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VOLUME 2

ST-886374

HEC-1 MODELS

FOR THE

PARADISE VALLEY FAN TERRACE,
CONCEPT DRAINAGE STUDY

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Registered Professional Engineer (Civil)
CERTIFICATE NO.
23170
JEFFREY
HOLZMEISTER
Date Signed 3/27/90
ARIZONA, U.S.A.

Registered Professional Engineer (Civil)
CERTIFICATE NO.
13505
ROBERT L.
WARD
Date Signed 3/27/90
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VOLUME 2

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HEC-1 Input/Output Files: CCF2.24I/.240
Existing Conditions 100-year, 24-hour, SCS Type IIA Storm
Interceptor Channel Along the East Side of Cave Creek Road, from Carefree Highway to the Cave Buttes Dam Auxiliary Dike. Includes Low-Flow Culverts.

HEC-1 Input/Output Files: 3PD2.24I/.240
Existing Conditions 100-year, 24-hour, SCS Type IiA Storm
Interceptor Channels Along the North Side of Lone Mountain Road, Dixileta Road and Dynamite Road. All Channels Terminate at Cave Creek Road.
No Low-Flow Diverts are included.

HEC-1 Input/Output Files: DRC1.24I/.240
Existing Conditions 100-year, 24-hour, SCS Type IIA Storm
East-West Desert Ridge Channel Beginning Near Jomax/Scottsdale Road Intersection.
Includes Low-Flow Diverts

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No Low-Flow Diverts.

HEC-1 Input/Output Files: DRC3.34I/.240
Existing Conditions 100-year, 24-hour, SCS Type IIA Storm
North-South Desert Ridge Channel Beginning Near Jomax/Scottsdale Road Intersection.
Includes Low-Flow Diverts.

HEC-1 Input/Output Files: DRC4.24I/.240
Existing Conditions 100-year, 24-hour, SCS Type IIA Storm
North-South Desert Ridge Channel Beginning Near Jomax/Scottsdale Road Intersection.
No Low-Flow Diverts.

HEC-1 Input/Output Files: DRC5.24I/.240
Existing Conditions 100-year, 24-hour, SCS Type IIA Storm
East-West Desert Ridge Channel Along Pinnacle Peak Road with Low Flow Diverts.

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Existing Conditions 100-year, 24-hour, SCS Type IIA Storm
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No Low-Flow Diverts.

HEC-1 Input/Output Files: CAP2.DAT
Existing Conditions 2-year, 24-hour, SCS Type IIA Storm
Storm Drains flowing to CAP Aqueduct

HEC-1 Input/Output Files: CCW.DAT
Existing Conditions 2-year, 24-hour, SCS Type IIA Storm
Storm Drains flowing to Cave Creek Wash

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HEC-1

INPUT/OUTPUT FILES: PH10/24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

SUB-BASINS 1210 - 1360

3000 - 3270

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,  EXISTING CONDITIONS
  3           ID        MODEL PH10.24I  --  SUB-BASIN SERIES 1210 TO 1360 & 3000 TO 3270
  4           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  5           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
             *DIAGRAM
  6           IT       5  9JAN89       0     289
  7           IO       5       0
  8           IN      30  9JAN89       0

  9           KK    1260     SUB
 10           KM        RUNOFF FROM SUB 1260
 11           BA   .4914
 12           PB    4.71
 13           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 14           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 15           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 16           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 17           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 18           LS              82    4.29
 19           UK     190   .0263     .20     100
 20           RK   10200   .0235    .045            TRAP      12       3

 21           KK    1270     SUB
 22           KM        RUNOFF FROM SUB 1270 AND ROUTE SUB 1260
 23           BA   .6342
 24           LS              85    7.40
 25           UK     175   .1900     .20     100
 26           RK    9400   .0223    .045            TRAP      20       3     YES

 27           KK    1280     SUB
 28           KM        RUNOFF FROM SUB 1280
 29           BA   .4147
 30           LS              84    2.08
 31           UK     350   .0571     .20     100
 32           RK    9500   .0253    .045            TRAP      12       3

 33           KK    1271      CP
 34           KM        ROUTE SUB 1280 TO CP 1271
 35           RK     950   .0147    .045            TRAP      20       3

 36           KK    1272      CP
 37           KM        COMBINE SUB 1270 AND CP 1271
 38           HC       2

 39           KK    1291      CP
 40           KM        ROUTE CP 1272 TO CP 1291
 41           RK    1800   .0161    .045            TRAP      20       3

 42           KK    1290     SUB
 43           KM        RUNOFF FROM SUB 1290
 44           BA   .4319
 45           LS              85    6.41
 46           UK     290   .1846     .20     100
 47           RK    2200   .0682    .045    .022    TRAP       6       3
```

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

 48           RK    4600   .0217    .045            TRAP      20       3

 49           KK    1292      CP
 50           KM        COMBINE SUB 1290 AND CP 1291
 51           HC       2

 52           KK    1300     SUB
 53           KM        RUNOFF FROM SUB 1300 AND ROUTE CP 1292
 54           BA   .2583
 55           LS              79    4.99
 56           UK     263   .1339     .20     100
 57           RK    2320   .0625    .045    .065    TRAP       6       3
 58           RK    2400   .0154    .045            TRAP      30       3     YES

 59           KK    1303     DIV
 60           KM        DIVERT FLOW AT CHANNEL BIFURICATION INTO SUB 3000
 61           DT    1304
 62           DI       0    1000    5000
 63           DQ       0     350    1750

 64           KK    1311      CP
 65           KM        ROUTE NON-DIVERTED FLOW FROM DIV 1303 TP CP 1311
 66           RK    2600   .0231    .045            TRAP      30       3

 67           KK    1310     SUB
 68           KM        RUNOFF FROM SUB 1310
 69           BA   .4771
 70           LS              82    2.59
 71           UK     295   .3152     .25     100
 72           RK    1940   .1647    .045    .157    TRAP       8       3
 73           RK    5300   .0481    .045            TRAP      17       3

 74           KK    1312      CP
 75           KM        COMBINE SUB 1310 & CP 1311
 76           HC       2

 77           KK    1313     DIV
 78           KM        DIVERT FLOW AT CHANNEL BIFURICATION TO THE NORTH OF CAREFREE HIGHWAY
 79           DT    1314
 80           DI       0    1000    8000
 81           DQ       0     500    4000

 82           KK    1320     SUB
 83           KM        RUNOFF FROM SUB 1320 AND ROUTE NON-DIVERTED FLOW FROM DIV 1313
 84           BA   .1880
 85           LS              78
 86           UK     230   .0348     .10     100
 87           RK    4000   .0230    .045            TRAP      13       1     YES

 88           KK    1210     SUB
 89           KM        RUNOFF FROM SUB 1210
 90           BA  1.0739
 91           LS              81    3.15
 92           UK     240   .0555     .20     100
 93           RK   18500   .0302    .045            TRAP      30       3
```

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

 94           KK   1220     SUB
 95           KM       RUNOFF FROM SUB 1220 AND ROUTE SUB 1210
 96           BA  .6779
 97           LS             79    1.25
 98           UK    250   .0400     .20     100
 99           RK   2400   .0250    .045    .034    TRAP     20      3
100           RK   9600   .0203    .045            TRAP     30      3     YES

101           KK   1230     SUB
102           KM       RUNOFF FROM SUB 1230 AND ROUTE SUB 1220
103           BA  .6105
104           LS             81    3.70
105           UK    300   .0667     .20     100
106           RK   4450   .0259    .045    .061    TRAP     10      3
107           RK   6000   .0217    .045            TRAP     35      3     YES

108           KK   1240     SUB
109           KM       RUNOFF FROM SUB 1240 AND ROUTE SUB 1230
110           BA  .4720
111           LS             80    1.80
112           UK    250   .0400     .20     100
113           RK   2700   .0222    .045    .047    TRAP     10      3
114           RK   4400   .0182    .045            TRAP     35      3     YES

115           KK   1243     DIV
116           KM       DIVERT FLOW AT CHANNEL BIFURICATION TO SUB 3045
117           DT   1244
118           DI      0    1000    5000
119           DQ      0     950    4750

120           KK   1304     RET
121           KM       RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 1300
122           DR   1304

123           KK   1331      CP
124           KM       COMBINE RET 1304 AND DIV 1243
125           HC      2

126           KK   3000     SUB
127           KM       RUNOFF FROM SUB 3000 & ROUTE CP 1331
128           KM       NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
129           KM       AREAS C & D
130           BA  .2999
131           PB  4.22
132           PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
133           PC   .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
134           PC   .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
135           PC   .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
136           PC   .974    .979    .981    .985    .989    .991    .993    .996   1.000
137           LS             78     3.2
138           UK    224   .0212     .15     100
139           RK   8400   .0205    .045            TRAP     25      3     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 140          KK    3010     SUB
 141          KM        RUNOFF FROM SUB 3010 & ROUTE SUB 3000
 142          BA   .1535
 143          LS              76    6.06
 144          UK     224   .0212     .15     100
 145          RK    6800   .0168    .045           TRAP      30       3     YES

 146          KK    3020     SUB
 147          KM        RUNOFF FROM SUB 3020
 148          BA   .3085
 149          LS              80    3.86
 150          UK     224   .0212     .15     100
 151          RK    7840   .0209    .045           TRAP      15       3

 152          KK    3030     SUB
 153          KM        RUNOFF FROM SUB 3030 & ROUTE SUB 3020
 154          BA   .2159
 155          LS              81   13.28
 156          UK     224   .0212     .15     100
 157          RK    5800   .0159    .045           TRAP      20       3     YES

 158          KK    3031      CP
 159          KM        COMBINE SUB 3010 & SUB 3030
 160          HC       2

 161          KK    3040     SUB
 162          KM        RUNOFF FROM SUB 3040 & ROUTE CP 3031
 163          BA   .1177
 164          LS              79
 165          UK     224   .0212     .15     100
 166          RK    4100   .0146    .045           TRAP      30       3     YES

 167          KK    1244     RET
 168          KM        RETRIEVE OT 1244 FROM OUTLET OF SUB 1240
 169          DR    1244

 170          KK    3045     SUB
 171          KM        RUNOFF FROM SUB 3045 & ROUTE RET 1244
 172          BA   .2324
 173          LS              78
 174          UK     224   .0212     .15     100
 175          RK    4460   .0193    .045           TRAP      25       3     YES

 176          KK    3046     DIV
 177          KM        DIVERT FLOW TO SUB 3130
 178          DT    3047
 179          DI       0    1000    5000
 180          DQ       0     300    1500
```

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

 181          KK    3050     SUB
 182          KM        RUNOFF FROM SUB 3050 & ROUTE DIV 3046
 183          BA   .3322
 184          LS              80    3.86
 185          UK     224   .0212     .15     100
 186          RK    6100   .0195    .045           TRAP      25       3     YES

 187          KK    3060     SUB
 188          KM        RUNOFF FROM SUB 3060 & ROUTE SUB 3050
 189          BA   .3824
 190          LS              76    2.98
 191          UK     224   .0212     .15     100
 192          RK    8720   .0162    .045           TRAP      25       3     YES

 193          KK    3061      CP
 194          KM        COMBINE SUB 3040 & SUB 3060
 195          HC       2

 196          KK    3071      CP
 197          KM        ROUTE CP 3061 TO CP 3071
 198          RK    2600   .0119    .045           TRAP      25       3
-
 199          KK    3070     SUB
 200          KM        RUNOFF FROM SUB 3070
 201          BA   .2339
 202          LS              81    1.22
 203          UK     224   .0212     .15     100
 204          RK   10400   .0141    .045           TRAP      10       3

 205          KK    3080     SUB
 206          KM        RUNOFF FROM SUB 3080
 207          BA   .5244
 208          LS              81    2.54
 209          UK     307   .0266     .15     100
 210          RK   13800   .0136    .045           TRAP      25       3

 211          KK    1340     SUB
 212          KM        RUNOFF FROM SUB 1340
 213          BA  1.5539
 214          PB    4.71
 215          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 216          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 217          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 218          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 219          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 220          LS              83    1.11
 221          UK     300   .0333     .20     100
 222          RK    3300   .0228    .045    .062    TRAP      10       3
 223          RK   15600   .0199    .045           TRAP      35       3
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LINE          10.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 224          KK    1341     DIV
 225          KM        DIVERT FLOW FROM SUB 1340 TO SUB 3190
 226          DT    1342
 227          DI       0    4000
 228          DQ       0    2000

 229          KK    3125     SUB
 230          KM        RUNOFF FROM SUB 3125 & ROUTE DIV 1341
 231          KM        NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
 232          KM        AREAS C & D
 233          BA   .4584
 234          PB   4.22
 235          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 236          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 237          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 238          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 239          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 240          LS              80    1.44
 241          UK     224   .0212     .15     100
 242          RK    9600   .0198    .045            TRAP      20       3     YES

 243          KK    3047     RET
 244          KM        RETRIEVE DT 3047 FROM OUTLET OF SUB 3045
 245          DR    3047

 246          KK    3126      CP
 247          KM        COMBINE SUB 3125 & RET 3047
 248          HC       2

 249          KK    3130     SUB
 250          KM        RUNOFF FROM SUB 3130 & ROUTE CP 3126
 251          BA   .1980
 252          LS              76    1.66
 253          UK     224   .0212     .15     100
 254          RK    7800   .0185    .045            TRAP      20       3     YES

 255          KK    3160     SUB
 256          KM        RUNOFF FROM SUB 3160
 257          BA   .4046
 258          LS              80    1.44
 259          UK     224   .0212     .15     100
 260          RK    9000   .0211    .045            TRAP      15       3

 261          KK    3161     DIV
 262          KM        DIVERT FLOW FROM SUB 3160 TO SUB 3170
 263          DT    3162
 264          DI       0    1000    5000
 265          DQ       0     450    2250
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 266          KK    3131      CP
 267          KM        ROUTE DIV 3161 TO CP 3131
 268          RK    4200   .0167    .045           TRAP      20       3

 269          KK    3132      CP
 270          KM        COMBINE CP 3131 & SUB 3130
 271          HC       2

 272          KK    3090     SUB
 273          KM        RUNOFF FROM SUB 3090 & ROUTE CP 3132
 274          BA   .4441
 275          LS              76    3.42
 276          UK     224   .0212     .15     100
 277          RK    9200   .0160    .045           TRAP      20       3     YES

 278          KK    3072      CP
 279          KM        COMBINE SUB 3070, SUB 3080, SUB 3090, & CP 3071
 280          HC       4

 281          KK    3100     SUB
 282          KM        RUNOFF FROM SUB 3100 & ROUTE CP 3072
 283          BA   .4376
 284          LS              81
 285          UK     307   .0266     .15     100
 286          RK   10000   .0113    .045           TRAP      60       3     YES

 287          KK    3120     SUB
 288          KM        RUNOFF FROM SUB 3120
 289          BA   .6263
 290          LS              84    3.64
 291          UK     307   .0266     .15     100
 292          RK   13400   .0149    .045           TRAP      15       3

 293          KK    3121      CP
 294          KM        COMBINE SUB 3100 & SUB 3120
 295          HC       2

 296          KK    3151      CP
 297          KM        ROUTE CP 3121 TO CP 3151
 298          RK    9000   .0067    .045           TRAP      30       3

 299          KK    3135     SUB
 300          KM        RUNOFF FROM SUB 3135
 301          BA   .0402
 302          LS              78    1.88
 303          UK     224   .0212     .15     100
 304          RK    2700   .0185    .045           TRAP       7       3

 305          KK    3140     SUB
 306          KM        RUNOFF FROM SUB 3140 & ROUTE SUB 3135
 307          BA   .4347
 308          LS              76    4.08
 309          UK     224   .0212     .15     100
 310          RK   11400   .0149    .045           TRAP      15       3     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 311          KK    3150     SUB
 312          KM        RUNOFF FROM SUB 3150 & ROUTE SUB 3140
 313          BA   .5438
 314          LS              83
 315          UK     307   .0266     .15     100
 316          RK   12920   .0108    .045           TRAP      20       3     YES

 317          KK    3152      CP
 318          KM        COMBINE SUB 3150 & CP 3151
 319          HC       2

 320          KK    3162     RET
 321          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3160
 322          DR    3162

 323          KK    3170     SUB
 324          KM        RUNOFF FROM SUB 3170 & ROUTE RET 3162
 325          BA   .3910
 326          LS              77    4.96
 327          UK     224   .0212     .15     100
 328          RK    5800   .0167    .045           TRAP      20       3     YES

 329          KK    3180     SUB
 330          KM        RUNOFF FROM SUB 3180 & ROUTE SUB 3170
 331          BA   .3982
 332          LS              80    2.32
 333          UK     224   .0212     .15     100
 334          RK   13200   .0139    .045           TRAP      20       3     YES

 335          KK    1342     RET
 336          KM        RETRIEVE DT 1342 FROM OUTLET OF SUB 1340
 337          DR    1342

 338          KK    3190     SUB
 339          KM        RUNOFF FROM SUB 3190 & ROUTE RET 1342
 340          BA   .4656
 341          LS              77    2.32
 342          UK     224   .0212     .15     100
 343          RK    8300   .0195    .045           TRAP      30       3     YES

 344          KK    1360     SUB
 345          KM        RUNOFF FROM SUB 1360
 346          BA   .6557
 347          PB    4.71
 348          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 349          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 350          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 351          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 352          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 353          LS              83    1.21
 354          UK     250   .0200     .15     100
 355          RK    9400   .0245    .045           TRAP      20       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 356          KK    3191      CP
 357          KM        COMBINE SUB 1360 & SUB 3190
 358          HC       2

 359          KK    3200     SUB
 360          KM        RUNOFF FROM SUB 3200 & ROUTE CP 3191
 361          KM        NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
 362          KM        AREAS C & D
 363          BA   .6363
 364          PB    4.22
 365          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 366          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 367          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 368          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 369          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 370          LS              74    2.54
 371          UK     224   .0212     .15     100
 372          RK   10600   .0182    .045            TRAP      30       3     YES

 373          KK    3201     DIV
 374          KM        DIVERT OUTFLOW FROM SUB 3200 TO SUB 3240
 375          DT    3202
 376          DI       0    5000   10000
 377          DQ       0    1500    3000

 378          KK    3210     SUB
 379          KM        RUNOFF FROM SUB 3210 & ROUTE DIV 3201
 380          BA   .0961
 381          LS              74    3.20
 382          UK     224   .0212     .15     100
 383          RK    2600   .0154    .045            TRAP      20       3     YES

 384          KK    3220     SUB
 385          KM        RUNOFF FROM SUB 3220 & ROUTE SUB 3210
 386          BA   .6342
 387          LS              74
 388          UK     224   .0212     .15     100
 389          RK    9600   .0153    .045            TRAP      25       3     YES

 390          KK    3221      CP
 391          KM        COMBINE SUB 3180 & SUB 3220
 392          HC       2

 393          KK    3230     SUB
 394          KM        RUNOFF FROM SUB 3230 & ROUTE CP 3221
 395          BA   .3752
 396          LS              79
 397          UK     307   .0266     .15     100
 398          RK   10800   .0104    .045            TRAP      30       3     YES
```

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

 399          KK    3202     RET
 400          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3200
 401          DR    3202

 402          KK    3240     SUB
 403          KM        RUNOFF FROM SUB 3240 & ROUTE RET 3202
 404          BA   .0631
 405          LS              74    5.84
 406          UK     224   .0212     .15     100
 407          RK    3500   .0149    .045           TRAP      20       3     YES

 408          KK    3250     SUB
 409          KM        RUNOFF FROM SUB 3250 & ROUTE SUB 3240
 410          BA   .3730
 411          LS              74
 412          UK     307   .0266     .15     100
 413          RK   12800   .0143    .045           TRAP      20       3     YES

 414          KK    3231      CP
 415          KM        ROUTE SUB 3250 TO CP 3231
 416          RK    6600   .0097    .045           TRAP      30       3

 417          KK    3232      CP
 418          KM        COMBINE SUB 3230 & CP 3231
 419          HC       2

 420          KK    3260     SUB
 421          KM        RUNOFF FROM SUB 3260
 422          BA   .0545
 423          LS              74    2.32
 424          UK     224   .0212     .15     100
 425          RK    2400   .0221    .045           TRAP       5       5

 426          KK    3270     SUB
 427          KM        RUNOFF FROM SUB 3270 & ROUTE SUB 3260
 428          BA   .3745
 429          LS              77    3.64
 430          UK     224   .0212     .15     100
 431          RK    7900   .0177    .045           TRAP      10       4     YES
 432          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   9        1260
              V
              V
  21        1270 ***
              .
              .
  27          .        1280
              .          V
              .          V
  33          .        1271
              .          .
              .          .
  36        1272............
              V
              V
  39        1291
              .
              .
  42          .        1290
              .          .
              .          .
  49        1292............
              V
              V
  52        1300 ***
              .
              .
  61          .-------)    1304
  59        1303
              V
              V
  64        1311
              .
              .
  67          .        1310
              .          .
              .          .
  74        1312............
              .
              .
  79          .-------)    1314
  77        1313
              V
              V
  82        1320 ***
              .
              .
  88          .        1210
              .          V
              .          V
  94          .        1220 ***
              .          V
              .          V
 101          .        1230 ***
              .          V
              .          V
 108          .        1240 ***
              .          .
```

```
117          .          .-------)    1244
115          .       1243
             .          .
             .          .
122          .          .          .(-------    1304
120          .          .       1304
             .          .          .
             .          .          .
123          .       1331............
             .          V
             .          V
126          .       3000 ***
             .          V
             .          V
140          .       3010 ***
             .          .
             .          .
146          .          .       3020
             .          .          V
             .          .          V
152          .          .       3030 ***
             .          .          .
             .          .          .
158          .       3031............
             .          V
             .          V
161          .       3040 ***
             .          .
             .          .
169          .          .          .(-------    1244
167          .          .       1244
             .          .          V
             .          .          V
170          .          .       3045 ***
             .          .          .
             .          .          .
178          .          .          .-------)    3047
176          .          .       3046
             .          .          V
             .          .          V
181          .          .       3050 ***
             .          .          V
             .          .          V
187          .          .       3060 ***
             .          .          .
             .          .          .
193          .       3061............
             .          V
             .          V
196          .       3071
             .          .
             .          .
199          .          .       3070
             .          .          .
             .          .          .
205          .          .          .       3080
             .          .          .          .
             .          .          .          .
211          .          .          .          .       1340
             .          .          .          .          .
             .          .          .          .          .
226          .          .          .          .          .-------)    1342
224          .          .          .          .       1341
             .          .          .          .          V
             .          .          .          .          V
```

