-BASIN SUB29
566          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
567          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
568          KM     L =  .22  Kb = .058  Adj. Slope =   47.0
569          BA    .058
570          LG    .299    .250   3.950    .580  15.000
571          UC    .292    .142
572          UA       0       5      16      30      65      77      84      90      94      97
573          UA     100
             *
```



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

574          KK   DIV29
575          KM        DIVERT FOR IRRIGATED LAWNS SUB29
576          DT     D29     .70
577          DI       0       1
578          DQ       0    .587
             *
```

```
579          KK  OUT-29
580          KM        COMBINE SUB29 WITH SUB28
581          HC       2
             *

582          KK  C29-25
583          KM        COMBINE SUB29 WITH SUB25
584          HC       2
             *

585          KK   SUB38
586          KM   SUB-BASIN SUB38
587          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
588          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
589          KM     L = 1.28  Kb = .090  Adj. Slope = 1079.0
590          BA    .252
591          LG    .133    .340   4.500    .290  36.000
592          UC    .308    .268
593          UA       0       5      16      30      65      77      84      90      94      97
594          UA     100
             *

595          KK  D38-39
596          KM        DIVERT 16CFS FROM SUB38 TO SUB39
597          DT  D38-39
598          DI       0       5      10      16      50     100     200     400     600
599          DQ       0       5      10      16      16      16      16      16      16
             *

600          KK  R38-30
601          KM        ROUTE FLOW FROM SUB38 TO   SUB30
602          RK    1200    .035    .016            TRAP      30       1     YES
             *

603          KK   SUB30
604          KM   SUB-BASIN SUB30
605          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
606          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
607          KM     L =  .48  Kb = .064  Adj. Slope =  571.0
608          BA    .064
609          LG    .279    .263   3.950    .480   8.000
610          UC    .204    .169
611          UA       0       5      16      30      65      77      84      90      94      97
612          UA     100
             *
```



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

613          KK  C30-38
614          KM        COMBINE SUB38 & SUB30 AT CP30
615          HC       2
             *

616          KK  R30-31
617          KM        ROUTE FLOW FROM SUB30 TO SUB31
618          RK    1304   .0225    .025            TRAP      20       1     YES
             *
```

```
619          KK   SUB31
620          KM   SUB-BASIN SUB31
621          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
622          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
623          KM     L =  .25  Kb = .058  Adj. Slope =  118.0
624          BA    .061
625          LG    .300    .260   3.670    .690  15.000
626          UC    .237    .122
627          UA       0       3       5       8      12      20      43      75      90      96
628          UA     100
             *

629          KK   DIV31
630          KM        DIVERT FOR IRRIGATED LAWNS SUB31
631          DT     D31     .45
632          DI       0       1
633          DQ       0    .400
             *

634          KK  C30-31
635          KM        COMBINE SUB30 & SUB31 AT CP31
636          HC       2
             *

637          KK  R31-32
638          KM        ROUTE FLOW FROM SUB31 TO SUB32
639          RK    1260    .019    .016       0    TRAP      30       1     YES
             *

640          KK   SUB32
641          KM   SUB-BASIN SUB32
642          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
643          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
644          KM     L =  .27  Kb = .058  Adj. Slope =   77.0
645          BA    .064
646          LG    .300    .250   3.950    .580  15.000
647          UC    .279    .151
648          UA       0       5      16      30      65      77      84      90      94      97
649          UA     100
             *
```



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


650          KK   DIV32
651          KM        DIVERT FOR IRRIGATED LAWNS SUB32
652          DT     D32     .79
653          DI     0.0     1.0
654          DQ       0     .60
             *

655          KK  C31-32
656          KM        COMBINE HYDROGRAPH SUB31 & SUB32 AT CP32
657          HC       2
             *

658          KK  R32-33
659          KM        ROUTE FLOW FROM SUB32 TO SUB33
660          RK    1447   .0144     .07            TRAP       0       3     YES
```

```
*

KK   SUB33
KM   SUB-BASIN SUB33
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .22  Kb = .058  Adj. Slope =   65.0
BA    .062
LG    .277    .250   3.950    .580  22.000
UC    .258    .120
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   DIV33
KM        DIVERT FOR IRRIGATED LAWNS SUB33
DT     D33     .62
DI       0       1
DQ       0     .37
*

KK  OUT-33
KM        COMBINE SUB33 WITH SUB32
HC       2
*

KK  C33-29
KM        COMBINE SUB33 WITH SUB29
HC       2
*

KK   SUB34
KM   SUB-BASIN SUB34
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .57  Kb = .050  Adj. Slope =   87.0
BA    .167
LG    .284    .250   3.950    .590  20.000
UC    .367    .215
```



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

UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK   DIV34
KM        DIVERT FOR IRRIGATED LAWNS SUB34
DT     D34    1.53
DI       0       1
DQ       0    .366
*

KK  R34-35
KM        ROUTE FLOW FROM SUB34 TO SUB35
RK  1531.2    .018    .016            TRAP      40       1     YES
*

KK   SUB35
```

```
701          KM   SUB-BASIN SUB35
702          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
703          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
704          KM     L =  .29  Kb = .048  Adj. Slope =   51.0
705          BA    .128
706          LG    .223    .250   3.950    .600  39.000
707          UC    .279    .108
708          UA       0       3       5       8      12      20      43      75      90      96
709          UA     100
             *

710          KK   DIV35
711          KM        DIVERT FOR IRRIGATED LAWNS SUB35
712          DT     D35     .53
713          DI     0.0     1.0
714          DQ     0.0    .095
             *

715          KK  OUT-35
716          KM         COMBINE SUB35 WITH SUB34
717          HC       2
             *

718          KK  C35-33
719          KM         COMBINE SUB35 WITH SUB33
720          HC       2
             *

721          KK   SUB40
722          KM   SUB-BASIN SUB40
723          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
724          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
725          KM     L =  .31  Kb = .099  Adj. Slope = 1822.0
726          BA    .074
727          LG    .162    .332   4.250    .350  22.000
728          UC    .138    .071
729          UA       0       5      16      30      65      77      84      90      94      97
730          UA     100
             *
```



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


731          KK  R40-41
732          KM         ROUTE FLOW FROM SUB40 TO SUB41
733          RK    1452   .0221     .05            TRAP       6       2     YES
             *

734          KK   SUB41
735          KM   SUB-BASIN SUB41
736          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
737          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
738          KM     L =  .54  Kb = .054  Adj. Slope =  110.0
739          BA    .144
740          LG    .283    .251   4.600    .360  17.000
741          UC    .325    .196
742          UA       0       5      16      30      65      77      84      90      94      97
743          UA     100
             *
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744          KK  C40-41
745          KM        COMBINE HYDROGRAPH SUB40 & SUB41 AT CP41
746          HC       2
             *

747          KK  R41-39
748          KM        ROUTE FLOW FROM SUB41 TO   SUB39
749          RK    2865   .0341     .05            TRAP       4       3     YES
             *

750          KK   SUB37
751          KM   SUB-BASIN SUB37
752          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
753          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
754          KM     L =  .30  Kb = .059  Adj. Slope =  247.0
755          BA    .049
756          LG    .300    .250   3.950    .490   5.000
757          UC    .200    .132
758          UA       0       5      16      30      65      77      84      90      94      97
759          UA     100
             *

760          KK  R37-39
761          KM        ROUTE FLOW FROM SUB37 TO   SUB39
762          RK    3500    .018    .016            TRAP      70       1     YES
             *

763          KK   SUB39
764          KM   SUB-BASIN SUB39
765          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
766          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
767          KM     L =  .84  Kb = .051  Adj. Slope =   79.0
768          BA    .188
769          LG    .220    .262   4.000    .530  34.000
770          UC    .450    .344
771          UA       0       3       5       8      12      20      43      75      90      96
772          UA     100
             *
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LINE         ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10


773          KK  D39-36
774          KM        DIVERT FLOW OF CAMELBACK RD. OVERTOPPING AND RUNNING TO    SUB36
775          DT  D39-36
776          DI       0    99.5     160     200     300     500     700    1000
777          DQ       0       0       0      40     140     340     540     840
             *

778          KK   DCBR1
779          KM        DIVERT 55 CFS FROM WATERSHED STORM DRAIN OUTLETS TO 40TH STREET SYSTEM
780          DT   DCBR1
781          DI       0      20      50      55     100     200     500    1000    2000    3000
782          DQ       0      20      50      55      55      55      55      55      55      55
             *

783          KK   DCBR2
784          KM        DIVERT 60 CFS FOR STORM DRAIN THAT OUTLETS INTO AZ. CANAL IN SUBBASIN 36
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785          DT   DCBR2
786          DI       0      20      50      60     150     300     600    1000    2000    3000
787          DQ       0      20      50      60      60      60      60      60      60      60
             *

788          KK  RD3839
789          KM        RECALL DIVERSION FROM SUBBASIN 38
790          DR  D38-39
             *

791          KK  C37-41
792          KM        COMBINE HYDROGRAPHS SUB41, SUB37 & SUB39 AT CP39 AND RECALLED DIVERSION
793          HC       4
             *

794          KK  R39-36
795          KM        ROUTE FLOW FROM SUB39 TO   SUB36
796          RK    1250    .006    .016            TRAP      26       1     YES
             *

797          KK   SUB36
798          KM   SUB-BASIN SUB36
799          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
800          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
801          KM     L =  .28  Kb = .052  Adj. Slope =   14.0
802          BA    .089
803          LG    .232    .250   3.950    .590  41.000
804          UC    .446    .216
805          UA       0       5      16      30      65      77      84      90      94      97
806          UA     100
             *

807          KK   DIV36
808          KM        DIVERT FOR IRRIGATED LAWNS SUB36
809          DT     D36     .61
810          DI     0.0     1.0
811          DQ     0.0    .150
             *
1                                        HEC-1 INPUT                                        PAGE 22

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

812          KK  RDCBR2
813          KM        RECALL DIVERSION FOR STORM DRAIN ALONG CAMELBACK RD.
814          DR   DCBR2
             *

815          KK  RD39366
816          KM        RECALL DIVERSION FROM SUB 39 TO    SUB36
817          DR  D39-36
             *

818          KK   SUB42
819          KM   SUB-BASIN SUB42
820          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
821          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
822          KM     L =  .51  Kb = .044  Adj. Slope =   29.0
823          BA    .251
824          LG    .256    .250   5.600    .250  23.000
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825          UC    .425    .184
826          UA       0       5      16      30      65      77      84      90      94      97
827          UA     100
             *

828          KK   DIV42
829          KM        DIVERT FOR IRRIGATED LAWNS SUB42
830          DT     D42     .75
831          DI       0       1
832          DQ       0    .072
             *
             *

833          KK  OUT-36
834          KM        COMBINE SUBS 36, 39, 41,& SUB42 & DIVERSION
835          HC       5
             *
836          KO       1       2                      22                   .1667
             *

837          KK   TOTAL
838          KM        COMBINE HYDROGRAPH SUB42 WITH SUB36
839          HC       2
             *
             *
840          ZZ
1
1
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RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT									
+	SUB1	59.	4.00	9.	2.	2.	0.04		
ROUTED TO									
+	R1-2	57.	4.17	9.	2.	2.	0.04		
HYDROGRAPH AT									
+	SUB2	107.	4.17	14.	4.	3.	0.12		
DIVERSION TO									
+	D2	28.	4.17	2.	0.	0.	0.12		
HYDROGRAPH AT									
+	DIV2	107.	4.17	13.	3.	3.	0.12		
2 COMBINED AT									
+	C1-2	164.	4.17	21.	5.	5.	0.15		
ROUTED TO									
+	R2-3	163.	4.17	21.	5.	5.	0.15		
HYDROGRAPH AT									
+	SUB3	71.	4.08	9.	2.	2.	0.07		

DIVERSION TO						
D3	30.	4.08	2.	0.	0.	0.07
HYDROGRAPH AT						
DIV3	71.	4.08	7.	2.	2.	0.07
2 COMBINED AT						
C2-3	230.	4.17	29.	7.	7.	0.22
ROUTED TO						
R3-4	226.	4.17	29.	7.	7.	0.22
HYDROGRAPH AT						
SUB4	77.	4.08	10.	2.	2.	0.06
DIVERSION TO						
D4	33.	4.08	2.	1.	0.	0.06
HYDROGRAPH AT						
DIV4	77.	4.08	8.	2.	2.	0.06
2 COMBINED AT						
C3-4	299.	4.17	36.	9.	9.	0.29
DIVERSION TO						
DIBW	110.	4.17	17.	4.	4.	0.29
HYDROGRAPH AT						
DIVIBW	236.	4.17	20.	5.	5.	0.29
ROUTED TO						
R4-5	222.	4.25	20.	5.	5.	0.29
HYDROGRAPH AT						
SUB5	54.	4.25	10.	3.	2.	0.07
DIVERSION TO						
D5	26.	4.33	2.	0.	0.	0.07
HYDROGRAPH AT						
DIV5	54.	4.33	8.	2.	2.	0.07
2 COMBINED AT						
C4-5	261.	4.25	28.	7.	7.	0.35
HYDROGRAPH AT						
SUB6	148.	4.00	21.	5.	5.	0.09
ROUTED TO						
R6-7	145.	4.08	21.	5.	5.	0.09
HYDROGRAPH AT						
SUB7	171.	4.17	26.	6.	6.	0.15
DIVERSION TO						
D7	69.	4.17	5.	1.	1.	0.15
HYDROGRAPH AT						
DIV7	171.	4.17	21.	5.	5.	0.15

	2 COMBINED AT						
+		C6-7	304.	4.17	42.	11.	10.	0.24
	ROUTED TO						
+		R7-8	296.	4.25	42.	11.	10.	0.24
	HYDROGRAPH AT						
+		SUB8	59.	4.17	9.	2.	2.	0.07
	DIVERSION TO						
+		D8	32.	4.17	2.	0.	0.	0.07
	HYDROGRAPH AT						
+		DIV8	59.	4.17	7.	2.	2.	0.07
	2 COMBINED AT						
+		C7-8	354.	4.25	50.	12.	12.	0.31
	ROUTED TO						
+		R8-9	347.	4.25	50.	13.	12.	0.31
	HYDROGRAPH AT						
+		SUB9	74.	4.08	9.	2.	2.	0.06
	DIVERSION TO						
+		D9	35.	4.08	2.	0.	0.	0.06
	HYDROGRAPH AT						
+		DIV9	74.	4.08	7.	2.	2.	0.06
	2 COMBINED AT						
+		C8-9	405.	4.25	57.	14.	14.	0.38
	ROUTED TO						
+		R9-5	394.	4.25	57.	14.	14.	0.38
	2 COMBINED AT						
+		C9-5	655.	4.25	85.	21.	20.	0.73
	HYDROGRAPH AT						
+		SUB10	100.	4.17	14.	3.	3.	0.09
	DIVERSION TO						
+		D10	40.	4.17	2.	1.	1.	0.09
	HYDROGRAPH AT						
+		DIV10	100.	4.17	12.	3.	3.	0.09
	2 COMBINED AT						
+		C5-10	748.	4.25	96.	24.	23.	0.82
	HYDROGRAPH AT						
+		SUB11	134.	4.08	20.	5.	5.	0.09
	ROUTED TO						
+		R11-12	131.	4.08	20.	5.	5.	0.09
	HYDROGRAPH AT						
+		SUB12	174.	4.00	19.	5.	5.	0.12

DIVERSION TO	D12	11.	4.00	1.	0.	0.	0.12
HYDROGRAPH AT	DIV12	174.	4.00	19.	5.	5.	0.12
2 COMBINED AT	C11-12	294.	4.00	38.	10.	9.	0.21
ROUTED TO	R12-13	290.	4.08	38.	10.	9.	0.21
HYDROGRAPH AT	SUB13	191.	4.00	23.	6.	6.	0.13
DIVERSION TO	D13	33.	4.00	2.	0.	0.	0.13
HYDROGRAPH AT	DIV13	191.	4.00	21.	5.	5.	0.13
2 COMBINED AT	C12-13	473.	4.00	59.	15.	14.	0.34
ROUTED TO	R13-14	468.	4.08	59.	15.	14.	0.34
HYDROGRAPH AT	SUB14	142.	4.00	16.	4.	4.	0.13
DIVERSION TO	D14	59.	4.00	3.	1.	1.	0.13
HYDROGRAPH AT	DIV14	142.	4.00	13.	3.	3.	0.13
2 COMBINED AT	C13-14	610.	4.08	72.	18.	17.	0.47
ROUTED TO	R14-15	607.	4.08	73.	18.	18.	0.47
HYDROGRAPH AT	SUB15	144.	4.08	19.	5.	5.	0.13
DIVERSION TO	D15	67.	4.08	4.	1.	1.	0.13
HYDROGRAPH AT	DIV15	144.	4.08	15.	4.	4.	0.13
2 COMBINED AT	OUT-15	751.	4.08	87.	22.	21.	0.60
2 COMBINED AT	C15-10	1384.	4.17	183.	46.	44.	1.42
DIVERSION TO	D56ST	617.	4.17	56.	14.	13.	1.42

	HYDROGRAPH AT						
+	D56ST	767.	4.17	128.	32.	31.	1.42
	HYDROGRAPH AT						
+	SUB16	196.	4.08	30.	7.	7.	0.13
	ROUTED TO						
+	R16-17	193.	4.08	30.	7.	7.	0.13
	HYDROGRAPH AT						
+	SUB17	83.	4.00	9.	2.	2.	0.07
	DIVERSION TO						
+	D17	4.	4.00	0.	0.	0.	0.07
	HYDROGRAPH AT						
+	DIV17	83.	4.00	9.	2.	2.	0.07
	2 COMBINED AT						
+	C16-17	275.	4.08	39.	10.	9.	0.20
	ROUTED TO						
+	R17-18	273.	4.08	39.	10.	9.	0.20
	HYDROGRAPH AT						
+	SUB18	72.	4.08	8.	2.	2.	0.07
	DIVERSION TO						
+	D18	28.	4.08	2.	0.	0.	0.07
	HYDROGRAPH AT						
+	DIV18	72.	4.08	7.	2.	2.	0.07
	2 COMBINED AT						
+	C17-18	344.	4.08	46.	11.	11.	0.27
	ROUTED TO						
+	R18-19	341.	4.08	46.	12.	11.	0.27
	HYDROGRAPH AT						
+	SUB19	81.	4.08	9.	2.	2.	0.08
	DIVERSION TO						
+	D19	31.	4.08	2.	0.	0.	0.08
	HYDROGRAPH AT						
+	DIV19	81.	4.08	8.	2.	2.	0.08
	2 COMBINED AT						
+	C18-19	421.	4.08	54.	13.	13.	0.34
	ROUTED TO						
+	R19-20	415.	4.08	54.	13.	13.	0.34
	HYDROGRAPH AT						
+	SUB20	152.	4.08	18.	4.	4.	0.13
	DIVERSION TO						
+	D20	74.	4.08	4.	1.	1.	0.13

HYDROGRAPH AT	DIV20	152.	4.08	14.	4.	3.	0.13
2 COMBINED AT	OUT-20	567.	4.08	68.	17.	16.	0.47
2 COMBINED AT	C20-15	1305.	4.17	195.	49.	47.	1.89
HYDROGRAPH AT	SUB21	191.	4.08	28.	7.	7.	0.12
ROUTED TO	R21-22	187.	4.17	28.	7.	7.	0.12
HYDROGRAPH AT	SUB22	105.	4.08	14.	3.	3.	0.11
DIVERSION TO	D22	5.	4.08	0.	0.	0.	0.11
HYDROGRAPH AT	DIV22	105.	4.08	13.	3.	3.	0.11
2 COMBINED AT	C21-22	292.	4.17	42.	10.	10.	0.24
ROUTED TO	R22-23	292.	4.17	42.	10.	10.	0.24
HYDROGRAPH AT	SUB23	67.	4.00	8.	2.	2.	0.06
DIVERSION TO	D23	28.	4.00	1.	0.	0.	0.06
HYDROGRAPH AT	DIV23	67.	4.00	6.	2.	1.	0.06
2 COMBINED AT	C22-23	351.	4.08	48.	12.	12.	0.30
ROUTED TO	R23-24	347.	4.08	48.	12.	12.	0.30
HYDROGRAPH AT	SUB24	81.	4.08	10.	2.	2.	0.08
DIVERSION TO	D24	34.	4.08	2.	0.	0.	0.08
HYDROGRAPH AT	DIV24	81.	4.08	8.	2.	2.	0.08
2 COMBINED AT	C23-24	428.	4.08	56.	14.	14.	0.37
ROUTED TO	R24-25	420.	4.17	56.	14.	14.	0.37

	HYDROGRAPH AT						
+	SUB25	78.	4.08	10.	2.	2.	0.08
	DIVERSION TO						
+	D25	35.	4.08	2.	0.	0.	0.08
	HYDROGRAPH AT						
+	DIV25	78.	4.08	8.	2.	2.	0.08
	2 COMBINED AT						
+	OUT-25	498.	4.08	64.	16.	15.	0.45
	2 COMBINED AT						
+	C25-20	1798.	4.17	259.	65.	63.	2.34
	HYDROGRAPH AT						
+	SUB26	53.	4.08	7.	2.	2.	0.05
	DIVERSION TO						
+	D26	12.	4.08	1.	0.	0.	0.05
	HYDROGRAPH AT						
+	DIV26	53.	4.08	6.	1.	1.	0.05
	ROUTED TO						
+	R26-27	51.	4.17	6.	1.	1.	0.05
	HYDROGRAPH AT						
+	SUB27	66.	4.00	8.	2.	2.	0.06
	DIVERSION TO						
+	D27	27.	4.00	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV27	66.	4.00	6.	2.	2.	0.06
	2 COMBINED AT						
+	C26-27	115.	4.08	12.	3.	3.	0.12
	ROUTED TO						
+	R27-28	112.	4.08	12.	3.	3.	0.12
	HYDROGRAPH AT						
+	SUB28	84.	4.08	10.	2.	2.	0.08
	DIVERSION TO						
+	D28	32.	4.08	2.	0.	0.	0.08
	HYDROGRAPH AT						
+	DIV28	84.	4.08	8.	2.	2.	0.08
	2 COMBINED AT						
+	C27-28	195.	4.08	20.	5.	5.	0.19
	ROUTED TO						
+	R28-29	190.	4.08	20.	5.	5.	0.19
	HYDROGRAPH AT						
+	SUB29	61.	4.08	7.	2.	2.	0.06

DIVERSION TO						
D29	27.	4.08	1.	0.	0.	0.06
HYDROGRAPH AT						
DIV29	61.	4.08	6.	1.	1.	0.06
2 COMBINED AT						
OUT-29	251.	4.08	26.	7.	6.	0.25
2 COMBINED AT						
C29-25	2039.	4.17	285.	72.	69.	2.59
HYDROGRAPH AT						
SUB38	295.	4.17	51.	13.	12.	0.25
DIVERSION TO						
D38-39	16.	4.17	11.	3.	3.	0.25
HYDROGRAPH AT						
D38-39	279.	4.17	40.	10.	10.	0.25
ROUTED TO						
R38-30	279.	4.17	40.	10.	10.	0.25
HYDROGRAPH AT						
SUB30	67.	4.08	8.	2.	2.	0.06
2 COMBINED AT						
C30-38	341.	4.08	48.	12.	11.	0.32
ROUTED TO						
R30-31	338.	4.17	48.	12.	12.	0.32
HYDROGRAPH AT						
SUB31	62.	4.08	7.	2.	2.	0.06
DIVERSION TO						
D31	17.	4.08	1.	0.	0.	0.06
HYDROGRAPH AT						
DIV31	62.	4.08	6.	2.	1.	0.06
2 COMBINED AT						
C30-31	398.	4.08	54.	13.	13.	0.38
ROUTED TO						
R31-32	395.	4.17	54.	14.	13.	0.38
HYDROGRAPH AT						
SUB32	66.	4.08	8.	2.	2.	0.06
DIVERSION TO						
D32	31.	4.08	2.	0.	0.	0.06
HYDROGRAPH AT						
DIV32	66.	4.08	6.	2.	2.	0.06
2 COMBINED AT						
C31-32	458.	4.08	60.	15.	15.	0.44

	ROUTED TO						
+	R32-33	457.	4.17	60.	15.	15.	0.44
	HYDROGRAPH AT						
+	SUB33	70.	4.08	9.	2.	2.	0.06
	DIVERSION TO						
+	D33	22.	4.08	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV33	70.	4.08	8.	2.	2.	0.06
	2 COMBINED AT						
+	OUT-33	519.	4.17	68.	17.	16.	0.50
	2 COMBINED AT						
+	C33-29	2558.	4.17	353.	89.	85.	3.09
	HYDROGRAPH AT						
+	SUB34	158.	4.17	23.	6.	6.	0.17
	DIVERSION TO						
+	D34	51.	4.17	3.	1.	1.	0.17
	HYDROGRAPH AT						
+	DIV34	158.	4.17	20.	5.	5.	0.17
	ROUTED TO						
+	R34-35	156.	4.17	20.	5.	5.	0.17
	HYDROGRAPH AT						
+	SUB35	163.	4.08	24.	6.	6.	0.13
	DIVERSION TO						
+	D35	14.	4.17	1.	0.	0.	0.13
	HYDROGRAPH AT						
+	DIV35	160.	4.17	22.	6.	5.	0.13
	2 COMBINED AT						
+	OUT-35	316.	4.17	42.	11.	10.	0.30
	2 COMBINED AT						
+	C35-33	2874.	4.17	395.	99.	96.	3.39
	HYDROGRAPH AT						
+	SUB40	105.	4.00	12.	3.	3.	0.07
	ROUTED TO						
+	R40-41	102.	4.00	12.	3.	3.	0.07
	HYDROGRAPH AT						
+	SUB41	163.	4.08	22.	6.	5.	0.14
	2 COMBINED AT						
+	C40-41	260.	4.08	35.	9.	8.	0.22
	ROUTED TO						
+	R41-39	254.	4.08	35.	9.	8.	0.22

HYDROGRAPH AT							
	SUB37	53.	4.00	6.	1.	1.	0.05
ROUTED TO							
	R37-39	52.	4.08	6.	1.	1.	0.05
HYDROGRAPH AT							
	SUB39	178.	4.33	33.	8.	8.	0.19
DIVERSION TO							
	D39-36	18.	4.25	1.	0.	0.	0.19
HYDROGRAPH AT							
	D39-36	160.	4.25	33.	8.	8.	0.19
DIVERSION TO							
	DCBR1	55.	4.25	20.	5.	5.	0.19
HYDROGRAPH AT							
	DCBR1	105.	4.25	13.	3.	3.	0.19
DIVERSION TO							
	DCBR2	60.	4.25	9.	2.	2.	0.19
HYDROGRAPH AT							
	DCBR2	45.	4.25	4.	1.	1.	0.19
HYDROGRAPH AT							
	RD3839	16.	3.25	11.	3.	3.	0.00
4 COMBINED AT							
	C37-41	363.	4.17	55.	14.	13.	0.45
ROUTED TO							
	R39-36	358.	4.17	55.	14.	13.	0.45
HYDROGRAPH AT							
	SUB36	98.	4.17	17.	4.	4.	0.09
DIVERSION TO							
	D36	14.	4.25	1.	0.	0.	0.09
HYDROGRAPH AT							
	DIV36	93.	4.25	16.	4.	4.	0.09
HYDROGRAPH AT							
	RDCBR2	60.	4.08	9.	2.	2.	0.00
HYDROGRAPH AT							
	RD3936	18.	4.33	1.	0.	0.	0.00
HYDROGRAPH AT							
	SUB42	308.	4.17	46.	11.	11.	0.25
DIVERSION TO							
	D42	22.	4.17	2.	0.	0.	0.25
HYDROGRAPH AT							
	DIV42	306.	4.17	44.	11.	11.	0.25

	5 COMBINED AT							
+		OUT-36	814.	4.17	125.	31.	30.	0.79
	2 COMBINED AT							
+		TOTAL	3688.	4.17	520.	131.	126.	4.18

1

Alternate 5

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*             MAY   1991                *
*          VERSION 4.0.1E               *
*                                       *
*  RUN DATE  01/31/96  TIME  13:20:50   *
*                                       *
*****************************************
```