```
229          .          .          .          .       3125 ***
             .          .          .          .          .
             .          .          .          .          .
245          .          .          .          .          .          .(-------    3047
243          .          .          .          .                3047
             .          .          .          .          .          .
             .          .          .          .          .          .
246          .          .          .          .       3126............
             .          .          .          .          V
             .          .          .          .          V
249          .          .          .          .       3130 ***
             .          .          .          .          .
             .          .          .          .          .
255          .          .          .          .          .       3160
             .          .          .          .          .          .
             .          .          .          .          .          .
263          .          .          .          .          .          .-------)    3162
261          .          .          .          .          .       3161
             .          .          .          .          .          V
             .          .          .          .          .          V
266          .          .          .          .          .       3131
             .          .          .          .          .          .
             .          .          .          .          .          .
269          .          .          .          .       3132............
             .          .          .          .          V
             .          .          .          .          V
272          .          .          .          .       3090 ***
             .          .          .          .          .
             .          .          .          .          .
278          .       3072..................................
             .          V
             .          V
281          .       3100 ***
             .          .
             .          .
287          .          .       3120
             .          .          .
             .          .          .
293          .       3121............
             .          V
             .          V
296          .       3151
             .          .
             .          .
299          .          .       3135
             .          .          V
             .          .          V
305          .          .       3140 ***
             .          .          V
             .          .          V
311          .          .       3150 ***
             .          .          .
             .          .          .
317          .       3152............
             .          .
             .          .
322          .          .          .(-------    3162
320          .          .       3162
             .          .          V
             .          .          V
323          .          .       3170 ***
             .          .          V
             .          .          V
329          .          .       3180 ***
             .          .          .
             .          .          .
```

```
337          .          .          .          .(-------    1342
335          .          .          .       1342
             .          .          .          V
             .          .          .          V
338          .          .          .       3190 ***
             .          .          .          .
             .          .          .          .
344          .          .          .          .       1360
             .          .          .          .          .
             .          .          .          .          .
356          .          .          .       3191............
             .          .          .          V
             .          .          .          V
359          .          .          .       3200 ***
             .          .          .          .
             .          .          .          .
375          .          .          .          .-------)    3202
373          .          .          .       3201
             .          .          .          V
             .          .          .          V
378          .          .          .       3210 ***
             .          .          .          V
             .          .          .          V
384          .          .          .       3220 ***
             .          .          .          .
             .          .          .          .
390          .          .       3221............
             .          .          V
             .          .          V
393          .          .       3230 ***
             .          .          .
             .          .          .
401          .          .          .          .(-------    3202
399          .          .          .       3202
             .          .          .          V
             .          .          .          V
402          .          .          .       3240 ***
             .          .          .          V
             .          .          .          V
408          .          .          .       3250 ***
             .          .          .          V
             .          .          .          V
414          .          .          .       3231
             .          .          .          .
             .          .          .          .
417          .          .       3232............
             .          .          .
             .          .          .
420          .          .          .       3260
             .          .          .          V
             .          .          .          V
426          .          .          .       3270 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

****

FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
****

GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
CITY OF PHOENIX AREAS C & D, EXISTING CONDITIONS
MODEL PH10.24I -- SUB-BASIN SERIES 1210 TO 1360 & 3000 TO 3270
100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)

```
7 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

 IT         HYDROGRAPH TIME DATA
                  NMIN          5  MINUTES IN COMPUTATION INTERVAL
                 IDATE     9JAN89  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        289  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE    10JAN89  ENDING DATE
                NDTIME       0000  ENDING TIME

          COMPUTATION INTERVAL     .08 HOURS
               TOTAL TIME BASE   24.00 HOURS

     ENGLISH UNITS
```

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	1260	955.	6.08	116.	36.	36.	.49		
HYDROGRAPH AT	1270	2347.	6.08	290.	88.	88.	1.13		
HYDROGRAPH AT	1280	839.	6.08	103.	31.	31.	.41		
ROUTED TO	1271	814.	6.17	103.	31.	31.	.41		
2 COMBINED AT	1272	3102.	6.08	393.	119.	119.	1.54		
ROUTED TO	1291	2848.	6.17	393.	119.	119.	1.54		
HYDROGRAPH AT	1290	1175.	6.08	119.	35.	35.	.43		
2 COMBINED AT	1292	3986.	6.08	512.	155.	155.	1.97		
HYDROGRAPH AT	1300	4313.	6.17	571.	173.	173.	2.23		
DIVERSION TO	1304	1510.	6.17	200.	60.	60.	2.23		
HYDROGRAPH AT	1303	2804.	6.17	371.	112.	112.	2.23		
ROUTED TO	1311	2752.	6.17	374.	113.	113.	2.23		
HYDROGRAPH AT	1310	1202.	6.08	117.	35.	35.	.48		
2 COMBINED AT	1312	3691.	6.17	490.	148.	148.	2.71		
DIVERSION TO	1314	1845.	6.17	245.	74.	74.	2.71		
HYDROGRAPH AT	1313	1845.	6.17	245.	74.	74.	2.71		
HYDROGRAPH AT	1320	2045.	6.17	284.	86.	86.	2.90		
HYDROGRAPH AT	1210	1519.	6.17	240.	74.	74.	1.07		
HYDROGRAPH AT	1220	2488.	6.25	380.	118.	118.	1.75		
HYDROGRAPH AT	1230	2984.	6.33	509.	159.	159.	2.36		
HYDROGRAPH AT	1240	3142.	6.33	608.	190.	190.	2.83		
DIVERSION TO	1244	2985.	6.33	578.	180.	180.	2.83		
HYDROGRAPH AT	1243	157.	6.33	30.	9.	9.	2.83		
HYDROGRAPH AT	1304	1510.	6.17	200.	60.	60.	.00		
2 COMBINED AT	1331	1615.	6.17	230.	70.	70.	2.83		
HYDROGRAPH AT	3000	1979.	6.17	289.	88.	88.	3.13		
HYDROGRAPH AT	3010	1996.	6.33	322.	98.	98.	3.29		
HYDROGRAPH AT	3020	433.	6.17	57.	18.	18.	.31		
HYDROGRAPH AT	3030	554.	6.25	102.	32.	32.	.52		

2 COMBINED AT	3031	2533.	6.33	423.	130.	130.	3.81
HYDROGRAPH AT	3040	2460.	6.42	442.	136.	136.	3.93
HYDROGRAPH AT	1244	2985.	6.33	578.	180.	180.	.00
HYDROGRAPH AT	3045	3012.	6.42	615.	192.	192.	.23
DIVERSION TO	3047	903.	6.42	184.	58.	58.	.23
HYDROGRAPH AT	3046	2108.	6.42	430.	134.	134.	.23
HYDROGRAPH AT	3050	2191.	6.58	486.	153.	153.	.56
HYDROGRAPH AT	3060	2282.	6.67	545.	172.	172.	.95
2 COMBINED AT	3061	4434.	6.50	986.	309.	309.	4.88
ROUTED TO	3071	4335.	6.58	986.	308.	308.	4.88
HYDROGRAPH AT	3070	249.	6.25	44.	14.	14.	.23
HYDROGRAPH AT	3080	456.	6.33	98.	31.	31.	.52
HYDROGRAPH AT	1340	2174.	6.25	358.	110.	110.	1.55
DIVERSION TO	1342	1087.	6.25	179.	55.	55.	1.55
HYDROGRAPH AT	1341	1087.	6.25	179.	55.	55.	1.55
HYDROGRAPH AT	3125	1360.	6.33	260.	81.	81.	2.01
HYDROGRAPH AT	3047	903.	6.42	184.	58.	58.	.00
2 COMBINED AT	3126	2176.	6.33	444.	139.	139.	2.01
HYDROGRAPH AT	3130	2236.	6.50	479.	150.	150.	2.21
HYDROGRAPH AT	3160	532.	6.17	72.	23.	23.	.40
DIVERSION TO	3162	239.	6.17	33.	10.	10.	.40
HYDROGRAPH AT	3161	293.	6.17	40.	12.	12.	.40
ROUTED TO	3131	282.	6.33	42.	13.	13.	.40
2 COMBINED AT	3132	2426.	6.50	521.	163.	163.	2.61
HYDROGRAPH AT	3090	2561.	6.67	590.	186.	186.	3.06
4 COMBINED AT	3072	7372.	6.50	1715.	538.	538.	8.69
HYDROGRAPH AT	3100	7528.	6.67	1810.	569.	569.	9.13
HYDROGRAPH AT	3120	736.	6.17	132.	41.	41.	.63
2 COMBINED AT	3121	7899.	6.67	1935.	610.	610.	9.76
ROUTED TO	3151	7722.	6.83	1918.	605.	605.	9.76
HYDROGRAPH AT	3135	66.	6.08	7.	2.	2.	.04
HYDROGRAPH AT	3140	372.	6.25	75.	24.	24.	.47
HYDROGRAPH AT	3150	675.	6.42	182.	58.	58.	1.02

2 COMBINED AT	3152	8216.	6.33	2086.	663.	663.	10.78
HYDROGRAPH AT	3162	239.	6.17	33.	10.	10.	.00
HYDROGRAPH AT	3170	679.	6.08	98.	31.	31.	.39
HYDROGRAPH AT	3180	728.	6.42	167.	53.	53.	.79
HYDROGRAPH AT	1342	1087.	6.25	179.	55.	55.	.00
HYDROGRAPH AT	3190	1376.	6.25	252.	79.	79.	.47
HYDROGRAPH AT	1360	1406.	6.08	157.	48.	48.	.66
2 COMBINED AT	3191	2309.	6.17	408.	127.	127.	1.12
HYDROGRAPH AT	3200	2714.	6.25	494.	155.	155.	1.76
DIVERSION TO	3202	814.	6.25	148.	47.	47.	1.76
HYDROGRAPH AT	3201	1900.	6.25	346.	109.	109.	1.76
HYDROGRAPH AT	3210	1867.	6.33	358.	113.	113.	1.85
HYDROGRAPH AT	3220	2032.	6.42	439.	140.	140.	2.49
2 COMBINED AT	3221	2760.	6.42	606.	193.	193.	3.28
HYDROGRAPH AT	3230	2733.	6.58	656.	212.	212.	3.65
HYDROGRAPH AT	3202	814.	6.25	148.	47.	47.	.00
HYDROGRAPH AT	3240	800.	6.42	159.	50.	50.	.06
HYDROGRAPH AT	3250	756.	6.67	204.	66.	66.	.44
ROUTED TO	3231	734.	6.83	201.	65.	65.	.44
2 COMBINED AT	3232	3279.	6.67	855.	277.	277.	4.09
HYDROGRAPH AT	3260	71.	6.08	8.	2.	2.	.05
HYDROGRAPH AT	3270	483.	6.17	70.	22.	22.	.43

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

HEC-1

INPUT/OUTPUT FILES: PH20/24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

SUB-BASINS 1380 - 1480

3280 - 3690

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,   EXISTING CONDITIONS
  3           ID        MODEL PH20.24I  --  SUB-BASIN SERIES 1380 TO 1480 & 3280 TO 3690
  4           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  5           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
             *DIAGRAM
  6           IT       5 10JAN89       0     289
  7           IO       5       0
  8           IN      30 10JAN89       0

  9           KK    1380     SUB
 10           KM        RUNOFF FROM SUB 1380
 11           BA   .9305
 12           PB    4.71
 13           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 14           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 15           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 16           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 17           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 18           LS              82    1.26
 19           UK     240   .0555     .20     100
 20           RK   18000   .0311    .045            TRAP      20       3

 21           KK    1390     SUB
 22           KM        RUNOFF FROM SUB 1390 AND ROUTE SUB 1380
 23           BA  1.4599
 24           LS              82    1.19
 25           UK     300   .0333     .20     100
 26           RK   17800   .0191    .045            TRAP      25       3     YES

 27           KK    1391     DIV
 28           KM       DIVERT FLOW FROM SUB 1390 TO SUB 1410
 29           DT    1392
 30           DI       0    8000
 31           DQ       0    4000

 32           KK    3280     SUB
 33           KM        RUNOFF FROM SUB 3280 & ROUTE DIV 1391
 34           KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 35           KM        PHOENIX AREAS C & D
 36           BA   .5215
 37           PB    4.22
 38           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 39           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 40           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 41           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 42           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 43           LS              79    2.32
 44           UK     224   .0212     .15     100
 45           RK    7200   .0176    .045            TRAP      35       3     YES
```

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

  46          KK    3281     DIV
  47          KM        DIVERT FLOW FROM SUB 3280 TO SUB 3330
  48          DT    3282
  49          DI       0    1000    5000
  50          DQ       0     700    3000

  51          KK    3290     SUB
  52          KM        RUNOFF FROM SUB 3290 & ROUTE DIV 3281
  53          BA   .7138
  54          LS              75    4.52
  55          UK     224   .0212     .15     100
  56          RK   14300   .0177    .045           TRAP      25       3     YES

  57          KK    3300     SUB
  58          KM        RUNOFF FROM SUB 3300 & ROUTE SUB 3290
  59          BA   .1722
  60          LS              76    1.22
  61          UK     224   .0212     .15     100
  62          RK    3300   .0167    .045           TRAP      25       3     YES

  63          KK    3310     SUB
  64          KM        RUNOFF FROM SUB 3310 & ROUTE SUB 3300
  65          BA   .5459
  66          LS              74
  67          UK     307   .0266     .15     100
  68          RK   15000   .0129    .045           TRAP      25       3     YES

  69          KK    3320     SUB
  70          KM        RUNOFF FROM SUB 3320
  71          BA   .5015
  72          LS              74
  73          UK     307   .0266     .15     100
  74          RK   11600   .0132    .045           TRAP      15       3

  75          KK    3282     RET
  76          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3280
  77          DR    3282

  78          KK    3330     SUB
  79          KM        RUNOFF FROM SUB 3330 & ROUTE RET 3282
  80          BA   .5388
  81          LS              73    3.64
  82          UK     224   .0212     .15     100
  83          RK   11800   .0181    .045           TRAP      25       3     YES

  84          KK    3340     SUB
  85          KM        RUNOFF FROM SUB 3340 & ROUTE SUB 3330
  86          BA   .5574
  87          LS              74    1.44
  88          UK     224   .0212     .15     100
  89          RK    8700   .0178    .045           TRAP      25       3     YES
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```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  90          KK    3350     SUB
  91          KM        RUNOFF FROM SUB 3350 & ROUTE SUB 3340
  92          BA   .2009
  93          LS              74    1.44
  94          UK     224   .0212     .15     100
  95          RK    3400   .0135    .045           TRAP      25       3     YES

  96          KK    3360     SUB
  97          KM        RUNOFF FROM SUB 3360
  98          BA   .1349
  99          LS              74
 100          UK     224   .0212     .15     100
 101          RK    5600   .0153    .045           TRAP       5       3

 102          KK    3361      CP
 103          KM        COMBINE SUB 3350 & SUB 3360
 104          HC       2

 105          KK    3370     SUB
 106          KM        RUNOFF FROM SUB 3370 & ROUTE CP 3361
 107          BA   .3444
 108          LS              74
 109          UK     307   .0266     .15     100
 110          RK    7200   .0121    .045           TRAP      30       3     YES

 111          KK    3371      CP
 112          KM        COMBINE SUB 3310, SUB 3320, & SUB 3370
 113          HC       3

 114          KK    3380     SUB
 115          KM        RUNOFF FROM SUB 3380 & ROUTE CP 3371
 116          BA   .3049
 117          LS              75
 118          UK     307   .0266     .15     100
 119          RK    5500   .0076    .045           TRAP      30       3     YES

 120          KK    3390     SUB
 121          KM        RUNOFF FROM SUB 3390
 122          BA   .5567
 123          LS              75    4.96
 124          UK     224   .0212     .15     100
 125          RK   14400   .0189    .045           TRAP      15       3

 126          KK    3400     SUB
 127          KM        RUNOFF FROM SUB 3400 & ROUTE SUB 3390
 128          BA   .5180
 129          LS              74    3.42
 130          UK     224   .0212     .15     100
 131          RK    9800   .0168    .045           TRAP      20       3     YES
```

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

 132          KK   3410     SUB
 133          KM        RUNOFF FROM SUB 3410 & ROUTE SUB 3400
 134          BA  .5947
 135          LS             74
 136          UK    307  .0266     .15     100
 137          RK  12100  .0126    .045           TRAP     20       3     YES

 138          KK   3411      CP
 139          KM        ROUTE SUB 3410 TO CP 3411
 140          RK    800  .0063    .045           TRAP     25       3

 141          KK   1392     RET
 142          KM        RETRIEVE DIVERTED FLOW FROM SUB 1390
 143          DR   1392

 144          KK   1410     SUB
 145          KM        RUNOFF FROM SUB 1410 AND ROUTE RET 1392
 146          BA  .1643
 147          PB   4.71
 148          PC      0   .005    .009    .010    .013    .019    .021    .028    .032    .044
 149          PC   .057   .100    .660    .745    .776    .800    .816    .830    .840    .850
 150          PC   .861   .868    .878    .884    .891    .900    .905    .912    .919    .923
 151          PC   .930   .934    .939    .944    .950    .958    .961    .963    .969    .971
 152          PC   .974   .979    .981    .985    .989    .991    .993    .996   1.000
 153          LS             82
 154          UK    200  .0250     .15     100
 155          RK   5400  .0185    .045           TRAP     30       3     YES

 156          KK   3420     SUB
 157          KM        RUNOFF FROM SUB 3420 & ROUTE SUB 1410
 158                    USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 159          KM        PHOENIX AREAS C & D
 160          BA  .5416
 161          PB   4.22
 162          PC      0   .005    .009    .010    .013    .019    .021    .028    .032    .044
 163          PC   .057   .100    .660    .745    .776    .800    .816    .830    .840    .850
 164          PC   .861   .868    .878    .884    .891    .900    .905    .912    .919    .923
 165          PC   .930   .934    .939    .944    .950    .958    .961    .963    .969    .971
 166          PC   .974   .979    .981    .985    .989    .991    .993    .996   1.000
 167          LS             76    4.08
 168          UK    224  .0212     .15     100
 169          RK  15600  .0192    .045           TRAP     30       3     YES

 170          KK   3430     SUB
 171          KM        RUNOFF FROM SUB 3430
 172          BA  .3852
 173          LS             75    5.62
 174          UK    224  .0212     .15     100
 175          RK  10900  .0189    .045           TRAP     15       3
```

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

 176          KK    3431      CP
 177          KM        COMBINE SUB 3420 & SUB 3430
 178          HC       2

 179          KK    3440     SUB
 180          KM        RUNOFF FROM SUB 3440 & ROUTE CP 3431
 181          BA   .5660
 182          LS              74    3.86
 183          UK     224   .0212     .15     100
 184          RK    8600   .0167    .045           TRAP      25       3     YES

 185          KK    3450     SUB
 186          KM        RUNOFF FROM SUB 3450 & ROUTE SUB 3440
 187          BA   .1363
 188          LS              74    2.76
 189          UK     100   .0213     .10     100
 190          RK    4400   .0136    .045           TRAP      25       3     YES

 191          KK    3460     SUB
 192          KM        RUNOFF FROM SUB 3460 & ROUTE SUB 3450
 193          BA   .2898
 194          LS              74    1.22
 195          UK     307   .0266     .15     100
 196          RK    8800   .0119    .045           TRAP      25       3     YES

 197          KK    1430     SUB
 198          KM        RUNOFF FROM SUB 1430
 199          BA  1.4319
 200          PB    4.71
 201          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 202          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 203          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 204          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 205          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 206          LS              81    1.19
 207          UK     240   .0555     .20     100
 208          RK   25800   .0271    .045           TRAP      30       3

 209          KK    1440     SUB
 210          KM        RUNOFF FROM SUB 1440
 211          BA  1.8882
 212          LS              81
 213          UK     240   .0555     .20     100
 214          RK   24800   .0258    .045           TRAP      30       3

 215          KK    1441      CP
 216          KM        COMBINE SUB 1430 AND SUB 1440
 217          HC       2
```

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

 218          KK   1450     SUB
 219          KM        RUNOFF FROM SUB 1450 AND ROUTE CP 1441
 220          BA  .7662
 221          LS             79    1.04
 222          UK    200   .0200     .20     100
 223          RK  18200   .0189    .045           TRAP     30      3     YES

 224          KK   3470     SUB
 225          KM        RUNOFF FROM SUB 3470 & ROUTE SUB 1450
 226          KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 227          KM        PHOENIX AREAS C & D
 228          BA  .8085
 229          PB   4.22
 230          PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 231          PC   .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 232          PC   .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 233          PC   .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 234          PC   .974    .979    .981    .985    .989    .991    .993    .996   1.000
 235          LS             74    4.30
 236          UK    224   .0212     .15     100
 237          RK  15500   .0191    .045           TRAP     30     20     YES

 238          KK   3480     SUB
 239          KM        RUNOFF FROM SUB 3480 & ROUTE SUB 3470
 240          BA  .2590
 241          LS             74    2.54
 242          UK    100   .0213     .10     100
 243          RK   5400   .0167    .045           TRAP     35     30     YES

 244          KK   3490     SUB
 245          KM        RUNOFF FROM SUB 3490 & ROUTE SUB 3480
 246          BA  .7196
 247          LS             74    3.86
 248          UK    100   .0213     .10     100
 249          RK  10100   .0140    .045           TRAP     50     40     YES

 250          KK   3500     SUB
 251          KM        RUNOFF FROM SUB 3500 & ROUTE SUB 3490
 252          BA  .2740
 253          LS             74    1.44
 254          UK    307   .0266     .15     100
 255          RK   4800   .0092    .045           TRAP     50     50     YES

 256          KK   1470     SUB
 257          KM        RUNOFF FROM SUB 1470
 258          BA  .2977
 259          PB   4.71
 260          PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 261          PC   .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 262          PC   .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 263          PC   .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 264          PC   .974    .979    .981    .985    .989    .991    .993    .996   1.000
 265          LS             84
 266          UK    200   .0500     .20     100
```

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

 267          RK   15000   .0293    .045            TRAP      20       3

 268          KK    1475     SUB
 269          KM        RUNOFF FROM SUB 1475 AND ROUTE SUB 1470
 270          BA  1.6895
 271          LS              84
 272          UK     285   .0419     .20     100
 273          RK   17600   .0188    .045            TRAP      25       3     YES

 274          KK    1480     SUB
 275          KM        RUNOFF FROM SUB 1480 AND ROUTE SUB 1475
 276          BA  1.0015
 277          LS              83    1.07
 278          UK     300   .0167     .20     100
 279          RK    7500   .0213    .045            TRAP      25       3     YES

 280          KK    1481     DIV
 281          KM        DIVERT FLOW FROM SUB 1480 TO SUB 3510
 282          DT    1482
 283          DI       0    8000
 284          DQ       0    4000

 285          KK    3510     SUB
 286          KM        RUNOFF FROM SUB 3510 & ROUTE DIV 1481
 287          KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 288          KM        PHOENIX AREAS C & D
 289          BA  1.4047
 290          PB    4.22
 291          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 292          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 293          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 294          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 295          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 296          LS              75    3.86
 297          UK     224   .0212     .15     100
 298          RK   21800   .0188    .045            TRAP      30      30     YES

 299          KK    3520     SUB
 300          KM        RUNOFF FROM SUB 3520 & ROUTE SUB 3510
 301          BA  1.1113
 302          LS              74    1.88
 303          UK     100   .0213     .10     100
 304          RK   15400   .0146    .045            TRAP      30      30     YES

 305          KK    3521      CP
 306          KM        ROUTE SUB 3520 TO CP 3521
 307          RK    4200   .0083    .045            TRAP      50       3

 308          KK    3501      CP
 309          KM        COMBINE SUB 3380, CP 3411, SUB 3460, SUB 3500, & CP 3521
 310          HC       5
```

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

 311          KK    3530     SUB
 312          KM        RUNOFF FROM SUB 3530
 313          BA   .3121
 314          LS             76
 315          UK     307   .0266     .15     100
 316          RK    5200   .0090    .045           TRAP      25       3

 317          KK    3550     SUB
 318          KM        RUNOFF FROM SUB 3550 & ROUTE SUB 3530
 319          BA   .2109
 320          LS             75    1.22
 321          UK     307   .0266     .15     100
 322          RK    6000   .0087    .045           TRAP      30       3     YES

 323          KK    3540     SUB
 324          KM        RUNOFF FROM SUB 3540
 325          BA   .4921
 326          LS             85
 327          UK     575   .3161     .30     100
 328          RK    2550   .0796    .045   .0984   TRAP       5       3
 329          RK    9500   .0084    .045           TRAP      30       3

 330          KK    3551      CP
 331          KM        COMBINE SUB 3540 & SUB 3550
 332          HC       2

 333          KK    3561      CP
 334          KM        ROUTE CP 3551 TO CP 3561
 335          RK     600   .0117    .045           TRAP      30       3

 336          KK    3560     SUB
 337          KM        RUNOFF FROM SUB 3560
 338          BA   .0488
 339          LS             85
 340          UK     780   .4487     .30     100
 341          RK    2200   .0109    .045           TRAP      30       3

 342          KK    3562      CP
 343          KM        COMBINE SUB 3560 & CP 3561
 344          HC       2

 345          KK    3570     SUB
 346          KM        RUNOFF FROM SUB 3570
 347          BA   .2124
 348          LS             74
 349          UK     150   .0213     .10     100
 350          RK    5300   .0119    .045           TRAP      25       3

 351          KK    3580     SUB
 352          KM        RUNOFF FROM SUB 3580 & ROUTE SUB 3570
 353          BA   .7346
 354          LS             74    2.32
 355          UK     307   .0266     .15     100
 356          RK   13000   .0099    .045           TRAP      25       3     YES
```

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

 357          KK    3590     SUB
 358          KM        RUNOFF FROM SUB 3590
 359          BA   .1492
 360          LS              84    1.22
 361          UK     900   .3667     .30     100
 362          RK    5500   .0098    .045           TRAP      30       3

 363          KK    3591      CP
 364          KM        COMBINE SUB 3580 & SUB 3590
 365          HC       2

 366          KK    3600     SUB
 367          KM        RUNOFF FROM SUB 3600
 368          BA   .1951
 369          LS              74    1.22
 370          UK     307   .0266     .15     100
 371          RK    3800   .0111    .045           TRAP      10       3

 372          KK    3610     SUB
 373          KM        RUNOFF FROM SUB 3610
 374          BA   .4240
 375          LS              74
 376          UK     307   .0266     .15     100
 377          RK   10800   .0094    .045           TRAP      15       3

 378          KK    3620     SUB
 379          KM        RUNOFF FROM SUB 3620
 380          BA   .6858
 381          LS              77    3.64
 382          UK     224   .0212     .15     100
 383          RK   16000   .0194    .045           TRAP      15      30

 384          KK    3630     SUB
 385          KM        RUNOFF FROM SUB 3630 & ROUTE SUB 3620
 386          BA   .8300
 387          LS              74    1.22
 388          UK     100   .0213     .10     100
 389          RK   11300   .0177    .045           TRAP      30      30     YES

 390          KK    3640     SUB
 391          KM        RUNOFF FROM SUB 3640 & ROUTE SUB 3630
 392          BA  1.6299
 393          LS              74
 394          UK     150   .0213     .10     100
 395          RK   11600   .0129    .045           TRAP      40      50     YES

 396          KK    3650     SUB
 397          KM        RUNOFF FROM SUB 3650 & ROUTE SUB 3640
 398          BA  1.1780
 399          LS              74    1.22
 400          UK     150   .0213     .10     100
 401          RK    9700   .0082    .045           TRAP     100      50     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 402          KK    3655     SUB
 403          KM        RUNOFF FROM SUB 3655
 404          BA   .1069
 405          LS              74
 406          UK     150   .0213     .10     100
 407          RK    2200   .0059    .045           TRAP      15      15

 408          KK    1482     RET
 409          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 1480
 410          DR    1482

 411          KK    3660     SUB
 412          KM        RUNOFF FROM SUB 3660 & ROUTE RET 1482
 413          BA   .7554
 414          LS              76    3.20
 415          UK     224   .0212     .15     100
 416          RK   18600   .0184    .045           TRAP      30      30     YES

 417          KK    3670     SUB
 418          KM        RUNOFF FROM SUB 3670 & ROUTE SUB 3660
 419          BA  1.4355
 420          LS              74    1.22
 421          UK     100   .0213     .10     100
 422          RK   10900   .0183    .045           TRAP      40      50     YES

 423          KK    3680     SUB
 424          KM        RUNOFF FROM SUB 3680 & ROUTE SUB 3670
 425          BA  2.2512
 426          LS              74    3.64
 427          UK     150   .0213     .10     100
 428          RK   11200   .0134    .045           TRAP      40      75     YES

 429          KK    3690     SUB
 430          KM        RUNOFF FROM SUB 3690 & ROUTE SUB 3680
 431          BA  1.4778
 432          LS              74
 433          UK     150   .0213     .10     100
 434          RK    7300   .0110    .045           TRAP      50     100     YES
 435          ZZ
```

```
                SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE      (V) ROUTING          (---)) DIVERSION OR PUMP FLOW

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

   9        1380
               V
               V
  21        1390 ***
               .
               .
  29           .-------)    1392
  27        1391
               V
               V
  32        3280 ***
               .
               .
  48           .-------)    3282
  46        3281
               V
               V
  51        3290 ***
               V
               V
  57        3300 ***
               V
               V
  63        3310 ***
               .
               .
  69           .       3320
               .          .
               .          .
  77           .          .          .(-------    3282
  75           .          .       3282
               .          .          V
               .          .          V
  78           .          .       3330 ***
               .          .          V
               .          .          V
  84           .          .       3340 ***
               .          .          V
               .          .          V
  90           .          .       3350 ***
               .          .          .
               .          .          .
  96           .          .          .       3360
               .          .          .          .
               .          .          .          .
 102           .          .       3361............
               .          .          V
               .          .          V
 105           .          .       3370 ***
               .          .          .
               .          .          .
 111        3371......................
               V
               V
 114        3380 ***
               .
               .
 120           .       3390
```

```
                .          V
                .          V
126             .       3400 ***
                .          V
                .          V
132             .       3410 ***
                .          V
                .          V
138             .       3411
                .          .
                .          .
143             .          .          .(-------    1392
141             .          .     1392
                .          .        V
                .          .        V
144             .          .     1410 ***
                .          .        V
                .          .        V
156             .          .     3420 ***
                .          .        .
                .          .        .
170             .          .        .       3430
                .          .        .          .
                .          .        .          .
176             .          .     3431............
                .          .        V
                .          .        V
179             .          .     3440 ***
                .          .        V
                .          .        V
185             .          .     3450 ***
                .          .        V
                .          .        V
191             .          .     3460 ***
                .          .        .
                .          .        .
197             .          .        .       1430
                .          .        .          .
                .          .        .          .
209             .          .        .          .       1440
                .          .        .          .          .
                .          .        .          .          .
215             .          .        .       1441............
                .          .        .          V
                .          .        .          V
218             .          .        .       1450 ***
                .          .        .          V
                .          .        .          V
224             .          .        .       3470 ***
                .          .        .          V
                .          .        .          V
238             .          .        .       3480 ***
                .          .        .          V
                .          .        .          V
244             .          .        .       3490 ***
                .          .        .          V
                .          .        .          V
250             .          .        .       3500 ***
                .          .        .          .
                .          .        .          .
256             .          .        .          .       1470
                .          .        .          .          V
                .          .        .          .          V
268             .          .        .          .       1475 ***
                .          .        .          .          V
                .          .        .          .          V
```

```
274                                   1480 ***
                                        .
                                        .
282                                     .-------)    1482
280                                   1481
                                        V
                                        V
285                                   3510 ***
                                        V
                                        V
299                                   3520 ***
                                        V
                                        V
305                                   3521
                                        .
                                        .
308   3501.............................
                                        .
                                        .
311           3530
                V
                V
317           3550 ***
                .
                .
323                   3540
                .       .
                .       .
330           3551............
                V
                V
333           3561
                .
                .
336                   3560
                .       .
                .       .
342           3562............
                .
                .
345                   3570
                .       V
                .       V
351                   3580 ***
                .       .
                .       .
357                           3590
                .               .
                .               .
363                   3591............
                .       .
                .       .
366                           3600
                .               .
                .               .
372                                   3610
                .                       .
                .                       .
378                                           3620
                .                               V
                .                               V
384                                           3630 ***
                .                               V
                .                               V
390                                           3640 ***
                .                               V
```

```
                                                  V
396                                               3650 ***
                                                  .
                                                  .
402                                               .        3655
                                                  .        .
                                                  .        .
410                                               .        .        .(-------    1482
408                                               .        .     1482
                                                  .        .        V
                                                  .        .        V
411                                               .        .     3660 ***
                                                  .        .        V
                                                  .        .        V
417                                               .        .     3670 ***
                                                  .        .        V
                                                  .        .        V
420                                               .        .     3680 ***
                                                  .        .        V
                                                  .        .        V
429                                               .        .     3690 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
                                    ****
                 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
         U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                    ****


                        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                        CITY OF PHOENIX AREAS C & D,   EXISTING CONDITIONS
                        MODEL PH20.24I  --  SUB-BASIN SERIES 1380 TO 1480 & 3280 TO 3690
                        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)

 7 IO        OUTPUT CONTROL VARIABLES
                  IPRNT          5  PRINT CONTROL
                  IPLOT          0  PLOT CONTROL
                  QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT         HYDROGRAPH TIME DATA
                   NMIN          5  MINUTES IN COMPUTATION INTERVAL
                  IDATE     10JAN89  STARTING DATE
                  ITIME        0000  STARTING TIME
                     NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE     11JAN89  ENDING DATE
                 NDTIME        0000  ENDING TIME

             COMPUTATION INTERVAL     .08 HOURS
                  TOTAL TIME BASE   24.00 HOURS

     ENGLISH UNITS
```

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	1380	1418.	6.17	213.	66.	66.	.93		
HYDROGRAPH AT	1390	2820.	6.25	547.	170.	170.	2.39		
DIVERSION TO	1392	1410.	6.25	274.	85.	85.	2.39		
HYDROGRAPH AT	1391	1410.	6.25	274.	85.	85.	2.39		
HYDROGRAPH AT	3280	1649.	6.42	363.	114.	114.	2.91		
DIVERSION TO	3282	1073.	6.42	248.	78.	78.	2.91		
HYDROGRAPH AT	3281	576.	6.42	115.	36.	36.	2.91		
HYDROGRAPH AT	3290	811.	6.58	221.	70.	70.	3.63		
HYDROGRAPH AT	3300	865.	6.58	246.	78.	78.	3.80		
HYDROGRAPH AT	3310	916.	6.83	310.	101.	101.	4.34		
HYDROGRAPH AT	3320	325.	6.33	68.	22.	22.	.50		
HYDROGRAPH AT	3282	1073.	6.42	248.	78.	78.	.00		
HYDROGRAPH AT	3330	1230.	6.50	317.	101.	101.	.54		
HYDROGRAPH AT	3340	1413.	6.58	391.	126.	126.	1.10		
HYDROGRAPH AT	3350	1455.	6.67	416.	135.	135.	1.30		
HYDROGRAPH AT	3360	121.	6.17	18.	6.	6.	.13		
2 COMBINED AT	3361	1503.	6.67	434.	141.	141.	1.43		
HYDROGRAPH AT	3370	1587.	6.67	478.	156.	156.	1.78		
3 COMBINED AT	3371	2663.	6.83	856.	279.	279.	6.62		
HYDROGRAPH AT	3380	2717.	6.83	896.	293.	293.	6.93		
HYDROGRAPH AT	3390	380.	6.25	84.	27.	27.	.56		
HYDROGRAPH AT	3400	655.	6.33	157.	51.	51.	1.07		
HYDROGRAPH AT	3410	812.	6.58	234.	76.	76.	1.67		
ROUTED TO	3411	809.	6.58	234.	76.	76.	1.67		
HYDROGRAPH AT	1392	1410.	6.25	274.	85.	85.	.00		
HYDROGRAPH AT	1410	1448.	6.42	311.	97.	97.	.16		
HYDROGRAPH AT	3420	1457.	6.67	386.	123.	123.	.71		
HYDROGRAPH AT	3430	308.	6.25	59.	19.	19.	.39		
2 COMBINED AT	3431	1649.	6.58	445.	141.	141.	1.09		

HYDROGRAPH AT	3440	1820.	6.67	521.	167.	167.	1.66
HYDROGRAPH AT	3450	1818.	6.75	537.	173.	173.	1.79
HYDROGRAPH AT	3460	1857.	6.83	569.	185.	185.	2.08
HYDROGRAPH AT	1430	1455.	6.17	310.	97.	97.	1.43
HYDROGRAPH AT	1440	2162.	6.17	407.	127.	127.	1.89
2 COMBINED AT	1441	3618.	6.17	718.	224.	224.	3.32
HYDROGRAPH AT	1450	3614.	6.42	858.	271.	271.	4.09
HYDROGRAPH AT	3470	3052.	6.83	946.	306.	306.	4.89
HYDROGRAPH AT	3480	3083.	6.92	970.	316.	316.	5.15
HYDROGRAPH AT	3490	2824.	7.25	1041.	347.	347.	5.87
HYDROGRAPH AT	3500	2821.	7.42	1066.	357.	357.	6.15
HYDROGRAPH AT	1470	458.	6.17	73.	22.	22.	.30
HYDROGRAPH AT	1475	2931.	6.17	491.	151.	151.	1.99
HYDROGRAPH AT	1480	4124.	6.25	735.	226.	226.	2.99
DIVERSION TO	1482	2062.	6.25	367.	113.	113.	2.99
HYDROGRAPH AT	1481	2062.	6.25	367.	113.	113.	2.99
HYDROGRAPH AT	3510	1495.	6.83	554.	178.	178.	4.39
HYDROGRAPH AT	3520	1417.	7.42	680.	227.	227.	5.50
ROUTED TO	3521	1413.	7.50	677.	225.	225.	5.50
5 COMBINED AT	3501	8112.	7.17	3438.	1136.	1136.	22.33
HYDROGRAPH AT	3530	313.	6.17	46.	15.	15.	.31
HYDROGRAPH AT	3550	402.	6.33	76.	25.	25.	.52
HYDROGRAPH AT	3540	551.	6.25	104.	32.	32.	.49
2 COMBINED AT	3551	915.	6.33	180.	57.	57.	1.02
ROUTED TO	3561	913.	6.33	180.	57.	57.	1.02
HYDROGRAPH AT	3560	99.	6.08	11.	3.	3.	.05
2 COMBINED AT	3562	954.	6.33	191.	60.	60.	1.06
HYDROGRAPH AT	3570	241.	6.17	29.	9.	9.	.21
HYDROGRAPH AT	3580	513.	6.42	131.	43.	43.	.95
HYDROGRAPH AT	3590	180.	6.25	31.	10.	10.	.15
2 COMBINED AT	3591	669.	6.33	162.	52.	52.	1.10
HYDROGRAPH AT	3600	224.	6.17	27.	9.	9.	.20
HYDROGRAPH AT	3610	249.	6.33	57.	19.	19.	.42

HYDROGRAPH AT	3620	394.	6.58	111.	35.	35.	.69
HYDROGRAPH AT	3630	603.	6.58	226.	73.	73.	1.52
HYDROGRAPH AT	3640	1059.	6.58	440.	145.	145.	3.15
HYDROGRAPH AT	3650	1175.	6.92	580.	196.	196.	4.32
X HYDROGRAPH AT	3655	136.	6.08	15.	5.	5.	.11
HYDROGRAPH AT	1482	2062.	6.25	367.	113.	113.	.00
X HYDROGRAPH AT	3660	1361.	6.83	465.	149.	149.	.76
HYDROGRAPH AT	3670	1428.	7.17	653.	213.	213.	2.19
HYDROGRAPH AT	3680	1710.	6.58	953.	316.	316.	4.44
HYDROGRAPH AT	3690	2006.	6.67	1127.	379.	379.	5.92

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

HEC-1

INPUT/OUTPUT FILES: PH30/24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

SUB-BASINS 1 - 38.1

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,  EXISTING CONDITIONS
  3           ID        MODEL PH30.24I, -- SUB-BASIN SERIES 1 TO 38.1
  4           ID        100-YR, 24-HR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  5           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
              *DIAGRAM
  6           IT       5 10JAN89       0     289
  7           ID       5       0
  8           IN      30 10JAN89       0

  9           KK    SUB1
 10           KM        RUNOFF FROM SUB-BASIN 1
 11           BA   .3371
 12           PB    4.32
 13           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 14           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 15           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 16           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 17           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 18           LS              75
 19           UK     255   .0262     .20     100
 20           RK    7160   .0289    .045            TRAP      35       3

 21           KK    SUB2
 22           KM        RUNOFF FROM SUB-BASIN 2
 23           BA  1.2170
 24           LS              83    1.28
 25           UK     337   .0308     .20     100
 26           RK   24000   .0196    .045            TRAP      35       3

 27           KK    SUB3
 28           KM        RUNOFF FROM SUB-BASIN 3
 29           BA   .5448
 30           LS              81    1.44
 31           UK     255   .0262     .20     100
 32           RK   16400   .0201    .045            TRAP      35       3

 33           KK     CP4
 34           KM        COMBINE HYDROGRAPHS SUB1, SUB2, & SUB3
 35           HC       3

 36           KK    SUB4
 37           KM        RUNOFF FROM SUB-BASIN 4 & ROUTE CP 4
 38           BA  1.5102
 39           LS              73    3.05
 40           UK      84   .0213     .10     100
 41           RK   10633   .0191    .045            TRAP      50     100     YES

 42           KK    SUB5
 43           KM        RUNOFF FROM SUB-BASIN 5 & ROUTE SUB 4
 44           BA  1.8713
 45           LS              74    1.44
 46           UK      81   .0213     .10     100
 47           RK   11433   .0175    .045            TRAP      50     130     YES
```

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

  48          KK    SU86
  49          KM        RUNOFF FROM SUB-BASIN 6 & ROUTE SUB 5
  50          BA  2.7719
  51          LS              74
  52          UK     146   .0213     .10     100
  53          RK   16100   .0124    .045            TRAP      50     150     YES

  54          KK     6.1     SUB
  55          KM        RUNOFF FROM SUB 6.1 & ROUTE SUB 6
  56          BA   .5632
  57          LS              74
  58          UK     146   .0213     .10     100
  59          RK    3400   .0094    .045            TRAP      50     160     YES

  60          KK    SUB7
  61          KM        RUNOFF FROM SUB-BASIN 7
  62          BA   .6690
  63          LS              78    2.13
  64          UK     255   .0262     .20     100
  65          RK   12200   .0197    .045            TRAP      50      50

  66          KK    SUB8
  67          KM        RUNOFF FROM SUB-BASIN 8 & ROUTE SUB 7
  68          BA  1.0885
  69          LS              74    2.71
  70          UK     116   .0213     .10     100
  71          RK   10550   .0196    .045            TRAP      50     100     YES

  72          KK    SUB9
  73          KM        RUNOFF FROM SUB-BASIN 9 & ROUTE SUB 8
  74          BA  1.4559
  75          LS              74
  76          UK      95   .0213     .10     100
  77          RK   10700   .0187    .045            TRAP      50     130     YES

  78          KK   SUB10
  79          KM        RUNOFF FROM SUB-BASIN 10 ROUTE SUB 9
  80          BA  2.1144
  81          LS              74
  82          UK     107   .0213     .10     100
  83          RK   12400   .0137    .045            TRAP      50     175     YES

  84          KK    10.1     SUB
  85          KM        RUNOFF FROM SUB 10.1 & ROUTE SUB 10
  86          BA  1.2239
  87          LS              74
  88          UK     107   .0213     .10     100
  89          RK    5600   .0098    .045            TRAP      50     190     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

  90          KK   SUB11
  91          KM        RUNOFF FROM SUB-BASIN 11
  92          BA   .5865
  93          LS              74    1.53
  94          UK     150   .0425     .20     100
  95          RK    6200   .0226    .045           TRAP      50      50

  96          KK   SUB12
  97          KM        RUNOFF FROM SUB-BASIN 12 & ROUTE SUB 11
  98          BA  1.3317
  99          LS              74    1.39
 100          UK      95   .0213     .10     100
 101          RK    9850   .0214    .045           TRAP      50     100     YES

 102          KK   SUB13
 103          KM        RUNOFF FROM SUB-BASIN 13 & ROUTE SUB 12
 104          BA  1.2211
 105          LS              74    1.22
 106          UK      86   .0213     .10     100
 107          RK   10533   .0192    .045           TRAP      50     130     YES

 108          KK   SUB14
 109          KM        RUNOFF FROM SUB-BASIN 14 & ROUTE SUB 13
 110          BA  1.1209
 111          LS              74
 112          UK     101   .0213     .10     100
 113          RK   11200   .0142    .045           TRAP      50     150     YES

 114          KK    14.1     SUB
 115          KM        RUNOFF FROM SUB 14.1 & ROUTE SUB 14
 116          BA   .6349
 117          LS              74
 118          UK     101   .0213     .10     100
 119          RK    5800   .0112    .045           TRAP      50     160     YES

 120          KK   SUB16
 121          KM        RUNOFF FROM SUB-BASIN 16
 122          BA  1.4809
 123          LS              83
 124          UK     217   .0581     .20     100
 125          RK   14800   .0216    .045           TRAP      25       3

 126          KK   SUB17
 127          KM        RUNOFF FROM SUB-BASIN 17
 128          BA  1.1459
 129          LS              83
 130          UK     285   .0421     .20     100
 131          RK   12200   .0254    .045           TRAP      25       3
```