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


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

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

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

1 HEC-1 INPUT PAGE 1

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

                *       CONCEPT.DAT
  1             ID        ARCADIA AREA
                *       2-YR C.O.P. COLLECTOR WITH 2YR FLUSH
                *       100YR AZ. CANAL DETENTION BASIN
                *
                *
  2             IT       5                    300
  3             IO       5
                *DIAGRAM
                *

  4             KK    SUB1
  5             KM   SUB-BASIN SUB1
  6             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
  7             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
  8             KM     L =  .28  Kb = .108  Adj. Slope = 2120.0
  9             BA    .037
 10             IN      15
 11             KM   RAINFALL DEPTH OF 3.19 WAS SPACIALLY REDUCED AS SHOWN BY THE PB RECORD
```

```
12          PB   3.084
13          KM   THE FOLLOWING PC RECORD USED A 6-HOUR STORM WITH A PATTERN No. OF 2.20
14          PC    .000    .010    .017    .026    .037    .046    .056    .065    .075    .085
15          PC    .097    .111    .131    .175    .263    .455    .689    .829    .893    .933
16          PC    .949    .962    .975    .988   1.000
17          LG    .119    .337   4.650    .260  51.000
18          UC    .125    .087
19          UA       0       3       5       8      12      20      43      75      90      96
20          UA     100
            *

21          KK    R1-2
22          KM        ROUTE FLOW FROM SUB1 TO SUB2
23          RK  3183.8   .0166     .07       0    TRAP       0       3     YES
            *

24          KK    SUB2
25          KM   SUB-BASIN SUB2
26          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
27          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
28          KM     L =  .60  Kb = .041  Adj. Slope =   88.0
29          BA    .117
30          LG    .343    .250   4.650    .440   9.000
31          UC    .333    .247
32          UA       0       5      16      30      65      77      84      90      94      97
33          UA     100
            *

34          KK    DIV2
35          KM        DIVERT FOR IRRIGATED LAWNS SUB2
36          DT      D2     .80
37          DI       0       1
38          DQ       0    .382
            *
```



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

39          KK    C1-2
40          KM        COMBINE HYDROGRAPHS SUB1 AND SUB2 AT CP2
41          HC       2
            *

42          KK   D2-64
43          KM        DIVERT FLOW
44          DT   DSUB2
45          DI       0      15      50      93     100     150
46          DQ       0      15      15      15      15      15
            *

47          KK    R2-3
48          KM        ROUTE FLOW FROM SUB2 TO SUB3
49          RK  1367.5    .009    .016            TRAP      60       1     YES
            *

50          KK    SUB3
51          KM   SUB-BASIN SUB3
52          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
53          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
```

```
54          KM     L =  .26  Kb = .058  Adj. Slope =   47.0
55          BA    .067
56          LG    .298    .250   4.200    .520  16.000
57          UC    .317    .164
58          UA       0       5      16      30      65      77      84      90      94      97
59          UA     100
            *

60          KK    DIV3
61          KM       DIVERT FOR IRRIGATED LAWNS SUB3
62          DT      D3     .88
63          DI       0       1
64          DQ       0    .573
            *

65          KK    C2-3
66          KM       COMBINE HYDROGRAPHS SUB2 & SUB3 AT CP3
67          HC       2
            *

68          KK    R3-4
69          KM       ROUTE FLOW FROM CP3 TO CP4
70          RK    1320    .008    .016            TRAP      44       1     YES
            *

71          KK    SUB4
72          KM   SUB-BASIN SUB4
73          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
74          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
75          KM     L =  .25  Kb = .058  Adj. Slope =   42.0
76          BA    .065
77          LG    .300    .250   4.800    .360  15.000
78          UC    .308    .157
```



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

79          UA       0       5      16      30      65      77      84      90      94      97
80          UA     100
            *

81          KK    DIV4
82          KM       DIVERT FOR IRRIGATED LAWNS SUB4
83          DT      D4     1.0
84          DI       0       1
85          DQ       0     .55
            *

86          KK    C3-4
87          KM       COMBINE HYDROGRAPHS SUB3 & SUB4 AT CP4
88          HC       2
            *

89          KK    D4-64
90          KM       DIVERT FLOW TO LAFAYETTE S.D.
91          DT   DSUB4
92          DI       0       3      10      50     100
93          DQ       0       3       3       3       3
            *
```

```
 94          KK    R4-5
 95          KM         ROUTE FLOW FROM CP4 TO CP5
 96          RK  2307.4     .005     .016            TRAP       44        1     YES
             *

 97          KK    SUB5
 98          KM    SUB-BASIN SUB5
 99          KM    6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
100          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
101          KM      L =  .44  Kb = .058  Adj. Slope =   24.0
102          BA    .067
103          LG    .300     .250   4.800     .360  15.000
104          UC    .512     .426
105          UA       0        5      16       30       65       77       84       90       94       97
106          UA     100
             *

107          KK    DIV5
108          KM         DIVERT FOR IRRIGATED LAWNS SUB5
109          DT      D5      .94
110          DI       0        1
111          DQ       0      .50
             *

112          KK    C4-5
113          KM         COMBINE HYDROGRAPHS SUB4 & SUB5 AT CP5
114          HC       2
             *
1                                        HEC-1 INPUT                                        PAGE  4

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


115          KK    SUB6
116          KM    SUB-BASIN SUB6
117          KM    6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
118          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
119          KM      L =  .26  Kb = .104  Adj. Slope = 2367.0
120          BA    .090
121          LG    .106     .346   4.700     .240  49.000
122          UC    .112     .044
123          UA       0        3        5        8       12       20       43       75       90       96
124          UA     100
             *

125          KK    R6-7
126          KM         ROUTE FLOW FROM SUB6 TO SUB7
127          RK  2972.0     .013      .07            TRAP        0        3     YES
             *

128          KK    SUB7
129          KM    SUB-BASIN SUB7
130          KM    6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
131          KM    THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
132          KM      L =  .56  Kb = .053  Adj. Slope =   71.0
133          BA    .153
134          LG    .290     .271   5.400     .280  20.000
135          UC    .375     .228
136          UA       0        5      16       30       65       77       84       90       94       97
137          UA     100
```

```
                *

138             KK    DIV7
139             KM        DIVERT FOR IRRIGATED LAWNS SUB7
140             DT      D7    2.30
141             DI       0       1
142             DQ       0    .427
                *

143             KK    C6-7
144             KM        COMBINE HYDROGRAPHS SUB6 & SUB7 AT CP7
145             HC       2
                *

146             KK   D7-64
147             KM        DIVERT FLOW
148             DT   DSUB7
149             DI       0      27     100     120     150     200
150             DQ       0      27      27      27      27      27
                *

151             KK    R7-8
152             KM        ROUTE FLOW FROM SUB7 TO SUB8
153             RK  2302.1    .001    .016            TRAP      40       1     YES
                *
```



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

154             KK    SUB8
155             KM   SUB-BASIN SUB8
156             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
157             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
158             KM     L =  .44  Kb = .057  Adj. Slope =   52.0
159             BA    .068
160             LG    .300    .250   4.450    .450  15.000
161             UC    .400    .321
162             UA       0       5      16      30      65      77      84      90      94      97
163             UA     100
                *

164             KK    DIV8
165             KM        DIVERT FOR IRRIGATED LAWNS SUB8
166             DT      D8     .99
167             DI       0       1
168             DQ       0      .6
                *

169             KK    C7-8
170             KM        COMBINE HYDROGRAPHS SUB7 & SUB8 AT CP8
171             HC       2
                *

172             KK    R8-9
173             KM        ROUTE FLOW FROM SUB8 TO SUB9
174             RK  1314.7    .010    .016            TRAP      20       1     YES
                *

175             KK    SUB9
```

```
176          KM   SUB-BASIN SUB9
177          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
178          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
179          KM     L =  .25  Kb = .058  Adj. Slope =   55.0
180          BA    .065
181          LG    .300    .250   4.450    .450  15.000
182          UC    .287    .145
183          UA       0       5      16      30      65      77      84      90      94      97
184          UA     100
             *

185          KK    DIV9
186          KM        DIVERT FOR IRRIGATED LAWNS SUB9
187          DT      D9     .94
188          DI       0       1
189          DQ       0      .6
             *

190          KK    C8-9
191          KM        COMBINE HYDROGRAPHS SUB8 & SUB9   AT CP9
192          HC       2
             *
1                                        HEC-1 INPUT                                        PAGE  6

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

193          KK    R9-5
194          KM        ROUTE FLOW FROM SUB9 TO  SUB5
195          RK  1784.7    .007    .016            TRAP      40       1     YES
             *

196          KK    C9-5
197          KM        COMBINE HYDROGRAPH SUB9  & SUB5  AT CP5
198          HC       2
             *

199          KK   SUB10
200          KM   SUB-BASIN SUB10
201          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
202          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
203          KM     L =  .34  Kb = .056  Adj. Slope =   37.0
204          BA    .093
205          LG    .299    .250   4.800    .360  15.000
206          UC    .375    .203
207          UA       0       5      16      30      65      77      84      90      94      97
208          UA     100
             *

209          KK   DIV10
210          KM        DIVERT FOR IRRIGATED LAWNS SUB10
211          DT     D10    1.17
212          DI       0       1
213          DQ       0    .445
             *

214          KK   C5-10
215          KM        COMBINE HYDROGRAPH SUB5  & SUB10 AT CP10
216          HC       2
             *
```

```
217          KK   FL-10
218          KM        DIVERT FOR 2-YR FLUSH
219          DT   DFSB10
220          DI        0        7       50
221          DQ        0        7        7
             *

222          KK   SUB11
223          KM   SUB-BASIN SUB11
224          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
225          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
226          KM     L =  .56  Kb = .106  Adj. Slope = 1740.0
227          BA    .093
228          LG    .115    .350   4.550    .270  39.000
229          UC    .188    .141
230          UA       0       3       5       8      12      20      43      75      90      96
231          UA     100
             *
```



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

232          KK  R11-12
233          KM        ROUTE FLOW FROM SUB11 TO   SUB12
234          RK    1632    .058     .07            TRAP       0       3     YES
             *

235          KK   SUB12
236          KM   SUB-BASIN SUB12
237          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
238          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
239          KM     L =  .31  Kb = .064  Adj. Slope =  304.0
240          BA    .120
241          LG    .269    .277   5.600    .210   9.000
242          UC    .188    .076
243          UA       0       5      16      30      65      77      84      90      94      97
244          UA     100
             *

245          KK   DIV12
246          KM        DIVERT FOR IRRIGATED LAWNS SUB12
247          DT     D12     .31
248          DI       0       1
249          DQ       0    .079
             *

250          KK  C11-12
251          KM        COMBINE HYDROGRAPH SUB11 & SUB12 AT CP12
252          HC       2
             *

253          KK  D12-56
254          KM        DIVERT FLOW
255          DT  DSUB12
256          DI       0      10      56     100     150
257          DQ       0      10      56      56      56
             *
             *
```

```
258          KK  R12-13
259          KM        ROUTE FLOW FROM SUB12 TO SUB13
260          RK  1362.2     .020     .016            TRAP       60        1     YES       50
             *

261          KK   SUB13
262          KM   SUB-BASIN SUB13
263          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
264          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
265          KM     L =  .26  Kb = .054  Adj. Slope =  107.0
266          BA    .129
267          LG    .300    .230   6.200    .200  15.000
268          UC    .217    .074
269          UA       0       5      16      30      65      77      84      90      94      97
270          UA     100
             *
```



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

271          KK   DIV13
272          KM        DIVERT FOR IRRIGATED LAWNS SUB13
273          DT     D13      .98
274          DI       0        1
275          DQ       0       .2
             *

276          KK  D13-56
277          KM        DIVERT FLOW
278          DT  DSUB13
279          DI       0        5        6       10       15       20       25
280          DQ       0        5        6        6        6        6        6
             *

281          KK  C12-13
282          KM        COMBINE HYDROGRAPHS SUB12 & SUB13 AT CP13
283          HC       2
             *

284          KK  R13-14
285          KM        ROUTE FL OW FROM SUB13 TO SUB14
286          RK  1314.7     .014     .016            TRAP       60        1     YES
             *

287          KK   SUB14
288          KM   SUB-BASIN SUB14
289          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
290          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
291          KM     L =  .25  Kb = .054  Adj. Slope =   74.0
292          BA    .126
293          LG    .300    .250   4.100    .550  15.000
294          UC    .258    .088
295          UA       0       5      16      30      65      77      84      90      94      97
296          UA     100
             *

297          KK   DIV14
298          KM        DIVERT FOR IRRIGATED LAWNS SUB14
```

```
299          DT     D14    1.57
300          DI       0       1
301          DQ       0      .6
             *
             *

302          KK  D14-56
303          KM        DIVERT FLOW
304          DT  DSUB14
305          DI       0       1     2.5       5      10      20
306          DQ       0       1     2.5     2.5     2.5     2.5
             *
```



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


307          KK  C13-14
308          KM        COMBINE HYDROGRAPHS SUB13 & SUB14 AT CP14
309          HC       2
             *

310          KK  R14-15
311          KM        ROUTE FLOW FROM SUB 14 TO SUB15
312          RK  1985.3    .011    .016            TRAP      60       1     YES
             *

313          KK   SUB15
314          KM   SUB-BASIN SUB15
315          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
316          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
317          KM     L =  .38  Kb = .054  Adj. Slope =   56.0
318          BA    .127
319          LG    .296    .250   4.650    .390  16.000
320          UC    .342    .168
321          UA       0       5      16      30      65      77      84      90      94      97
322          UA     100
             *

323          KK   DIV15
324          KM        DIVERT FOR IRRIGATED LAWNS SUB15
325          DT     D15    2.05
326          DI       0       1
327          DQ       0    .585
             *

328          KK  D15-56
329          KM        DIVERT FLOW
330          DT  DSUB15
331          DI       0       1       2       5      10      15
332          DQ       0       1       2       2       2       2
             *

333          KK  C15-14
334          KM        COMBINE SUB14 WITH SUB15
335          HC       2
             *

336          KK  C15-10
337          KM        COMBINE SUB10 WITH SUB15
```

```
338          HC       2
             *

339          KK   FL-15
340          KM        DIVERT FLOW FOR 2-YR FLUSH
341          DT  DFSB15
342          DI        0       11       50
343          DQ        0       11       11
             *
```

1


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

344          KK   D56ST
345          KM        DIVERT FLOW THAT CROSSES 56TH ST. BRIDGE
346          DT   D56ST
347          DI        0     400     650     790    1040    1139    1334    1484    1689    1900
348          DQ        0       0     240     318     400     489     584     684     789     900
             *

349          KK   SUB16
350          KM   SUB-BASIN SUB16
351          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
352          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
353          KM     L =  .65  Kb = .102  Adj. Slope = 2052.0
354          BA    .129
355          LG    .104    .350   4.700    .240  47.000
356          UC    .183    .128
357          UA       0       3       5       8      12      20      43      75      90      96
358          UA     100
             *

359          KK  R16-17
360          KM        ROUTE FLOW FROM SUB16 TO SUB17
361          RK    1668    .058     .07            TRAP       0       3     YES
             *

362          KK   SUB17
363          KM   SUB-BASIN SUB17
364          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
365          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
366          KM     L =  .32  Kb = .058  Adj. Slope =  183.0
367          BA    .073
368          LG    .298    .252   4.150    .450  10.000
369          UC    .225    .126
370          UA       0       5      16      30      65      77      84      90      94      97
371          UA     100
             *

372          KK   DIV17
373          KM        DIVERT FOR IRRIGATED LAWNS SUB17
374          DT     D17     .11
375          DI       0       1
376          DQ       0    .074
             *

377          KK  C16-17
378          KM        COMBINE HYDROGRAPH SUB16 & SUB17 AT CP17
379          HC       2
```

```
                *
380             KK  D17-56
381             KM        DIVERT FLOW
382             DT  DSUB17
383             DI        0       5       10      15      20      24      30
384             DQ        0       5       10      15      20      24      24
                *
```



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


385             KK  R17-18
386             KM        ROUTE FLOW FROM SUB17 TO SUB18
387             RK  1378.1    .019    .016            TRAP      40       1     YES
                *

388             KK   SUB18
389             KM   SUB-BASIN SUB18
390             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
391             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
392             KM     L =  .26  Kb = .058  Adj. Slope =  102.0
393             BA    .067
394             LG    .300    .250   3.950    .580  15.000
395             UC    .246    .124
396             UA       0       5      16      30      65      77      84      90      94      97
397             UA     100
                *

398             KK   DIV18
399             KM        DIVERT FOR IRRIGATED LAWNS SUB18
400             DT     D18     .81
401             DI       0       1
402             DQ       0      .6
                *

403             KK  C17-18
404             KM        COMBINE  HYDROGRAPH SUB17 & SUB18 AT CP18
405             HC       2
                *

406             KK  R18-19
407             KM        ROUTE FLOW SUB18 TO SUB19
408             RK  1335.8    .014    .016            TRAP      40       1     YES
                *

409             KK   SUB19
410             KM   SUB-BASIN SUB19
411             KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
412             KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
413             KM     L =  .25  Kb = .057  Adj. Slope =   77.0
414             BA    .075
415             LG    .300    .250   3.950    .580  15.000
416             UC    .262    .121
417             UA       0       5      16      30      65      77      84      90      94      97
418             UA     100
                *

419             KK   DIV19
```

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

420       KM        DIVERT FOR IRRIGATED LAWNS SUB19
421       DT     D19     .91
422       DI       0       1
423       DQ       0      .6
          *

424       KK  C18-19
425       KM        COMBINE HYDROGRAPH SUB18 & SUB19 AT CP19
426       HC       2
          *

427       KK  R19-20
428       KM        ROUTE FLOW FROM SUB19 TO SUB20
429       RK  1473.1    .010    .016            TRAP      30       1     YES
          *

430       KK   SUB20
431       KM   SUB-BASIN SUB20
432       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
433       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
434       KM     L =  .28  Kb = .054  Adj. Slope =   54.0
435       BA    .129
436       LG    .300    .250   4.450    .450  15.000
437       UC    .296    .111
438       UA       0       5      16      30      65      77      84      90      94      97
439       UA     100
          *

440       KK   DIV20
441       KM        DIVERT FOR IRRIGATED LAWNS SUB20
442       DT     D20    1.86
443       DI       0       1
444       DQ       0      .6
          *

445       KK  C20-19
446       KM        COMBINE SUB19 WITH SUB20
447       HC       2
          *

448       KK  C20-15
449       KM        COMBINE SUB15 WITH SUB20
450       HC       2
          *

451       KK   FL-20
452       KM        DIVERT FOR 2-YR FLUSH
453       DT  DFSB20
454       DI       0       8      50
455       DQ       0       8       8
          *

456       KK   SUB21
457       KM   SUB-BASIN SUB21
458       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
459       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
```

```
460          KM     L =  .56  Kb = .102  Adj. Slope = 2352.0
461          BA    .124
462          LG    .106    .350   4.700    .240  46.000
463          UC    .167    .105
1                                    HEC-1 INPUT                                        PAGE 13

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

464          UA       0       3       5       8      12      20      43      75      90      96
465          UA     100
             *

466          KK  R21-22
467          KM         ROUTE FLOW FROM SUB21 TO SUB22
468          RK    2735    .026     .07            TRAP       0       3     YES
             *

469          KK   SUB22
470          KM   SUB-BASIN SUB22
471          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
472          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
473          KM     L =  .52  Kb = .059  Adj. Slope =  134.0
474          BA    .112
475          LG    .286    .261   4.000    .490   9.000
476          UC    .329    .222
477          UA       0       5      16      30      65      77      84      90      94      97
478          UA     100
             *

479          KK   DIV22
480          KM        DIVERT FOR IRRIGATED LAWNS SUB22
481          DT     D22     .12
482          DI       0       1
483          DQ       0    .063
             *

484          KK  C21-22
485          KM        COMBINE HYDROGRAPH SUB21 & SUB22 AT CP22
486          HC       2
             *

487          KK  D22-48
488          KM        DIVERT FLOW
489          DT  DSUB22
490          DI       0      10      20      30      40      44      50      60
491          DQ       0      10      20      30      40      44      44      44
             *

492          KK  R22-23
493          KM        ROUTE FLOW FROM SUB22 TO SUB23
494          RK  1240.8    .025    .016            TRAP      20       1     YES
             *

495          KK   SUB23
496          KM   SUB-BASIN SUB23
497          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
498          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
499          KM     L =  .23  Kb = .058  Adj. Slope =  132.0
500          BA    .060
501          LG    .300    .250   3.950    .580  15.000
```

```
502          UC    .213    .102
503          UA       0       5      16      30      65      77      84      90      94      97
504          UA     100
             *
```



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

505          KK   DIV23
506          KM        DIVERT FOR IRRIGATED LAWNS SUB23
507          DT     D23     .72
508          DI       0       1
509          DQ       0    .593
             *

510          KK  C22-23
511          KM        COMBINE HYDROGRAPH SUB22 & SUB23 AT CP23
512          HC       2
             *

513          KK  R23-24
514          KM        ROUTE FLOW FROM SUB 23 TO SUB24
515          RK  1088.9    .015    .016            TRAP      32       1     YES
             *

516          KK   SUB24
517          KM   SUB-BASIN SUB24
518          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
519          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
520          KM     L =  .28  Kb = .057  Adj. Slope =   78.0
521          BA    .077
522          LG    .300    .250   3.950    .580  15.000
523          UC    .279    .140
524          UA       0       5      16      30      65      77      84      90      94      97
525          UA     100
             *

526          KK   DIV24
527          KM        DIVERT FOR IRRIGATED LAWNS SUB24
528          DT     D24     .93
529          DI       0       1
530          DQ       0      .6
             *

531          KK  C23-24
532          KM        COMBINE HYDROGRAPH SUB23 & SUB24 AT CP24
533          HC       2
             *