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

 132          KK   SUB18
 133          KM        RUNOFF FROM SUB-BASIN 18
 134          BA  1.2670
 135          LS              83
 136          UK     285   .0421     .20     100
 137          RK   10840   .0259    .045           TRAP      25       3

 138          KK   CP19A
 139          KM        COMBINE HYDROGRAPHS SUB16, SUB17, & SUB18
 140          HC       3

 141          KK   CP19B
 142          KM        ROUTE CP19A TO CP19B
 143          RK    1100   .0155   0.045           TRAP      35       3

 144          KK   SUB15
 145          KM        RUNOFF FROM SUB-BASIN 15
 146          BA  1.3327
 147          LS              82
 148          UK     217   .0581     .20     100
 149          RK   21200   .0236    .045           TRAP      25       3

 150          KK   CP19C
 151          KM        COMBINE HYDROGRAPHS SUB15 & CP19B
 152          HC       2

 153          KK   SUB19
 154          KM        RUNOFF FROM SUB-BASIN 19 & ROUTE CP 19C
 155          BA   .1774
 156          LS              84
 157          UK     275   .0800     .20     100
 158          RK    3730   .0352    .045    .160    TRAP      15       3
 159          RK    1800   .0200    .045           TRAP      50      30     YES

 160          KK   SUB20
 161          KM        RUNOFF FROM SUB-BASIN 20
 162          BA   .5698
 163          LS              84
 164          UK     300   .0750     .20     100
 165          RK    9640   .0197    .045           TRAP      15       3

 166          KK    CP21
 167          KM        COMBINE HYDROGRAPHS SUB19 & SUB20
 168          HC       2

 169          KK   SUB21
 170          KM        RUNOFF FROM SUB-BASIN 21 & ROUTE CP 21
 171          BA  3.6841
 172          LS              80    1.08
 173          UK     297   .0558     .20     100
 174          RK   27600   .0196    .045           TRAP      50      30     YES
```

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

 175          KK   SUB22
 176          KM        RUNOFF FROM SUB-BASIN 22
 177          BA  1.3860
 178          LS              84
 179          UK     225   .0590     .20     100
 180          RK   13000   .0238    .045           TRAP      25       3

 181          KK   SUB23
 182          KM        RUNOFF FROM SUB-BASIN 23
 183          BA   .3945
 184          LS              84
 185          UK     225   .0590     .20     100
 186          RK   10200   .0304    .045           TRAP      20       3

 187          KK    CP24
 188          KM        COMBINE HYDROGRAPHS SUB22 & SUB23
 189          HC       2

 190          KK   SUB24
 191          KM        RUNOFF FROM SUB-BASIN 24 & ROUTE CP 24
 192          BA   .4550
 193          LS              77    1.07
 194          UK     295   .0438     .20     100
 195          RK    6800   .0257    .045           TRAP      15       3     YES

 196          KK   SUB25
 197          KM        RUNOFF FROM SUB-BASIN 25
 198          BA  1.5216
 199          LS              85    1.02
 200          UK     295   .0438     .20     100
 201          RK   16700   .0302    .045           TRAP      25       3

 202          KK    CP26
 203          KM        COMBINE HYDROGRAPHS SUB24 & SUB25
 204          HC       2

 205          KK   SUB26
 206          KM        RUNOFF FROM SUB-BASIN 26 & ROUTE CP 26
 207          BA   .6095
 208          LS              74    1.51
 209          UK     200   .0250     .20     100
 210          RK   11400   .0241    .045           TRAP      30       3     YES

 211          KK    CP27
 212          KM        COMBINE HYDROGRAPHS SUB21 & SUB26
 213          HC       2

 214          KK   SUB27
 215          KM        RUNOFF FROM SUB-BASIN 27 & ROUTE CP 27
 216          BA   .7639
 217          LS              73    1.59
 218          UK     159   .0213     .10     100
 219          RK    3200   .0310    .045           TRAP    1500       2     YES
```

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

 220          KK   SUB28
 221          KM        RUNOFF FROM SUB-BASIN 28 & ROUTE SUB 27
 222          BA  1.4235
 223          LS              73    1.27
 224          UK      96   .0213     .10     100
 225          RK    9333   .0303    .045           TRAP    2500       2     YES

 226          KK   SUB29
 227          KM        RUNOFF FROM SUB-BASIN 29 & ROUTE SUB 28
 228          BA  1.8786
 229          LS              74
 230          UK      88   .0213     .10     100
 231          RK   10900   .0147    .045           TRAP    3500       2     YES

 232          KK    29.1     SUB
 233          KM        RUNOFF FROM SUB 29.1 & ROUTE SUB 29
 234          BA  1.0603
 235          LS              74
 236          UK      88   .0213     .10     100
 237          RK    5500   .0118    .045           TRAP    3750       2     YES

 238          KK   SUB30
 239          KM        RUNOFF FROM SUB-BASIN 30
 240          BA  1.3296
 241          LS              82    1.52
 242          UK     110   .0408     .20     100
 243          RK   10640   .0371    .045           TRAP      50     100

 244          KK   SUB31
 245          KM        RUNOFF FROM SUB-BASIN 31 & ROUTE SUB 30
 246          BA  1.2325
 247          LS              74    3.20
 248          UK     102   .0213     .10     100
 249          RK    9450   .0228    .045           TRAP      50     130     YES

 250          KK   SUB32
 251          KM        RUNOFF FROM SUB-BASIN 32 & ROUTE SUB 31
 252          BA  1.3985
 253          LS              74    2.99
 254          UK      67   .0213     .10     100
 255          RK    9300   .0214    .045           TRAP      50     130     YES

 256          KK   SUB33
 257          KM        RUNOFF FROM SUB-BASIN 33 & ROUTE SUB 32
 258          BA  1.5717
 259          LS              74
 260          UK      89   .0213     .10     100
 261          RK    9500   .0161    .045           TRAP      50     175     YES
```

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

  262         KK    33.1     SUB
  263         KM        RUNOFF FROM SUB 33.1 & ROUTE SUB 33
  264         BA  1.3602
  265         LS              74    1.66
  266         UK      89   .0213     .10     100
  267         RK    6700   .0116    .045           TRAP      50     190     YES

  268         KK   SUB34
  269         KM        RUNOFF FROM SUB-BASIN 34
  270         BA   .8433
  271         LS              77    2.43
  272         UK     110   .0408     .20     100
  273         RK    6800   .0644    .045           TRAP      50     100

  274         KK   SUB35
  275         KM        RUNOFF FROM SUB-BASIN 35
  276         BA  1.2879
  277         LS              79    1.43
  278         UK     265   .0381     .20     100
  279         RK   13000   .0319    .045           TRAP      50     100

  280         KK    CP36
  281         KM        COMBINE HYDROGRAPHS SUB34 & SUB35
  282         HC       2

  283         KK   SUB36
  284         KM        RUNOFF FROM SUB-BASIN 36 & ROUTE CP 36
  285         BA  1.4538
  286         LS              72    2.11
  287         UK     116   .0213     .10     100
  288         RK    7767   .0281    .045           TRAP      50     130     YES

  289         KK   SUB37
  290         KM        RUNOFF FROM SUB-BASIN 37 & ROUTE SUB 36
  291         BA  1.1896
  292         LS              74    9.58
  293         UK      61   .0213     .10     100
  294         RK    8433   .0237    .045           TRAP      50     130     YES

  295         KK   SUB38
  296         KM        RUNOFF FROM SUB-BASIN 38 & ROUTE SUB 37
  297         BA  1.2597
  298         LS              74
  299         UK      84   .0213     .10     100
  300         RK    8300   .0176    .045           TRAP      50     150     YES

  301         KK    38.1     SUB
  302         KM        RUNOFF FROM SUB 38.1 & ROUTE SUB 38
  303         BA  1.1981
  304         LS              74   13.76
  305         UK      84   .0213     .10     100
  306         RK    6800   .0121    .045           TRAP      50     160     YES
  307         ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   9        SUB1
              .
              .
  21          .        SUB2
              .          .
              .          .
  27          .          .        SUB3
              .          .          .
              .          .          .
  33        CP4.......................
              V
              V
  36       SUB4 ***
              V
              V
  42       SUB5 ***
              V
              V
  48       SUB6 ***
              V
              V
  54        6.1 ***
              .
              .
  60          .       SUB7
              .         V
              .         V
  66          .       SUB8 ***
              .         V
              .         V
  72          .       SUB9 ***
              .         V
              .         V
  78          .      SUB10 ***
              .         V
              .         V
  84          .       10.1 ***
              .         .
              .         .
  90          .         .      SUB11
              .         .         V
              .         .         V
  96          .         .      SUB12 ***
              .         .         V
              .         .         V
 102          .         .      SUB13 ***
              .         .         V
              .         .         V
 108          .         .      SUB14 ***
              .         .         V
              .         .         V
 114          .         .       14.1 ***
              .         .         .
              .         .         .
 120          .         .         .      SUB16
              .         .         .         .
              .         .         .         .
 126          .         .         .         .      SUB17
```

```
132                                                  SUB18

138                    CP19A.......................
                          V
                          V
141                    CP19B
                          .
                          .
144                                     SUB15
                                            .
                                            .
150                    CP19C............
                          V
                          V
153                    SUB19 ***
                          .
                          .
160                                     SUB20
                                            .
                                            .
166                     CP21............
                          V
                          V
169                    SUB21 ***
                          .
                          .
175                                     SUB22
                                            .
                                            .
181                                                  SUB23
                                                        .
                                                        .
187                                      CP24............
                                            V
                                            V
190                                     SUB24 ***
                                            .
                                            .
196                                                  SUB25
                                                        .
                                                        .
202                                      CP26............
                                            V
                                            V
205                                     SUB26 ***
                                            .
                                            .
211                     CP27............
                          V
                          V
214                    SUB27 ***
                          V
                          V
220                    SUB28 ***
                          V
                          V
226                    SUB29 ***
                          V
                          V
232                     29.1 ***
                          .
                          .
238                                     SUB30
```

```
                .         .         .         .         V
                .         .         .         .         V
244             .         .         .         .      SUB31 ***
                .         .         .         .         V
                .         .         .         .         V
250             .         .         .         .      SUB32 ***
                .         .         .         .         V
                .         .         .         .         V
256             .         .         .         .      SUB33 ***
                .         .         .         .         V
                .         .         .         .         V
262             .         .         .         .       33.1 ***
                .         .         .         .         .
                .         .         .         .         .
268             .         .         .         .         .        SUB34
                .         .         .         .         .          .
                .         .         .         .         .          .
274             .         .         .         .         .          .         SUB35
                .         .         .         .         .          .           .
                .         .         .         .         .          .           .
280             .         .         .         .         .        CP36............
                .         .         .         .         .          V
                .         .         .         .         .          V
283             .         .         .         .         .      SUB36 ***
                .         .         .         .         .          V
                .         .         .         .         .          V
289             .         .         .         .         .      SUB37 ***
                .         .         .         .         .          V
                .         .         .         .         .          V
295             .         .         .         .         .      SUB38 ***
                .         .         .         .         .          V
                .         .         .         .         .          V
301             .         .         .         .         .       38.1 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
                                    ****
                FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
        U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                    ****


                        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                        CITY OF PHOENIX AREAS C & D,  EXISTING CONDITIONS
                        MODEL PH3D.24I, -- SUB-BASIN SERIES 1 TO 38.1
                        100-YR, 24-HR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)

7 IO          OUTPUT CONTROL VARIABLES
                   IPRNT          5  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT          HYDROGRAPH TIME DATA
                    NMIN          5  MINUTES IN COMPUTATION INTERVAL
                   IDATE     10JAN89  STARTING DATE
                   ITIME        0000  STARTING TIME
                      NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE     11JAN89  ENDING DATE
                  NDTIME        0000  ENDING TIME

             COMPUTATION INTERVAL     .08 HOURS
                  TOTAL TIME BASE   24.00 HOURS

      ENGLISH UNITS
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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	318.	6.17	50.	16.	16.	.34		
HYDROGRAPH AT	SUB2	913.	6.33	245.	77.	77.	1.22		
HYDROGRAPH AT	SUB3	462.	6.33	104.	33.	33.	.54		
3 COMBINED AT	CP4	1637.	6.25	399.	126.	126.	2.10		
HYDROGRAPH AT	SUB4	1779.	6.67	608.	196.	196.	3.61		
HYDROGRAPH AT	SUB5	1900.	7.00	861.	283.	283.	5.48		
HYDROGRAPH AT	SUB6	1971.	7.58	1172.	404.	404.	8.25		
HYDROGRAPH AT	6.1	2014.	7.75	1232.	428.	428.	8.82		
HYDROGRAPH AT	SUB7	460.	6.50	116.	37.	37.	.67		
HYDROGRAPH AT	SUB8	753.	6.58	278.	90.	90.	1.76		
HYDROGRAPH AT	SUB9	1118.	6.58	478.	157.	157.	3.21		
HYDROGRAPH AT	SUB10	1388.	6.92	750.	253.	253.	5.33		
HYDROGRAPH AT	10.1	1527.	7.08	904.	309.	309.	6.55		
HYDROGRAPH AT	SUB11	607.	6.17	86.	27.	27.	.59		
HYDROGRAPH AT	SUB12	1103.	6.33	285.	91.	91.	1.92		
HYDROGRAPH AT	SUB13	1278.	6.67	455.	149.	149.	3.14		
HYDROGRAPH AT	SUB14	1238.	7.17	591.	198.	198.	4.26		
HYDROGRAPH AT	14.1	1263.	7.50	663.	226.	226.	4.90		
HYDROGRAPH AT	SUB16	2314.	6.08	306.	94.	94.	1.48		
HYDROGRAPH AT	SUB17	1803.	6.17	236.	73.	73.	1.15		
HYDROGRAPH AT	SUB18	2222.	6.08	262.	81.	81.	1.27		
3 COMBINED AT	CP19A	6253.	6.08	805.	248.	248.	3.89		
ROUTED TO	CP19B	6229.	6.17	805.	248.	248.	3.89		
HYDROGRAPH AT	SUB15	1415.	6.17	261.	81.	81.	1.33		
2 COMBINED AT	CP19C	7643.	6.17	1066.	329.	329.	5.23		
HYDROGRAPH AT	SUB19	7490.	6.17	1104.	341.	341.	5.40		
HYDROGRAPH AT	SUB20	1015.	6.08	123.	38.	38.	.57		
2 COMBINED AT	CP21	8468.	6.17	1226.	379.	379.	5.97		
HYDROGRAPH AT	SUB21	5492.	6.75	1335.	587.	587.	9.66		

HYDROGRAPH AT	SUB22	2637.	6.08	299.	91.	91.	1.39
HYDROGRAPH AT	SUB23	712.	6.08	85.	26.	26.	.39
2 COMBINED AT	CP24	3348.	6.08	384.	117.	117.	1.78
HYDROGRAPH AT	SUB24	3542.	6.17	470.	144.	144.	2.24
HYDROGRAPH AT	SUB25	2433.	6.17	340.	104.	104.	1.52
2 COMBINED AT	CP26	5976.	6.17	809.	248.	248.	3.76
HYDROGRAPH AT	SUB26	6097.	6.33	928.	285.	285.	4.37
2 COMBINED AT	CP27	9710.	6.42	2762.	871.	871.	14.02
HYDROGRAPH AT	SUB27	9831.	6.50	2874.	908.	908.	14.79
HYDROGRAPH AT	SUB28	8731.	6.83	2941.	954.	954.	16.21
HYDROGRAPH AT	SUB29	6577.	7.67	2946.	1002.	1002.	18.09
HYDROGRAPH AT	29.1	6360.	8.00	2957.	1027.	1027.	19.15
HYDROGRAPH AT	SUB30	1903.	6.17	275.	84.	84.	1.33
HYDROGRAPH AT	SUB31	1876.	6.42	459.	144.	144.	2.56
HYDROGRAPH AT	SUB32	2055.	6.67	664.	212.	212.	3.96
HYDROGRAPH AT	SUB33	2089.	7.00	871.	284.	284.	5.53
HYDROGRAPH AT	33.1	2162.	7.25	1048.	347.	347.	6.89
HYDROGRAPH AT	SUB34	1262.	6.08	145.	45.	45.	.84
HYDROGRAPH AT	SUB35	995.	6.42	231.	73.	73.	1.29
2 COMBINED AT	CP36	2025.	6.17	375.	118.	118.	2.13
HYDROGRAPH AT	SUB36	2414.	6.25	574.	183.	183.	3.58
HYDROGRAPH AT	SUB37	2533.	6.58	762.	245.	245.	4.77
HYDROGRAPH AT	SUB38	2558.	6.83	929.	302.	302.	6.03
HYDROGRAPH AT	38.1	2583.	7.08	1113.	367.	367.	7.23

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

HEC-1

INPUT/OUTPUT FILES: FR10/24I/.240

FUTURE CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

SUB-BASINS 1210 - 1360

3000 - 3270

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,  FUTURE CONDITIONS
  3           ID        MODEL FR10.24I  --  SUB-BASIN SERIES 1210 TO 1360 & 3000 TO 3270
  4           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  5           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
  6           ID        FUTURE LAND-USE DENSITIES FROM OCT 1987 GENERAL PLAN AND THE TONTO
  7           ID        FOOTHILLS PLAN
  8           IT       5  9JAN89       0     289
  9           IO       5       0
 10           IN      30  9JAN89       0

 11           KK    1260     SUB
 12           KM        RUNOFF FROM SUB 1260
 13           BA   .4914
 14           PB    4.71
 15           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 16           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 17           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 18           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 19           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 20           LS              82    3.29
 21           UK     190   .0263     .20     100
 22           RK   10200   .0235    .045            TRAP      12       3

 23           KK    1270     SUB
 24           KM        RUNOFF FROM SUB 1270 AND ROUTE SUB 1260
 25           BA   .6342
 26           LS              85   13.76
 27           UK     175   .1900     .20     100
 28           RK    9400   .0223    .045            TRAP      20       3     YES

 29           KK    1280     SUB
 30           KM        RUNOFF FROM SUB 1280
 31           BA   .4147
 32           LS              84   11.38
 33           UK     350   .0571     .20     100
 34           RK    9500   .0253    .045            TRAP      12       3

 35           KK    1271      CP
 36           KM        ROUTE SUB 1280 TO CP 1271
 37           RK     950   .0147    .045            TRAP      20       3

 38           KK    1272      CP
 39           KM        COMBINE SUB 1270 AND CP 1271
 40           HC       2

 41           KK    1291      CP
 42           KM        ROUTE CP 1272 TO CP 1291
 43           RK    1800   .0161    .045            TRAP      20       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 44           KK    1290     SUB
 45           KM        RUNOFF FROM SUB 1290
 46           BA   .4319
 47           LS              85   21.20
 48           UK     290   .1846     .20     100
 49           RK    2200   .0682    .045    .022    TRAP      6       3
 50           RK    4600   .0217    .045            TRAP     20       3

 51           KK    1292      CP
 52           KM        COMBINE SUB 1290 AND CP 1291
 53           HC       2

 54           KK    1300     SUB
 55           KM        RUNOFF FROM SUB 1300 AND ROUTE CP 1292
 56           BA   .2583
 57           LS              79   14.70
 58           UK     263   .1339     .20     100
 59           RK    2320   .0625    .045    .065    TRAP      6       3
 60           RK    2400   .0154    .045            TRAP     30       3     YES

 61           KK    1303     DIV
 62           KM        DIVERT FLOW AT CHANNEL BIFURICATION INTO SUB 3000
 63           DT    1304
 64           DI       0    1000    5000
 65           DQ       0     350    1750

 66           KK    1311      CP
 67           KM        ROUTE NON-DIVERTED FLOW FROM DIV 1303 TP CP 1311
 68           RK    2600   .0231    .045            TRAP     30       3

 69           KK    1310     SUB
 70           KM        RUNOFF FROM SUB 1310
 71           BA   .4771
 72           LS              82   14.70
 73           UK     295   .3152     .25     100
 74           RK    1940   .1647    .045    .157    TRAP      8       3
 75           RK    5300   .0481    .045            TRAP     17       3

 76           KK    1312      CP
 77           KM        COMBINE SUB 1310 & CP 1311
 78           HC       2

 79           KK    1313     DIV
 80           KM        DIVERT FLOW AT CHANNEL BIFURICATION TO THE NORTH OF CAREFREE HIGHWAY
 81           DT    1314
 82           DI       0    1000    8000
 83           DQ       0     500    4000

 84           KK    1320     SUB
 85           KM        RUNOFF FROM SUB 1320 AND ROUTE NON-DIVERTED FLOW FROM DIV 1313
 86           BA   .1880
 87           LS              78    3.53
 88           UK     230   .0348     .10     100
 89           RK    4000   .0230    .045            TRAP     13       1     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  90          KK    1210     SUB
  91          KM        RUNOFF FROM SUB 1210
  92          BA  1.0739
  93          LS              81   11.78
  94          UK     240   .0555     .20     100
  95          RK   18500   .0302    .045           TRAP      30       3

  96          KK    1220     SUB
  97          KM        RUNOFF FROM SUB 1220 AND ROUTE SUB 1210
  98          BA   .6779
  99          LS              79   16.09
 100          UK     250   .0400     .20     100
 101          RK    2400   .0250    .045    .034   TRAP      20       3
 102          RK    9600   .0203    .045           TRAP      30       3     YES

 103          KK    1230     SUB
 104          KM        RUNOFF FROM SUB 1230 AND ROUTE SUB 1220
 105          BA   .6105
 106          LS              81   19.00
 107          UK     300   .0667     .20     100
 108          RK    4450   .0259    .045    .061   TRAP      10       3
 109          RK    6000   .0217    .045           TRAP      35       3     YES

 110          KK    1240     SUB
 111          KM        RUNOFF FROM SUB 1240 AND ROUTE SUB 1230
 112          BA   .4720
 113          LS              80   35.99
 114          UK     250   .0400     .20     100
 115          RK    2700   .0222    .045    .047   TRAP      10       3
 116          RK    4400   .0182    .045           TRAP      35       3     YES

 117          KK    1243     DIV
 118          KM        DIVERT FLOW AT CHANNEL BIFURICATION TO SUB 3045
 119          DT    1244
 120          DI       0    1000    5000
 121          DQ       0     950    4750

 122          KK    1304     RET
 123          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 1300
 124          DR    1304

 125          KK    1331      CP
 126          KM        COMBINE RET 1304 AND DIV 1243
 127          HC       2

 128          KK    3000     SUB
 129          KM        RUNOFF FROM SUB 3000 & ROUTE CP 1331
 130          KM        NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
 131          KM        AREAS C & D
 132          BA   .2999
 133          PB    4.22
 134          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 135          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 136          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 137          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 138          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 139          LS              78      15
 140          UK     224   .0212     .15     100
 141          RK    8400   .0205    .045            TRAP      25       3     YES

 142          KK    3010     SUB
 143          KM        RUNOFF FROM SUB 3010 & ROUTE SUB 3000
 144          BA   .1535
 145          LS              76      24
 146          UK     224   .0212     .15     100
 147          RK    6800   .0168    .045            TRAP      30       3     YES

 148          KK    3020     SUB
 149          KM        RUNOFF FROM SUB 3020
 150          BA   .3085
 151          LS              80      19
 152          UK     224   .0212     .15     100
 153          RK    7840   .0209    .045            TRAP      15       3

 154          KK    3030     SUB
 155          KM        RUNOFF FROM SUB 3030 & ROUTE SUB 3020
 156          BA   .2159
 157          LS              81      24
 158          UK     224   .0212     .15     100
 159          RK    5800   .0159    .045            TRAP      20       3      YES

 160          KK    3031      CP
 161          KM        COMBINE SUB 3010 & SUB 3030
 162          HC       2

 163          KK    3040     SUB
 164          KM        RUNOFF FROM SUB 3040 & ROUTE CP 3031
 165          BA   .1177
 166          LS              79      24
 167          UK     224   .0212     .15     100
 168          RK    4100   .0146    .045            TRAP      30       3     YES

 169          KK    1244     RET
 170          KM        RETRIEVE OT 1244 FROM OUTLET OF SUB 1240
 171          OR    1244

 172          KK    3045     SUB
 173          KM        RUNOFF FROM SUB 3045 & ROUTE RET 1244
 174          BA   .2324
 175          LS              78      20
 176          UK     224   .0212     .15     100
 177          RK    4460   .0193    .045            TRAP      25       3     YES

 178          KK    3046     DIV
 179          KM        DIVERT FLOW TO SUB 3130
 180          OT    3047
 181          DI       0    1000    5000
 182          DQ       0     300    1500
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 183          KK    3050     SUB
 184          KM        RUNOFF FROM SUB 3050 & ROUTE DIV 3046
 185          BA   .3322
 186          LS              80      20
 187          UK     224   .0212     .15     100
 188          RK    6100   .0195    .045           TRAP      25       3     YES

 189          KK    3060     SUB
 190          KM        RUNOFF FROM SUB 3060 & ROUTE SUB 3050
 191          BA   .3824
 192          LS              76      24
 193          UK     224   .0212     .15     100
 194          RK    8720   .0162    .045           TRAP      25       3     YES

 195          KK    3061      CP
 196          KM        COMBINE SUB 3040 & SUB 3060
 197          HC       2

 198          KK    3071      CP
 199          KM        ROUTE CP 3061 TO CP 3071
 200          RK    2600   .0119    .045           TRAP      25       3
-
 201          KK    3070     SUB
 202          KM        RUNOFF FROM SUB 3070
 203          BA   .2339
 204          LS              81      24
 205          UK     224   .0212     .15     100
 206          RK   10400   .0141    .045           TRAP      10       3

 207          KK    3080     SUB
 208          KM        RUNOFF FROM SUB 3080
 209          BA   .5244
 210          LS              81      24
 211          UK     307   .0266     .15     100
 212          RK   13800   .0136    .045           TRAP      25       3

 213          KK    1340     SUB
 214          KM        RUNOFF FROM SUB 1340
 215          BA  1.5539
 216          PB    4.71
 217          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 218          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 219          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 220          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 221          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 222          LS              83   18.41
 223          UK     300   .0333     .20     100
 224          RK    3300   .0228    .045    .062    TRAP      10       3
 225          RK   15600   .0199    .045           TRAP      35       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 226          KK   1341     DIV
 227          KM        DIVERT FLOW FROM SUB 1340 TO SUB 3190
 228          DT   1342
 229          DI      0    4000
 230          DQ      0    2000

 231          KK   3125     SUB
 232          KM        RUNOFF FROM SUB 3125 & ROUTE DIV 1341
 233          KM        NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
 234          KM        AREAS C & D
 235          BA  .4584
 236          PB   4.22
 237          PC      0   .005   .009   .010   .013   .019   .021   .028   .032   .044
 238          PC   .057   .100   .660   .745   .776   .800   .816   .830   .840   .850
 239          PC   .861   .868   .878   .884   .891   .900   .905   .912   .919   .923
 240          PC   .930   .934   .939   .944   .950   .958   .961   .963   .969   .971
 241          PC   .974   .979   .981   .985   .989   .991   .993   .996  1.000
 242          LS            80     31
 243          UK    224  .0212    .15    100
 244          RK   9600  .0198   .045          TRAP     20      3    YES

 245          KK   3047     RET
 246          KM        RETRIEVE DT 3047 FROM OUTLET OF SUB 3045
 247          DR   3047

 248          KK   3126      CP
 249          KM        COMBINE SUB 3125 & RET 3047
 250          HC      2

 251          KK   3130     SUB
 252          KM        RUNOFF FROM SUB 3130 & ROUTE CP 3126
 253          BA  .1980
 254          LS            76     22
 255          UK    224  .0212    .15    100
 256          RK   7800  .0185   .045          TRAP     20      3    YES

 257          KK   3160     SUB
 258          KM        RUNOFF FROM SUB 3160
 259          BA  .4046
 260          LS            80     20
 261          UK    224  .0212    .15    100
 262          RK   9000  .0211   .045          TRAP     15      3

 263          KK   3161     DIV
 264          KM        DIVERT FLOW FROM SUB 3160 TO SUB 3170
 265          DT   3162
 266          DI      0   1000   5000
 267          DQ      0    450   2250
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 268          KK    3131      CP
 269          KM        ROUTE DIV 3161 TO CP 3131
 270          RK    4200   .0167    .045            TRAP      20       3

 271          KK    3132      CP
 272          KM        COMBINE CP 3131 & SUB 3130
 273          HC       2

 274          KK    3090     SUB
 275          KM        RUNOFF FROM SUB 3090 & ROUTE CP 3132
 276          BA   .4441
 277          LS              76      24
 278          UK     224   .0212     .15     100
 279          RK    9200   .0160    .045            TRAP      20       3     YES

 280          KK    3072      CP
 281          KM        COMBINE SUB 3070, SUB 3080, SUB 3090, & CP 3071
 282          HC       4

 283          KK    3100     SUB
 284          KM        RUNOFF FROM SUB 3100 & ROUTE CP 3072
 285          BA   .4376
 286          LS              81      14
 287          UK     307   .0266     .15     100
 288          RK   10000   .0113    .045            TRAP      60       3     YES

 289          KK    3120     SUB
 290          KM        RUNOFF FROM SUB 3120
 291          BA   .6263
 292          LS              84      31
 293          UK     307   .0266     .15     100
 294          RK   13400   .0149    .045            TRAP      15       3

 295          KK    3121      CP
 296          KM        COMBINE SUB 3100 & SUB 3120
 297          HC       2

 298          KK    3151      CP
 299          KM        ROUTE CP 3121 TO CP 3151
 300          RK    9000   .0067    .045            TRAP      30       3

 301          KK    3135     SUB
 302          KM        RUNOFF FROM SUB 3135
 303          BA   .0402
 304          LS              78      24
 305          UK     224   .0212     .15     100
 306          RK    2700   .0185    .045            TRAP       7       3

 307          KK    3140     SUB
 308          KM        RUNOFF FROM SUB 3140 & ROUTE SUB 3135
 309          BA   .4347
 310          LS              76      32
 311          UK     224   .0212     .15     100
 312          RK   11400   .0149    .045            TRAP      15       3     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 313          KK    3150     SUB
 314          KM        RUNOFF FROM SUB 3150 & ROUTE SUB 3140
 315          BA   .5438
 316          LS              83      15
 317          UK     307   .0266     .15     100
 318          RK   12920   .0108    .045           TRAP      20       3     YES

 319          KK    3152      CP
 320          KM        COMBINE SUB 3150 & CP 3151
 321          HC       2

 322          KK    3162     RET
 323          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3160
 324          DR    3162

 325          KK    3170     SUB
 326          KM        RUNOFF FROM SUB 3170 & ROUTE RET 3162
 327          BA   .3910
 328          LS              77      24
 329          UK     224   .0212     .15     100
 330          RK    5800   .0167    .045           TRAP      20       3     YES

 331          KK    3180     SUB
 332          KM        RUNOFF FROM SUB 3180 & ROUTE SUB 3170
 333          BA   .3982
 334          LS              80      36
 335          UK     224   .0212     .15     100
 336          RK   13200   .0139    .045           TRAP      20       3     YES

 337          KK    1342     RET
 338          KM        RETRIEVE DT 1342 FROM OUTLET OF SUB 1340
 339          DR    1342

 340          KK    3190     SUB
 341          KM        RUNOFF FROM SUB 3190 & ROUTE RET 1342
 342          BA   .4656
 343          LS              77      29
 344          UK     224   .0212     .15     100
 345          RK    8300   .0195    .045           TRAP      30       3     YES

 346          KK    1360     SUB
 347          KM        RUNOFF FROM SUB 1360
 348          BA   .6557
 349          PB    4.71
 350          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 351          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 352          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 353          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 354          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 355          LS              83   49.46
 356          UK     250   .0200     .15     100
 357          RK    9400   .0245    .045           TRAP      20       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 358          KK    3191      CP
 359          KM        COMBINE SUB 1360 & SUB 3190
 360          HC       2

 361          KK    3200     SUB
 362          KM        RUNOFF FROM SUB 3200 & ROUTE CP 3191
 363          KM        NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
 364          KM        AREAS C & D
 365          BA   .6363
 366          PB    4.22
 367          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 368          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 369          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 370          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 371          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 372          LS              74      22
 373          UK     224   .0212     .15     100
 374          RK   10600   .0182    .045            TRAP      30       3     YES

 375          KK    3201     DIV
 376          KM        DIVERT OUTFLOW FROM SUB 3200 TO SUB 3240
 377          DT    3202
 378          DI       0    5000   10000
 379          DQ       0    1500    3000

 380          KK    3210     SUB
 381          KM        RUNOFF FROM SUB 3210 & ROUTE DIV 3201
 382          BA   .0961
 383          LS              74      24
 384          UK     224   .0212     .15     100
 385          RK    2600   .0154    .045            TRAP      20       3     YES

 386          KK    3220     SUB
 387          KM        RUNOFF FROM SUB 3220 & ROUTE SUB 3210
 388          BA   .6342
 389          LS              74      54
 390          UK     224   .0212     .15     100
 391          RK    9600   .0153    .045            TRAP      25       3     YES

 392          KK    3221      CP
 393          KM        COMBINE SUB 3180 & SUB 3220
 394          HC       2

 395          KK    3230     SUB
 396          KM        RUNOFF FROM SUB 3230 & ROUTE CP 3221
 397          BA   .3752
 398          LS              79      29
 399          UK     307   .0266     .15     100
 400          RK   10800   .0104    .045            TRAP      30       3     YES
```

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

 401          KK    3202     RET
 402          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3200
 403          DR    3202

 404          KK    3240     SUB
 405          KM        RUNOFF FROM SUB 3240 & ROUTE RET 3202
 406          BA   .0631
 407          LS              74      27
 408          UK     224   .0212     .15     100
 409          RK    3500   .0149    .045           TRAP      20       3     YES

 410          KK    3250     SUB
 411          KM        RUNOFF FROM SUB 3250 & ROUTE SUB 3240
 412          BA   .3730
 413          LS              74      59
 414          UK     307   .0266     .15     100
 415          RK   12800   .0143    .045           TRAP      20       3     YES

 416          KK    3231      CP
 417          KM        ROUTE SUB 3250 TO CP 3231
 418          RK    6600   .0097    .045           TRAP      30       3

 419          KK    3232      CP
 420          KM        COMBINE SUB 3230 & CP 3231
 421          HC       2

 422          KK    3260     SUB
 423          KM        RUNOFF FROM SUB 3260
 424          BA   .0545
 425          LS              74      67
 426          UK     224   .0212     .15     100
 427          RK    2400   .0221    .045           TRAP       5       5

 428          KK    3270     SUB
 429          KM        RUNOFF FROM SUB 3270 & ROUTE SUB 3260
 430          BA   .3745
 431          LS              77      24
 432          UK     224   .0212     .15     100
 433          RK    7900   .0177    .045           TRAP      10       4     YES
 434          ZZ
```

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                                   ****
                 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1.1985
       U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                   ****


                        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                        CITY OF PHOENIX AREAS C & D,  FUTURE CONDITIONS
                        MODEL FR10.24I  --  SUB-BASIN SERIES 1210 TO 1360 & 3000 TO 3270
                        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
                        FUTURE LAND-USE DENSITIES FROM OCT 1987 GENERAL PLAN AND THE TONTO
                        FOOTHILLS PLAN

9 IO          OUTPUT CONTROL VARIABLES
                   IPRNT          5  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT          HYDROGRAPH TIME DATA
                    NMIN          5  MINUTES IN COMPUTATION INTERVAL
                   IDATE     9JAN89  STARTING DATE
                   ITIME       0000  STARTING TIME
                      NQ        289  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE    10JAN89  ENDING DATE
                  NDTIME       0000  ENDING TIME

             COMPUTATION INTERVAL     .08 HOURS
                  TOTAL TIME BASE   24.00 HOURS

      ENGLISH UNITS
```

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	1260	943.	6.08	115.	35.	35.	.49		
HYDROGRAPH AT	1270	2364.	6.08	294.	89.	89.	1.13		
HYDROGRAPH AT	1280	915.	6.08	109.	33.	33.	.41		
ROUTED TO	1271	862.	6.17	109.	33.	33.	.41		
2 COMBINED AT	1272	3206.	6.08	403.	122.	122.	1.54		
ROUTED TO	1291	2935.	6.08	404.	123.	123.	1.54		
HYDROGRAPH AT	1290	1222.	6.08	128.	38.	38.	.43		
2 COMBINED AT	1292	4158.	6.08	532.	161.	161.	1.97		
HYDROGRAPH AT	1300	4455.	6.17	594.	179.	179.	2.23		
DIVERSION TO	1304	1559.	6.17	208.	63.	63.	2.23		
HYDROGRAPH AT	1303	2896.	6.17	386.	117.	117.	2.23		
ROUTED TO	1311	2873.	6.17	387.	117.	117.	2.23		
HYDROGRAPH AT	1310	1256.	6.08	127.	38.	38.	.48		
2 COMBINED AT	1312	3840.	6.17	513.	155.	155.	2.71		
DIVERSION TO	1314	1920.	6.17	257.	77.	77.	2.71		
HYDROGRAPH AT	1313	1920.	6.17	257.	77.	77.	2.71		
HYDROGRAPH AT	1320	2153.	6.17	298.	90.	90.	2.90		
HYDROGRAPH AT	1210	1689.	6.17	257.	79.	79.	1.07		
HYDROGRAPH AT	1220	2978.	6.17	422.	129.	129.	1.75		
HYDROGRAPH AT	1230	3481.	6.25	571.	175.	175.	2.36		
HYDROGRAPH AT	1240	3727.	6.33	699.	215.	215.	2.83		
DIVERSION TO	1244	3540.	6.33	664.	204.	204.	2.83		
HYDROGRAPH AT	1243	186.	6.33	35.	11.	11.	2.83		
HYDROGRAPH AT	1304	1559.	6.17	208.	63.	63.	.00		
2 COMBINED AT	1331	1715.	6.17	243.	74.	74.	2.83		
HYDROGRAPH AT	3000	1938.	6.25	306.	93.	93.	3.13		
HYDROGRAPH AT	3010	2103.	6.17	348.	106.	106.	3.29		
HYDROGRAPH AT	3020	526.	6.08	65.	20.	20.	.31		
HYDROGRAPH AT	3030	688.	6.25	114.	35.	35.	.52		

2 COMBINED AT	3031	2746.	6.17	462.	141.	141.	3.81
HYDROGRAPH AT	3040	2670.	6.33	486.	148.	148.	3.93
HYDROGRAPH AT	1244	3540.	6.33	664.	204.	204.	.00
HYDROGRAPH AT	3045	3538.	6.42	712.	219.	219.	.23
DIVERSION TO	3047	1061.	6.42	214.	66.	66.	.23
HYDROGRAPH AT	3046	2477.	6.42	498.	153.	153.	.23
HYDROGRAPH AT	3050	2591.	6.50	568.	175.	175.	.56
HYDROGRAPH AT	3060	2702.	6.58	647.	200.	200.	.95
2 COMBINED AT	3061	4991.	6.50	1132.	348.	348.	4.88
ROUTED TO	3071	4988.	6.58	1133.	348.	348.	4.88
HYDROGRAPH AT	3070	316.	6.17	53.	16.	16.	.23
HYDROGRAPH AT	3080	573.	6.17	116.	36.	36.	.52
HYDROGRAPH AT	1340	2618.	6.17	402.	122.	122.	1.55
DIVERSION TO	1342	1309.	6.17	201.	61.	61.	1.55
HYDROGRAPH AT	1341	1309.	6.17	201.	61.	61.	1.55
HYDROGRAPH AT	3125	1771.	6.25	307.	94.	94.	2.01
HYDROGRAPH AT	3047	1061.	6.42	214.	66.	66.	.00
2 COMBINED AT	3126	2726.	6.25	521.	160.	160.	2.01
HYDROGRAPH AT	3130	2779.	6.42	568.	174.	174.	2.21
HYDROGRAPH AT	3160	672.	6.08	86.	26.	26.	.40
DIVERSION TO	3162	302.	6.08	39.	12.	12.	.40
HYDROGRAPH AT	3161	370.	6.08	47.	15.	15.	.40
ROUTED TO	3131	363.	6.25	49.	15.	15.	.40
2 COMBINED AT	3132	3042.	6.42	617.	189.	189.	2.61
HYDROGRAPH AT	3090	3201.	6.50	710.	219.	219.	3.06
4 COMBINED AT	3072	8703.	6.58	2010.	618.	618.	8.69
HYDROGRAPH AT	3100	8834.	6.67	2126.	654.	654.	9.13
HYDROGRAPH AT	3120	985.	6.17	158.	48.	48.	.63
2 COMBINED AT	3121	9231.	6.67	2276.	701.	701.	9.76
ROUTED TO	3151	9136.	6.75	2259.	696.	696.	9.76
HYDROGRAPH AT	3135	82.	6.08	9.	3.	3.	.04
HYDROGRAPH AT	3140	635.	6.17	103.	32.	32.	.47
HYDROGRAPH AT	3150	1003.	6.33	224.	69.	69.	1.02

2 COMBINED AT	3152	9783.	6.75	2472.	766.	766.	10.78
HYDROGRAPH AT	3162	302.	6.08	39.	12.	12.	.00
HYDROGRAPH AT	3170	842.	6.08	120.	37.	37.	.39
HYDROGRAPH AT	3180	1098.	6.25	215.	66.	66.	.79
HYDROGRAPH AT	1342	1309.	6.17	201.	61.	61.	.00
HYDROGRAPH AT	3190	1751.	6.17	302.	93.	93.	.47
HYDROGRAPH AT	1360	1815.	6.08	208.	63.	63.	.66
2 COMBINED AT	3191	3286.	6.17	510.	155.	155.	1.12
HYDROGRAPH AT	3200	4011.	6.17	638.	194.	194.	1.76
DIVERSION TO	3202	1203.	6.17	191.	58.	58.	1.76
HYDROGRAPH AT	3201	2808.	6.17	447.	136.	136.	1.76
HYDROGRAPH AT	3210	2699.	6.25	464.	142.	142.	1.85
HYDROGRAPH AT	3220	3222.	6.25	633.	194.	194.	2.49
2 COMBINED AT	3221	4320.	6.25	847.	260.	260.	3.28
HYDROGRAPH AT	3230	4377.	6.33	924.	284.	284.	3.65
HYDROGRAPH AT	3202	1203.	6.17	191.	58.	58.	.00
HYDROGRAPH AT	3240	1166.	6.25	204.	62.	62.	.06
HYDROGRAPH AT	3250	1265.	6.50	299.	92.	92.	.44
ROUTED TO	3231	1261.	6.58	297.	91.	91.	.44
2 COMBINED AT	3232	5434.	6.50	1220.	376.	376.	4.09
HYDROGRAPH AT	3260	139.	6.08	16.	5.	5.	.05
HYDROGRAPH AT	3270	737.	6.08	94.	29.	29.	.43

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

HEC-1

INPUT/OUTPUT FILES: FR20/24I/.240

FUTURE CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

SUB-BASINS 1380 - 1480

3280 - 3690

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,   FUTURE CONDITIONS
  3           ID        MODEL FR20.24I  --  SUB-BASIN SERIES 1380 TO 1480 & 3280 TO 3690
  4           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  5           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
  6           ID        FUTURE LAND-USE DENSITIES FROM OCT 1987 GENERAL PLAN, BRW PLANS AND
  7           ID        THE TONTO FOOTHILLS PLAN
  8           IT       5 10JAN89       0     289
  9           IO       5       0
 10           IN      30 10JAN89       0