534          KK  R24-25
535          KM        ROUTE FLOW FROM SUB24 TO SUB25
536          RK  1346.4    .009    .016            TRAP      40       1     YES
             *

537          KK   SUB25
538          KM   SUB-BASIN SUB25
539          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
540          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
541          KM     L =  .25  Kb = .057  Adj. Slope =   46.0
```

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

542       BA    .076
543       LG    .300    .250   3.950    .580  15.000
544       UC    .317    .148
545       UA      0       5      16      30      65      77      84      90      94      97
546       UA    100
          *

547       KK   DIV25
548       KM        DIVERT FOR IRRIGATED LAWNS SUB25
549       DT    D25     .93
550       DI      0       1
551       DQ      0      .6
          *

552       KK  C25-24
553       KM        COMBINE SUB24 WITH SUB25
554       HC      2
          *

555       KK  C25-20
556       KM        COMBINE SUB20 WITH SUB25
557       HC      2
          *

558       KK   FL-25
559       KM        DIVERT FOR 2-YR FLUSH
560       DT  DFSB25
561       DI      0       9      50
562       DQ      0       9       9
          *

563       KK   SUB26
564       KM   SUB-BASIN SUB26
565       KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
566       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
567       KM    L =  .52  Kb = .063  Adj. Slope =  840.0
568       BA    .054
569       LG    .289    .289   4.200    .550  14.000
570       UC    .192    .185
571       UA      0       3       5       8      12      20      43      75      90      96
572       UA    100
          *

573       KK   DIV26
574       KM        DIVERT FOR GOLF   COURSE
575       DT    D26     .31
576       DI      0       1
577       DQ      0    .312
          *

578       KK  D26-48
579       KM        DIVERT FLOW
580       DT  DSUB26
581       DI      0       1       2       4       5      10
582       DQ      0       1       2       4       4       4
          *
```

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

  583     KK  R26-27
  584     KM        ROUTE FLOW FROM SUB26 TO SUB27
  585     RK  1293.6    .024    .016           TRAP      35       1     YES
              *

  586     KK   SUB27
  587     KM   SUB-BASIN SUB27
  588     KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
  589     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
  590     KM     L =  .25  Kb = .058  Adj. Slope =  122.0
  591     BA    .061
  592     LG    .300    .250   3.950    .580  15.000
  593     UC    .229    .117
  594     UA       0       5      16      30      65      77      84      90      94      97
  595     UA     100
              *

  596     KK   DIV27
  597     KM        DIVERT FOR IRRIGATED LAWNS SUB27
  598     DT     D27     .74
  599     DI       0     1.0
  600     DQ       0     .60
              *

  601     KK  D27-48
  602     KM        DIVERT FLOW
  603     DT  DSUB27
  604     DI       0       1       2       5      10
  605     DQ       0       1       1       1       1
              *

  606     KK  C26-27
  607     KM        COMBINE HYDROGRAPH SUB 26 & SUB27 AT CP27
  608     HC       2
              *

  609     KK  R27-28
  610     KM     ROUTE FLOW FROM SUB 27 TO SUB28
  611     RK  1436.2    .017    .016           TRAP      35       1     YES
              *

  612     KK   SUB28
  613     KM   SUB-BASIN SUB28
  614     KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
  615     KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
  616     KM     L =  .27  Kb = .057  Adj. Slope =   89.0
  617     BA    .078
  618     LG    .300    .250   3.950    .580  15.000
  619     UC    .262    .126
  620     UA       0       5      16      30      65      77      84      90      94      97
  621     UA     100
              *
```



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LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
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```
622          KK   DIV28
623          KM        DIVERT FOR IRRIGATED LAWNS SUB28
624          DT     D28     .95
625          DI       0       1
626          DQ       0     .60
             *

627          KK  D28-48
628          KM        DIVERT FLOW
629          DT  DSUB28
630          DI       0       1       2       5
631          DQ       0       1       1       1
             *

632          KK  C27-28
633          KM        COMBINE HYDROGRAPH SUB27 & SUB28 AT CP28
634          HC       2
             *

635          KK  R28-29
636          KM        ROUTE FLOW FROM SUB 28 TO SUB29
637          RK  1161.6    .009    .016            TRAP      35       1     YES
             *

638          KK   SUB29
639          KM   SUB-BASIN SUB29
640          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
641          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
642          KM     L =  .22  Kb = .058  Adj. Slope =   47.0
643          BA    .058
644          LG    .299    .250   3.950    .580  15.000
645          UC    .292    .142
646          UA       0       5      16      30      65      77      84      90      94      97
647          UA     100
             *

648          KK   DIV29
649          KM        DIVERT FOR IRRIGATED LAWNS SUB29
650          DT     D29     .70
651          DI       0       1
652          DQ       0    .587
             *

653          KK  D29-48
654          KM        DIVERT FLOW
655          DT  DSUB29
656          DI       0       1       2       5      10
657          DQ       0       1       1       1       1
             *
```



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

658          KK  C29-28
659          KM        COMBINE SUB29 WITH SUB28
660          HC       2
             *
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```
661          KK  C29-25
662          KM        COMBINE SUB25 WITH SUB29
663          HC       2
             *

664          KK   SUB38
665          KM   SUB-BASIN SUB38
666          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
667          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
668          KM     L = 1.28  Kb = .090  Adj. Slope = 1079.0
669          BA    .252
670          LG    .133    .340   4.500    .290  36.000
671          UC    .308    .268
672          UA       0       5      16      30      65      77      84      90      94      97
673          UA     100
             *

674          KK  D38-39
675          KM        DIVERT 16CFS FROM SUB38 TO SUB39
676          DT  D38-39
677          DI       0       5      10      16      50     100     200     400     600
678          DQ       0       5      10      16      16      16      16      16      16
             *

679          KK  R38-30
680          KM        ROUTE FLOW FROM SUB38 TO   SUB30
681          RK    1200    .035    .016            TRAP      30       1     YES
             *

682          KK   SUB30
683          KM   SUB-BASIN SUB30
684          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
685          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
686          KM     L =  .48  Kb = .064  Adj. Slope =  571.0
687          BA    .064
688          LG    .279    .263   3.950    .480   8.000
689          UC    .204    .169
690          UA       0       5      16      30      65      77      84      90      94      97
691          UA     100
             *

692          KK  C30-38
693          KM        COMBINE SUB38 & SUB30 AT CP30
694          HC       2
             *
```



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

695          KK  D30-48
696          KM        DIVERT FLOW
697          DT  DSUB30
698          DI       0      10      20      32      40      50
699          DQ       0      10      20      32      32      32
             *

700          KK  R30-31
701          KM        ROUTE FLOW FROM SUB30 TO SUB31
```

```
702          RK    1304    .0225    .025            TRAP      20       1     YES
             *

703          KK   SUB31
704          KM   SUB-BASIN SUB31
705          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
706          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
707          KM     L =  .25  Kb = .058  Adj. Slope =  118.0
708          BA    .061
709          LG    .300    .260   3.670    .690  15.000
710          UC    .237    .122
711          UA       0       3       5       8      12      20      43      75      90      96
712          UA     100
             *

713          KK   DIV31
714          KM        DIVERT FOR IRRIGATED LAWNS SUB31
715          DT     D31     .45
716          DI       0       1
717          DQ       0    .400
             *

718          KK  C30-31
719          KM        COMBINE SUB30 & SUB31 AT CP31
720          HC       2
             *

721          KK  R31-32
722          KM        ROUTE FLOW FROM SUB31 TO SUB32
723          RK    1260    .019    .016       0    TRAP      30       1     YES
             *

724          KK   SUB32
725          KM   SUB-BASIN SUB32
726          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
727          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
728          KM     L =  .27  Kb = .058  Adj. Slope =   77.0
729          BA    .064
730          LG    .300    .250   3.950    .580  15.000
731          UC    .279    .151
732          UA       0       5      16      30      65      77      84      90      94      97
733          UA     100
             *
```



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

734          KK   DIV32
735          KM        DIVERT FOR IRRIGATED LAWNS SUB32
736          DT     D32     .79
737          DI     0.0     1.0
738          DQ       0     .60
             *

739          KK  C31-32
740          KM        COMBINE HYDROGRAPH SUB31 & SUB32 AT CP32
741          HC       2
             *
```

```
742          KK  R32-33
743          KM        ROUTE FLOW FROM SUB32 TO SUB33
744          RK    1447    .0144      .07            TRAP        0        3      YES
             *

745          KK   SUB33
746          KM   SUB-BASIN SUB33
747          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
748          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
749          KM     L =  .22  Kb = .058  Adj. Slope =   65.0
750          BA    .062
751          LG    .277    .250   3.950    .580  22.000
752          UC    .258    .120
753          UA       0       5      16      30      65      77      84      90      94      97
754          UA     100
             *

755          KK   DIV33
756          KM        DIVERT FOR IRRIGATED LAWNS SUB33
757          DT     D33     .62
758          DI       0       1
759          DQ       0     .37
             *
             *

760          KK  C33-32
761          KM        COMBINE SUB32 WITH SUB33
762          HC       2
             *

763          KK   FL-33
764          KM        DIVERT FOR 2-YR FLUSH
765          DT  DFSB33
766          DI       0       8      50
767          DQ       0       8       8
             *
```



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

768          KK  C33-29
769          KM        COMBINE SUB29 WITH SUB33
770          HC       2
             *

771          KK   SUB34
772          KM   SUB-BASIN SUB34
773          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
774          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
775          KM     L =  .57  Kb = .050  Adj. Slope =   87.0
776          BA    .167
777          LG    .284    .250   3.950    .590  20.000
778          UC    .367    .215
779          UA       0       5      16      30      65      77      84      90      94      97
780          UA     100
             *

781          KK   DIV34
782          KM        DIVERT FOR IRRIGATED LAWNS SUB34
```

```
783          DT     D34    1.53
784          DI       0       1
785          DQ       0    .366
             *

786          KK  R34-35
787          KM        ROUTE FLOW FROM SUB34 TO SUB35
788          RK  1531.2    .018    .016            TRAP      40       1     YES
             *

789          KK   SUB35
790          KM   SUB-BASIN SUB35
791          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
792          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
793          KM     L =  .29  Kb = .048  Adj. Slope =   51.0
794          BA    .128
795          LG    .223    .250   3.950    .600  39.000
796          UC    .279    .108
797          UA       0       3       5       8      12      20      43      75      90      96
798          UA     100
             *

799          KK   DIV35
800          KM        DIVERT FOR IRRIGATED LAWNS SUB35
801          DT     D35     .53
802          DI     0.0     1.0
803          DQ     0.0    .095
             *

804          KK  C35-34
805          KM        COMBINE SUB34 WITH SUB35
806          HC       2
             *
```



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

807          KK   FL-35
808          KM        DIVERT FOR 2-YR FLUSH
809          DT  DFSB35
810          DI       0      23      50
811          DQ       0      23      23
             *

812          KK  C35-33
813          KM        COMBINE SUB33 WITH SUB35
814          HC       2
             *

815          KK   SUB40
816          KM   SUB-BASIN SUB40
817          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
818          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
819          KM     L =  .31  Kb = .099  Adj. Slope = 1822.0
820          BA    .074
821          LG    .162    .332   4.250    .350  22.000
822          UC    .138    .071
823          UA       0       5      16      30      65      77      84      90      94      97
824          UA     100
```

```
*

KK  R40-41
KM        ROUTE FLOW FROM SUB40 TO SUB41
RK    1452   .0221     .05            TRAP       6       2     YES
*

KK   SUB41
KM   SUB-BASIN SUB41
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .54  Kb = .054  Adj. Slope =  110.0
BA    .144
LG    .283    .251   4.600    .360  17.000
UC    .325    .196
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK  C40-41
KM        COMBINE HYDROGRAPH SUB40 & SUB41 AT CP41
HC       2
*

KK  D41-44
KM        DIVERT FLOW FOR 44TH ST. SYSTEM
DT  DSUB41
DI       0      10      20      30      44      50
DQ       0      10      20      30      44      44
*
```



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

KK  R41-39
KM        ROUTE FLOW FROM SUB41 TO   SUB39
RK    2865   .0341     .05            TRAP       4       3     YES
*

KK   SUB37
KM   SUB-BASIN SUB37
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
KM     L =  .30  Kb = .059  Adj. Slope =  247.0
BA    .049
LG    .300    .250   3.950    .490   5.000
UC    .200    .132
UA       0       5      16      30      65      77      84      90      94      97
UA     100
*

KK  R37-39
KM        ROUTE FLOW FROM SUB37 TO   SUB39
RK    3500    .018    .016            TRAP      70       1     YES
*

KK   SUB39
KM   SUB-BASIN SUB39
KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
```

```
865          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
866          KM     L =  .84  Kb = .051  Adj. Slope =   79.0
867          BA    .188
868          LG    .220    .262   4.000    .530  34.000
869          UC    .450    .344
870          UA       0       3       5       8      12      20      43      75      90      96
871          UA     100
             *

872          KK  RD3839
873          KM        RECALL DIVERSION FROM SUBBASIN 38
874          DR  D38-39
             *

875          KK  C37-39
876          KM        COMBINE SUB39  WITH SUB37 WITH RECALLED HYDROGRAPH FRON SUB38
877          HC       3
             *

878          KK  D39-44
879          KM        DIVERT FOR 44TH ST SYSTEM
880          DT  DSUB39
881          DI       0      10      20      41      57     100
882          DQ       0      10      20      41      41      41
             *
```



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

883          KK  C41-39
884          KM        COMBINE SUB41 WITH SUB39
885          HC       2
             *

886          KK  R39-36
887          KM        ROUTE FLOW FROM SUB39 TO   SUB36
888          RK    1250    .006    .016            TRAP      26       1     YES
             *

889          KK   SUB36
890          KM   SUB-BASIN SUB36
891          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
892          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
893          KM     L =  .28  Kb = .052  Adj. Slope =   14.0
894          BA    .089
895          LG    .232    .250   3.950    .590  41.000
896          UC    .446    .216
897          UA       0       5      16      30      65      77      84      90      94      97
898          UA     100
             *

899          KK   DIV36
900          KM        DIVERT FOR IRRIGATED LAWNS SUB36
901          DT     D36     .61
902          DI     0.0     1.0
903          DQ     0.0    .150
             *

904          KK   FL-36
```

```
905          KM          DIVERT TO 40TH ST. STORM DRAIN
906          DT  DFSB36
907          DI        0       55      100
908          DQ        0       55       55
             *

909          KK  C39-36
910          KM         COMBINE SUB39 WITH SUB36
911          HC        2
             *

912          KK  C36-35
913          KM         COMBINE SUB36 WITH SUB35
914          HC        2
             *

915          KK   SUB42
916          KM   SUB-BASIN SUB42
917          KM   6-HOUR RAINFALL, PATTERN NO. 2.20 WAS USED TO FIND TC & R FOR THIS BASIN
918          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .967
919          KM     L =  .51  Kb = .044  Adj. Slope =   29.0
920          BA    .251
921          LG    .256     .250   5.600     .250  23.000
922          UC    .425     .184
```



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

923          UA        0        5       16       30       65       77       84       90       94       97
924          UA      100
             *

925          KK   DIV42
926          KM         DIVERT FOR IRRIGATED LAWNS SUB42
927          DT     D42      .75
928          DI        0        1
929          DQ        0     .072
             *

930          KK   FL-44
931          KM          DIVERT FOR 2-YR FLUSH
932          DT  DFSB44        0
933          DI        0       38       50
934          DQ        0       38       38
             *

935          KK  C42-36
936          KM         COMBINE HYDROGRAPH SUB42 WITH SUB36
937          HC        2
             *
938          KO        1        2                       22                   .1667
             *
             *
             *
             *       100-YR PEAK FLOW AFTER 2-YR FLUSH HYDROGRAPH FOR DETENTION SIZING
             *
             *       64TH STREET TRUNK LINE
             *       DIVERTS FIRST 127 CFS TO LAFAYETTE STORM DRAIN
             *       AT LAFAYETTE BLVD. AND 64TH ST.
             *
```

```
939          KK   RSUB7
940          KM        RECALL DIVERSION
941          DR   DSUB7
             *

942          KK  R64TH1
943          KM        ROUTE FLOW
944          RK    2400    .005    .018           CIRC       4            YES
             *

945          KK   RSUB2
946          KM        RECALL DIVERSION
947          DR   DSUB2
             *

948          KK   COMB1
949          KM        COMBINE FLOW
950          HC       2
             *
```



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

951          KK  R64TH2
952          KM        ROUTE FLOW
953          RK    2700    .005    .018           CIRC       4            YES
             *
             *
             *
             *
             *
             *
             *       56TH STREET TRUNK LINE
             *
             *
             *

954          KK  RSUB12
955          KM        RECALL DIVERSION
956          DR  DSUB12
             *

957          KK  R56TH1
958          KM        ROUTE FLOW
959          RK    2200    .005    .018           CIRC       4            YES
             *

960          KK  RSUB17
961          KM        RECALL DIVERSION
962          DR  DSUB17
             *

963          KK   COMB2
964          KM        COMBINE FLOW
965          HC       2
             *

966          KK  R56TH2
```

```
967          KM        ROUTE FLOW
968          RK    1300     .005     .018            CIRC        4             YES
             *

969          KK  R56TH3
970          KM        ROUTE FLOW
971          RK    1300     .005     .018            CIRC        4             YES
             *

972          KK  RSUB13
973          KM        RECALL DIVERSION
974          DR  DSUB13
             *
```



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

975          KK   COMB4
976          KM        COMBINE FLOW
977          HC       2
             *

978          KK  R56TH4
979          KM        ROUTE FLOW
980          RK    1300     .005     .018            CIRC        4             YES
             *

981          KK  RSUB14
982          KM        RECALL DIVERSION
983          DR  DSUB14
             *

984          KK   COMB5
985          KM        COMBINE FLOW
986          HC       2
             *

987          KK  R56TH5
988          KM        ROUTE FLOW
989          RK    1900     .005     .018            CIRC        4             YES
             *

990          KK  RSUB15
991          KM        RECALL DIVERSION
992          DR  DSUB15
             *
             *       FLOWS THAT CROSS AZ CANAL AT 56TH ST
             *

993          KK  RFSB15
994          KM        RECALL DIVERSION
995          DR  DFSB15
             *

996          KK  56-AZC
997          KM        COMBINE FLOW
998          HC       3
             *
             *
```

```
                *
                *       48TH STREET TRUNK LINE
                *       2-YR FLOWS FROM N. OF CAMELBACK AND SUBS 29,30, & 31.
                *

 999            KK  RSUB22
1000            KM        RECALL DIVERSION
1001            DR  DSUB22
                *
```



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


1002            KK  R48TH1
1003            KM        ROUTE FLOW
1004            RK    1000    .005    .018           CIRC       4            YES
                *

1005            KK  RSUB26
1006            KM        RECALL DIVERSION
1007            DR  DSUB26
                *

1008            KK   COMB6
1009            KM        COMBINE FLOW
1010            HC       2
                *

1011            KK  R48TH2
1012            KM        ROUTE FLOW
1013            RK    2000    .005    .018           CIRC       4            YES
                *

1014            KK  RSUB30
1015            KM        RECALL DIVERSION
1016            DR  DSUB30
                *

1017            KK   COMB7
1018            KM        COMBINE FLOW
1019            HC       2
                *

1020            KK  R48TH3
1021            KM        ROUTE FLOW
1022            RK    1200    .005    .018           CIRC       4            YES
                *

1023            KK  RSUB27
1024            KM        RECALL DIVERSION
1025            DR  DSUB27
                *

1026            KK   COMB9
1027            KM        COMBINE FLOW
1028            HC       2
                *

1029            KK  R48TH4
```

```
1030        KM        ROUTE FLOW
1031        RK    1300    .005    .018            CIRC       4             YES
            *
1                                        HEC-1 INPUT                                                    PAGE 29

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


1032        KK  RSUB28
1033        KM        RECALL DIVERSION
1034        DR  DSUB28
            *

1035        KK  COMB10
1036        KM        COMBINE FLOW
1037        HC       2
            *

1038        KK  R48TH5
1039        KM        ROUTE FLOW
1040        RK    1175    .005    .018            CIRC       4             YES
            *

1041        KK  RSUB29
1042        KM        RECALL DIVERSION
1043        DR  DSUB29
            *

1044        KK  COMB11
1045        KM        COMBINE FLOW
1046        HC       2
            *
            *       2-YR FLOWS TO 48TH-OCCC EAST OF 48TH STREET
            *

1047        KK  RFSB20
1048        KM        RECALL DIVERSION
1049        DR  DFSB20
            *

1050        KK  R-ISR1
1051        KM        ROUTE FLOW
1052        RK    1650    .005    .018            CIRC       4             YES
            *

1053        KK  RFSB25
1054        KM        RECALL DIVERSION
1055        DR  DFSB25
            *

1056        KK  COMB12
1057        KM        COMBINE FLOW
1058        HC       2
            *

1059        KK  R-ISR2
1060        KM        ROUTE FLOW
1061        RK    1150    .005    .018            CIRC       4             YES
            *
            *
```

```
                *
                *
                *       44TH STREET TRUNK LINE SYSTEM
                *
LINE            ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

1062            KK  RSUB41
1063            KM        RECALL DIVERSION
1064            DR  DSUB41
                *

1065            KK  R44TH1
1066            KM        ROUTE FLOW
1067            RK     900    .005    .018            CIRC       4             YES
                *

1068            KK  RSUB39
1069            KM        RECALL DIVERSION
1070            DR  DSUB39
                *

1071            KK  COMB13
1072            KM        COMBINE  FLOW
1073            HC       2
                *

1074            KK  R44TH2
1075            KM        ROUTE FLOW
1076            RK    4400    .005    .018            CIRC       4             YES
                *

1077            KK  RFSB35
1078            KM        RECALL DIVERSION
1079            DR  DFSB35
                *

1080            KK  COMB14
1081            KM        COMBINE  FLOW
1082            HC       2
                *
                *       ROUTE TO OCCC
                *

1083            KK  R-OCCC
1084            KM        ROUTE FLOW
1085            RK    1600    .005    .018            CIRC       4             YES
                *

1086            KK  RFSB33
1087            KM        RECALL DIVERSION
1088            DR  DFSB33
                *

1089            KK  COMB15
1090            KM        COMBINE  FLOW
1091            HC       2
                *
```

```
                *
                *       COMBINE ALL 2-YR FLOWS TO OCCC
                *
1                                    HEC-1 INPUT                                                    PAGE 31

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


1092            KK  OCCC-2
1093            KM        COMBINE  FLOW
1094            HC       3
                *

1095            KK   2-YR
1096            KM        COMBINE  FLOW
1097            HC       2
                *
                *
1098            ZZ
1


1
```

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

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	SUB1	59.	4.00	9.	2.	2.	0.04		
+	ROUTED TO	R1-2	57.	4.17	9.	2.	2.	0.04		
+	HYDROGRAPH AT	SUB2	107.	4.17	14.	4.	3.	0.12		
+	DIVERSION TO	D2	28.	4.17	2.	0.	0.	0.12		
+	HYDROGRAPH AT	DIV2	107.	4.17	13.	3.	3.	0.12		
+	2 COMBINED AT	C1-2	164.	4.17	21.	5.	5.	0.15		
+	DIVERSION TO	DSUB2	15.	4.17	6.	2.	1.	0.15		
+	HYDROGRAPH AT	D2-64	149.	4.17	15.	4.	4.	0.15		
+	ROUTED TO	R2-3	148.	4.17	15.	4.	4.	0.15		
+	HYDROGRAPH AT	SUB3	71.	4.08	9.	2.	2.	0.07		

DIVERSION TO						
D3	30.	4.08	2.	0.	0.	0.07
HYDROGRAPH AT						
DIV3	71.	4.08	7.	2.	2.	0.07
2 COMBINED AT						
C2-3	215.	4.17	23.	6.	5.	0.22
ROUTED TO						
R3-4	211.	4.17	23.	6.	5.	0.22
HYDROGRAPH AT						
SUB4	77.	4.08	10.	2.	2.	0.06
DIVERSION TO						
D4	33.	4.08	2.	1.	0.	0.06
HYDROGRAPH AT						
DIV4	77.	4.08	8.	2.	2.	0.06
2 COMBINED AT						
C3-4	283.	4.17	30.	8.	7.	0.29
DIVERSION TO						
DSUB4	3.	4.17	2.	0.	0.	0.29
HYDROGRAPH AT						
D4-64	280.	4.17	29.	7.	7.	0.29
ROUTED TO						
R4-5	273.	4.25	29.	7.	7.	0.29
HYDROGRAPH AT						
SUB5	54.	4.25	10.	3.	2.	0.07
DIVERSION TO						
D5	26.	4.33	2.	0.	0.	0.07
HYDROGRAPH AT						
DIV5	54.	4.33	8.	2.	2.	0.07
2 COMBINED AT						
C4-5	312.	4.25	37.	9.	9.	0.35
HYDROGRAPH AT						
SUB6	148.	4.00	21.	5.	5.	0.09
ROUTED TO						
R6-7	145.	4.08	21.	5.	5.	0.09
HYDROGRAPH AT						
SUB7	171.	4.17	26.	6.	6.	0.15
DIVERSION TO						
D7	69.	4.17	5.	1.	1.	0.15
HYDROGRAPH AT						
DIV7	171.	4.17	21.	5.	5.	0.15

	2 COMBINED AT						
+		C6-7	304.	4.17	42.	11.	10.	0.24
	DIVERSION TO						
+		DSUB7	27.	4.17	12.	3.	3.	0.24
	HYDROGRAPH AT						
+		D7-64	277.	4.17	30.	7.	7.	0.24
	ROUTED TO						
+		R7-8	268.	4.25	30.	8.	7.	0.24
	HYDROGRAPH AT						
+		SUB8	59.	4.17	9.	2.	2.	0.07
	DIVERSION TO						
+		D8	32.	4.17	2.	0.	0.	0.07
	HYDROGRAPH AT						
+		DIV8	59.	4.17	7.	2.	2.	0.07
	2 COMBINED AT						
+		C7-8	326.	4.25	37.	9.	9.	0.31
	ROUTED TO						
+		R8-9	319.	4.25	37.	9.	9.	0.31
	HYDROGRAPH AT						
+		SUB9	74.	4.08	9.	2.	2.	0.06
	DIVERSION TO						
+		D9	35.	4.08	2.	0.	0.	0.06
	HYDROGRAPH AT						
+		DIV9	74.	4.08	7.	2.	2.	0.06
	2 COMBINED AT						
+		C8-9	377.	4.25	45.	11.	11.	0.38
	ROUTED TO						
+		R9-5	365.	4.25	45.	11.	11.	0.38
	2 COMBINED AT						
+		C9-5	677.	4.25	81.	20.	20.	0.73
	HYDROGRAPH AT						
+		SUB10	100.	4.17	14.	3.	3.	0.09
	DIVERSION TO						
+		D10	40.	4.17	2.	1.	1.	0.09
	HYDROGRAPH AT						
+		DIV10	100.	4.17	12.	3.	3.	0.09
	2 COMBINED AT						
+		C5-10	770.	4.25	93.	23.	22.	0.82
	DIVERSION TO						
+		DFSB10	7.	4.25	4.	1.	1.	0.82

HYDROGRAPH AT	FL-10	763.	4.25	88.	22.	21.	0.82
HYDROGRAPH AT	SUB11	134.	4.08	20.	5.	5.	0.09
ROUTED TO	R11-12	131.	4.08	20.	5.	5.	0.09
HYDROGRAPH AT	SUB12	174.	4.00	19.	5.	5.	0.12
DIVERSION TO	D12	11.	4.00	1.	0.	0.	0.12
HYDROGRAPH AT	DIV12	174.	4.00	19.	5.	5.	0.12
2 COMBINED AT	C11-12	294.	4.00	38.	10.	9.	0.21
DIVERSION TO	DSUB12	56.	4.00	16.	4.	4.	0.21
HYDROGRAPH AT	D12-56	238.	4.00	22.	6.	5.	0.21
ROUTED TO	R12-13	234.	4.08	22.	6.	5.	0.21
HYDROGRAPH AT	SUB13	191.	4.00	23.	6.	6.	0.13
DIVERSION TO	D13	33.	4.00	2.	0.	0.	0.13
HYDROGRAPH AT	DIV13	191.	4.00	21.	5.	5.	0.13
DIVERSION TO	DSUB13	6.	4.00	3.	1.	1.	0.13
HYDROGRAPH AT	D13-56	185.	4.00	18.	5.	4.	0.13
2 COMBINED AT	C12-13	410.	4.00	40.	10.	10.	0.34
ROUTED TO	R13-14	406.	4.08	40.	10.	10.	0.34
HYDROGRAPH AT	SUB14	142.	4.00	16.	4.	4.	0.13
DIVERSION TO	D14	59.	4.00	3.	1.	1.	0.13
HYDROGRAPH AT	DIV14	142.	4.00	13.	3.	3.	0.13

	DIVERSION TO						
+		DSUB14	3.	4.00	1.	0.	0.	0.13
	HYDROGRAPH AT						
+		D14-56	140.	4.00	12.	3.	3.	0.13
	2 COMBINED AT						
+		C13-14	545.	4.08	52.	13.	13.	0.47
	ROUTED TO						
+		R14-15	541.	4.08	52.	13.	13.	0.47
	HYDROGRAPH AT						
+		SUB15	144.	4.08	19.	5.	5.	0.13
	DIVERSION TO						
+		D15	67.	4.08	4.	1.	1.	0.13
	HYDROGRAPH AT						
+		DIV15	144.	4.08	15.	4.	4.	0.13
	DIVERSION TO						
+		DSUB15	2.	4.08	1.	0.	0.	0.13
	HYDROGRAPH AT						
+		D15-56	142.	4.08	13.	3.	3.	0.13
	2 COMBINED AT						
+		C15-14	684.	4.08	65.	16.	16.	0.60
	2 COMBINED AT						
+		C15-10	1340.	4.17	154.	38.	37.	1.42
	DIVERSION TO						
+		DFSB15	11.	4.17	4.	1.	1.	1.42
	HYDROGRAPH AT						
+		FL-15	1329.	4.17	150.	37.	36.	1.42
	DIVERSION TO						
+		D56ST	582.	4.17	50.	12.	12.	1.42
	HYDROGRAPH AT						
+		D56ST	748.	4.17	100.	25.	24.	1.42
	HYDROGRAPH AT						
+		SUB16	196.	4.08	30.	7.	7.	0.13
	ROUTED TO						
+		R16-17	193.	4.08	30.	7.	7.	0.13
	HYDROGRAPH AT						
+		SUB17	83.	4.00	9.	2.	2.	0.07
	DIVERSION TO						
+		D17	4.	4.00	0.	0.	0.	0.07
	HYDROGRAPH AT						
+		DIV17	83.	4.00	9.	2.	2.	0.07

2 COMBINED AT	C16-17	275.	4.08	39.	10.	9.	0.20
DIVERSION TO	DSUB17	24.	4.08	11.	3.	3.	0.20
HYDROGRAPH AT	D17-56	251.	4.08	28.	7.	7.	0.20
ROUTED TO	R17-18	249.	4.08	28.	7.	7.	0.20
HYDROGRAPH AT	SUB18	72.	4.08	8.	2.	2.	0.07
DIVERSION TO	D18	28.	4.08	2.	0.	0.	0.07
HYDROGRAPH AT	DIV18	72.	4.08	7.	2.	2.	0.07
2 COMBINED AT	C17-18	320.	4.08	34.	9.	8.	0.27
ROUTED TO	R18-19	316.	4.08	35.	9.	8.	0.27
HYDROGRAPH AT	SUB19	81.	4.08	9.	2.	2.	0.08
DIVERSION TO	D19	31.	4.08	2.	0.	0.	0.08
HYDROGRAPH AT	DIV19	81.	4.08	8.	2.	2.	0.08
2 COMBINED AT	C18-19	397.	4.08	42.	11.	10.	0.34
ROUTED TO	R19-20	390.	4.08	42.	11.	10.	0.34
HYDROGRAPH AT	SUB20	152.	4.08	18.	4.	4.	0.13
DIVERSION TO	D20	74.	4.08	4.	1.	1.	0.13
HYDROGRAPH AT	DIV20	152.	4.08	14.	4.	3.	0.13
2 COMBINED AT	C20-19	543.	4.08	56.	14.	14.	0.47
2 COMBINED AT	C20-15	1262.	4.17	156.	39.	38.	1.89
DIVERSION TO	DFSB20	8.	4.17	4.	1.	1.	1.89

	HYDROGRAPH AT							
+		FL-20	1254.	4.17	152.	38.	37.	1.89
	HYDROGRAPH AT							
+		SUB21	191.	4.08	28.	7.	7.	0.12
	ROUTED TO							
+		R21-22	187.	4.17	28.	7.	7.	0.12
	HYDROGRAPH AT							
+		SUB22	105.	4.08	14.	3.	3.	0.11
	DIVERSION TO							
+		D22	5.	4.08	0.	0.	0.	0.11
	HYDROGRAPH AT							
+		DIV22	105.	4.08	13.	3.	3.	0.11
	2 COMBINED AT							
+		C21-22	292.	4.17	42.	10.	10.	0.24
	DIVERSION TO							
+		DSUB22	44.	4.17	16.	4.	4.	0.24
	HYDROGRAPH AT							
+		D22-48	248.	4.17	26.	6.	6.	0.24
	ROUTED TO							
+		R22-23	248.	4.17	26.	6.	6.	0.24
	HYDROGRAPH AT							
+		SUB23	67.	4.00	8.	2.	2.	0.06
	DIVERSION TO							
+		D23	28.	4.00	1.	0.	0.	0.06
	HYDROGRAPH AT							
+		DIV23	67.	4.00	6.	2.	1.	0.06
	2 COMBINED AT							
+		C22-23	307.	4.08	32.	8.	8.	0.30
	ROUTED TO							
+		R23-24	302.	4.08	32.	8.	8.	0.30
	HYDROGRAPH AT							
+		SUB24	81.	4.08	10.	2.	2.	0.08
	DIVERSION TO							
+		D24	34.	4.08	2.	0.	0.	0.08
	HYDROGRAPH AT							
+		DIV24	81.	4.08	8.	2.	2.	0.08
	2 COMBINED AT							
+		C23-24	383.	4.08	40.	10.	10.	0.37
	ROUTED TO							
+		R24-25	376.	4.17	40.	10.	10.	0.37

HYDROGRAPH AT	SUB25	78.	4.08	10.	2.	2.	0.08
DIVERSION TO	D25	35.	4.08	2.	0.	0.	0.08
HYDROGRAPH AT	DIV25	78.	4.08	8.	2.	2.	0.08
2 COMBINED AT	C25-24	453.	4.08	48.	12.	12.	0.45
2 COMBINED AT	C25-20	1703.	4.17	200.	50.	48.	2.34
DIVERSION TO	DFSB25	9.	4.17	4.	1.	1.	2.34
HYDROGRAPH AT	FL-25	1694.	4.17	196.	49.	47.	2.34
HYDROGRAPH AT	SUB26	53.	4.08	7.	2.	2.	0.05
DIVERSION TO	D26	12.	4.08	1.	0.	0.	0.05
HYDROGRAPH AT	DIV26	53.	4.08	6.	1.	1.	0.05
DIVERSION TO	DSUB26	4.	4.08	1.	0.	0.	0.05
HYDROGRAPH AT	D26-48	49.	4.08	4.	1.	1.	0.05
ROUTED TO	R26-27	47.	4.17	4.	1.	1.	0.05
HYDROGRAPH AT	SUB27	66.	4.00	8.	2.	2.	0.06
DIVERSION TO	D27	27.	4.00	1.	0.	0.	0.06
HYDROGRAPH AT	DIV27	66.	4.00	6.	2.	2.	0.06
DIVERSION TO	DSUB27	1.	4.00	1.	0.	0.	0.06
HYDROGRAPH AT	D27-48	65.	4.00	6.	1.	1.	0.06
2 COMBINED AT	C26-27	110.	4.08	10.	3.	2.	0.12
ROUTED TO	R27-28	107.	4.08	10.	3.	2.	0.12

	HYDROGRAPH AT						
+	SUB28	84.	4.08	10.	2.	2.	0.08
	DIVERSION TO						
+	D28	32.	4.08	2.	0.	0.	0.08
	HYDROGRAPH AT						
+	DIV28	84.	4.08	8.	2.	2.	0.08
	DIVERSION TO						
+	DSUB28	1.	4.08	1.	0.	0.	0.08
	HYDROGRAPH AT						
+	D28-48	83.	4.08	7.	2.	2.	0.08
	2 COMBINED AT						
+	C27-28	189.	4.08	17.	4.	4.	0.19
	ROUTED TO						
+	R28-29	184.	4.08	17.	4.	4.	0.19
	HYDROGRAPH AT						
+	SUB29	61.	4.08	7.	2.	2.	0.06
	DIVERSION TO						
+	D29	27.	4.08	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	DIV29	61.	4.08	6.	1.	1.	0.06
	DIVERSION TO						
+	DSUB29	1.	4.08	1.	0.	0.	0.06
	HYDROGRAPH AT						
+	D29-48	60.	4.08	5.	1.	1.	0.06
	2 COMBINED AT						
+	C29-28	243.	4.08	23.	6.	5.	0.25
	2 COMBINED AT						
+	C29-25	1929.	4.17	218.	55.	53.	2.59
	HYDROGRAPH AT						
+	SUB38	295.	4.17	51.	13.	12.	0.25
	DIVERSION TO						
+	D38-39	16.	4.17	11.	3.	3.	0.25
	HYDROGRAPH AT						
+	D38-39	279.	4.17	40.	10.	10.	0.25
	ROUTED TO						
+	R38-30	279.	4.17	40.	10.	10.	0.25
	HYDROGRAPH AT						
+	SUB30	67.	4.08	8.	2.	2.	0.06
	2 COMBINED AT						
+	C30-38	341.	4.08	48.	12.	11.	0.32

DIVERSION TO	DSUB30	32.	4.08	10.	2.	2.	0.32
HYDROGRAPH AT	D30-48	309.	4.08	38.	9.	9.	0.32
ROUTED TO	R30-31	306.	4.17	38.	9.	9.	0.32
HYDROGRAPH AT	SUB31	62.	4.08	7.	2.	2.	0.06
DIVERSION TO	D31	17.	4.08	1.	0.	0.	0.06
HYDROGRAPH AT	DIV31	62.	4.08	6.	2.	1.	0.06
2 COMBINED AT	C30-31	366.	4.08	44.	11.	11.	0.38
ROUTED TO	R31-32	363.	4.17	44.	11.	11.	0.38
HYDROGRAPH AT	SUB32	66.	4.08	8.	2.	2.	0.06
DIVERSION TO	D32	31.	4.08	2.	0.	0.	0.06
HYDROGRAPH AT	DIV32	66.	4.08	6.	2.	2.	0.06
2 COMBINED AT	C31-32	426.	4.08	51.	13.	12.	0.44
ROUTED TO	R32-33	425.	4.17	51.	13.	12.	0.44
HYDROGRAPH AT	SUB33	70.	4.08	9.	2.	2.	0.06
DIVERSION TO	D33	22.	4.08	1.	0.	0.	0.06
HYDROGRAPH AT	DIV33	70.	4.08	8.	2.	2.	0.06
2 COMBINED AT	C33-32	487.	4.17	58.	15.	14.	0.50
DIVERSION TO	DFSB33	8.	4.17	4.	1.	1.	0.50
HYDROGRAPH AT	FL-33	479.	4.17	54.	14.	13.	0.50
2 COMBINED AT	C33-29	2407.	4.17	273.	68.	66.	3.09

	HYDROGRAPH AT							
+		SUB34	158.	4.17	23.	6.	6.	0.17
	DIVERSION TO							
+		D34	51.	4.17	3.	1.	1.	0.17
	HYDROGRAPH AT							
+		DIV34	158.	4.17	20.	5.	5.	0.17
	ROUTED TO							
+		R34-35	156.	4.17	20.	5.	5.	0.17
	HYDROGRAPH AT							
+		SUB35	163.	4.08	24.	6.	6.	0.13
	DIVERSION TO							
+		D35	14.	4.17	1.	0.	0.	0.13
	HYDROGRAPH AT							
+		DIV35	160.	4.17	22.	6.	5.	0.13
	2 COMBINED AT							
+		C35-34	316.	4.17	42.	11.	10.	0.30
	DIVERSION TO							
+		DFSB35	23.	4.17	12.	3.	3.	0.30
	HYDROGRAPH AT							
+		FL-35	293.	4.17	31.	8.	7.	0.30
	2 COMBINED AT							
+		C35-33	2700.	4.17	303.	76.	73.	3.39
	HYDROGRAPH AT							
+		SUB40	105.	4.00	12.	3.	3.	0.07
	ROUTED TO							
+		R40-41	102.	4.00	12.	3.	3.	0.07
	HYDROGRAPH AT							
+		SUB41	163.	4.08	22.	6.	5.	0.14
	2 COMBINED AT							
+		C40-41	260.	4.08	35.	9.	8.	0.22
	DIVERSION TO							
+		DSUB41	44.	4.08	13.	3.	3.	0.22
	HYDROGRAPH AT							
+		D41-44	216.	4.08	21.	5.	5.	0.22
	ROUTED TO							
+		R41-39	210.	4.08	21.	5.	5.	0.22
	HYDROGRAPH AT							
+		SUB37	53.	4.00	6.	1.	1.	0.05
	ROUTED TO							
+		R37-39	52.	4.08	6.	1.	1.	0.05

HYDROGRAPH AT	SUB39	178.	4.33	33.	8.	8.	0.19
HYDROGRAPH AT	RD3839	16.	3.25	11.	3.	3.	0.00
3 COMBINED AT	C37-39	236.	4.25	50.	13.	12.	0.24
DIVERSION TO	DSUB39	41.	4.25	24.	6.	6.	0.24
HYDROGRAPH AT	D39-44	195.	4.25	26.	7.	6.	0.24
2 COMBINED AT	C41-39	393.	4.17	47.	12.	11.	0.45
ROUTED TO	R39-36	389.	4.17	47.	12.	11.	0.45
HYDROGRAPH AT	SUB36	98.	4.17	17.	4.	4.	0.09
DIVERSION TO	D36	14.	4.25	1.	0.	0.	0.09
HYDROGRAPH AT	DIV36	93.	4.25	16.	4.	4.	0.09
DIVERSION TO	DFSB36	55.	4.25	13.	3.	3.	0.09
HYDROGRAPH AT	FL-36	38.	4.25	2.	1.	1.	0.09
2 COMBINED AT	C39-36	424.	4.17	50.	12.	12.	0.54
2 COMBINED AT	C36-35	3124.	4.17	353.	88.	85.	3.93
HYDROGRAPH AT	SUB42	308.	4.17	46.	11.	11.	0.25
DIVERSION TO	D42	22.	4.17	2.	0.	0.	0.25
HYDROGRAPH AT	DIV42	306.	4.17	44.	11.	11.	0.25
DIVERSION TO	DFSB44	38.	4.17	14.	4.	3.	0.25
HYDROGRAPH AT	FL-44	268.	4.17	30.	8.	7.	0.25
2 COMBINED AT	C42-36	3392.	4.17	383.	96.	92.	4.18

	HYDROGRAPH AT						
+	RSUB7	27.	3.50	12.	3.	3.	0.00
	ROUTED TO						
+	R64TH1	27.	3.67	12.	3.	3.	0.00
	HYDROGRAPH AT						
+	RSUB2	15.	3.67	6.	2.	1.	0.00
	2 COMBINED AT						
+	COMB1	42.	3.67	18.	5.	5.	0.00
	ROUTED TO						
+	R64TH2	42.	3.83	18.	5.	5.	0.00
	HYDROGRAPH AT						
+	RSUB12	56.	3.58	16.	4.	4.	0.00
	ROUTED TO						
+	R56TH1	56.	3.67	16.	4.	4.	0.00
	HYDROGRAPH AT						
+	RSUB17	24.	3.42	11.	3.	3.	0.00
	2 COMBINED AT						
+	COMB2	80.	3.67	27.	7.	7.	0.00
	ROUTED TO						
+	R56TH2	80.	3.75	27.	7.	7.	0.00
	ROUTED TO						
+	R56TH3	80.	3.83	27.	7.	7.	0.00
	HYDROGRAPH AT						
+	RSUB13	6.	3.33	3.	1.	1.	0.00
	2 COMBINED AT						
+	COMB4	86.	3.83	30.	8.	7.	0.00
	ROUTED TO						
+	R56TH4	86.	3.92	30.	8.	7.	0.00
	HYDROGRAPH AT						
+	RSUB14	3.	3.33	1.	0.	0.	0.00
	2 COMBINED AT						
+	COMB5	89.	3.92	32.	8.	8.	0.00
	ROUTED TO						
+	R56TH5	89.	4.00	32.	8.	8.	0.00
	HYDROGRAPH AT						
+	RSUB15	2.	3.25	1.	0.	0.	0.00
	HYDROGRAPH AT						
+	RFSB15	11.	3.67	4.	1.	1.	0.00
	3 COMBINED AT						
+	56-AZC	102.	4.00	37.	9.	9.	0.00

HYDROGRAPH AT							
	RSUB22	44.	3.67	16.	4.	4.	0.00
ROUTED TO							
	R48TH1	44.	3.75	16.	4.	4.	0.00
HYDROGRAPH AT							
	RSUB26	4.	3.67	1.	0.	0.	0.00
2 COMBINED AT							
	COMB6	48.	3.75	18.	4.	4.	0.00
ROUTED TO							
	R48TH2	48.	3.83	18.	4.	4.	0.00
HYDROGRAPH AT							
	RSUB30	32.	3.58	10.	2.	2.	0.00
2 COMBINED AT							
	COMB7	80.	3.83	27.	7.	7.	0.00
ROUTED TO							
	R48TH3	80.	3.92	27.	7.	7.	0.00
HYDROGRAPH AT							
	RSUB27	1.	3.25	1.	0.	0.	0.00
2 COMBINED AT							
	COMB9	81.	3.92	28.	7.	7.	0.00
ROUTED TO							
	R48TH4	81.	4.00	28.	7.	7.	0.00
HYDROGRAPH AT							
	RSUB28	1.	3.17	1.	0.	0.	0.00
2 COMBINED AT							
	COMB10	82.	4.00	29.	7.	7.	0.00
ROUTED TO							
	R48TH5	82.	4.08	29.	7.	7.	0.00
HYDROGRAPH AT							
	RSUB29	1.	3.33	1.	0.	0.	0.00
2 COMBINED AT							
	COMB11	83.	4.08	29.	7.	7.	0.00
HYDROGRAPH AT							
	RFSB20	8.	3.58	4.	1.	1.	0.00
ROUTED TO							
	R-ISR1	8.	3.67	4.	1.	1.	0.00
HYDROGRAPH AT							
	RFSB25	9.	3.58	4.	1.	1.	0.00
2 COMBINED AT							
	COMB12	17.	3.67	8.	2.	2.	0.00

	ROUTED TO							
+		R-ISR2	17.	3.75	8.	2.	2.	0.00
	HYDROGRAPH AT							
+		RSUB41	44.	3.67	13.	3.	3.	0.00
	ROUTED TO							
+		R44TH1	44.	3.75	13.	3.	3.	0.00
	HYDROGRAPH AT							
+		RSUB39	41.	3.67	24.	6.	6.	0.00
	2 COMBINED AT							
+		COMB13	85.	3.75	37.	9.	9.	0.00
	ROUTED TO							
+		R44TH2	85.	3.92	37.	9.	9.	0.00
	HYDROGRAPH AT							
+		RFSB35	23.	3.50	12.	3.	3.	0.00
	2 COMBINED AT							
+		COMB14	108.	3.92	49.	12.	12.	0.00
	ROUTED TO							
+		R-OCCC	108.	4.00	49.	12.	12.	0.00
	HYDROGRAPH AT							
+		RFSB33	8.	3.58	4.	1.	1.	0.00
	2 COMBINED AT							
+		COMB15	116.	4.00	53.	13.	13.	0.00
	3 COMBINED AT							
+		OCCC-2	216.	4.08	90.	23.	22.	0.00
	2 COMBINED AT							
+		2-YR	318.	4.08	128.	32.	31.	0.00

1

POND 2 Model Results

Alternate 4

POND-2 Version: 5.17 S/N:

ALT. 4
SUBBASIN 15

>>>>> OUTFLOW HYDROGRAPH ESTIMATOR <<<<<

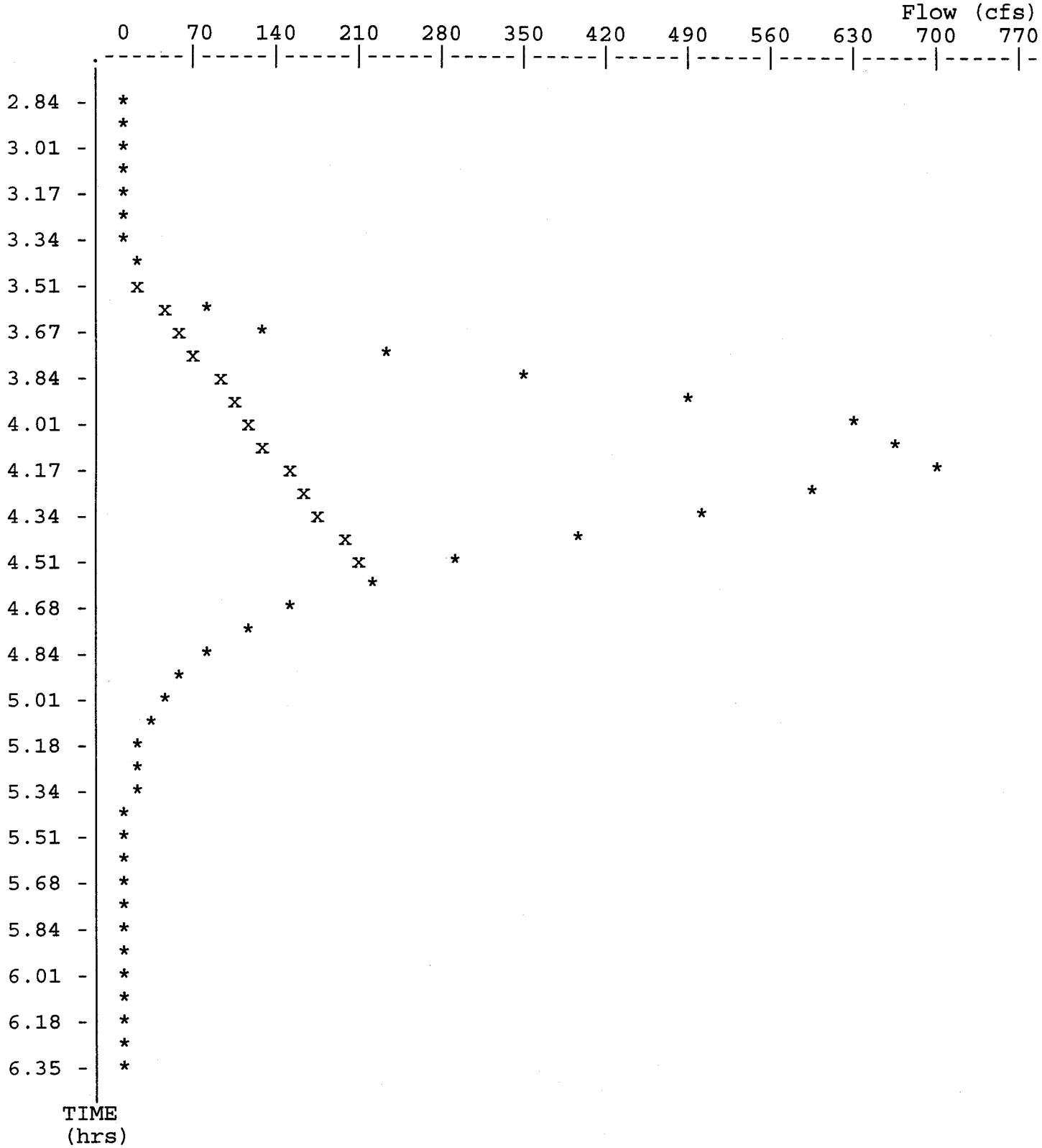
Inflow Hydrograph: SUB15 .HYD
Qpeak = 695.8 cfs

Estimated Outflow: ESTIMATE.EST
Qpeak = 224.0 cfs

Approximate Storage Volume
(computed from t= 3.51 to 4.59 hrs)

23.8 acre-ft

POND-2 Version: 5.17 S/N:
Plotted: 01-31-1996



* File: SUB15 .HYD Qmax = 695.8 cfs
x File: ESTIMATE.EST Qmax = 224.0 cfs

AL1.4