 11           KK    1380     SUB
 12           KM        RUNOFF FROM SUB 1380
 13           BA   .9305
 14           PB    4.71
 15           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 16           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 17           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 18           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 19           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 20           LS              82   14.70
 21           UK     240   .0555     .20     100
 22           RK   18000   .0311    .045            TRAP      20       3

 23           KK    1390     SUB
 24           KM        RUNOFF FROM SUB 1390 AND ROUTE SUB 1380
 25           BA  1.4599
 26           LS              82   13.07
 27           UK     300   .0333     .20     100
 28           RK   17800   .0191    .045            TRAP      25       3     YES

 29           KK    1391     DIV
 30           KM       DIVERT FLOW FROM SUB 1390 TO SUB 1410
 31           DT    1392
 32           DI       0    8000
 33           DQ       0    4000

 34           KK    3280     SUB
 35           KM        RUNOFF FROM SUB 3280 & ROUTE DIV 1391
 36           KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 37           KM        PHOENIX AREAS C & D
 38           BA   .5215
 39           PB    4.22
 40           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 41           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 42           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 43           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 44           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 45           LS              79      15
 46           UK     224   .0212     .15     100
 47           RK    7200   .0176    .045            TRAP      35       3     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 48           KK    3281     DIV
 49           KM        DIVERT FLOW FROM SUB 3280 TO SUB 3330
 50           DT    3282
 51           DI       0    1000    5000
 52           DQ       0     700    3000

 53           KK    3290     SUB
 54           KM        RUNOFF FROM SUB 3290 & ROUTE DIV 3281
 55           BA   .7138
 56           LS              75      22
 57           UK     224   .0212     .15     100
 58           RK   14300   .0177    .045           TRAP      25       3     YES

 59           KK    3300     SUB
 60           KM        RUNOFF FROM SUB 3300 & ROUTE SUB 3290
 61           BA   .1722
 62           LS              76      40
 63           UK     224   .0212     .15     100
 64           RK    3300   .0167    .045           TRAP      25       3     YES

 65           KK    3310     SUB
 66           KM        RUNOFF FROM SUB 3310 & ROUTE SUB 3300
 67           BA   .5459
 68           LS              74      58
 69           UK     307   .0266     .15     100
 70           RK   15000   .0129    .045           TRAP      25       3     YES

 71           KK    3320     SUB
 72           KM        RUNOFF FROM SUB 3320
 73           BA   .5015
 74           LS              74      63
 75           UK     307   .0266     .15     100
 76           RK   11600   .0132    .045           TRAP      15       3

 77           KK    3282     RET
 78           KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3280
 79           DR    3282

 80           KK    3330     SUB
 81           KM        RUNOFF FROM SUB 3330 & ROUTE RET 3282
 82           BA   .5388
 83           LS              73      21
 84           UK     224   .0212     .15     100
 85           RK   11800   .0181    .045           TRAP      25       3     YES

 86           KK    3340     SUB
 87           KM        RUNOFF FROM SUB 3340 & ROUTE SUB 3330
 88           BA   .5574
 89           LS              74      49
 90           UK     224   .0212     .15     100
 91           RK    8700   .0178    .045           TRAP      25       3     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  92          KK    3350     SUB
  93          KM        RUNOFF FROM SUB 3350 & ROUTE SUB 3340
  94          BA   .2009
  95          LS              74      78
  96          UK     224   .0212     .15     100
  97          RK    3400   .0135    .045           TRAP      25       3     YES

  98          KK    3360     SUB
  99          KM        RUNOFF FROM SUB 3360
 100          BA   .1349
 101          LS              74      81
 102          UK     224   .0212     .15     100
 103          RK    5600   .0153    .045           TRAP       5       3

 104          KK    3361      CP
 105          KM        COMBINE SUB 3350 & SUB 3360
 106          HC       2

 107          KK    3370     SUB
 108          KM        RUNOFF FROM SUB 3370 & ROUTE CP 3361
 109          BA   .3444
 110          LS              74      47
 111          UK     307   .0266     .15     100
 112          RK    7200   .0121    .045           TRAP      30       3     YES

 113          KK    3371      CP
 114          KM        COMBINE SUB 3310, SUB 3320, & SUB 3370
 115          HC       3

 116          KK    3380     SUB
 117          KM        RUNOFF FROM SUB 3380 & ROUTE CP 3371
 118          BA   .3049
 119          LS              75       9
 120          UK     307   .0266     .15     100
 121          RK    5500   .0076    .045           TRAP      30       3     YES

 122          KK    3390     SUB
 123          KM        RUNOFF FROM SUB 3390
 124          BA   .5567
 125          LS              75      20
 126          UK     224   .0212     .15     100
 127          RK   14400   .0189    .045           TRAP      15       3

 128          KK    3400     SUB
 129          KM        RUNOFF FROM SUB 3400 & ROUTE SUB 3390
 130          BA   .5180
 131          LS              74      47
 132          UK     224   .0212     .15     100
 133          RK    9800   .0168    .045           TRAP      20       3     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 134          KK    3410     SUB
 135          KM        RUNOFF FROM SUB 3410 & ROUTE SUB 3400
 136          BA   .5947
 137          LS              74      33
 138          UK     307   .0266     .15     100
 139          RK   12100   .0126    .045           TRAP      20       3     YES

 140          KK    3411      CP
 141          KM        ROUTE SUB 3410 TO CP 3411
 142          RK     800   .0063    .045           TRAP      25       3

 143          KK    1392     RET
 144          KM        RETRIEVE DIVERTED FLOW FROM SUB 1390
 145          DR    1392

 146          KK    1410     SUB
 147          KM        RUNOFF FROM SUB 1410 AND ROUTE RET 1392
 148          BA   .1643
 149          PB    4.71
 150          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 151          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 152          PC    .861    .368    .878    .884    .891    .900    .905    .912    .919    .923
 153          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 154          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 155          LS              82   14.70
 156          UK     200   .0250     .15     100
 157          RK    5400   .0185    .045           TRAP      30       3     YES

 158          KK    3420     SUB
 159          KM        RUNOFF FROM SUB 3420 & ROUTE SUB 1410
 160          KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 161          KM        PHOENIX AREAS C & D
 162          BA   .5416
 163          PB    4.22
 164          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 165          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 166          PC    .861    .368    .878    .884    .891    .900    .905    .912    .919    .923
 167          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 168          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 169          LS              76      19
 170          UK     224   .0212     .15     100
 171          RK   15600   .0192    .045           TRAP      30       3     YES

 172          KK    3430     SUB
 173          KM        RUNOFF FROM SUB 3430
 174          BA   .3852
 175          LS              75      21
 176          UK     224   .0212     .15     100
 177          RK   10900   .0189    .045           TRAP      15       3
```

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

 178          KK    3431      CP
 179          KM        COMBINE SUB 3420 & SUB 3430
 180          HC       2

 181          KK    3440     SUB
 182          KM        RUNOFF FROM SUB 3440 & ROUTE CP 3431
 183          BA   .5660
 184          LS              74      47
 185          UK     224   .0212     .15     100
 186          RK    8600   .0167    .045           TRAP      25       3     YES

 187          KK    3450     SUB
 188          KM        RUNOFF FROM SUB 3450 & ROUTE SUB 3440
 189          BA   .1363
 190          LS              74      35
 191          UK     100   .0213     .10     100
 192          RK    4400   .0136    .045           TRAP      25       3     YES

 193          KK    3460     SUB
 194          KM        RUNOFF FROM SUB 3460 & ROUTE SUB 3450
 195          BA   .2898
 196          LS              74      17
 197          UK     307   .0266     .15     100
 198          RK    8800   .0119    .045           TRAP      25       3     YES

 199          KK    1430     SUB
 200          KM        RUNOFF FROM SUB 1430
 201          BA  1.4319
 202          PB    4.71
 203          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 204          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 205          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 206          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 207          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 208          LS              81   16.58
 209          UK     240   .0555     .20     100
 210          RK   25800   .0271    .045           TRAP      30       3

 211          KK    1440     SUB
 212          KM        RUNOFF FROM SUB 1440
 213          BA  1.8882
 214          LS              81   17.67
 215          UK     240   .0555     .20     100
 216          RK   24800   .0258    .045           TRAP      30       3

 217          KK    1441      CP
 218          KM        COMBINE SUB 1430 AND SUB 1440
 219          HC       2
```

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

 220          KK    1450     SUB
 221          KM        RUNOFF FROM SUB 1450 AND ROUTE CP 1441
 222          BA   .7662
 223          LS              79   13.36
 224          UK     200   .0200     .20     100
 225          RK   18200   .0189    .045            TRAP      30       3     YES

 226          KK    3470     SUB
 227          KM        RUNOFF FROM SUB 3470 & ROUTE SUB 1450
 228          KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 229          KM        PHOENIX AREAS C & D
 230          BA   .8085
 231          PB    4.22
 232          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 233          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 234          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 235          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 236          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 237          LS              74      20
 238          UK     224   .0212     .15     100
 239          RK   15500   .0191    .045            TRAP      30      20     YES

 240          KK    3480     SUB
 241          KM        RUNOFF FROM SUB 3480 & ROUTE SUB 3470
 242          BA   .2590
 243          LS              74      50
 244          UK     100   .0213     .10     100
 245          RK    5400   .0167    .045            TRAP      35      30     YES

 246          KK    3490     SUB
 247          KM        RUNOFF FROM SUB 3490 & ROUTE SUB 3480
 248          BA   .7196
 249          LS              74      32
 250          UK     100   .0213     .10     100
 251          RK   10100   .0140    .045            TRAP      50      40     YES

 252          KK    3500     SUB
 253          KM        RUNOFF FROM SUB 3500 & ROUTE SUB 3490
 254          BA   .2740
 255          LS              74       9
 256          UK     307   .0266     .15     100
 257          RK    4800   .0092    .045            TRAP      50      50     YES

 258          KK    1470     SUB
 259          KM        RUNOFF FROM SUB 1470
 260          BA   .2977
 261          PB    4.71
 262          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 263          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 264          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 265          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 266          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 267          LS              84   14.70
 268          UK     200   .0500     .20     100
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 269          RK   15000   .0293    .045           TRAP      20       3

 270          KK    1475     SUB
 271          KM        RUNOFF FROM SUB 1475 AND ROUTE SUB 1470
 272          BA  1.6895
 273          LS              84   24.72
 274          UK     285   .0419     .20     100
 275          RK   17600   .0188    .045           TRAP      25       3     YES

 276          KK    1480     SUB
 277          KM        RUNOFF FROM SUB 1480 AND ROUTE SUB 1475
 278          BA  1.0015
 279          LS              83   14.10
 280          UK     300   .0167     .20     100
 281          RK    7500   .0213    .045           TRAP      25       3     YES

 282          KK    1481     DIV
 283          KM        DIVERT FLOW FROM SUB 1480 TO SUB 3510
 284          DT    1482
 285          DI       0    8000
 286          DQ       0    4000

 287          KK    3510     SUB
 288          KM        RUNOFF FROM SUB 3510 & ROUTE DIV 1481
 289          KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 290          KM        PHOENIX AREAS C & D
 291          BA  1.4047
 292          PB    4.22
 293          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 294          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 295          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 296          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 297          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 298          LS              75      19
 299          UK     224   .0212     .15     100
 300          RK   21800   .0188    .045           TRAP      30      30     YES

 301          KK    3520     SUB
 302          KM        RUNOFF FROM SUB 3520 & ROUTE SUB 3510
 303          BA  1.1113
 304          LS              74      32
 305          UK     100   .0213     .10     100
 306          RK   15400   .0146    .045           TRAP      30      30     YES

 307          KK    3521      CP
 308          KM        ROUTE SUB 3520 TO CP 3521
 309          RK    4200   .0083    .045           TRAP      50       3

 310          KK    3501      CP
 311          KM        COMBINE SUB 3380, CP 3411, SUB 3460, SUB 3500, & CP 3521
 312          HC       5
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 313          KK    3530     SUB
 314          KM        RUNOFF FROM SUB 3530
 315          BA   .3121
 316          LS              76      28
 317          UK     307   .0266     .15     100
 318          RK    5200   .0090    .045           TRAP      25       3

 319          KK    3550     SUB
 320          KM        RUNOFF FROM SUB 3550 & ROUTE SUB 3530
 321          BA   .2109
 322          LS              75      27
 323          UK     307   .0266     .15     100
 324          RK    6000   .0087    .045           TRAP      30       3     YES

 325          KK    3540     SUB
 326          KM        RUNOFF FROM SUB 3540
 327          BA   .4921
 328          LS              85      13
 329          UK     575   .3161     .30     100
 330          RK    2550   .0796    .045   .0984   TRAP       5       3
 331          RK    9500   .0084    .045           TRAP      30       3

 332          KK    3551      CP
 333          KM        COMBINE SUB 3540 & SUB 3550
 334          HC       2

 335          KK    3561      CP
 336          KM        ROUTE CP 3551 TO CP 3561
 337          RK     600   .0117    .045           TRAP      30       3

 338          KK    3560     SUB
 339          KM        RUNOFF FROM SUB 3560
 340          BA   .0488
 341          LS              85       5
 342          UK     780   .4487     .30     100
 343          RK    2200   .0109    .045           TRAP      30       3

 344          KK    3562      CP
 345          KM        COMBINE SUB 3560 & CP 3561
 346          HC       2

 347          KK    3570     SUB
 348          KM        RUNOFF FROM SUB 3570
 349          BA   .2124
 350          LS              74      28
 351          UK     150   .0213     .10     100
 352          RK    5300   .0119    .045           TRAP      25       3

 353          KK    3580     SUB
 354          KM        RUNOFF FROM SUB 3580 & ROUTE SUB 3570
 355          BA   .7346
 356          LS              74      32
 357          UK     307   .0266     .15     100
 358          RK   13000   .0099    .045           TRAP      25       3     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 359          KK    3590     SUB
 360          KM        RUNOFF FROM SUB 3590
 361          BA   .1492
 362          LS              84      11
 363          UK     900   .3667     .30     100
 364          RK    5500   .0098    .045            TRAP      30       3

 365          KK    3591      CP
 366          KM        COMBINE SUB 3580 & SUB 3590
 367          HC       2

 368          KK    3600     SUB
 369          KM        RUNOFF FROM SUB 3600
 370          BA   .1951
 371          LS              74      28
 372          UK     307   .0266     .15     100
 373          RK    3800   .0111    .045            TRAP      10       3

 374          KK    3610     SUB
 375          KM        RUNOFF FROM SUB 3610
 376          BA   .4240
 377          LS              74      34
 378          UK     307   .0266     .15     100
 379          RK   10800   .0094    .045            TRAP      15       3

 380          KK    3620     SUB
 381          KM        RUNOFF FROM SUB 3620
 382          BA   .6858
 383          LS              77      19
 384          UK     224   .0212     .15     100
 385          RK   16000   .0194    .045            TRAP      15      30

 386          KK    3630     SUB
 387          KM        RUNOFF FROM SUB 3630 & ROUTE SUB 3620
 388          BA   .8300
 389          LS              74      31
 390          UK     100   .0213     .10     100
 391          RK   11300   .0177    .045            TRAP      30      30     YES

 392          KK    3640     SUB
 393          KM        RUNOFF FROM SUB 3640 & ROUTE SUB 3630
 394          BA  1.6299
 395          LS              74      32
 396          UK     150   .0213     .10     100
 397          RK   11600   .0129    .045            TRAP      40      50     YES

 398          KK    3650     SUB
 399          KM        RUNOFF FROM SUB 3650 & ROUTE SUB 3640
 400          BA  1.1780
 401          LS              74      19
 402          UK     150   .0213     .10     100
 403          RK    9700   .0082    .045            TRAP     100      50     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 404          KK    3655     SUB
 405          KM        RUNOFF FROM SUB 3655
 406          BA   .1069
 407          LS              74      20
 408          UK     150   .0213     .10     100
 409          RK    2200   .0059    .045           TRAP      15      15

 410          KK    1482     RET
 411          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 1480
 412          DR    1482

 413          KK    3660     SUB
 414          KM        RUNOFF FROM SUB 3660 & ROUTE RET 1482
 415          BA   .7554
 416          LS              76      21
 417          UK     224   .0212     .15     100
 418          RK   18600   .0184    .045           TRAP      30      30     YES

 419          KK    3670     SUB
 420          KM        RUNOFF FROM SUB 3670 & ROUTE SUB 3660
 421          BA  1.4355
 422          LS              74      29
 423          UK     100   .0213     .10     100
 424          RK   10900   .0183    .045           TRAP      40      50     YES

 425          KK    3680     SUB
 426          KM        RUNOFF FROM SUB 3680 & ROUTE SUB 3670
 427          BA  2.2512
 428          LS              74      38
 429          UK     150   .0213     .10     100
 430          RK   11200   .0134    .045           TRAP      40      75     YES

 431          KK    3690     SUB
 432          KM        RUNOFF FROM SUB 3690 & ROUTE SUB 3680
 433          BA  1.4778
 434          LS              74      23
 435          UK     150   .0213     .10     100
 436          RK    7300   .0110    .045           TRAP      50     100     YES
 437          ZZ
```

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                                   ****
                 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
        U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                   ****


                         GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                         CITY OF PHOENIX AREAS C & D,   FUTURE CONDITIONS
                         MODEL FR20.24I  --  SUB-BASIN SERIES 1380 TO 1480 & 3280 TO 3690
                         100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                         RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
                         FUTURE LAND-USE DENSITIES FROM OCT 1987 GENERAL PLAN, BRW PLANS AND
                         THE TONTO FOOTHILLS PLAN

9 IO          OUTPUT CONTROL VARIABLES
                   IPRNT          5  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT          HYDROGRAPH TIME DATA
                    NMIN          5  MINUTES IN COMPUTATION INTERVAL
                   IDATE     10JAN89  STARTING DATE
                   ITIME        0000  STARTING TIME
                      NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE     11JAN89  ENDING DATE
                  NDTIME        0000  ENDING TIME

             COMPUTATION INTERVAL     .08 HOURS
                  TOTAL TIME BASE   24.00 HOURS

      ENGLISH UNITS
```

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	1380	1617.	6.17	235.	72.	72.	.93		
HYDROGRAPH AT	1390	3342.	6.25	601.	185.	185.	2.39		
DIVERSION TO	1392	1671.	6.25	300.	92.	92.	2.39		
HYDROGRAPH AT	1391	1671.	6.25	300.	92.	92.	2.39		
HYDROGRAPH AT	3280	1929.	6.33	401.	124.	124.	2.91		
DIVERSION TO	3282	1234.	6.33	272.	85.	85.	2.91		
HYDROGRAPH AT	3281	695.	6.33	130.	40.	40.	2.91		
HYDROGRAPH AT	3290	1021.	6.42	263.	82.	82.	3.63		
HYDROGRAPH AT	3300	1100.	6.42	301.	94.	94.	3.80		
HYDROGRAPH AT	3310	1344.	6.58	438.	137.	137.	4.34		
HYDROGRAPH AT	3320	876.	6.08	136.	41.	41.	.50		
HYDROGRAPH AT	3282	1234.	6.33	272.	85.	85.	.00		
HYDROGRAPH AT	3330	1434.	6.42	363.	114.	114.	.54		
HYDROGRAPH AT	3340	1683.	6.50	495.	156.	156.	1.10		
HYDROGRAPH AT	3350	1784.	6.33	555.	174.	174.	1.30		
HYDROGRAPH AT	3360	358.	6.08	42.	13.	13.	.13		
2 COMBINED AT	3361	2036.	6.17	597.	187.	187.	1.43		
HYDROGRAPH AT	3370	2344.	6.25	681.	213.	213.	1.78		
3 COMBINED AT	3371	4281.	6.25	1254.	391.	391.	6.62		
HYDROGRAPH AT	3380	4385.	6.33	1311.	408.	408.	6.93		
HYDROGRAPH AT	3390	537.	6.17	102.	32.	32.	.56		
HYDROGRAPH AT	3400	1240.	6.17	227.	70.	70.	1.07		
HYDROGRAPH AT	3410	1638.	6.25	349.	108.	108.	1.67		
ROUTED TO	3411	1620.	6.33	349.	108.	108.	1.67		
HYDROGRAPH AT	1392	1671.	6.25	300.	92.	92.	.00		
HYDROGRAPH AT	1410	1714.	6.33	340.	105.	105.	.16		
HYDROGRAPH AT	3420	1734.	6.58	433.	136.	136.	.71		
HYDROGRAPH AT	3430	442.	6.17	71.	22.	22.	.39		
9 COMBINED AT	[illegible]	[illegible]	6.50	[illegible]	[illegible]	[illegible]	[illegible]		

HYDROGRAPH AT	3440	2159.	6.67	638.	200.	200.	1.66
HYDROGRAPH AT	3450	2153.	6.75	667.	209.	209.	1.79
HYDROGRAPH AT	3460	2214.	6.83	712.	224.	224.	2.08
HYDROGRAPH AT	1430	1835.	6.17	351.	108.	108.	1.43
HYDROGRAPH AT	1440	2761.	6.17	469.	144.	144.	1.89
2 COMBINED AT	1441	4596.	6.17	820.	252.	252.	3.32
HYDROGRAPH AT	1450	4644.	6.33	982.	304.	304.	4.09
HYDROGRAPH AT	3470	3848.	6.75	1099.	347.	347.	4.89
HYDROGRAPH AT	3480	3885.	6.83	1157.	368.	368.	5.15
HYDROGRAPH AT	3490	3690.	7.17	1277.	412.	412.	5.87
HYDROGRAPH AT	3500	3692.	7.25	1310.	424.	424.	6.15
HYDROGRAPH AT	1470	523.	6.17	80.	24.	24.	.30
HYDROGRAPH AT	1475	3633.	6.17	565.	171.	171.	1.99
HYDROGRAPH AT	1480	5101.	6.17	834.	253.	253.	2.99
DIVERSION TO	1482	2551.	6.17	417.	126.	126.	2.99
HYDROGRAPH AT	1481	2551.	6.17	417.	126.	126.	2.99
HYDROGRAPH AT	3510	1892.	6.75	651.	205.	205.	4.39
HYDROGRAPH AT	3520	1836.	7.17	853.	275.	275.	5.50
ROUTED TO	3521	1833.	7.25	850.	274.	274.	5.50
5 COMBINED AT	3501	10754.	7.08	4526.	1437.	1437.	22.33
HYDROGRAPH AT	3530	496.	6.08	64.	20.	20.	.31
HYDROGRAPH AT	3550	695.	6.25	106.	33.	33.	.52
HYDROGRAPH AT	3540	634.	6.17	113.	35.	35.	.49
2 COMBINED AT	3551	1325.	6.25	220.	67.	67.	1.02
ROUTED TO	3561	1324.	6.25	220.	67.	67.	1.02
HYDROGRAPH AT	3560	103.	6.08	11.	3.	3.	.05
2 COMBINED AT	3562	1391.	6.25	231.	71.	71.	1.06
HYDROGRAPH AT	3570	377.	6.08	42.	13.	13.	.21
HYDROGRAPH AT	3580	989.	6.25	194.	60.	60.	.95
HYDROGRAPH AT	3590	203.	6.17	33.	10.	10.	.15
2 COMBINED AT	3591	1188.	6.25	227.	70.	70.	1.10
HYDROGRAPH AT	3600	343.	6.08	39.	12.	12.	.20