SUBBASIN 20

POND-2 Version: 5.17 S/N:

>>>>> OUTFLOW HYDROGRAPH ESTIMATOR <<<<<

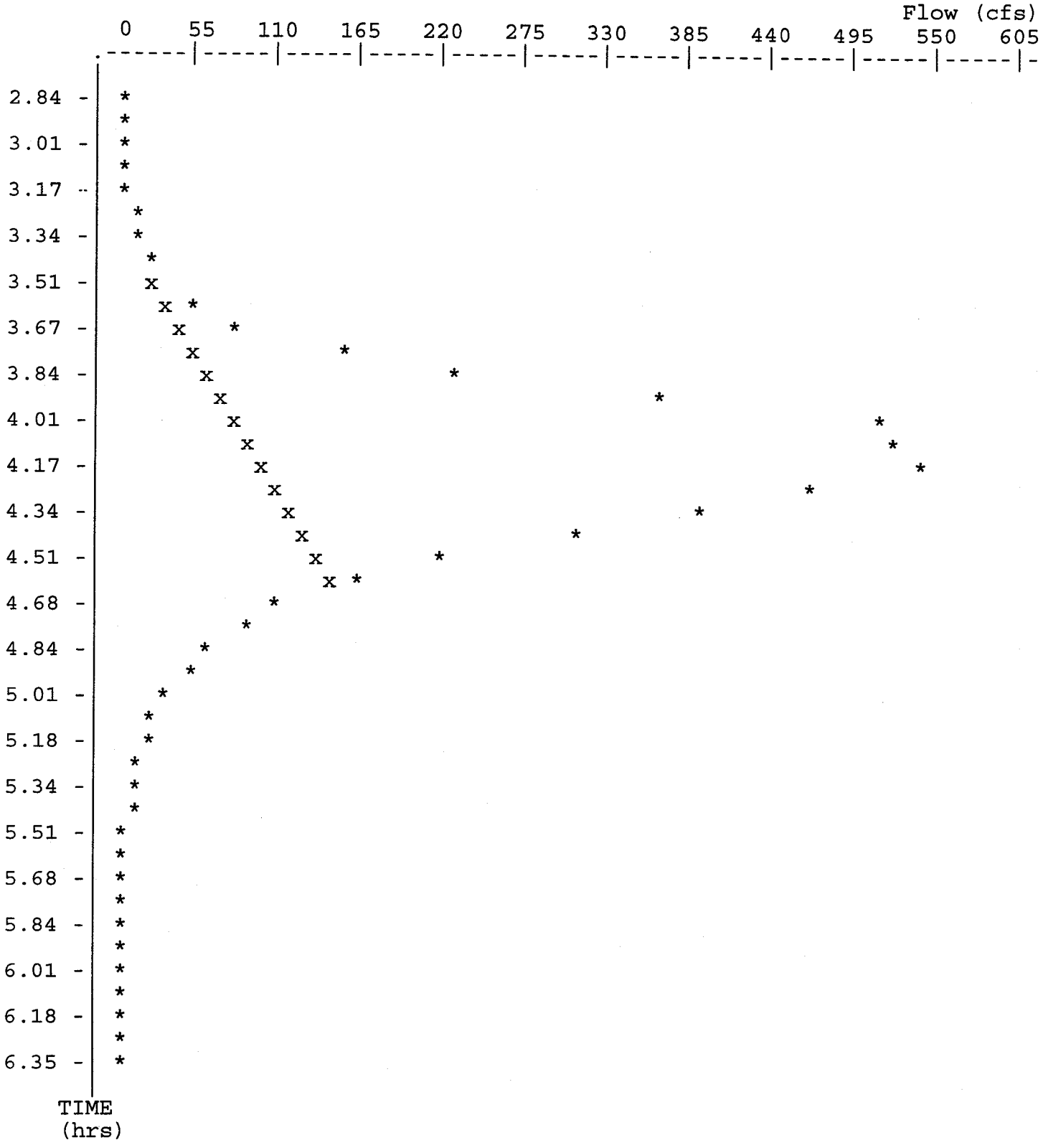
Inflow Hydrograph: SUB20 .HYD
Qpeak = 538.0 cfs

Estimated Outflow: ESTIMATE.EST
Qpeak = 151.0 cfs

Approximate Storage Volume
(computed from t= 3.51 to 4.62 hrs)

19.0 acre-ft

POND-2 Version: 5.17 S/N:
Plotted: 01-31-1996



* File: SUB20 .HYD Qmax = 538.0 cfs
x File: ESTIMATE.EST Qmax = 151.0 cfs

POND-2 Version: 5.17 S/N:

ALT. 4
SUBBASIN 25

>>>>> OUTFLOW HYDROGRAPH ESTIMATOR <<<<<

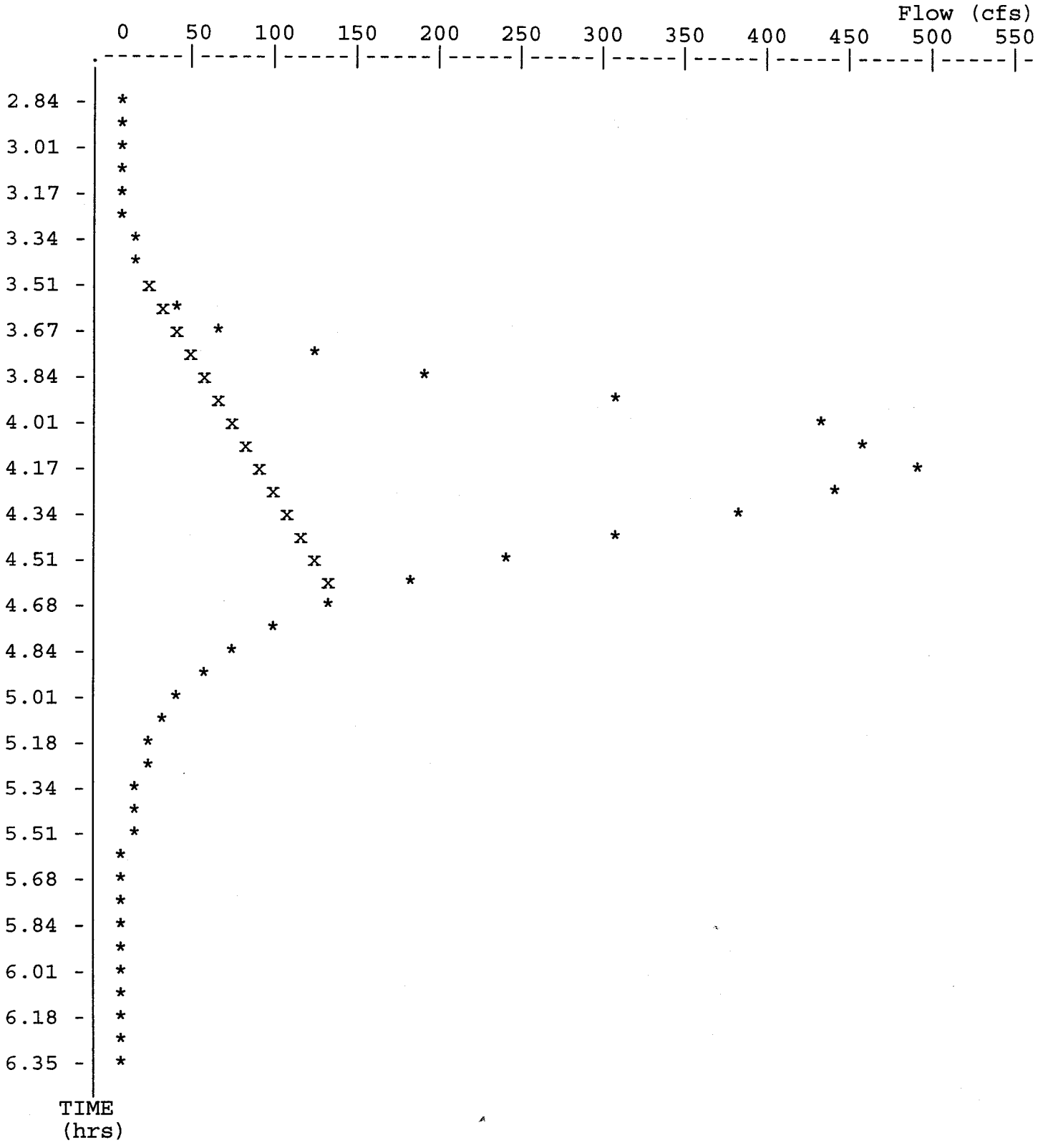
Inflow Hydrograph: SUB25 .HYD
Qpeak = 493.5 cfs

Estimated Outflow: ESTIMATE.EST
Qpeak = 137.0 cfs

Approximate Storage Volume
(computed from t= 3.51 to 4.67 hrs)

17.8 acre-ft

POND-2 Version: 5.17 S/N:
Plotted: 01-31-1996



* File: SUB25 .HYD Qmax = 493.5 cfs
x File: ESTIMATE.EST Qmax = 137.0 cfs

AL1.7
SUBBASIN 29

POND-2 Version: 5.17 S/N:

>>>>> OUTFLOW HYDROGRAPH ESTIMATOR <<<<<

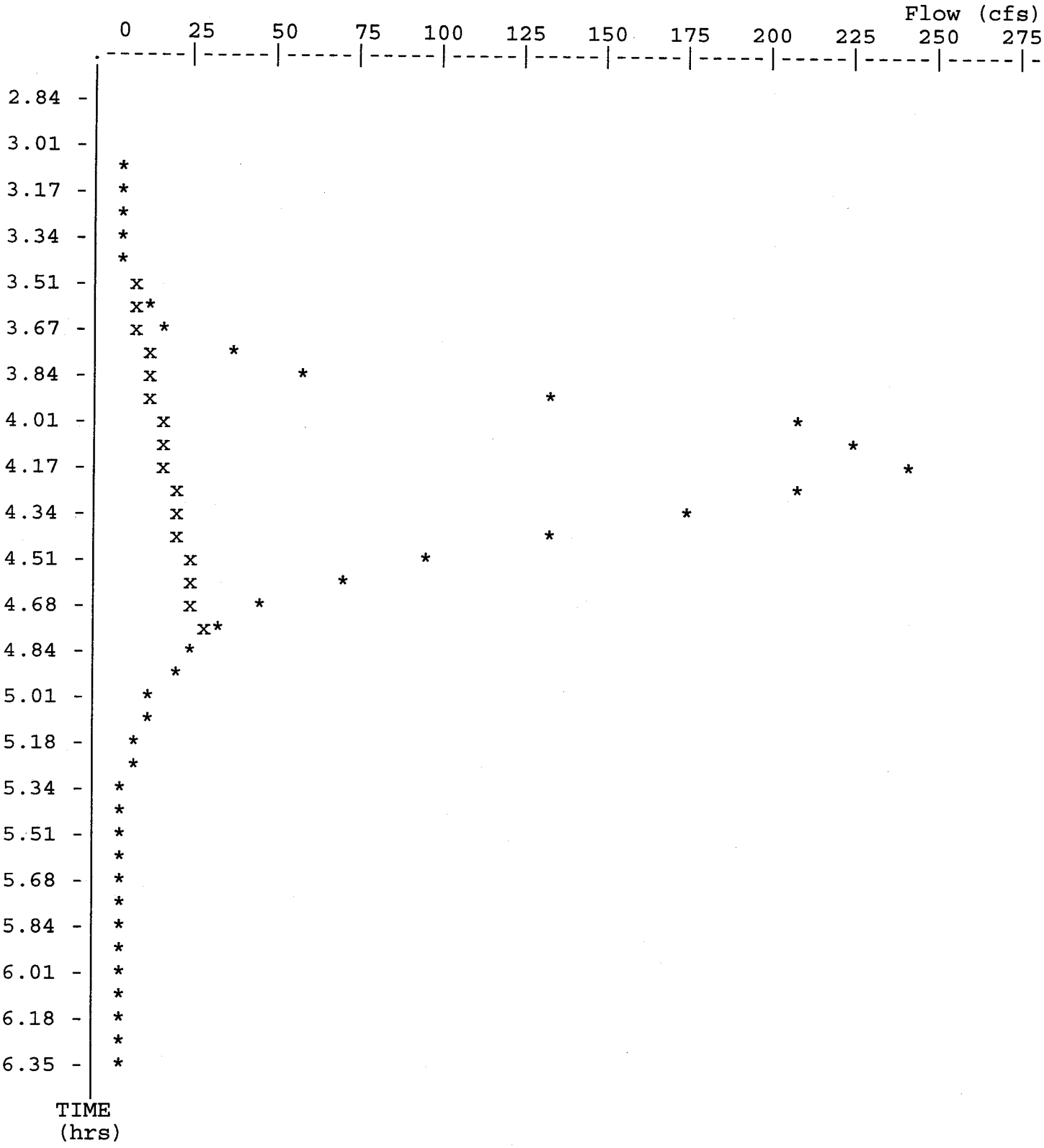
Inflow Hydrograph: SUB29 .HYD
Qpeak = 241.1 cfs

Estimated Outflow: ESTIMATE.EST
Qpeak = 29.0 cfs

Approximate Storage Volume
(computed from t= 3.51 to 4.80 hrs)

9.7 acre-ft

POND-2 Version: 5.17 S/N:
Plotted: 01-31-1996



* File: SUB29 .HYD Qmax = 241.1 cfs
x File: ESTIMATE.EST Qmax = 29.0 cfs

AC 1.4
SUBBASIN 33

POND-2 Version: 5.17 S/N:

>>>>> OUTFLOW HYDROGRAPH ESTIMATOR <<<<<

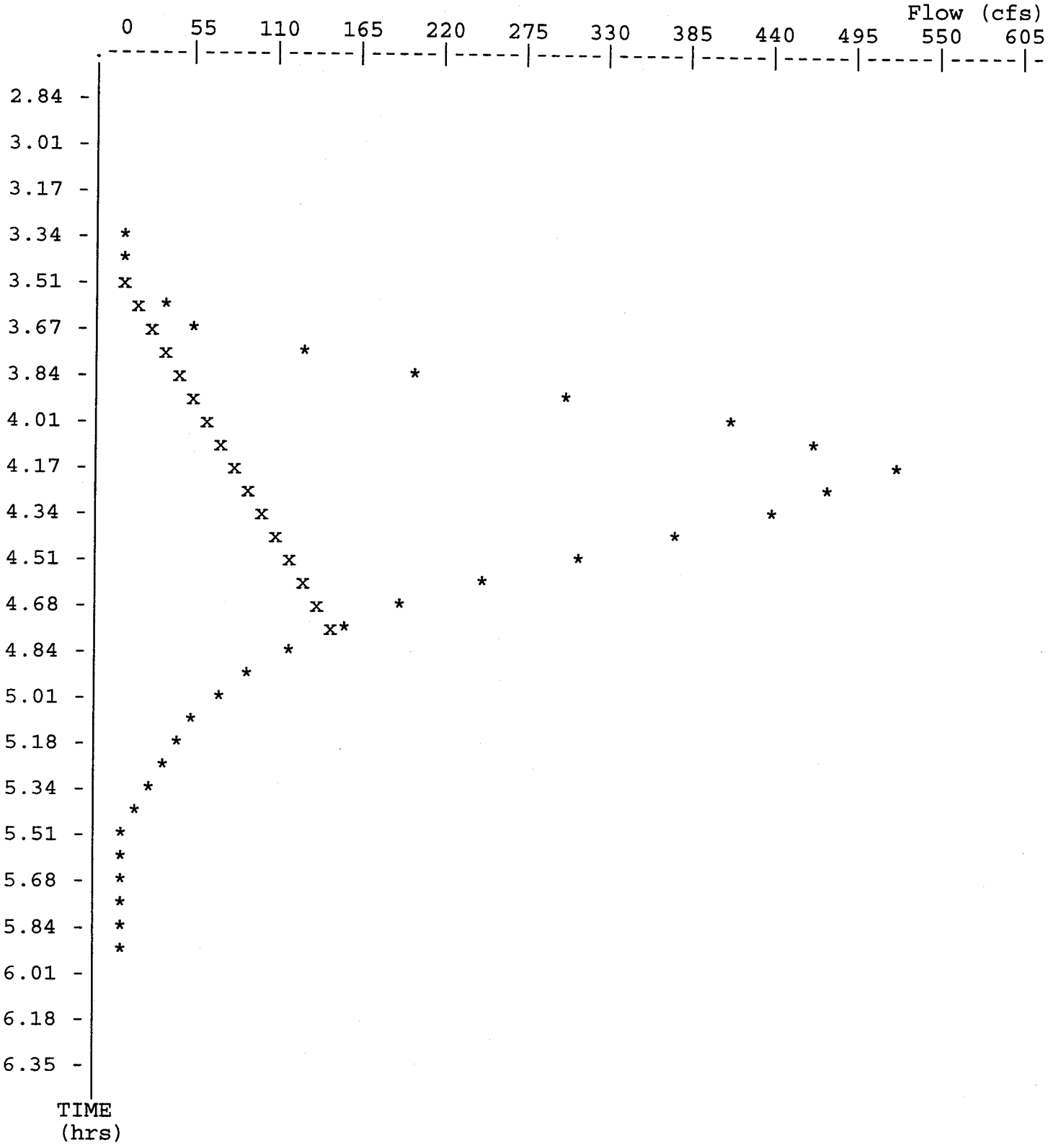
Inflow Hydrograph: SUB33 .HYD
Qpeak = 518.8 cfs

Estimated Outflow: ESTIMATE.EST
Qpeak = 150.0 cfs

Approximate Storage Volume
(computed from t= 3.51 to 4.77 hrs)

20.6 acre-ft

POND-2 Version: 5.17 S/N:
Plotted: 01-31-1996



* File: SUB33 .HYD Qmax = 518.8 cfs
x File: ESTIMATE.EST Qmax = 150.0 cfs

AL1.4
SUBBASIN 35

POND-2 Version: 5.17 S/N:

>>>>> OUTFLOW HYDROGRAPH ESTIMATOR <<<<<

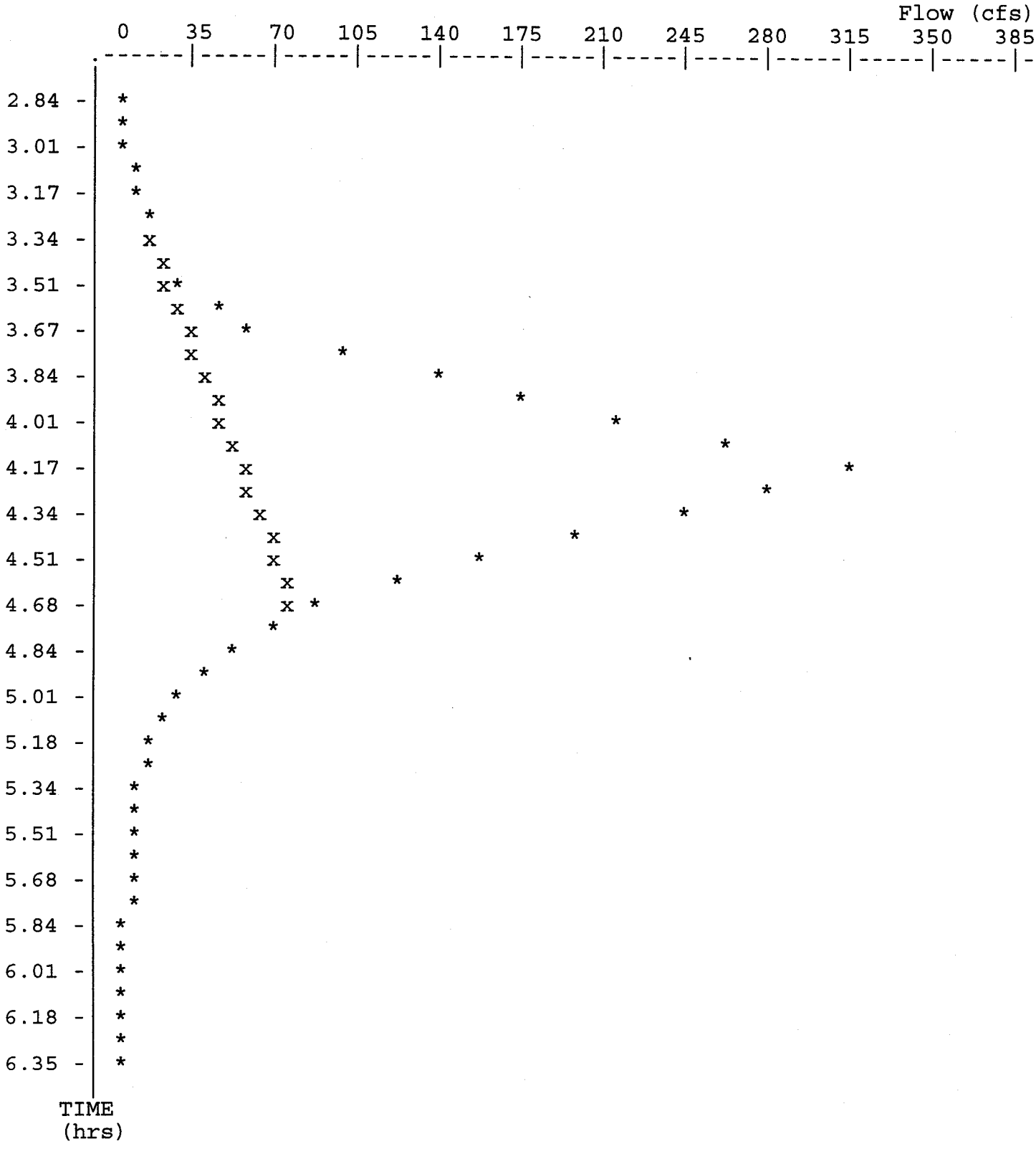
Inflow Hydrograph: SUB35 .HYD
Qpeak = 316.0 cfs

Estimated Outflow: ESTIMATE.EST
Qpeak = 80.0 cfs

Approximate Storage Volume
(computed from t= 3.34 to 4.70 hrs)

11.3 acre-ft

POND-2 Version: 5.17 S/N:
Plotted: 01-31-1996



* File: SUB35 .HYD Qmax = 316.0 cfs
x File: ESTIMATE.EST Qmax = 80.0 cfs

POND-2 Version: 5.17 S/N:

AL 1 4
SUBBASIN 36

>>>>> OUTFLOW HYDROGRAPH ESTIMATOR <<<<<

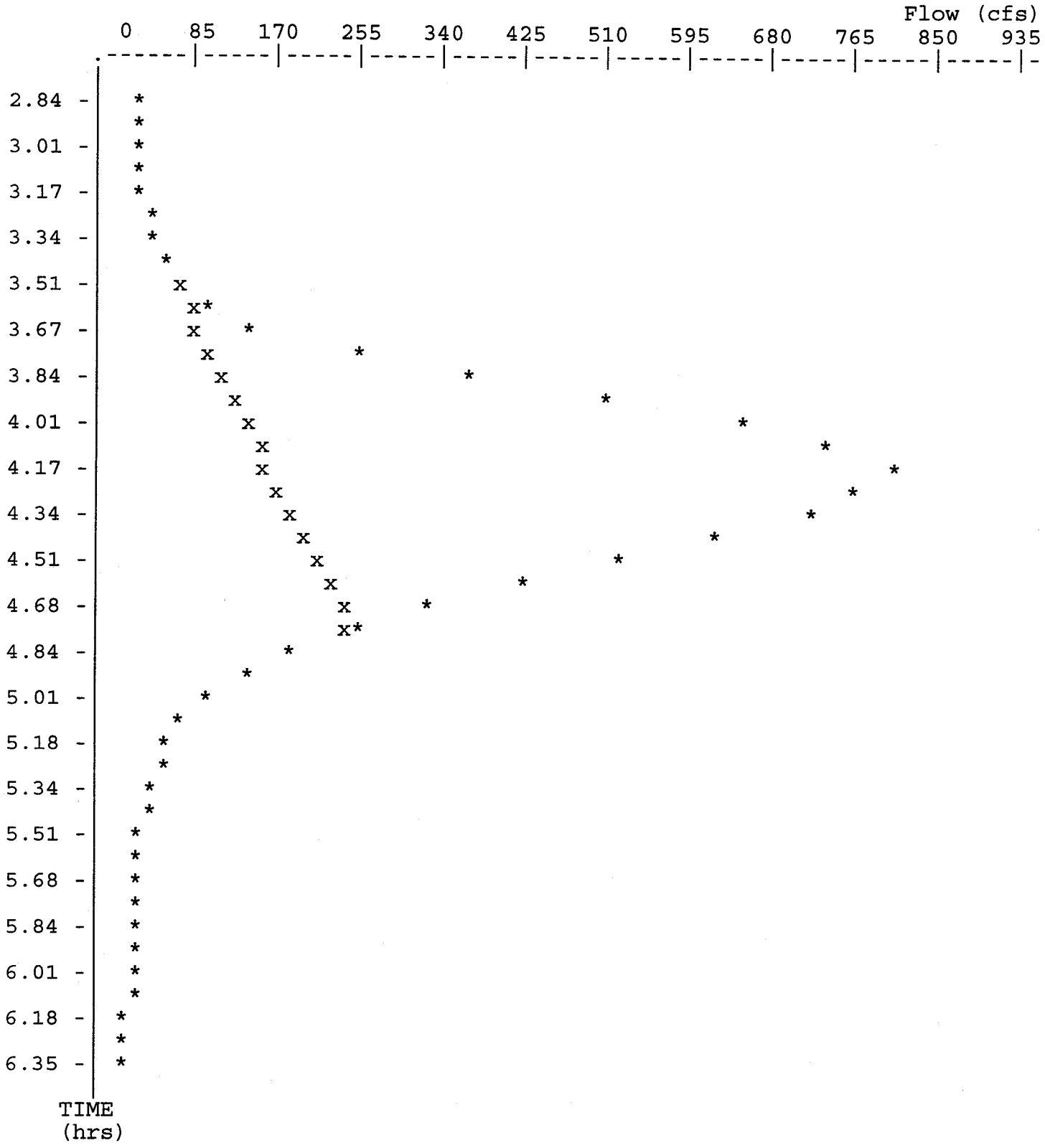
Inflow Hydrograph: SUB36 .HYD
Qpeak = 813.9 cfs

Estimated Outflow: ESTIMATE.EST
Qpeak = 247.0 cfs

Approximate Storage Volume
(computed from t= 3.51 to 4.76 hrs)

32.6 acre-ft

POND-2 Version: 5.17 S/N:
Plotted: 01-31-1996



* File: SUB36 .HYD Qmax = 813.9 cfs
x File: ESTIMATE.EST Qmax = 247.0 cfs

Alternate 5

ALT. 5

POND-2 Version: 5.17 S/N:

>>>>> OUTFLOW HYDROGRAPH ESTIMATOR <<<<<

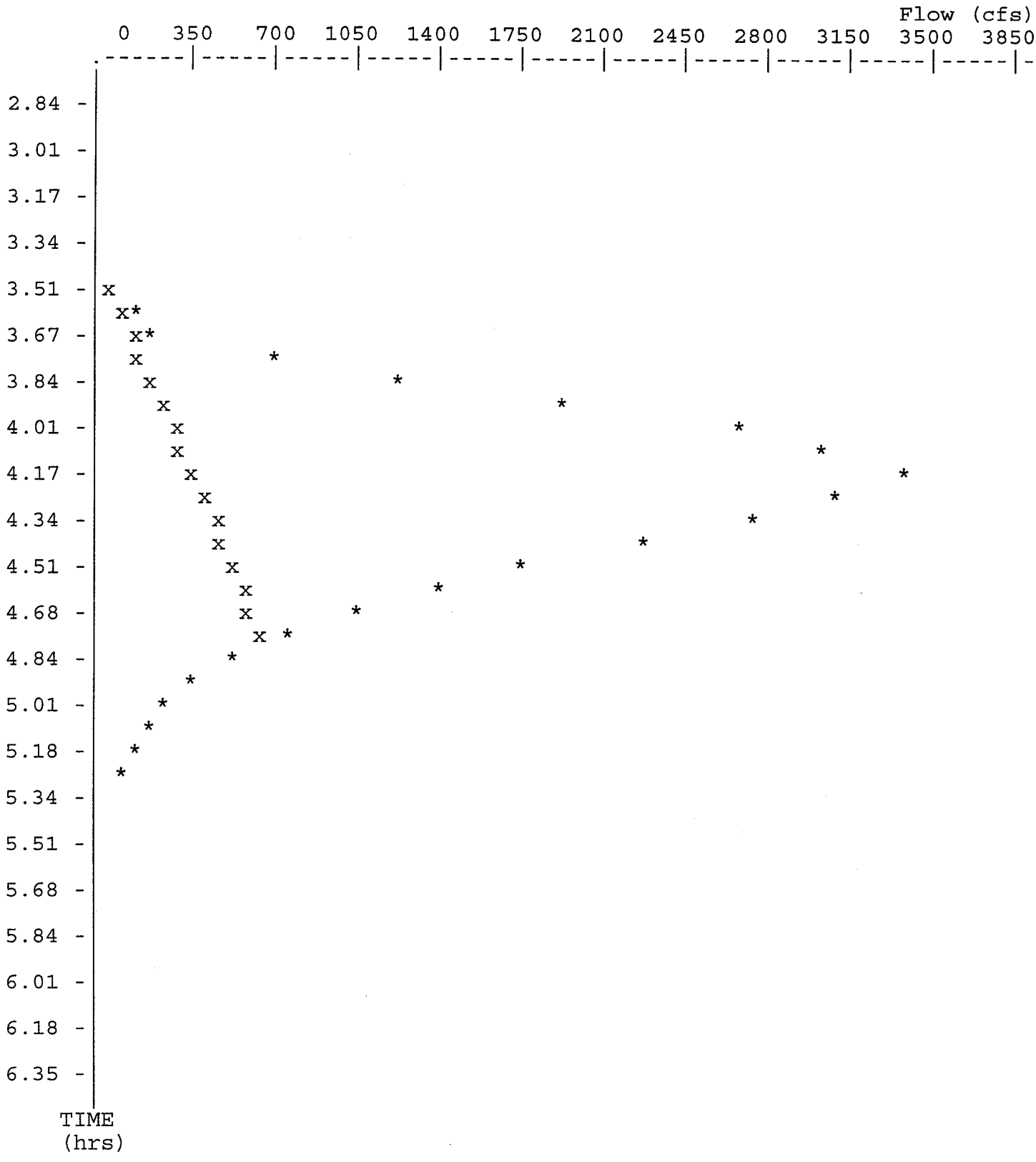
Inflow Hydrograph: CONCEPT .HYD
Qpeak = 3391.8 cfs

Estimated Outflow: ESTIMATE.EST
Qpeak = 672.0 cfs

Approximate Storage Volume
(computed from t= 3.51 to 4.79 hrs)

143.3 acre-ft

POND-2 Version: 5.17 S/N:
Plotted: 01-31-1996



* File: CONCEPT .HYD Qmax = 3391.8 cfs
x File: ESTIMATE.EST Qmax = 672.0 cfs

WSPG Model Results

Alternate 1

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 1 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 2)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (3/12/97) file:alt1ccw.out

DATE: 3/12/1997
TIME: 14:17

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.50														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.00	1230.98	1	1245.20

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1110.00	1231.31	1	0.014	0.00	0.00	0.00	1

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1669.45	1232.99	1	0.014	0.00	0.00	30.00	1

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1760.00	1233.26	1	0.014	0.00	0.00	90.00	0

ELEMENT NO 5 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1760.00	1233.26	1	9	0	0.014	22.0	0.0	1235.51	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2693.96	1236.06	1	0.014	0.00	0.00	0.00	0

ELEMENT NO 7 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2693.96	1236.06	1	11	11	0.014	15.0	15.0	1238.81	1238.81	90.00	90.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3254.72	1237.74	1	0.014	0.00	0.00	0.00	0

ELEMENT NO 9 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	3254.72	1237.74	1	9	0	0.014	15.0	0.0	1239.99	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 10 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	3550.00	1238.62	1	0.014	0.00	0.00	40.00	0

ELEMENT NO 11 IS A JUNCTION * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	3550.00	1239.87	5	10	0	0.014	15.0	0.0	1241.12	0.00	90.00	0.00

ELEMENT NO 12 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	4620.00	1246.08	5	0.014	0.00	0.00	0.00	2

ELEMENT NO 13 IS A JUNCTION * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	4620.00	1246.08	5	9	0	0.014	30.0	0.0	1247.08	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 14 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	5145.57	1249.12	5	0.014	0.00	0.00	0.00	0

ELEMENT NO 15 IS A SYSTEM HEADWORKS * *

	STATION	INVERT	SECT	W S ELEV
U/S DATA	5145.57	1249.12	5	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING
** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 1 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 2)
PROJECT NO. 94-21 (3/12/97) file:alt1ccw.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
1000.00	1230.98	14.220	1245.200	272.0	6.16	0.589	1245.789	0.00	4.241		7.50	0.00	0.00	0	0.00
110.00	0.00300					.001455	0.16			4.608			0.00		
1110.00	1231.31	14.080	1245.390	272.0	6.16	0.589	1245.979	0.00	4.241		7.50	0.00	0.00	0	0.00
559.45	0.00300					.001455	0.81			4.606			0.00		
1669.45	1232.99	13.301	1246.291	272.0	6.16	0.589	1246.880	0.00	4.241		7.50	0.00	0.00	0	0.00
90.55	0.00298					.001455	0.13			4.617			0.00		
1760.00	1233.26	13.338	1246.598	272.0	6.16	0.589	1247.187	0.00	4.241		7.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001342	0.00						0.00		
1760.00	1233.26	13.521	1246.781	250.0	5.66	0.497	1247.278	0.00	4.058		7.50	0.00	0.00	0	0.00
933.96	0.00300					.001229	1.15			4.362			0.00		
2693.96	1236.06	11.869	1247.929	250.0	5.66	0.497	1248.426	0.00	4.058		7.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001091	0.00						0.00		
2693.96	1236.06	12.093	1248.153	220.0	4.98	0.385	1248.538	0.00	3.795		7.50	0.00	0.00	0	0.00
560.76	0.00300					.000952	0.53			4.029			0.00		
3254.72	1237.74	10.947	1248.687	220.0	4.98	0.385	1249.072	0.00	3.795		7.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.000890	0.00						0.00		
3254.72	1237.74	11.048	1248.788	205.0	4.64	0.334	1249.122	0.00	3.657		7.50	0.00	0.00	0	0.00
295.28	0.00298					.000827	0.24			3.867			0.00		
3550.00	1238.62	10.457	1249.077	205.0	4.64	0.334	1249.411	0.00	3.657		7.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.003500	0.00						0.00		
3550.00	1239.87	8.343	1248.213	190.0	9.68	1.454	1249.667	0.00	3.943		5.00	0.00	0.00	0	0.00
1070.00	0.00580					.006172	6.60			4.254			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 1 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 2)

PROJECT NO. 94-21 (3/12/97) file:alt1ccw.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
4620.00	1246.08	8.883	1254.963	190.0	9.68	1.454	1256.417	0.00	3.943		5.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.005274	0.00						0.00		
4620.00	1246.08	9.729	1255.809	160.0	8.15	1.031	1256.840	0.00	3.627		5.00	0.00	0.00	0	0.00
525.57	0.00578					.004377	2.30			3.606			0.00		
5145.57	1249.12	8.989	1258.109	160.0	8.15	1.031	1259.140	0.00	3.627		5.00	0.00	0.00	0	0.00

TOG = 1260 +

FB = 1258.11 / 1.89' ok

Alternate 2

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 2 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 14)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (3/06/97) file:alt2ccw.out

DATE: 3/ 6/1997
TIME: 9:20

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

	STATION	INVERT	SECT	W S ELEV
U/S DATA	1000.00	1230.98	4	1245.20

ELEMENT NO 2 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	1110.00	1231.31	4	0.014	0.00	0.00	0.00	1

ELEMENT NO 3 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	1669.45	1232.99	4	0.014	0.00	0.00	30.00	1

ELEMENT NO 4 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	1760.00	1233.26	4	0.014	0.00	0.00	90.00	0

ELEMENT NO 5 IS A JUNCTION * * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	1760.00	1233.26	4	9	0	0.014	25.0	0.0	1234.51	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 6 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	2693.96	1236.06	4	0.014	0.00	0.00	0.00	1

ELEMENT NO 7 IS A JUNCTION * * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	2693.96	1236.06	4	11	11	0.014	15.0	15.0	1237.81	1237.81	90.00	90.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 8 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	3254.72	1237.74	4	0.014	0.00	0.00	45.00	0

ELEMENT NO 9 IS A JUNCTION * * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	3254.72	1237.74	4	9	0	0.014	15.0	0.0	1238.99	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 10 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	3550.00	1238.62	4	0.014	0.00	0.00	40.00	0

ELEMENT NO 11 IS A JUNCTION * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	3550.00	1239.80	9	10	0	0.014	15.0	0.0	1240.12	0.00	90.00	0.00

ELEMENT NO 12 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	4620.00	1246.20	9	0.014	0.00	0.00	0.00	3

ELEMENT NO 13 IS A JUNCTION * * * * * *

	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
U/S DATA	4620.00	1246.20	9	9	0	0.014	15.0	0.0	1246.20	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 14 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	5145.57	1249.30	9	0.014	0.00	0.00	0.00	1

ELEMENT NO 15 IS A SYSTEM HEADWORKS * *

	STATION	INVERT	SECT	W S ELEV
U/S DATA	5145.57	1249.30	9	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING
** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 14)

PROJECT NO. 94-21 (3/06/97) file:alt2ccw.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
1000.00	1230.98	14.220	1245.200	115.0	4.84	0.364	1245.564	0.00	2.974		5.50	0.00	0.00	0	0.00
110.00	0.00300					.001360	0.15			3.305			0.00		
1110.00	1231.31	14.058	1245.368	115.0	4.84	0.364	1245.732	0.00	2.974		5.50	0.00	0.00	0	0.00
559.45	0.00300					.001360	0.76			3.304			0.00		
1669.45	1232.99	13.193	1246.183	115.0	4.84	0.364	1246.547	0.00	2.974		5.50	0.00	0.00	0	0.00
90.55	0.00298					.001360	0.12			3.311			0.00		
1760.00	1233.26	13.154	1246.414	115.0	4.84	0.364	1246.778	0.00	2.974		5.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001097	0.00						0.00		
1760.00	1233.26	13.436	1246.696	90.0	3.79	0.223	1246.919	0.00	2.616		5.50	0.00	0.00	0	0.00
933.96	0.00300					.000833	0.78			2.838			0.00		
2693.96	1236.06	11.425	1247.485	90.0	3.79	0.223	1247.708	0.00	2.616		5.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.000602	0.00						0.00		
2693.96	1236.06	11.673	1247.733	60.0	2.53	0.099	1247.832	0.00	2.117		5.50	0.00	0.00	0	0.00
560.76	0.00300					.000370	0.21			2.252			0.00		
3254.72	1237.74	10.215	1247.955	60.0	2.53	0.099	1248.054	0.00	2.117		5.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.000289	0.00						0.00		
3254.72	1237.74	10.302	1248.042	45.0	1.89	0.056	1248.098	0.00	1.824		5.50	0.00	0.00	0	0.00
295.28	0.00298					.000208	0.06			1.930			0.00		
3550.00	1238.62	9.491	1248.111	45.0	1.89	0.056	1248.167	0.00	1.824		5.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001277	0.00						0.00		
3550.00	1239.80	8.226	1248.026	30.0	4.24	0.280	1248.306	0.00	1.775		3.00	0.00	0.00	0	0.00
1070.00	0.00598					.002346	2.51			1.720			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 14)

PROJECT NO. 94-21 (3/06/97) file:alt2ccw.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
4620.00	1246.20	4.378	1250.578	30.0	4.24	0.280	1250.858	0.00	1.775		3.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001466	0.00						0.00		
4620.00	1246.20	4.798	1250.998	15.0	2.12	0.070	1251.068	0.00	1.235		3.00	0.00	0.00	0	0.00
338.93	0.00590					.000582	0.20			1.156			0.00		
4958.93	1248.20	3.000	1251.199	15.0	2.12	0.070	1251.269	0.00	1.235		3.00	0.00	0.00	0	0.00
50.61	0.00590					.000545	0.03			1.156			0.00		
5009.54	1248.50	2.721	1251.219	15.0	2.23	0.077	1251.296	0.00	1.235		3.00	0.00	0.00	0	0.00
28.57	0.00590					.000531	0.02			1.156			0.00		
5038.11	1248.67	2.560	1251.226	15.0	2.33	0.085	1251.311	0.00	1.235		3.00	0.00	0.00	0	0.00
23.39	0.00590					.000575	0.01			1.156			0.00		
5061.50	1248.80	2.427	1251.231	15.0	2.45	0.093	1251.324	0.00	1.235		3.00	0.00	0.00	0	0.00
20.45	0.00590					.000633	0.01			1.156			0.00		
5081.95	1248.92	2.310	1251.235	15.0	2.57	0.102	1251.337	0.00	1.235		3.00	0.00	0.00	0	0.00
18.24	0.00590					.000702	0.01			1.156			0.00		
5100.19	1249.03	2.205	1251.237	15.0	2.69	0.113	1251.350	0.00	1.235		3.00	0.00	0.00	0	0.00
16.57	0.00590					.000784	0.01			1.156			0.00		
5116.76	1249.13	2.109	1251.239	15.0	2.82	0.124	1251.363	0.00	1.235		3.00	0.00	0.00	0	0.00
15.26	0.00590					.000878	0.01			1.156			0.00		
5132.02	1249.22	2.020	1251.240	15.0	2.96	0.136	1251.376	0.00	1.235		3.00	0.00	0.00	0	0.00
13.55	0.00590					.000983	0.01			1.156			0.00		
5145.57	1249.30	1.941	1251.241	15.0	3.10	0.149	1251.390	0.00	1.235		3.00	0.00	0.00	0	0.00

GROUND 1260.0 ±
WSE 1251.24
8.76' OK

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 2 - ARCADIA DRIVE (SHEETS 3-4 OF 14)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (3/03/97) file:alt2arc.out

DATE: 3/ 3/1997
TIME: 13:26

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			8.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														
CD	13	4			7.00														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

7.5' depth

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	749.00	1234.03	1	1241.53

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1000.00	1235.44	1	0.014	0.00	0.00	0.00	0

ELEMENT NO 3 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1000.00	1235.44	1	11	0	0.014	5.0	0.0	1238.44	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1145.71	1236.26	1	0.014	0.00	0.00	90.00	1

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2115.08	1241.72	1	0.014	0.00	0.00	40.00	1

ELEMENT NO 6 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2115.08	1242.47	2	1	0	0.014	178.0	0.0	1242.22	0.00	70.00	0.00

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2630.00	1250.71	2	0.014	0.00	0.00	0.00	0

ELEMENT NO 8 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2630.00	1250.71	2	11	0	0.014	7.0	0.0	1252.96	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3280.00	1261.11	2	0.014	0.00	0.00	0.00	1

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 10 IS A REACH * * *

	U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
		3920.00	1271.35	2	0.014	0.00	0.00	0.00	0

ELEMENT NO 11 IS A JUNCTION * * * * * * *

	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
		3920.00	1271.35	2	11	0	0.014	6.0	0.0	1273.60	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 12 IS A REACH * * *

	U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
		4773.37	1285.00	2	0.014	0.00	0.00	0.00	1

ELEMENT NO 13 IS A JUNCTION * * * * * * *

	U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
		4773.37	1285.00	2	8	2	0.014	124.9	360.0	1286.50	1285.00	90.00	90.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 14 IS A SYSTEM HEADWORKS * *

	U/S DATA	STATION	INVERT	SECT	W S ELEV
		4773.37	1285.00	2	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING
** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 2 - ARCADIA DRIVE (SHEETS 3-4 OF 14)
PROJECT NO. 94-21 (3/03/97) file:alt2arc.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
749.00	1234.03	7.500	1241.530	681.0	13.91	3.005	1244.535	0.00	6.606		8.00	0.00	0.00	0	0.00
251.00	0.00562					.005588	1.40			7.345			0.00		
1000.00	1235.44	7.485	1242.925	681.0	13.93	3.011	1245.936	0.00	6.606		8.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.005560	0.00						0.00		
1000.00	1235.44	7.640	1243.080	676.0	13.67	2.900	1245.980	0.00	6.585		8.00	0.00	0.00	0	0.00
145.71	0.00563					.005527	0.81			7.171			0.00		
1145.71	1236.26	7.616	1243.876	676.0	13.69	2.910	1246.786	0.00	6.585		8.00	0.00	0.00	0	0.00
969.37	0.00563					.005519	5.35			7.164			0.00		
2115.08	1241.72	7.412	1249.132	676.0	13.91	3.004	1252.136	0.00	6.585		8.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.007990	0.00						0.00		
2115.08	1242.47	7.963	1250.433	498.0	15.01	3.497	1253.930	0.00	5.817		6.50	0.00	0.00	0	0.00
125.67	0.01600					.010464	1.32			4.433			0.00		
2240.75	1244.48	7.268	1251.749	498.0	15.01	3.497	1255.246	0.00	5.817		6.50	0.00	0.00	0	0.00
HYDRAULIC JUMP													0.00		
2240.75	1244.48	4.454	1248.935	498.0	20.55	6.558	1255.493	0.00	5.817		6.50	0.00	0.00	0	0.00
389.25	0.01600					.015349	5.97			4.433			0.00		
2630.00	1250.71	4.554	1255.264	498.0	20.05	6.245	1261.509	0.00	5.817		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.015450	0.00						0.00		
2630.00	1250.71	4.387	1255.097	491.0	20.61	6.593	1261.690	0.00	5.789		6.50	0.00	0.00	0	0.00
650.00	0.01600					.016001	10.40			4.387			0.00		
3280.00	1261.11	4.387	1265.497	491.0	20.61	6.593	1272.090	0.00	5.789		6.50	0.00	0.00	0	0.00
168.32	0.01600					.016001	2.69			4.387			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - ARCADIA DRIVE (SHEETS 3-4 OF 14)

PROJECT NO. 94-21 (3/03/97) file:alt2arc.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
3448.32	1263.80	4.387	1268.190	491.0	20.61	6.593	1274.783	0.00	5.789		6.50	0.00	0.00	0	0.00
471.68	0.01600					.015515	7.32			4.387			0.00		
3920.00	1271.35	4.490	1275.840	491.0	20.08	6.262	1282.102	0.00	5.789		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.015510	0.00						0.00		
3920.00	1271.35	4.349	1275.699	485.0	20.55	6.560	1282.259	0.00	5.764		6.50	0.00	0.00	0	0.00
77.45	0.01599					.015991	1.24			4.349			0.00		
3997.45	1272.59	4.349	1276.938	485.0	20.55	6.560	1283.498	0.00	5.764		6.50	0.00	0.00	0	0.00
463.81	0.01599					.015284	7.09			4.349			0.00		
4461.26	1280.01	4.500	1284.508	485.0	19.79	6.079	1290.587	0.00	5.764		6.50	0.00	0.00	0	0.00
159.49	0.01599					.013796	2.20			4.349			0.00		
4620.75	1282.56	4.702	1287.261	485.0	18.87	5.527	1292.788	0.00	5.764		6.50	0.00	0.00	0	0.00
77.33	0.01599					.012343	0.95			4.349			0.00		
4698.08	1283.80	4.922	1288.718	485.0	17.99	5.024	1293.742	0.00	5.764		6.50	0.00	0.00	0	0.00
43.63	0.01599					.011097	0.48			4.349			0.00		
4741.71	1284.49	5.165	1289.659	485.0	17.15	4.567	1294.226	0.00	5.764		6.50	0.00	0.00	0	0.00
23.76	0.01599					.010049	0.24			4.349			0.00		
4765.47	1284.87	5.439	1290.313	485.0	16.35	4.152	1294.465	0.00	5.764		6.50	0.00	0.00	0	0.00
7.90	0.01599					.009216	0.07			4.349			0.00		
4773.37	1285.00	5.764	1290.764	485.0	15.59	3.774	1294.538	0.00	5.764		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.004429	0.00						0.00		
4773.37	1285.00	13.068	1298.068	0.1	0.00	0.000	1298.068	0.00	0.080		6.50	0.00	0.00	0	0.00

Ground El. 1315
1298.06
16.94
dlc

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 2 - "CENTRAL" CAMELBACK (SHEETS 5-7 OF 14)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (2/25/97) file:alt2ccam.out

DATE: 2/25/1997
TIME: 16:58

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			8.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														
CD	13	4			7.00														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

at st 4773

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	4773.37	1285.00	2	1298.07

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4879.40	1287.72	2	0.014	0.00	0.00	0.00	0

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	6075.00	1295.36	2	0.014	0.00	0.00	10.00	1

ELEMENT NO 4 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	6075.10	1295.36	2	5	0	0.014	112.0	0.0	1296.11	0.00	45.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	6670.00	1299.16	2	0.014	0.00	0.00	0.00	1

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	7216.53	1302.65	2	0.014	0.00	0.00	0.00	1

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	7466.53	1304.25	2	0.014	0.00	0.00	10.00	0

ELEMENT NO 8 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	7466.63	1305.00	6	5	0	0.014	118.0	0.0	1304.75	0.00	90.00	0.00

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	7643.89	1306.19	6	0.014	0.00	0.00	10.00	1

ELEMENT NO 10 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	8790.00	1312.29	6	0.014	0.00	0.00	10.00	1

ELEMENT NO 11 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	8790.10	1312.79	8	6	0	0.014	90.0	0.0	1312.29	0.00	90.00	0.00

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 12 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	10515.00	1319.00	8	0.014	0.00	0.00	0.00	3

ELEMENT NO 13 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	10515.00	1319.00	8	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - "CENTRAL" CAMELBACK (SHEETS 5-7 OF 14)

PROJECT NO. 94-21 (2/25/97) file:alt2ccam.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
4773.37	1285.00	13.070	1298.070	360.0	10.85	1.828	1299.898	0.00	5.085		6.50	0.00	0.00	0	0.00
106.03	0.02565					.005468	0.58			3.102			0.00		
4879.40	1287.72	10.930	1298.650	360.0	10.85	1.828	1300.478	0.00	5.085		6.50	0.00	0.00	0	0.00
1195.60	0.00639					.005468	6.54			4.936			0.00		
6075.00	1295.36	9.979	1305.339	360.0	10.85	1.828	1307.167	0.00	5.085		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.004032	0.00						0.00		
6075.10	1295.36	11.478	1306.838	248.0	7.47	0.867	1307.705	0.00	4.220		6.50	0.00	0.00	0	0.00
594.90	0.00639					.002595	1.54			3.770			0.00		
6670.00	1299.16	9.265	1308.425	248.0	7.47	0.867	1309.292	0.00	4.220		6.50	0.00	0.00	0	0.00
546.53	0.00639					.002595	1.42			3.770			0.00		
7216.53	1302.65	7.236	1309.886	248.0	7.47	0.867	1310.753	0.00	4.220		6.50	0.00	0.00	0	0.00
201.08	0.00640					.002582	0.52			3.767			0.00		
7417.61	1303.94	6.500	1310.437	248.0	7.47	0.867	1311.304	0.00	4.220		6.50	0.00	0.00	0	0.00
48.92	0.00640					.002423	0.12			3.767			0.00		
7466.53	1304.25	6.287	1310.537	248.0	7.55	0.885	1311.422	0.00	4.220		6.50	0.00	0.00	0	0.00
JUNCT STR	7.50000					.003672	0.00						0.00		
7466.63	1305.00	6.569	1311.569	130.0	8.17	1.037	1312.606	0.00	3.356		4.50	0.00	0.00	0	0.00
177.26	0.00671					.005068	0.90			3.242			0.00		
7643.89	1306.19	6.363	1312.553	130.0	8.17	1.037	1313.590	0.00	3.356		4.50	0.00	0.00	0	0.00
1146.11	0.00532					.005068	5.81			3.593			0.00		
8790.00	1312.29	6.158	1318.448	130.0	8.17	1.037	1319.485	0.00	3.356		4.50	0.00	0.00	0	0.00
JUNCT STR	5.00000					.003450	0.00						0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - "CENTRAL" CAMELBACK (SHEETS 5-7 OF 14)

PROJECT NO. 94-21 (2/25/97) file:alt2ccam.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH	HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF		NORM DEPTH			ZR		
8790.10	1312.79	7.839	1320.629	40.0	4.16	0.268	1320.897	0.00	1.967	3.50	0.00	0.00	0	0.00
1724.90	0.00360					.001833	3.16		2.185			0.00		
10515.00	1319.00	4.832	1323.832	40.0	4.16	0.268	1324.100	0.00	1.967	3.50	0.00	0.00	0	0.00

Ground Elev. 1327.+
HGL 1323.83
3.17'

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 2 - "CENTRAL" CAMELBACK (SHEET 8 OF 14)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (2/25/97) file:alt2cam.out

DATE: 2/25/1997
TIME: 17: 1

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	4773.37	1286.50	8	1298.07

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4815.78	1289.24	8	0.014	0.00	0.00	25.00	1

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	5465.00	1300.02	8	0.014	0.00	0.00	0.00	1

ELEMENT NO 4 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	5465.00	1300.02	8	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

LICENSEE: WILLIAMSON & SCHMID

F0515P

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - "CENTRAL" CAMELBACK (SHEET 8 OF 14)

PROJECT NO. 94-21 (2/25/97) file:alt2cam.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
4773.37	1286.50	11.570	1298.070	126.0	13.10	2.663	1300.733	0.00	3.287		3.50	0.00	0.00	0	0.00
42.41	0.06461					.018190	0.77			1.812			0.00		
4815.78	1289.24	9.954	1299.194	126.0	13.10	2.663	1301.857	0.00	3.287		3.50	0.00	0.00	0	0.00
649.22	0.01661					.018190	11.81			3.041			0.00		
5465.00	1300.02	11.117	1311.137	126.0	13.10	2.663	1313.800	0.00	3.287		3.50	0.00	0.00	0	0.00

Ground Ele. 1315.0 +
1313.78
HGL 1.22' dly

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 2 - "WEST" LAFAYETTE - 44TH ST. (SHEETS 9-11 OF 14)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (3/03/97) file:alt2laf.out

DATE: 3/ 3/1997
TIME: 13:34

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														
CD	13	4			7.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	2115.08	1242.22	1	1250.43

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2980.00	1243.78	1	0.014	0.00	0.00	0.00	1

ELEMENT NO 3 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2980.00	1243.78	1	11	0	0.014	6.0	0.0	1246.28	0.00	60.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4439.86	1246.40	1	0.014	0.00	0.00	0.00	3

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4930.00	1247.29	1	0.014	0.00	0.00	10.00	0

ELEMENT NO 6 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	4930.00	1247.29	1	9	0	0.014	22.0	0.0	1249.29	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	7127.64	1251.24	1	0.014	0.00	0.00	0.00	5

ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	7276.18	1251.51	1	0.014	0.00	0.00	40.00	0

ELEMENT NO 9 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	7276.18	1253.01	7	7	0	0.014	69.0	0.0	1253.01	0.00	90.00	0.00

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 10 IS A REACH * * *

	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
U/S DATA	8284.72	1260.67	7	0.014	0.00	0.00	0.00	2

ELEMENT NO 11 IS A SYSTEM HEADWORKS * *

	STATION	INVERT	SECT	W S ELEV
U/S DATA	8284.72	1260.67	7	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - "WEST" LAFAYETTE - 44TH ST. (SHEETS 9-11 OF 14)

PROJECT NO. 94-21 (3/03/97) file:alt2laf.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
2115.08	1242.22	8.210	1250.430	188.0	4.89	0.371	1250.801	0.00	3.571		7.00	0.00	0.00	0	0.00
864.92	0.00180					.001004	0.87			4.507			0.00		
2980.00	1243.78	7.537	1251.317	188.0	4.89	0.371	1251.688	0.00	3.571		7.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.000972	0.00						0.00		
2980.00	1243.78	7.579	1251.359	182.0	4.73	0.347	1251.706	0.00	3.510		7.00	0.00	0.00	0	0.00
708.07	0.00179					.000937	0.66			4.415			0.00		
3688.07	1245.05	7.000	1252.051	182.0	4.73	0.347	1252.398	0.00	3.510		7.00	0.00	0.00	0	0.00
668.45	0.00179					.000878	0.59			4.415			0.00		
4356.52	1246.25	6.351	1252.602	182.0	4.96	0.382	1252.984	0.00	3.510		7.00	0.00	0.00	0	0.00
83.34	0.00179					.000829	0.07			4.415			0.00		
4439.86	1246.40	6.263	1252.663	182.0	5.01	0.390	1253.053	0.00	3.510		7.00	0.00	0.00	0	0.00
336.20	0.00182					.000865	0.29			4.398			0.00		
4776.06	1247.01	5.904	1252.915	182.0	5.26	0.429	1253.344	0.00	3.510		7.00	0.00	0.00	0	0.00
153.94	0.00182					.000918	0.14			4.398			0.00		
4930.00	1247.29	5.744	1253.034	182.0	5.38	0.450	1253.484	0.00	3.510		7.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.000811	0.00						0.00		
4930.00	1247.29	5.968	1253.258	160.0	4.58	0.325	1253.583	0.00	3.282		7.00	0.00	0.00	0	0.00
256.98	0.00180					.000714	0.18			4.055			0.00		
5186.98	1247.75	5.657	1253.409	160.0	4.80	0.358	1253.767	0.00	3.282		7.00	0.00	0.00	0	0.00
232.64	0.00180					.000786	0.18			4.055			0.00		
5419.62	1248.17	5.386	1253.556	160.0	5.04	0.394	1253.950	0.00	3.282		7.00	0.00	0.00	0	0.00
222.40	0.00180					.000873	0.19			4.055			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - "WEST" LAFAYETTE - 44TH ST. (SHEETS 9-11 OF 14)

PROJECT NO. 94-21 (3/03/97) file:alt2laf.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
5642.02	1248.57	5.141	1253.711	160.0	5.28	0.433	1254.144	0.00	3.282		7.00	0.00	0.00	0	0.00
219.46	0.00180					.000973	0.21			4.055			0.00		
5861.48	1248.96	4.917	1253.881	160.0	5.54	0.476	1254.357	0.00	3.282		7.00	0.00	0.00	0	0.00
225.69	0.00180					.001091	0.25			4.055			0.00		
6087.17	1249.37	4.710	1254.079	160.0	5.81	0.524	1254.603	0.00	3.282		7.00	0.00	0.00	0	0.00
246.20	0.00180					.001226	0.30			4.055			0.00		
6333.37	1249.81	4.517	1254.329	160.0	6.09	0.576	1254.905	0.00	3.282		7.00	0.00	0.00	0	0.00
296.42	0.00180					.001381	0.41			4.055			0.00		
6629.79	1250.35	4.336	1254.681	160.0	6.39	0.634	1255.315	0.00	3.282		7.00	0.00	0.00	0	0.00
450.39	0.00180					.001558	0.70			4.055			0.00		
7080.18	1251.15	4.165	1255.319	160.0	6.70	0.697	1256.016	0.00	3.282		7.00	0.00	0.00	0	0.00
47.46	0.00180					.001660	0.08			4.055			0.00		
7127.64	1251.24	4.154	1255.394	160.0	6.72	0.702	1256.096	0.00	3.282		7.00	0.00	0.00	0	0.00
148.54	0.00182					.001688	0.25			4.040			0.00		
7276.18	1251.51	4.121	1255.631	160.0	6.79	0.716	1256.347	0.00	3.282		7.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.003299	0.00						0.00		
7276.18	1253.01	3.194	1256.204	91.0	8.46	1.111	1257.315	0.00	2.892		4.00	0.00	0.00	0	0.00
7.66	0.00760					.004962	0.04			2.664			0.00		
7283.84	1253.07	3.148	1256.216	91.0	8.58	1.142	1257.358	0.00	2.892		4.00	0.00	0.00	0	0.00
HYDRAULIC JUMP													0.00		
7283.84	1253.07	2.664	1255.732	91.0	10.24	1.627	1257.359	0.00	2.892		4.00	0.00	0.00	0	0.00
910.96	0.00760					.007596	6.92			2.664			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 2 - "WEST" LAFAYETTE - 44TH ST. (SHEETS 9-11 OF 14)