HYDROGRAPH AT	3620	517.	6.42	133.	42.	42.	.69
HYDROGRAPH AT	3630	1061.	6.17	305.	96.	96.	1.52
HYDROGRAPH AT	3640	2072.	6.17	640.	201.	201.	3.15
HYDROGRAPH AT	3650	2128.	6.67	833.	265.	265.	4.32
HYDROGRAPH AT	3655	186.	6.08	20.	6.	6.	.11
HYDROGRAPH AT	1482	2551.	6.17	417.	126.	126.	.00
HYDROGRAPH AT	3660	1709.	6.75	544.	170.	170.	.76
HYDROGRAPH AT	3670	1832.	7.00	822.	261.	261.	2.19
HYDROGRAPH AT	3680	3343.	6.17	1299.	414.	414.	4.44
HYDROGRAPH AT	3690	3671.	6.42	1557.	499.	499.	5.92

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

HEC-1

INPUT/OUTPUT FILES: FR30/24I/.240

FUTURE CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

SUB-BASINS 1 - 38.1

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,  FUTURE CONDITIONS
  3           ID        MODEL FR30.24I, -- SUB-BASIN SERIES 1 TO 38.1
  4           ID        100-YR, 24-HR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  5           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
  6           ID        FUTURE LAND-USE DENSITIES FROM OCT 1987 GENERAL PLAN, BRW PLANS, AND
  7           ID        THE TOMTO FOOTHILLS PLAN
  8           IT       5 10JAN89       0     289
  9           IO       5       0
 10           IN      30 10JAN89       0

 11           KK    SUB1
 12           KM        RUNOFF FROM SUB-BASIN 1
 13           BA   .3371
 14           PB    4.32
 15           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 16           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 17           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 18           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 19           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 20           LS              75   16.31
 21           UK     255   .0262     .20     100
 22           RK    7160   .0289    .045            TRAP      35       3

 23           KK    SUB2
 24           KM        RUNOFF FROM SUB-BASIN 2
 25           BA  1.2170
 26           LS              83   24.11
 27           UK     337   .0308     .20     100
 28           RK   24000   .0196    .045            TRAP      35       3

 29           KK    SUB3
 30           KM        RUNOFF FROM SUB-BASIN 3
 31           BA   .5448
 32           LS              81   22.30
 33           UK     255   .0262     .20     100
 34           RK   16400   .0201    .045            TRAP      35       3

 35           KK     CP4
 36           KM        COMBINE HYDROGRAPHS SUB1, SUB2, & SUB3
 37           HC       3

 38           KK    SUB4
 39           KM        RUNOFF FROM SUB-BASIN 4 & ROUTE CP 4
 40           BA  1.5102
 41           LS              73      20
 42           UK      84   .0213     .10     100
 43           RK   10633   .0191    .045            TRAP      50     100     YES

 44           KK    SUB5
 45           KM        RUNOFF FROM SUB-BASIN 5 & ROUTE SUB 4
 46           BA  1.8713
 47           LS              74      25
 48           UK      81   .0213     .10     100
 49           RK   11433   .0175    .045            TRAP      50     130     YES
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 50           KK    SUB6
 51           KM        RUNOFF FROM SUB-BASIN 6 & ROUTE SUB 5
 52           BA  2.7719
 53           LS              74      55
 54           UK     146   .0213     .10     100
 55           RK   16100   .0124    .045            TRAP      50     150     YES

 56           KK     6.1     SUB
 57           KM        RUNOFF FROM SUB 6.1 & ROUTE SUB 6
 58           BA   .5632
 59           LS              74      28
 60           UK     146   .0213     .10     100
 61           RK    3400   .0094    .045            TRAP      50     160     YES

 62           KK    SUB7
 63           KM        RUNOFF FROM SUB-BASIN 7
 64           BA   .6690
 65           LS              78   15.82
 66           UK     255   .0262     .20     100
 67           RK   12200   .0197    .045            TRAP      50      50

 68           KK    SUB8
 69           KM        RUNOFF FROM SUB-BASIN 8 & ROUTE SUB 7
 70           BA  1.0885
 71           LS              74   22.73
 72           UK     116   .0213     .10     100
 73           RK   10550   .0196    .045            TRAP      50     100     YES

 74           KK    SUB9
 75           KM        RUNOFF FROM SUB-BASIN 9 & ROUTE SUB 8
 76           BA  1.4559
 77           LS              74      30
 78           UK      95   .0213     .10     100
 79           RK   10700   .0187    .045            TRAP      50     130     YES

 80           KK   SUB10
 81           KM        RUNOFF FROM SUB-BASIN 10 ROUTE SUB 9
 82           BA  2.1144
 83           LS              74      36
 84           UK     107   .0213     .10     100
 85           RK   12400   .0137    .045            TRAP      50     175     YES

 86           KK    10.1     SUB
 87           KM        RUNOFF FROM SUB 10.1 & ROUTE SUB 10
 88           BA  1.2239
 89           LS              74      50
 90           UK     107   .0213     .10     100
 91           RK    5600   .0098    .045            TRAP      50     190     YES
```

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

  92          KK   SUB11
  93          KM        RUNOFF FROM SUB-BASIN 11
  94          BA   .5865
  95          LS              74   12.69
  96          UK     150   .0425     .20     100
  97          RK    6200   .0226    .045           TRAP      50      50

  98          KK   SUB12
  99          KM        RUNOFF FROM SUB-BASIN 12 & ROUTE SUB 11
 100          BA  1.3317
 101          LS              74   27.16
 102          UK      95   .0213     .10     100
 103          RK    9850   .0214    .045           TRAP      50     100     YES

 104          KK   SUB13
 105          KM        RUNOFF FROM SUB-BASIN 13 & ROUTE SUB 12
 106          BA  1.2211
 107          LS              74      38
 108          UK      86   .0213     .10     100
 109          RK   10533   .0192    .045           TRAP      50     130     YES

 110          KK   SUB14
 111          KM        RUNOFF FROM SUB-BASIN 14 & ROUTE SUB 13
 112          BA  1.1209
 113          LS              74      36
 114          UK     101   .0213     .10     100
 115          RK   11200   .0142    .045           TRAP      50     150     YES

 116          KK    14.1     SUB
 117          KM        RUNOFF FROM SUB 14.1 & ROUTE SUB 14
 118          BA   .6349
 119          LS              74      50
 120          UK     101   .0213     .10     100
 121          RK    5800   .0112    .045           TRAP      50     160     YES

 122          KK   SUB16
 123          KM        RUNOFF FROM SUB-BASIN 16
 124          BA  1.4809
 125          LS              83   16.77
 126          UK     217   .0581     .20     100
 127          RK   14800   .0216    .045           TRAP      25       3

 128          KK   SUB17
 129          KM        RUNOFF FROM SUB-BASIN 17
 130          BA  1.1459
 131          LS              83   14.55
 132          UK     285   .0421     .20     100
 133          RK   12200   .0254    .045           TRAP      25       3
```

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

 134          KK   SUB18
 135          KM        RUNOFF FROM SUB-BASIN 18
 136          BA  1.2670
 137          LS              83    3.04
 138          UK     285   .0421     .20     100
 139          RK   10840   .0259    .045           TRAP      25       3

 140          KK   CP19A
 141          KM        COMBINE HYDROGRAPHS SUB16, SUB17, & SUB18
 142          HC       3

 143          KK   CP19B
 144          KM        ROUTE CP19A TO CP19B
 145          RK    1100   .0155   0.045           TRAP      35       3

 146          KK   SUB15
 147          KM        RUNOFF FROM SUB-BASIN 15
 148          BA  1.3327
 149          LS              82      20
 150          UK     217   .0581     .20     100
 151          RK   21200   .0236    .045           TRAP      25       3

 152          KK   CP19C
 153          KM        COMBINE HYDROGRAPHS SUB15 & CP19B
 154          HC       2

 155          KK   SUB19
 156          KM        RUNOFF FROM SUB-BASIN 19 & ROUTE CP 19C
 157          BA   .1774
 158          LS              84   15.27
 159          UK     275   .0800     .20     100
 160          RK    3730   .0352    .045    .160   TRAP      15       3
 161          RK    1800   .0200    .045           TRAP      50      30     YES

 162          KK   SUB20
 163          KM        RUNOFF FROM SUB-BASIN 20
 164          BA   .5698
 165          LS              84    5.71
 166          UK     300   .0750     .20     100
 167          RK    9640   .0197    .045           TRAP      15       3

 168          KK    CP21
 169          KM        COMBINE HYDROGRAPHS SUB19 & SUB20
 170          HC       2

 171          KK   SUB21
 172          KM        RUNOFF FROM SUB-BASIN 21 & ROUTE CP 21
 173          BA  3.6841
 174          LS              80    9.94
 175          UK     297   .0558     .20     100
 176          RK   27600   .0196    .045           TRAP      50      30     YES
```

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

 177          KK   SUB22
 178          KM        RUNOFF FROM SUB-BASIN 22
 179          BA  1.3860
 180          LS              84    6.90
 181          UK     225   .0590     .20     100
 182          RK   13000   .0238    .045           TRAP      25       3

 183          KK   SUB23
 184          KM        RUNOFF FROM SUB-BASIN 23
 185          BA   .3945
 186          LS              84   10.16
 187          UK     225   .0590     .20     100
 188          RK   10200   .0304    .045           TRAP      20       3

 189          KK    CP24
 190          KM        COMBINE HYDROGRAPHS SUB22 & SUB23
 191          HC       2

 192          KK   SUB24
 193          KM        RUNOFF FROM SUB-BASIN 24 & ROUTE CP 24
 194          BA   .4550
 195          LS              77   10.97
 196          UK     295   .0438     .20     100
 197          RK    6800   .0257    .045           TRAP      15       3     YES

 198          KK   SUB25
 199          KM        RUNOFF FROM SUB-BASIN 25
 200          BA  1.5216
 201          LS              85   13.03
 202          UK     295   .0438     .20     100
 203          RK   16700   .0302    .045           TRAP      25       3

 204          KK    CP26
 205          KM        COMBINE HYDROGRAPHS SUB24 & SUB25
 206          HC       2

 207          KK   SUB26
 208          KM        RUNOFF FROM SUB-BASIN 26 & ROUTE CP 26
 209          BA   .6095
 210          LS              74   14.85
 211          UK     200   .0250     .20     100
 212          RK   11400   .0241    .045           TRAP      30       3     YES

 213          KK    CP27
 214          KM        COMBINE HYDROGRAPHS SUB21 & SUB26
 215          HC       2

 216          KK   SUB27
 217          KM        RUNOFF FROM SUB-BASIN 27 & ROUTE CP 27
 218          BA   .7639
 219          LS              73   21.16
 220          UK     159   .0213     .10     100
 221          RK    3200   .0310    .045           TRAP    1500       2     YES
```

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

 222          KK   SUB28
 223          KM        RUNOFF FROM SUB-BASIN 28 & ROUTE SUB 27
 224          BA  1.4235
 225          LS              73      65
 226          UK      96   .0213     .10     100
 227          RK    9333   .0303    .045            TRAP    2500       2     YES

 228          KK   SUB29
 229          KM        RUNOFF FROM SUB-BASIN 29 & ROUTE SUB 28
 230          BA  1.8786
 231          LS              74      35
 232          UK      88   .0213     .10     100
 233          RK   10900   .0147    .045            TRAP    3500       2     YES

 234          KK    29.1     SUB
 235          KM        RUNOFF FROM SUB 29.1 & ROUTE SUB 29
 236          BA  1.0603
 237          LS              74      34
 238          UK      88   .0213     .10     100
 239          RK    5500   .0118    .045            TRAP    3750       2     YES

 240          KK   SUB30
 241          KM        RUNOFF FROM SUB-BASIN 30
 242          BA  1.3296
 243          LS              82    9.71
 244          UK     110   .0408     .20     100
 245          RK   10640   .0371    .045            TRAP      50     100

 246          KK   SUB31
 247          KM        RUNOFF FROM SUB-BASIN 31 & ROUTE SUB 30
 248          BA  1.2325
 249          LS              74   19.77
 250          UK     102   .0213     .10     100
 251          RK    9450   .0228    .045            TRAP      50     130     YES

 252          KK   SUB32
 253          KM        RUNOFF FROM SUB-BASIN 32 & ROUTE SUB 31
 254          BA  1.3985
 255          LS              74   26.74
 256          UK      67   .0213     .10     100
 257          RK    9300   .0214    .045            TRAP      50     130     YES

 258          KK   SUB33
 259          KM        RUNOFF FROM SUB-BASIN 33 & ROUTE SUB 32
 260          BA  1.5717
 261          LS              74      66
 262          UK      89   .0213     .10     100
 263          RK    9500   .0161    .045            TRAP      50     175     YES
```

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

 264          KK    33.1     SUB
 265          KM        RUNOFF FROM SUB 33.1 & ROUTE SUB 33
 266          BA  1.3602
 267          LS              74      17
 268          UK      89   .0213     .10     100
 269          RK    6700   .0116    .045           TRAP      50     190     YES

 270          KK   SUB34
 271          KM        RUNOFF FROM SUB-BASIN 34
 272          BA   .8433
 273          LS              77   14.03
 274          UK     110   .0408     .20     100
 275          RK    6800   .0644    .045           TRAP      50     100

 276          KK   SUB35
 277          KM        RUNOFF FROM SUB-BASIN 35
 278          BA  1.2879
 279          LS              79   16.92
 280          UK     265   .0381     .20     100
 281          RK   13000   .0319    .045           TRAP      50     100

 282          KK    CP36
 283          KM        COMBINE HYDROGRAPHS SUB34 & SUB35
 284          HC       2

 285          KK   SUB36
 286          KM        RUNOFF FROM SUB-BASIN 36 & ROUTE CP 36
 287          BA  1.4538
 288          LS              72   16.68
 289          UK     116   .0213     .10     100
 290          RK    7767   .0281    .045           TRAP      50     130     YES

 291          KK   SUB37
 292          KM        RUNOFF FROM SUB-BASIN 37 & ROUTE SUB 36
 293          BA  1.1896
 294          LS              74   21.50
 295          UK      61   .0213     .10     100
 296          RK    8433   .0237    .045           TRAP      50     130     YES

 297          KK   SUB38
 298          KM        RUNOFF FROM SUB-BASIN 38 & ROUTE SUB 37
 299          BA  1.2597
 300          LS              74   46.34
 301          UK      84   .0213     .10     100
 302          RK    8300   .0176    .045           TRAP      50     150     YES

 303          KK    38.1     SUB
 304          KM        RUNOFF FROM SUB 38.1 & ROUTE SUB 38
 305          BA  1.1981
 306          LS              74      74
 307          UK      84   .0213     .10     100
 308          RK    6800   .0121    .045           TRAP      50     160     YES
 309          ZZ
```

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                                    ****
                    FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
          U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                    ****


                         GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                         CITY OF PHOENIX AREAS C & D,  FUTURE CONDITIONS
                         MODEL FR30.24I, -- SUB-BASIN SERIES 1 TO 38.1
                         100-YR, 24-HR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                         RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
                         FUTURE LAND-USE DENSITIES FROM OCT 1987 GENERAL PLAN, BRW PLANS, AND
                         THE TOMTO FOOTHILLS PLAN

9 IO          OUTPUT CONTROL VARIABLES
                    IPRNT          5  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT          HYDROGRAPH TIME DATA
                     NMIN          5  MINUTES IN COMPUTATION INTERVAL
                    IDATE     10JAN89  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ        289  NUMBER OF HYDROGRAPH ORDINATES
                   NODATE     11JAN89  ENDING DATE
                   NOTIME       0000  ENDING TIME

              COMPUTATION INTERVAL     .08 HOURS
                   TOTAL TIME BASE   24.00 HOURS

      ENGLISH UNITS
```

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	475.	6.17	62.	19.	19.	.34		
HYDROGRAPH AT	SUB2	1232.	6.25	291.	90.	90.	1.22		
HYDROGRAPH AT	SUB3	546.	6.25	122.	38.	38.	.54		
3 COMBINED AT	CP4	2168.	6.25	475.	147.	147.	2.10		
HYDROGRAPH AT	SUB4	2378.	6.50	746.	234.	234.	3.61		
HYDROGRAPH AT	SUB5	2699.	6.67	1103.	351.	351.	5.48		
HYDROGRAPH AT	SUB6	3280.	6.75	1773.	574.	574.	8.25		
HYDROGRAPH AT	6.1	3408.	6.67	1877.	608.	608.	8.82		
HYDROGRAPH AT	SUB7	556.	6.42	134.	42.	42.	.67		
HYDROGRAPH AT	SUB8	1105.	6.17	346.	109.	109.	1.76		
HYDROGRAPH AT	SUB9	[illegible]	6.25	649.	205.	205.	3.21		
HYDROGRAPH AT	SUB10	2530.	6.58	1101.	352.	352.	5.33		
HYDROGRAPH AT	10.1	3096.	6.17	1396.	447.	447.	6.55		
HYDROGRAPH AT	SUB11	834.	6.17	102.	32.	32.	.59		
HYDROGRAPH AT	SUB12	1800.	6.17	381.	119.	119.	1.92		
HYDROGRAPH AT	SUB13	2152.	6.42	658.	206.	206.	3.14		
HYDROGRAPH AT	SUB14	2201.	6.83	892.	282.	282.	4.26		
HYDROGRAPH AT	14.1	2249.	7.08	1038.	331.	331.	4.90		
HYDROGRAPH AT	SUB16	2821.	6.08	346.	105.	105.	1.48		
HYDROGRAPH AT	SUB17	2117.	6.08	263.	80.	80.	1.15		
HYDROGRAPH AT	SUB18	2320.	6.08	269.	82.	82.	1.27		
3 COMBINED AT	CP19A	7258.	6.08	878.	268.	268.	3.89		
ROUTED TO	CP19B	6871.	6.08	879.	268.	268.	3.89		
HYDROGRAPH AT	SUB15	1836.	6.17	306.	94.	94.	1.33		
2 COMBINED AT	CP19C	8674.	6.17	1185.	362.	362.	5.23		
HYDROGRAPH AT	SUB19	8797.	6.17	1226.	375.	375.	5.40		
HYDROGRAPH AT	SUB20	1081.	6.08	128.	39.	39.	.57		
2 COMBINED AT	CP21	9807.	6.17	1355.	414.	414.	5.97		
HYDROGRAPH AT	SUB21	6454.	6.67	2030.	639.	639.	9.66		

HYDROGRAPH AT	SUB22	2811.	6.08	314.	95.	95.	1.39
HYDROGRAPH AT	SUB23	736.	6.08	91.	28.	28.	.39
2 COMBINED AT	CP24	3597.	6.08	405.	123.	123.	1.78
HYDROGRAPH AT	SUB24	3860.	6.17	494.	151.	151.	2.24
HYDROGRAPH AT	SUB25	2667.	6.17	367.	111.	111.	1.52
2 COMBINED AT	CP26	6527.	6.17	861.	262.	262.	3.76
HYDROGRAPH AT	SUB26	6606.	6.25	982.	300.	300.	4.37
2 COMBINED AT	CP27	11229.	6.33	3012.	939.	939.	14.02
HYDROGRAPH AT	SUB27	11264.	6.50	3132.	981.	981.	14.79
HYDROGRAPH AT	SUB28	10483.	6.75	3393.	1087.	1087.	16.21
HYDROGRAPH AT	SUB29	8310.	7.42	3532.	1177.	1177.	18.09
HYDROGRAPH AT	29.1	8123.	7.67	3593.	1226.	1226.	19.15
HYDROGRAPH AT	SUB30	2089.	6.17	295.	90.	90.	1.33
HYDROGRAPH AT	SUB31	2268.	6.33	526.	163.	163.	2.56
HYDROGRAPH AT	SUB32	2609.	6.58	808.	253.	253.	3.96
HYDROGRAPH AT	SUB33	3253.	6.17	1252.	393.	393.	5.53
HYDROGRAPH AT	33.1	3634.	6.58	1490.	469.	469.	6.89
HYDROGRAPH AT	SUB34	1466.	6.08	164.	51.	51.	.84
HYDROGRAPH AT	SUB35	1283.	6.33	270.	83.	83.	1.29
2 COMBINED AT	CP36	2494.	6.17	433.	134.	134.	2.13
HYDROGRAPH AT	SUB36	3251.	6.25	684.	214.	214.	3.58
HYDROGRAPH AT	SUB37	3316.	6.50	907.	285.	285.	4.77
HYDROGRAPH AT	SUB38	3521.	6.67	1204.	381.	381.	6.03
HYDROGRAPH AT	38.1	3688.	6.83	1558.	493.	493.	7.23

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

HEC-1

INPUT/OUTPUT FILES: CCF2.24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

INTERCEPTOR CHANNEL ALONG THE EAST SIDE OF CAVE CREEK ROAD,

FROM CAREFREE HIGHWAY TO THE CAVE BUTTES DAM AUXILIARY DIKE.

INCLUDES LOW-FLOW DIVERTS

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

   1          ID       GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
   2          ID       CITY OF PHOENIX AREAS C & D,  EXISTING CONDITIONS
   3          ID       MODEL CCF2.24I  --  SUB-BASIN SERIES 1210 TO 1360 & 3000 TO 3270
   4          ID       PROPOSED CHANNEL ALONG EAST SIDE OF CAVE CREEK ROAD
   5          ID       100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
   6          ID       RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
              *DIAGRAM
   7          IT       5  9JAN89       0     289
   8          IO       5       0
   9          IN      30  9JAN89       0
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```
 10        KK   1260     SUB
 11        KM       RUNOFF FROM SUB 1260
 12        BA  .4914
 13        PB   4.71
 14        PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 15        PC   .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 16        PC   .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 17        PC   .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 18        PC   .974    .979    .981    .985    .989    .991    .993    .996   1.000
 19        LS              82    3.29
 20        UK    190   .0263     .20     100
 21        RK  10200   .0235    .045            TRAP      12       3

 22        KK   1270     SUB
 23        KM       RUNOFF FROM SUB 1270 AND ROUTE SUB 1260
 24        BA  .6342
 25        LS              85    7.40
 26        UK    175   .1900     .20     100
 27        RK   9400   .0223    .045            TRAP      20       3     YES

 28        KK   1280     SUB
 29        KM       RUNOFF FROM SUB 1280
 30        BA  .4147
 31        LS              84    2.08
 32        UK    350   .0571     .20     100
 33        RK   9500   .0253    .045            TRAP      12       3

 34        KK   1271      CP
 35        KM       ROUTE SUB 1280 TO CP 1271
 36        RK    950   .0147    .045            TRAP      20       3

 37        KK   1272      CP
 38        KM       COMBINE SUB 1270 AND CP 1271
 39        HC       2

 40        KK   1291      CP
 41        KM       ROUTE CP 1272 TO CP 1291
 42        RK   1800   .0161    .045            TRAP      20       3
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```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 43        KK   1290     SUB
 44        KM       RUNOFF FROM SUB 1290
 45        BA  .4319
 46        LS              85    6.41
 47        UK    290   .1846     .20     100
 48        RK   2200   .0682    .045    .022    TRAP       6       3
 49        RK   4600   .0217    .045            TRAP      20       3

 50        KK   1292      CP
```

```
51          KM        COMBINE SUB 1290 AND CP 1294
52          HC       2

53          KK    1300     SUB
54          KM        RUNOFF FROM SUB 1300 AND ROUTE CP 1292
55          BA   .2583
56          LS              79    4.99
57          UK     263   .1339     .20     100
58          RK    2320   .0625    .045    .065    TRAP      6       3
59          RK    2400   .0154    .045            TRAP     30       3     YES

60          KK    1303     DIV
61          KM        DIVERT FLOW AT CHANNEL BIFURICATION INTO SUB 3000
62          DT    1304
63          DI       0    1000    5000
64          DQ       0     350    1750

65          KK    1311      CP
66          KM        ROUTE NON-DIVERTED FLOW FROM DIV 1303 TP CP 1311
67          RK    2600   .0231    .045            TRAP     30       3

68          KK    1310     SUB
69          KM        RUNOFF FROM SUB 1310
70          BA   .4771
71          LS              82    2.59
72          UK     295   .3152     .25     100
73          RK    1940   .1647    .045    .157    TRAP      8       3
74          RK    5300   .0481    .045            TRAP     17       3

75          KK    1312      CP
76          KM        COMBINE SUB 1310 & CP 1311
77          HC       2

78          KK    1313     DIV
79          KM        DIVERT FLOW AT CHANNEL BIFURICATION TO THE NORTH OF CAREFREE HIGHWAY
80          DT    1314
81          DI       0    1000    8000
82          DQ       0     500    4000

83          KK    1320     SUB
84          KM        RUNOFF FROM SUB 1320 AND ROUTE NON-DIVERTED FLOW FROM DIV 1313
85          BA   .1880
86          LS              78
87          UK     230   .0348     .10     100
88          RK    4000   .0230    .045            TRAP     13       1     YES
```