PROJECT NO. 94-21 (3/03/97) file:alt2laf.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
8194.80	1259.99	2.664	1262.651	91.0	10.24	1.627	1264.278	0.00	2.892		4.00	0.00	0.00	0	0.00
79.96	0.00760					.007224	0.58			2.664			0.00		
8274.76	1260.59	2.766	1263.360	91.0	9.81	1.495	1264.855	0.00	2.892		4.00	0.00	0.00	0	0.00
9.96	0.00760					.006483	0.06			2.664			0.00		
8284.72	1260.67	2.892	1263.562	91.0	9.35	1.359	1264.921	0.00	2.892		4.00	0.00	0.00	0	0.00

Ground Ele. 1270
HGL 1263.43
6.57' OK

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WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 2 - 64TH STREET - "EAST" CAMELBACK (SHEETS 12-14 OF 14)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (3/07/97) file:alt2cam2.out

DATE: 3/ 7/1997
TIME: 10:29

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

Top of Existing Storm Drain Pipe

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.00	1271.55	7	1275.55

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2280.00	1280.00	7	0.014	0.00	0.00	0.00	2

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3551.64	1293.35	7	0.014	0.00	0.00	0.00	2

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3607.96	1293.94	7	0.014	0.00	0.00	45.00	1

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4900.00	1301.95	7	0.014	0.00	0.00	45.00	1

ELEMENT NO 6 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	4900.00	1301.95	7	10	0	0.014	14.0	0.0	1302.70	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	6183.00	1309.90	7	0.014	0.00	0.00	0.00	1

ELEMENT NO 8 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	6183.00	1309.90	7	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING
** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 2 - 64TH STREET - "EAST" CAMELBACK (SHEETS 12-14 OF 14)

PROJECT NO. 94-21 (3/07/97) file:alt2cam2.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
1000.00	1271.55	4.000	1275.550	125.0	9.95	1.537	1277.087	0.00	3.357		4.00	0.00	0.00	0	0.00
1280.00	0.00660					.008783	11.24			4.000			0.00		
2280.00	1280.00	6.945	1286.945	125.0	9.95	1.537	1288.482	0.00	3.357		4.00	0.00	0.00	0	0.00
1271.64	0.01050					.008783	11.17			3.007			0.00		
3551.64	1293.35	4.917	1298.267	125.0	9.95	1.537	1299.804	0.00	3.357		4.00	0.00	0.00	0	0.00
56.32	0.01048					.008783	0.49			3.010			0.00		
3607.96	1293.94	5.127	1299.067	125.0	9.95	1.537	1300.604	0.00	3.357		4.00	0.00	0.00	0	0.00
1292.04	0.00620					.008783	11.35			4.000			0.00		
4900.00	1301.95	8.769	1310.719	125.0	9.95	1.537	1312.256	0.00	3.357		4.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.007854	0.00						0.00		
4900.00	1301.95	9.419	1311.369	111.0	8.83	1.212	1312.581	0.00	3.184		4.00	0.00	0.00	0	0.00
1283.00	0.00620					.006925	8.88			3.540			0.00		
6183.00	1309.90	10.415	1320.315	111.0	8.83	1.212	1321.527	0.00	3.184		4.00	0.00	0.00	0	0.00

Ground Ele. 1324.0
HGL 1321.52
2.48'
OK!

Alternate 3

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 3 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 13)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (3/05/97) file:alt3ccw.out

DATE: 3/ 6/1997
TIME: 9:18

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

10-yr WSE in CC Basin

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.00	1230.98	4	1245.20

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1110.00	1231.31	4	0.014	0.00	0.00	0.00	1

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1669.45	1232.99	4	0.014	0.00	0.00	30.00	1

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1760.00	1233.26	4	0.014	0.00	0.00	90.00	0

Q lateral

ELEMENT NO 5 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1760.00	1233.26	4	9	0	0.014	25.0	0.0	1234.51	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 6 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2693.96	1236.06	4	0.014	0.00	0.00	0.00	1

Q lat. Q lat

ELEMENT NO 7 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2693.96	1236.06	4	11	11	0.014	15.0	15.0	1237.81	1237.81	90.00	90.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3254.72	1237.74	4	0.014	0.00	0.00	45.00	0

Q lat

ELEMENT NO 9 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	3254.72	1237.74	4	9	0	0.014	15.0	0.0	1238.99	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 10 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3550.00	1238.62	4	0.014	0.00	0.00	40.00	0

ELEMENT NO 11 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	3550.00	1239.80	9	10	0	0.014	15.0	0.0	1240.12	0.00	90.00	0.00

ELEMENT NO 12 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4620.00	1246.20	9	0.014	0.00	0.00	0.00	3

ELEMENT NO 13 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	4620.00	1246.20	9	9	0	0.014	15.0	0.0	1246.20	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 14 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	5145.57	1249.30	9	0.014	0.00	0.00	0.00	1

ELEMENT NO 15 IS A SYSTEM HEADWORKS

U/S DATA	STATION	INVERT	SECT	W S ELEV
	5145.57	1249.30	9	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING
** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 3 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 13)
PROJECT NO. 94-21 (3/05/97) file:alt3ccw.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
1000.00	1230.98	14.220	1245.200	115.0	4.84	0.364	1245.564	0.00	2.974		5.50	0.00	0.00	0	0.00
110.00	0.00300					.001360	0.15			3.305			0.00		
1110.00	1231.31	14.058	1245.368	115.0	4.84	0.364	1245.732	0.00	2.974		5.50	0.00	0.00	0	0.00
559.45	0.00300					.001360	0.76			3.304			0.00		
1669.45	1232.99	13.193	1246.183	115.0	4.84	0.364	1246.547	0.00	2.974		5.50	0.00	0.00	0	0.00
90.55	0.00298					.001360	0.12			3.311			0.00		
1760.00	1233.26	13.154	1246.414	115.0	4.84	0.364	1246.778	0.00	2.974		5.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001097	0.00						0.00		
1760.00	1233.26	13.436	1246.696	90.0	3.79	0.223	1246.919	0.00	2.616		5.50	0.00	0.00	0	0.00
933.96	0.00300					.000833	0.78			2.838			0.00		
2693.96	1236.06	11.425	1247.485	90.0	3.79	0.223	1247.708	0.00	2.616		5.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.000602	0.00						0.00		
2693.96	1236.06	11.673	1247.733	60.0	2.53	0.099	1247.832	0.00	2.117		5.50	0.00	0.00	0	0.00
560.76	0.00300					.000370	0.21			2.252			0.00		
3254.72	1237.74	10.215	1247.955	60.0	2.53	0.099	1248.054	0.00	2.117		5.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.000289	0.00						0.00		
3254.72	1237.74	10.302	1248.042	45.0	1.89	0.056	1248.098	0.00	1.824		5.50	0.00	0.00	0	0.00
295.28	0.00298					.000208	0.06			1.930			0.00		
3550.00	1238.62	9.491	1248.111	45.0	1.89	0.056	1248.167	0.00	1.824		5.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001277	0.00						0.00		
3550.00	1239.80	8.226	1248.026	30.0	4.24	0.280	1248.306	0.00	1.775		3.00	0.00	0.00	0	0.00
1070.00	0.00598					.002346	2.51			1.720			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 3 - C.C.W. - 40TH - "WEST" CAMELBACK (SHEETS 1-2 OF 13)

PROJECT NO. 94-21 (3/05/97) file:alt3ccw.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
4620.00	1246.20	4.378	1250.578	30.0	4.24	0.280	1250.858	0.00	1.775		3.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001466	0.00						0.00		
4620.00	1246.20	4.798	1250.998	15.0	2.12	0.070	1251.068	0.00	1.235		3.00	0.00	0.00	0	0.00
338.93	0.00590					.000582	0.20			1.156			0.00		
4958.93	1248.20	3.000	1251.199	15.0	2.12	0.070	1251.269	0.00	1.235		3.00	0.00	0.00	0	0.00
50.61	0.00590					.000545	0.03			1.156			0.00		
5009.54	1248.50	2.721	1251.219	15.0	2.23	0.077	1251.296	0.00	1.235		3.00	0.00	0.00	0	0.00
28.57	0.00590					.000531	0.02			1.156			0.00		
5038.11	1248.67	2.560	1251.226	15.0	2.33	0.085	1251.311	0.00	1.235		3.00	0.00	0.00	0	0.00
23.39	0.00590					.000575	0.01			1.156			0.00		
5061.50	1248.80	2.427	1251.231	15.0	2.45	0.093	1251.324	0.00	1.235		3.00	0.00	0.00	0	0.00
20.45	0.00590					.000633	0.01			1.156			0.00		
5081.95	1248.92	2.310	1251.235	15.0	2.57	0.102	1251.337	0.00	1.235		3.00	0.00	0.00	0	0.00
18.24	0.00590					.000702	0.01			1.156			0.00		
5100.19	1249.03	2.205	1251.237	15.0	2.69	0.113	1251.350	0.00	1.235		3.00	0.00	0.00	0	0.00
16.57	0.00590					.000784	0.01			1.156			0.00		
5116.76	1249.13	2.109	1251.239	15.0	2.82	0.124	1251.363	0.00	1.235		3.00	0.00	0.00	0	0.00
15.26	0.00590					.000878	0.01			1.156			0.00		
5132.02	1249.22	2.020	1251.240	15.0	2.96	0.136	1251.376	0.00	1.235		3.00	0.00	0.00	0	0.00
13.55	0.00590					.000983	0.01			1.156			0.00		
5145.57	1249.30	1.941	1251.241	15.0	3.10	0.149	1251.390	0.00	1.235		3.00	0.00	0.00	0	0.00

Ground Ele. 1260. +

HGL Ele. 51.38

8.611' ok

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 3-ARCADIA DRIVE & "WEST" LAFAYETTE-44TH ST. (SHEET 3-6 OF 13)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (3/03/97) file:alt3arc.out

DATE: 3/ 3/1997
TIME: 13:40

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	749.00	1234.03	1	1241.03

fle in old x-out canal

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1000.00	1235.53	1	0.014	0.00	0.00	0.00	1

Qact

ELEMENT NO 3 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	1000.00	1235.53	1	11	0	0.014	5.0	0.0	1238.03	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	1145.71	1236.40	1	0.014	0.00	0.00	90.00	1

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2115.08	1242.22	1	0.014	0.00	0.00	40.00	1

Qlateral

ELEMENT NO 6 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2115.08	1242.22	1	2	0	0.014	172.0	0.0	1244.22	0.00	0.10	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

Should be 90°

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2980.00	1243.78	1	0.014	0.00	0.00	60.00	1

Qlateral

ELEMENT NO 8 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2980.00	1243.78	1	8	0	0.014	53.0	0.0	1245.53	0.00	60.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3435.00	1244.60	1	0.014	0.00	0.00	0.00	1

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 10 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	3435.00	1244.85	2	0	0	0.014	0.0	0.0	0.00	0.00	0.00	0.00

ELEMENT NO 11 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3490.00	1244.95	2	0.014	0.00	0.00	0.00	0

Lateral

ELEMENT NO 12 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	3490.00	1244.95	2	8	0	0.014	52.0	0.0	1246.45	0.00	60.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 13 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4439.86	1246.66	2	0.014	0.00	0.00	0.00	2

ELEMENT NO 14 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4930.00	1247.54	2	0.014	0.00	0.00	10.00	0

ELEMENT NO 15 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	4930.00	1247.54	2	9	0	0.014	22.0	0.0	1249.29	0.00	90.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 16 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	7127.64	1251.50	2	0.014	0.00	0.00	0.00	4

ELEMENT NO 17 IS A REACH

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	7276.18	1251.76	2	0.014	0.00	0.00	30.00	0

Lateral

ELEMENT NO 18 IS A JUNCTION

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	7276.18	1253.01	7	7	0	0.014	69.0	0.0	1253.01	0.00	90.00	0.00

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 19 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	8284.72	1262.54	7	0.014	0.00	0.00	0.00	2

ELEMENT NO 20 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	8284.72	1262.54	7	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 3-ARCADIA DRIVE & "WEST" LAFAYETTE-44TH ST. (SHEET 3-6 OF 13)

PROJECT NO. 94-21 (3/03/97) file:alt3arc.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
749.00	1234.03	7.000	1241.030	464.0	12.06	2.257	1243.287	0.00	5.653		7.00	0.00	0.00	0	0.00
251.00	0.00598					.006118	1.54			5.815			0.00		
1000.00	1235.53	7.149	1242.679	464.0	12.06	2.257	1244.936	0.00	5.653		7.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.006053	0.00						0.00		
1000.00	1235.53	7.245	1242.775	459.0	11.93	2.209	1244.984	0.00	5.625		7.00	0.00	0.00	0	0.00
145.71	0.00597					.005987	0.87			5.746			0.00		
1145.71	1236.40	8.014	1244.414	459.0	11.93	2.209	1246.623	0.00	5.625		7.00	0.00	0.00	0	0.00
969.37	0.00600					.005987	5.80			5.728			0.00		
2115.08	1242.22	8.400	1250.620	459.0	11.93	2.209	1252.829	0.00	5.625		7.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.004164	0.00						0.00		
2115.08	1242.22	10.371	1252.591	287.0	7.46	0.864	1253.455	0.00	4.454		7.00	0.00	0.00	0	0.00
864.92	0.00180					.002341	2.02			7.000			0.00		
2980.00	1243.78	11.050	1254.830	287.0	7.46	0.864	1255.694	0.00	4.454		7.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001949	0.00						0.00		
2980.00	1243.78	11.511	1255.291	234.0	6.08	0.574	1255.865	0.00	4.004		7.00	0.00	0.00	0	0.00
455.00	0.00180					.001556	0.71			5.337			0.00		
3435.00	1244.60	11.428	1256.028	234.0	6.08	0.574	1256.602	0.00	4.004		7.00	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001933	0.00						0.00		
3435.00	1244.85	10.981	1255.831	234.0	7.05	0.772	1256.603	0.00	4.095		6.50	0.00	0.00	0	0.00
55.00	0.00182					.002310	0.13			6.500			0.00		
3490.00	1244.95	11.008	1255.958	234.0	7.05	0.772	1256.730	0.00	4.095		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001854	0.00						0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 3-ARCADIA DRIVE & "WEST" LAFAYETTE-44TH ST. (SHEET 3-6 OF 13)
PROJECT NO. 94-21 (3/03/97) file:alt3arc.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
3490.00	1244.95	11.486	1256.436	182.0	5.48	0.467	1256.903	0.00	3.592		6.50	0.00	0.00	0	0.00
949.86	0.00180					.001398	1.33			4.737			0.00		
4439.86	1246.66	11.151	1257.811	182.0	5.48	0.467	1258.278	0.00	3.592		6.50	0.00	0.00	0	0.00
490.14	0.00179					.001398	0.69			4.742			0.00		
4930.00	1247.54	10.971	1258.511	182.0	5.48	0.467	1258.978	0.00	3.592		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.001239	0.00						0.00		
4930.00	1247.54	11.183	1258.723	160.0	4.82	0.361	1259.084	0.00	3.358		6.50	0.00	0.00	0	0.00
2197.64	0.00180					.001080	2.37			4.295			0.00		
7127.64	1251.50	9.669	1261.169	160.0	4.82	0.361	1261.530	0.00	3.358		6.50	0.00	0.00	0	0.00
148.54	0.00175					.001080	0.16			4.340			0.00		
7276.18	1251.76	9.606	1261.366	160.0	4.82	0.361	1261.727	0.00	3.358		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.002868	0.00						0.00		
7276.18	1253.01	8.508	1261.518	91.0	7.24	0.814	1262.332	0.00	2.892		4.00	0.00	0.00	0	0.00
956.43	0.00945					.004624	4.42			2.470			0.00		
8232.61	1262.05	4.000	1266.047	91.0	7.24	0.814	1266.861	0.00	2.892		4.00	0.00	0.00	0	0.00
52.11	0.00945					.004321	0.23			2.470			0.00		
8284.72	1262.54	3.661	1266.201	91.0	7.55	0.885	1267.086	0.00	2.892		4.00	0.00	0.00	0	0.00

Ground Ele. 1270.0
HGL 66.2
3.8' dk

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WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 3 - INDIAN SCHOOL RD. (SHEETS 7-8 OF 13)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (2/26/97) file:alt3ind.out

DATE: 3/ 6/1997
TIME: 10: 8

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT
	1000.00	1225.00	6

W S ELEV
1229.50

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2046.57	1232.14	6	0.014	0.00	0.00	0.00	2

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2320.00	1234.00	6	0.014	0.00	0.00	30.00	0

@ lateral

ELEMENT NO 4 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	2320.00	1234.50	8	11	0	0.014	45.0	0.0	1235.25	0.00	90.00	0.00

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3091.65	1241.68	8	0.014	0.00	0.00	0.00	1

@ lateral

ELEMENT NO 6 IS A JUNCTION * * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	3091.65	1242.18	10	10	0	0.014	45.0	0.0	1242.18	0.00	90.00	0.00

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3400.00	1242.95	10	0.014	0.00	0.00	5.00	1

ELEMENT NO 8 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	3730.00	1243.77	10	0.014	0.00	0.00	5.00	1

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	4020.32	1244.50	10	0.014	0.00	0.00	5.00	0

ELEMENT NO 10 IS A SYSTEM HEADWORKS * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	4020.32	1244.50	10	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING

** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 3 - INDIAN SCHOOL RD. (SHEETS 7-8 OF 13)

PROJECT NO. 94-21 (2/26/97) file:alt3ind.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
1000.00	1225.00	4.500	1229.500	110.0	6.92	0.743	1230.243	0.00	3.086		4.50	0.00	0.00	0	0.00
0.00	0.00682					.003606	0.00			2.852			0.00		
1000.00	1225.00	4.500	1229.500	110.0	6.92	0.743	1230.243	0.00	3.086		4.50	0.00	0.00	0	0.00
99.50	0.00682					.003378	0.34			2.852			0.00		
1099.50	1225.68	4.082	1229.761	110.0	7.25	0.817	1230.578	0.00	3.086		4.50	0.00	0.00	0	0.00
45.32	0.00682					.003286	0.15			2.852			0.00		
1144.82	1225.99	3.840	1229.828	110.0	7.61	0.899	1230.727	0.00	3.086		4.50	0.00	0.00	0	0.00
33.72	0.00682					.003556	0.12			2.852			0.00		
1178.54	1226.22	3.640	1229.858	110.0	7.98	0.989	1230.847	0.00	3.086		4.50	0.00	0.00	0	0.00
26.17	0.00682					.003913	0.10			2.852			0.00		
1204.71	1226.40	3.465	1229.862	110.0	8.37	1.088	1230.950	0.00	3.086		4.50	0.00	0.00	0	0.00
16.90	0.00682					.004292	0.07			2.852			0.00		
1221.61	1226.51	3.339	1229.851	110.0	8.69	1.173	1231.024	0.00	3.086		4.50	0.00	0.00	0	0.00
HYDRAULIC JUMP													0.00		
1221.61	1226.51	2.852	1229.364	110.0	10.35	1.663	1231.027	0.00	3.086		4.50	0.00	0.00	0	0.00
709.12	0.00682					.006823	4.84			2.852			0.00		
1930.73	1231.35	2.852	1234.202	110.0	10.35	1.663	1235.865	0.00	3.086		4.50	0.00	0.00	0	0.00
115.84	0.00682					.006812	0.79			2.852			0.00		
2046.57	1232.14	2.855	1234.995	110.0	10.34	1.659	1236.654	0.00	3.086		4.50	0.00	0.00	0	0.00
179.88	0.00680					.006802	1.22			2.855			0.00		
2226.45	1233.36	2.855	1236.219	110.0	10.34	1.659	1237.878	0.00	3.086		4.50	0.00	0.00	0	0.00
82.24	0.00680					.006476	0.53			2.855			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 3 - INDIAN SCHOOL RD. (SHEETS 7-8 OF 13)
PROJECT NO. 94-21 (2/26/97) file:alt3ind.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
2308.69	1233.92	2.957	1236.880	110.0	9.93	1.530	1238.410	0.00	3.086		4.50	0.00	0.00	0	0.00
11.31	0.00680					.005808	0.07			2.855			0.00		
2320.00	1234.00	3.086	1237.086	110.0	9.46	1.390	1238.476	0.00	3.086		4.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.005154	0.00						0.00		
2320.00	1234.50	4.345	1238.845	65.0	6.76	0.709	1239.554	0.00	2.528		3.50	0.00	0.00	0	0.00
191.22	0.00931					.004806	0.92			2.201			0.00		
2511.22	1236.28	3.500	1239.779	65.0	6.76	0.709	1240.488	0.00	2.528		3.50	0.00	0.00	0	0.00
52.69	0.00931					.004502	0.24			2.201			0.00		
2563.91	1236.77	3.175	1239.945	65.0	7.09	0.780	1240.725	0.00	2.528		3.50	0.00	0.00	0	0.00
22.36	0.00931					.004383	0.10			2.201			0.00		
2586.27	1236.98	2.987	1239.965	65.0	7.43	0.858	1240.823	0.00	2.528		3.50	0.00	0.00	0	0.00
10.20	0.00931					.004650	0.05			2.201			0.00		
2596.47	1237.07	2.893	1239.966	65.0	7.64	0.907	1240.873	0.00	2.528		3.50	0.00	0.00	0	0.00
HYDRAULIC JUMP													0.00		
2596.47	1237.07	2.201	1239.274	65.0	10.20	1.616	1240.890	0.00	2.528		3.50	0.00	0.00	0	0.00
289.38	0.00931					.009313	2.69			2.201			0.00		
2885.85	1239.77	2.201	1241.966	65.0	10.20	1.616	1243.582	0.00	2.528		3.50	0.00	0.00	0	0.00
120.75	0.00931					.009176	1.11			2.201			0.00		
3006.60	1240.89	2.223	1243.112	65.0	10.08	1.578	1244.690	0.00	2.528		3.50	0.00	0.00	0	0.00
64.10	0.00931					.008533	0.55			2.201			0.00		
3070.70	1241.48	2.317	1243.802	65.0	9.61	1.435	1245.237	0.00	2.528		3.50	0.00	0.00	0	0.00
17.14	0.00931					.007586	0.13			2.201			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY

ALTERNATIVE 3 - INDIAN SCHOOL RD. (SHEETS 7-8 OF 13)

PROJECT NO. 94-21 (2/26/97) file:alt3ind.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
3087.84	1241.64	2.418	1244.063	65.0	9.17	1.304	1245.367	0.00	2.528		3.50	0.00	0.00	0	0.00
3.81	0.00931					.006760	0.03			2.201			0.00		
3091.65	1241.68	2.528	1244.208	65.0	8.74	1.185	1245.393	0.00	2.528		3.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.004566	0.00						0.00		
3091.65	1242.18	4.474	1246.654	20.0	4.07	0.258	1246.912	0.00	1.518		2.50	0.00	0.00	0	0.00
308.35	0.00250					.002757	0.85			2.190			0.00		
3400.00	1242.95	4.571	1247.521	20.0	4.07	0.258	1247.779	0.00	1.518		2.50	0.00	0.00	0	0.00
330.00	0.00248					.002757	0.91			2.200			0.00		
3730.00	1243.77	4.678	1248.448	20.0	4.07	0.258	1248.706	0.00	1.518		2.50	0.00	0.00	0	0.00
290.32	0.00251					.002757	0.80			2.180			0.00		
4020.32	1244.50	4.753	1249.253	20.0	4.07	0.258	1249.511	0.00	1.518		2.50	0.00	0.00	0	0.00

Ground Ele. 1251 + 49.25 / 1.75 ok

HGL

WATER SURFACE PROFILE - TITLE CARD LISTING

HEADING LINE NO 1 IS -

ARCADIA AREA DRAINAGE STUDY

HEADING LINE NO 2 IS -

ALTERNATIVE 3 - OSBORN - 56TH ST. - LAFAYETTE (SHEETS 9-13 OF 13)

HEADING LINE NO 3 IS -

PROJECT NO. 94-21 (1/14/97) file:alt3osb.out

DATE: 1/14/1997
TIME: 11:16

F0515P

WATER SURFACE PROFILE - CHANNEL DEFINITION LISTING

CARD CODE	SECT NO	CHN TYPE	NO OF PIERS	AVE PIER WIDTH	HEIGHT 1 DIAMETER	BASE WIDTH	ZL	ZR	INV DROP	Y(1)	Y(2)	Y(3)	Y(4)	Y(5)	Y(6)	Y(7)	Y(8)	Y(9)	Y(10)
CD	1	4			7.00														
CD	2	4			6.50														
CD	3	4			6.00														
CD	4	4			5.50														
CD	5	4			5.00														
CD	6	4			4.50														
CD	7	4			4.00														
CD	8	4			3.50														
CD	9	4			3.00														
CD	10	4			2.50														
CD	11	4			2.00														
CD	12	4			1.50														

WATER SURFACE PROFILE - ELEMENT CARD LISTING

ELEMENT NO 1 IS A SYSTEM OUTLET * * *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	1000.00	1203.00	2	1209.50

ELEMENT NO 2 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	2090.00	1211.31	2	0.014	0.00	0.00	0.00	2

ELEMENT NO 3 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	6276.26	1225.96	2	0.014	0.00	0.00	0.00	7

ELEMENT NO 4 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	6760.00	1231.87	2	0.014	0.00	0.00	90.00	1

ELEMENT NO 5 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	7016.30	1235.00	2	0.014	0.00	0.00	0.00	0

ELEMENT NO 6 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	7016.30	1235.00	2	7	0	0.014	102.0	0.0	1236.25	0.00	60.00	0.00

THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING
THE ABOVE ELEMENT CONTAINED AN INVERT ELEV WHICH WAS NOT GREATER THAN THE PREVIOUS INVERT ELEV -WARNING

ELEMENT NO 7 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	8872.17	1253.41	2	0.014	0.00	0.00	0.00	2

Lateral

ELEMENT NO 8 IS A JUNCTION * * * * * *

U/S DATA	STATION	INVERT	SECT	LAT-1	LAT-2	N	Q3	Q4	INVERT-3	INVERT-4	PHI 3	PHI 4
	8872.17	1254.41	6	9	0	0.014	141.0	0.0	1255.16	0.00	0.10	0.00

ELEMENT NO 9 IS A REACH * * *

U/S DATA	STATION	INVERT	SECT	N	RADIUS	ANGLE	ANG PT	MAN H
	10510.00	1258.50	6	0.014	0.00	0.00	90.00	2

ELEMENT NO 10 IS A SYSTEM HEADWORKS *

U/S DATA	STATION	INVERT	SECT	W S ELEV
	10510.00	1258.50	6	0.00

NO EDIT ERRORS ENCOUNTERED-COMPUTATION IS NOW BEGINNING
** WARNING NO. 2 ** - WATER SURFACE ELEVATION GIVEN IS LESS THAN OR EQUALS INVERT ELEVATION IN HDWKDS, W.S.ELEV = INV + DC

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 3 - OSBORN - 56TH ST. - LAFAYETTE (SHEETS 9-13 OF 13)
PROJECT NO. 94-21 (1/14/97) file:alt3osb.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
1000.00	1203.00	6.500	1209.500	352.0	10.61	1.747	1211.247	0.00	5.031		6.50	0.00	0.00	0	0.00
0.00	0.00762					.005201	0.00			4.512			0.00		
1000.00	1203.00	6.500	1209.500	352.0	10.61	1.747	1211.247	0.00	5.031		6.50	0.00	0.00	0	0.00
155.30	0.00762					.004873	0.76			4.512			0.00		
1155.30	1204.18	5.897	1210.081	352.0	11.13	1.922	1212.003	0.00	5.031		6.50	0.00	0.00	0	0.00
48.99	0.00762					.004707	0.23			4.512			0.00		
1204.29	1204.56	5.592	1210.150	352.0	11.59	2.086	1212.236	0.00	5.031		6.50	0.00	0.00	0	0.00
HYDRAULIC JUMP													0.00		
1204.29	1204.56	4.512	1209.070	352.0	14.32	3.184	1212.254	0.00	5.031		6.50	0.00	0.00	0	0.00
539.12	0.00762					.007625	4.11			4.512			0.00		
1743.41	1208.67	4.512	1213.180	352.0	14.32	3.184	1216.364	0.00	5.031		6.50	0.00	0.00	0	0.00
234.50	0.00762					.007457	1.75			4.512			0.00		
1977.91	1210.45	4.590	1215.045	352.0	14.05	3.066	1218.111	0.00	5.031		6.50	0.00	0.00	0	0.00
95.68	0.00762					.006906	0.66			4.512			0.00		
2073.59	1211.18	4.800	1215.985	352.0	13.40	2.788	1218.773	0.00	5.031		6.50	0.00	0.00	0	0.00
16.41	0.00762					.006190	0.10			4.512			0.00		
2090.00	1211.31	5.031	1216.341	352.0	12.77	2.533	1218.874	0.00	5.031		6.50	0.00	0.00	0	0.00
11.93	0.00350					.005580	0.07			6.500			0.00		
2101.93	1211.35	5.286	1216.638	352.0	12.18	2.303	1218.941	0.00	5.031		6.50	0.00	0.00	0	0.00
53.68	0.00350					.005077	0.27			6.500			0.00		
2155.61	1211.54	5.580	1217.120	352.0	11.61	2.094	1219.214	0.00	5.031		6.50	0.00	0.00	0	0.00
140.18	0.00350					.004703	0.66			6.500			0.00		

WATER SURFACE PROFILE LISTING

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 3 - OSBORN - 56TH ST. - LAFAYETTE (SHEETS 9-13 OF 13)
PROJECT NO. 94-21 (1/14/97) file:alt3osb.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
2295.79	1212.03	5.939	1217.969	352.0	11.07	1.903	1219.872	0.00	5.031		6.50	0.00	0.00	0	0.00
297.10	0.00350					.004863	1.44			6.500			0.00		
2592.89	1213.07	6.500	1219.570	352.0	10.61	1.747	1221.317	0.00	5.031		6.50	0.00	0.00	0	0.00
3683.37	0.00350					.005201	19.16			6.500			0.00		
6276.26	1225.96	13.405	1239.365	352.0	10.61	1.747	1241.112	0.00	5.031		6.50	0.00	0.00	0	0.00
483.74	0.01222					.005228	2.53			3.833			0.00		
6760.00	1231.87	10.630	1242.500	352.0	10.61	1.747	1244.247	0.00	5.031		6.50	0.00	0.00	0	0.00
256.30	0.01221					.005228	1.34			3.833			0.00		
7016.30	1235.00	8.840	1243.840	352.0	10.61	1.747	1245.587	0.00	5.031		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000					.003933	0.00						0.00		
7016.30	1235.00	10.184	1245.184	250.0	7.53	0.881	1246.065	0.00	4.238		6.50	0.00	0.00	0	0.00
509.22	0.00992					.002623	1.34			3.309			0.00		
7525.52	1240.05	6.500	1246.551	250.0	7.53	0.881	1247.432	0.00	4.238		6.50	0.00	0.00	0	0.00
68.85	0.00992					.002458	0.17			3.309			0.00		
7594.37	1240.73	5.897	1246.631	250.0	7.90	0.970	1247.601	0.00	4.238		6.50	0.00	0.00	0	0.00
33.60	0.00992					.002387	0.08			3.309			0.00		
7627.97	1241.07	5.547	1246.615	250.0	8.29	1.066	1247.681	0.00	4.238		6.50	0.00	0.00	0	0.00
16.29	0.00992					.002537	0.04			3.309			0.00		
7644.26	1241.23	5.365	1246.595	250.0	8.53	1.131	1247.726	0.00	4.238		6.50	0.00	0.00	0	0.00
HYDRAULIC JUMP													0.00		
7644.26	1241.23	3.309	1244.539	250.0	14.73	3.368	1247.907	0.00	4.238		6.50	0.00	0.00	0	0.00
588.07	0.00992					.009926	5.84			3.309			0.00		

Ground Ele. 1267 +
44.5
HGL 22.5 Old

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 3 - OSBORN - 56TH ST. - LAFAYETTE (SHEETS 9-13 OF 13)
PROJECT NO. 94-21 (1/14/97) file:alt3osb.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
8232.33	1247.06	3.309	1250.372	250.0	14.73	3.368	1253.740	0.00	4.238		6.50	0.00	0.00	0	0.00
320.86	0.00992					.009747	3.13			3.309			0.00		
8553.19	1250.25	3.345	1253.591	250.0	14.53	3.277	1256.868	0.00	4.238		6.50	0.00	0.00	0	0.00
183.95	0.00992					.009002	1.66			3.309			0.00		
8737.14	1252.07	3.474	1255.544	250.0	13.85	2.979	1258.523	0.00	4.238		6.50	0.00	0.00	0	0.00
68.04	0.00992					.007939	0.54			3.309			0.00		
8805.18	1252.74	3.610	1256.355	250.0	13.21	2.708	1259.063	0.00	4.238		6.50	0.00	0.00	0	0.00
35.10	0.00992					.007010	0.25			3.309			0.00		
8840.28	1253.09	3.754	1256.848	250.0	12.59	2.462	1259.310	0.00	4.238		6.50	0.00	0.00	0	0.00
19.54	0.00992					.006196	0.12			3.309			0.00		
8859.82	1253.29	3.905	1257.193	250.0	12.00	2.238	1259.431	0.00	4.238		6.50	0.00	0.00	0	0.00
9.57	0.00992					.005484	0.05			3.309			0.00		
8869.39	1253.38	4.066	1257.448	250.0	11.45	2.034	1259.482	0.00	4.238		6.50	0.00	0.00	0	0.00
2.78	0.00992					.004861	0.01			3.309			0.00		
8872.17	1253.41	4.238	1257.648	250.0	10.91	1.849	1259.497	0.00	4.238		6.50	0.00	0.00	0	0.00
JUNCT STR	0.00000												0.00		
8872.17	1254.41	3.072	1257.482	109.0	9.42	1.379	1258.861	0.00	3.072		4.50	0.00	0.00	0	0.00
4.07	0.00250					.005140	0.02			4.500			0.00		
8876.24	1254.42	3.208	1257.628	109.0	8.98	1.253	1258.881	0.00	3.072		4.50	0.00	0.00	0	0.00
16.25	0.00250					.004592	0.07			4.500			0.00		
8892.49	1254.46	3.356	1257.817	109.0	8.57	1.140	1258.957	0.00	3.072		4.50	0.00	0.00	0	0.00
36.56	0.00250					.004122	0.15			4.500			0.00		

ARCADIA AREA DRAINAGE STUDY
ALTERNATIVE 3 - OSBORN - 56TH ST. - LAFAYETTE (SHEETS 9-13 OF 13)
PROJECT NO. 94-21 (1/14/97) file:alt3osb.out

STATION	INVERT ELEV	DEPTH OF FLOW	W.S. ELEV	Q	VEL	VEL HEAD	ENERGY GRD.EL.	SUPER ELEV	CRITICAL DEPTH		HGT/ DIA	BASE/ ID NO.	ZL	NO PIER	AVBPR
L/ELEM	SO					SF AVE	HF			NORM DEPTH			ZR		
8929.05	1254.55	3.519	1258.071	109.0	8.17	1.036	1259.107	0.00	3.072		4.50	0.00	0.00	0	0.00
71.64	0.00250					.003723	0.27			4.500			0.00		
9000.69	1254.73	3.701	1258.432	109.0	7.79	0.942	1259.374	0.00	3.072		4.50	0.00	0.00	0	0.00
138.22	0.00250					.003397	0.47			4.500			0.00		
9138.91	1255.08	3.911	1258.987	109.0	7.43	0.856	1259.843	0.00	3.072		4.50	0.00	0.00	0	0.00
279.02	0.00250					.003168	0.88			4.500			0.00		
9417.93	1255.77	4.176	1259.949	109.0	7.08	0.778	1260.727	0.00	3.072		4.50	0.00	0.00	0	0.00
342.18	0.00250					.003300	1.13			4.500			0.00		
9760.11	1256.63	4.500	1261.127	109.0	6.85	0.729	1261.856	0.00	3.072		4.50	0.00	0.00	0	0.00
749.89	0.00250					.003541	2.65			4.500			0.00		
10510.00	1258.50	5.333	1263.833	109.0	6.85	0.729	1264.562	0.00	3.072		4.50	0.00	0.00	0	0.00

Ground Ele. 1267 ±
63.8 HGL
3.2' OK!

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