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

89          KK    3260     SUB
90          KM        RUNOFF FROM SUB 3260
91          BA   .0545
92          LS              74    2.32
93          UK     224   .0212     .15     100
94          RK    2400   .0221    .045            TRAP      5       5

95          KK    3261     DIV
96          KM        LOW-FLOW DIVERT TO SUB 3270
```

```
 97          DT    3262
 98          DI       0      20     100    1000
 99          DO       0       4      15      25

100          KK    3001      CP
101          KM        ROUTE DIV 3261 TO CP 3001
102          RK    1050   .0120    .027            TRAP      8       1

103          KK    1210     SUB
104          KM        RUNOFF FROM SUB 1210
105          BA  1.0739
106          LS              81    3.15
107          UK     240   .0555     .20     100
108          RK   18500   .0302    .045            TRAP     30       3

109          KK    1220     SUB
110          KM        RUNOFF FROM SUB 1220 AND ROUTE SUB 1210
111          BA   .6779
112          LS              79    1.25
113          UK     250   .0400     .20     100
114          RK    2400   .0250    .045    .034    TRAP     20       3
115          RK    9600   .0203    .045            TRAP     30       3     YES

116          KK    1230     SUB
117          KM        RUNOFF FROM SUB 1230 AND ROUTE SUB 1220
118          BA   .6105
119          LS              81    3.70
120          UK     300   .0667     .20     100
121          RK    4450   .0259    .045    .061    TRAP     10       3
122          RK    6000   .0217    .045            TRAP     35       3     YES

123          KK    1240     SUB
124          KM        RUNOFF FROM SUB 1240 AND ROUTE SUB 1230
125          BA   .4720
126          LS              80    1.80
127          UK     250   .0400     .20     100
128          RK    2700   .0222    .045    .047    TRAP     10       3
129          RK    4400   .0182    .045            TRAP     35       3     YES

130          KK    1243     DIV
131          KM        DIVERT FLOW AT CHANNEL BIFURICATION TO SUB 3045
132          DT    1244
133          DI       0    1000    5000
134          DO       0     950    4750
```



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

135          KK    1304     RET
136          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 1300
137          DR    1304

138          KK    1331      CP
139          KM        COMBINE RET 1304 AND DIV 1243
140          HC       2

141          KK    3000     SUB
```

```
142     KM      RUNOFF FROM SUB 3000 & ROUTE CP 1331
143     KM      NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
144     KM      AREAS C & D
145     BA   .2999
146     PB    4.22
147     PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
148     PC   .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
149     PC   .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
150     PC   .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
151     PC   .974    .979    .981    .985    .989    .991    .993    .996   1.000
152     LS             78     3.2
153     UK    224   .0212    .15     100
154     RK   8400   .0205    .045            TRAP     25       3     YES

155     KK   3002      CP
156     KM      COMBINE SUB 3000 & CP 3001
157     HC      2

158     KK   3003     DIV
159     KM      LOW-FLOW DIVERT TO SUB 3010
160     DT   3004
161     DI      0     100     500    4000
162     DQ      0      15      25     100

163     KK   3021      CP
164     KM      ROUTE DIV 3003 TO CP 3021
165     RK   1700   .0120    .027            TRAP     10       1

166     KK   3020     SUB
167     KM      RUNOFF FROM SUB 3020
168     BA  .3085
169     LS             80    3.86
170     UK    224   .0212    .15     100
171     RK   7840   .0209    .045            TRAP     15       3

172     KK   3022      CP
173     KM      COMBINE SUB 3020 & CP 3021
174     HC      2

175     KK   3023     DIV
176     KM      LOW-FLOW DIVERT TO SUB 3030
177     DT   3024
178     DI      0     100     500    4000
179     DQ      0      15      25     100
```



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

180     KK   3051      CP
181     KM      ROUTE DIV 3023 TO CP 3051
182     RK   1100   .0120    .027            TRAP     15       1

183     KK   1244     RET
184     KM      RETRIEVE DT 1244 FROM OUTLET OF SUB 1240
185     DR   1244

186     KK   3045     SUB
```

```
187        KM        RUNOFF FROM SUB 3045 & ROUTE RET 1244
188        BA   .2324
189        LS              78       0
190        UK     224   .0212     .15     100
191        RK    4460   .0193    .045            TRAP      25       3     YES

192        KK    3046     DIV
193        KM        DIVERT FLOW TO SUB 3130
194        DT    3047
195        DI       0    1000    5000
196        DQ       0     300    1500

197        KK    3050     SUB
198        KM        RUNOFF FROM SUB 3050 & ROUTE DIV 3046
199        BA   .3322
200        LS              80    3.86
201        UK     224   .0212     .15     100
202        RK    6100   .0195    .045            TRAP      25       3     YES

203        KK    3052      CP
204        KM        COMBINE SUB 3050 & CP 3051
205        HC       2

206        KK    3053     DIV
207        KM        LOW-FLOW DIVERT TO SUB 3060
208        DT    3054
209        DI       0     100     500    4000
210        DQ       0      15      25     100

211        KK    3131      CP
212        KM        ROUTE DIV 3053 TO CP 3131
213        RK    2300   .0120    .027            TRAP      30       1

214        KK    1340     SUB
215        KM        RUNOFF FROM SUB 1340
216        BA  1.5539
217        PB    4.71
218        PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
219        PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
220        PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
221        PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
222        PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
223        LS              83    1.11
224        UK     300   .0333     .20     100
225        RK    3300   .0228    .045    .062    TRAP      10       3
```



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

226        RK   15600   .0199    .045            TRAP      35       3

227        KK    1341     DIV
228        KM        DIVERT FLOW FROM SUB 1340 TO SUB 3190
229        DT    1342
230        DI       0    4000
231        DQ       0    2000

232        KK    3125     SUB
233        KM        RUNOFF FROM SUB 3125 & ROUTE DIV 1341
```

```
234        KM       NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
235        KM       AREAS C & D
236        BA   .4584
237        PB   4.22
238        PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
239        PC   .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
240        PC   .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
241        PC   .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
242        PC   .974    .979    .981    .985    .989    .991    .993    .996   1.000
243        LS             80    1.44
244        UK    224   .0212     .15     100
245        RK   9600   .0198    .045            TRAP      20       3     YES

246        KK   3047     RET
247        KM       RETRIEVE DT 3047 FROM OUTLET OF SUB 3045
248        DR   3047

249        KK   3126      CP
250        KM       COMBINE SUB 3125 & RET 3047
251        HC      2

252        KK   3130     SUB
253        KM       RUNOFF FROM SUB 3130 & ROUTE CP 3126
254        BA   .1980
255        LS             76    1.66
256        UK    224   .0212     .15     100
257        RK   7800   .0185    .045            TRAP      20       3     YES

258        KK   3160     SUB
259        KM       RUNOFF FROM SUB 3160
260        BA   .4046
261        LS             80    1.44
262        UK    224   .0212     .15     100
263        RK   9000   .0211    .045            TRAP      15       3

264        KK   3161     DIV
265        KM       DIVERT FLOW FROM SUB 3160 TO SUB 3170
266        DT   3162
267        DI      0    1000    5000
268        DQ      0     450    2250
```



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

269        KK   3132      CP
270        KM       ROUTE DIV 3161 TO CP 3132
271        RK   4200   .0167    .045            TRAP      20       3

272        KK   3133      CP
273        KM       COMBINE SUB 3130, CP 3131, & CP 3132
274        HC      3

275        KK   3134     DIV
```

```
276        KM       LOW-FLOW DIVERT TO SUB 3090
277        DT    3091
278        DI       0     100     500    4000
279        DQ       0      15      25     100

280        KK    3136      CP
281        KM       ROUTE DIV 3134 TO CP 3136
282        RK    1300   .0120    .027           TRAP      30       1

283        KK    3135     SUB
284        KM       RUNOFF FROM SUB 3135
285        BA   .0402
286        LS              78    1.88
287        UK     224   .0212     .15     100
288        RK    2700   .0185    .045           TRAP       7       3

289        KK    3137      CP
290        KM       COMBINE SUB 3135 & CP 3136
291        HC       2

292        KK    3138     DIV
293        KM       LOW-FLOW DIVERT TO SUB 3140
294        DT    3139
295        DI       0     100     500    4000
296        DQ       0      15      25     100

297        KK    3171      CP
298        KM       ROUTE DIV 3138 TO CP 3171
299        RK    1400   .0120    .027           TRAP      50       1

300        KK    3162     RET
301        KM       RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3160
302        DR    3162

303        KK    3170     SUB
304        KM       RUNOFF FROM SUB 3170 & ROUTE RET 3162
305        BA   .3910
306        LS              77    4.96
307        UK     224   .0212     .15     100
308        RK    5800   .0167    .045           TRAP      20       3     YES
```



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

309        KK    3172      CP
310        KM       COMBINE 3170 & CP 3171
311        HC       2

312        KK    3173     DIV
313        KM       LOW-FLOW DIVERT TO SUB 3180
314        DT    3174
315        DI       0     100     500    4000
316        DQ       0      15      25     100
```

```
317          KK    3211      CP
318          KM        ROUTE DIV 3173 TO CP 3211
319          RK    3300   .0120    .027            TRAP      50       1

320          KK    1342     RET
321          KM        RETRIEVE DT 1342 FROM OUTLET OF SUB 1340
322          DR    1342

323          KK    3190     SUB
324          KM        RUNOFF FROM SUB 3190 & ROUTE RET 1342
325          BA   .4656
326          LS              77    2.32
327          UK     224   .0212     .15     100
328          RK    8300   .0195    .045            TRAP      30       3     YES

329          KK    1360     SUB
330          KM        RUNOFF FROM SUB 1360
331          BA   .6557
332          PB    4.71
333          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
334          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
335          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
336          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
337          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
338          LS              83    1.21
339          UK     250   .0200     .15     100
340          RK    9400   .0245    .045            TRAP      20       3

341          KK    3191      CP
342          KM        COMBINE SUB 1360 & SUB 3190
343          HC       2

344          KK    3200     SUB
345          KM        RUNOFF FROM SUB 3200 & ROUTE CP 3191
346          KM        NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
347          KM        AREAS C & D
348          BA   .6363
349          PB    4.22
350          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
351          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
352          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
353          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
354          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
355          LS              74    2.54
```



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

356          UK     224   .0212     .15     100
357          RK   10600   .0182    .045            TRAP      30       3     YES

358          KK    3201     DIV
359          KM        DIVERT OUTFLOW FROM SUB 3200 TO SUB 3240
360          DT    3202
361          DI       0    5000   10000
362          DQ       0    1500    3000

363          KK    3210     SUB
```

```
KM        RUNOFF FROM SUB 3210 & ROUTE DIV 3201
BA   .0961
LS              74    3.20
UK     224   .0212     .15     100
RK    2600   .0154    .045            TRAP      20       3     YES

KK    3212      CP
KM        COMBINE SUB 3210 & CP 3211
HC       2

KK    3213     DIV
KM        LOW-FLOW DIVERT TO SUB 3220
DT    3214
DI       0     100     500    4000
DQ       0      15      25     100

KK    3241      CP
KM        ROUTE DIV 3213 TO CP 3241
RK    1040   .0120    .027            TRAP      50       1

KK    3202     RET
KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3200
DR    3202

KK    3240     SUB
KM        RUNOFF FROM SUB 3240 & ROUTE RET 3202
BA   .0631
LS              74    5.84
UK     224   .0212     .15     100
RK    3500   .0149    .045            TRAP      20       3     YES

KK    3242      CP
KM        COMBINE SUB 3240 & CP 3241
HC       2

KK    3243     DIV
KM        LOW-FLOW DIVERT TO SUB 3250
DT    3244
DI       0     100     500    4000
DQ       0      15      25     100
```



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

KK    3301      CP
KM        ROUTE DIV 3243 TO CP 3301
RK    1700   .0120    .027            TRAP      50       1

KK    1380     SUB
KM        RUNOFF FROM SUB 1380
BA   .9305
PB    4.71
```

```
405        PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
406        PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
407        PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
408        PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
409        LS              82    1.26
410        UK     240   .0555     .20     100
411        RK   18000   .0311    .045            TRAP      20       3

412        KK    1390     SUB
413        KM        RUNOFF FROM SUB 1390 AND ROUTE SUB 1380
414        BA  1.4599
415        LS              82    1.19
416        UK     300   .0333     .20     100
417        RK   17800   .0191    .045            TRAP      25       3     YES

418        KK    1391     DIV
419        KM       DIVERT FLOW FROM SUB 1390 TO SUB 1410
420        DT    1392
421        DI       0    8000
422        DQ       0    4000

423        KK    3280     SUB
424        KM        RUNOFF FROM SUB 3280 & ROUTE DIV 1391
425        KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
426        KM        PHOENIX AREAS C & D
427        BA   .5215
428        PB    4.22
429        PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
430        PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
431        PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
432        PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
433        PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
434        LS              79    2.32
435        UK     224   .0212     .15     100
436        RK    7200   .0176    .045            TRAP      35       3     YES

437        KK    3281     DIV
438        KM        DIVERT FLOW FROM SUB 3280 TO SUB 3330
439        DT    3282
440        DI       0    1000    5000
441        DQ       0     700    3000
```



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

442        KK    3290     SUB
443        KM        RUNOFF FROM SUB 3290 & ROUTE DIV 3281
444        BA   .7138
445        LS              75    4.52
446        UK     224   .0212     .15     100
447        RK   14300   .0177    .045            TRAP      25       3     YES

448        KK    3300     SUB
449        KM        RUNOFF FROM SUB 3300 & ROUTE SUB 3290
```

```
450          BA   .1722
451          LS              76    1.22
452          UK    224   .0212     .15     100
453          RK   3300   .0167    .045            TRAP      25       3     YES

454          KK   3302      CP
455          KM        COMBINE SUB 3300 & CP 3301
456          HC       2

457          KK   3303     DIV
458          KM        LOW-FLOW DIVERT TO SUB 3310
459          DT   3304
460          DI      0     100     500    4000
461          DQ      0      15      25     100

462          KK   3341      CP
463          KM        ROUTE DIV 3303 TO CP 3341
464          RK   4300   .0120    .027            TRAP      75       1

465          KK   3282     RET
466          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3280
467          DR   3282

468          KK   3330     SUB
469          KM        RUNOFF FROM SUB 3330 & ROUTE RET 3282
470          BA   .5388
471          LS              73    3.64
472          UK    224   .0212     .15     100
473          RK  11800   .0181    .045            TRAP      25       3     YES

474          KK   3340     SUB
475          KM        RUNOFF FROM SUB 3340 & ROUTE SUB 3330
476          BA   .5574
477          LS              74    1.44
478          UK    224   .0212     .15     100
479          RK   8700   .0178    .045            TRAP      25       3     YES

480          KK   3342      CP
481          KM        COMBINE SUB 3340 & CP 3341
482          HC       2
```



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

483          KK   3343     DIV
484          KM        LOW-FLOW DIVERT TO SUB 3350
485          DT   3344
486          DI      0     100     500    4000
487          DQ      0      15      25     100

488          KK   3401      CP
489          KM        ROUTE DIV 3343 TO CP 3401
490          RK   1500   .0120    .027            TRAP      75       1
```

```
491        KK    3390     SUB
492        KM        RUNOFF FROM SUB 3390
493        BA   .5567
494        LS              75    4.96
495        UK     224   .0212     .15     100
496        RK   14400   .0189    .045           TRAP      15       3

497        KK    3400     SUB
498        KM        RUNOFF FROM SUB 3400 & ROUTE SUB 3390
499        BA   .5180
500        LS              74    3.42
501        UK     224   .0212     .15     100
502        RK    9800   .0168    .045           TRAP      20       3     YES

503        KK    3402      CP
504        KM        COMBINE SUB 3400 & CP 3401
505        HC       2

506        KK    3403     DIV
507        KM        LOW-FLOW DIVERT TO SUB 3410
508        DT    3404
509        DI       0     100     500    4000
510        DQ       0      15      25     100

511        KK    3451      CP
512        KM        ROUTE DIV 3403 TO CP 3451
513        RK    4250   .0120    .027           TRAP      75       1

514        KK    1392     RET
515        KM        RETRIEVE DIVERTED FLOW FROM SUB 1390
516        DR    1392

517        KK    1410     SUB
518        KM        RUNOFF FROM SUB 1410 AND ROUTE RET 1392
519        BA   .1643
520        PB    4.71
521        PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
522        PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
523        PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
524        PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
525        PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
526        LS              82       0
527        UK     200   .0250     .15     100
528        RK    5400   .0185    .045           TRAP      30       3     YES
```



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

529        KK    3420     SUB
530        KM        RUNOFF FROM SUB 3420 & ROUTE SUB 1410
531        KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
532        KM        PHOENIX AREAS C & D
533        BA   .5416
534        PB    4.22
535        PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
536        PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
537        PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
```

```
538        PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
539        PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
540        LS              76    4.08
541        UK     224   .0212     .15     100
542        RK   15600   .0192    .045            TRAP      30       3     YES

543        KK    3430     SUB
544        KM        RUNOFF FROM SUB 3430
545        BA   .3852
546        LS              75    5.62
547        UK     224   .0212     .15     100
548        RK   10900   .0189    .045            TRAP      15       3

549        KK    3431      CP
550        KM        COMBINE SUB 3420 & SUB 3430
551        HC       2

552        KK    3440     SUB
553        KM        RUNOFF FROM SUB 3440 & ROUTE CP 3431
554        BA   .5660
555        LS              74    3.86
556        UK     224   .0212     .15     100
557        RK    8600   .0167    .045            TRAP      25       3     YES

558        KK    3450     SUB
559        KM        RUNOFF FROM SUB 3450 & ROUTE SUB 3440
560        BA   .1363
561        LS              74    2.76
562        UK     100   .0213     .10     100
563        RK    4400   .0136    .045            TRAP      25       3     YES

564        KK    3452      CP
565        KM        COMBINE SUB 3450 & CP 3451
566        HC       2

567        KK    3453     DIV
568        KM        LOW-FLOW DIVERT TO SUB 3460
569        DT    3454
570        DI       0     100     500    4000
571        DQ       0      15      25     100
```



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

572        KK    3491      CP
573        KM        ROUTE DIV 3453 TO CP 3491
574        RK    4900   .0120    .027            TRAP      75       1

575        KK    1430     SUB
576        KM        RUNOFF FROM SUB 1430
577        BA  1.4319
578        PB    4.71
579        PC       0     .005    .009    .010    .013    .019    .021    .028    .032    .044
```

```
580        PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
581        PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
582        PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
583        PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
584        LS              81    1.19
585        UK     240   .0555     .20     100
586        RK   25800   .0271    .045            TRAP      30       3

587        KK    1440     SUB
588        KM        RUNOFF FROM SUB 1440
589        BA  1.8882
590        LS              81
591        UK     240   .0555     .20     100
592        RK   24800   .0258    .045            TRAP      30       3

593        KK    1441      CP
594        KM        COMBINE SUB 1430 AND SUB 1440
595        HC       2

596        KK    1450     SUB
597        KM        RUNOFF FROM SUB 1450 AND ROUTE CP 1441
598        BA   .7662
599        LS              79    1.04
600        UK     200   .0200     .20     100
601        RK   18200   .0189    .045            TRAP      30       3     YES

602        KK    3470     SUB
603        KM        RUNOFF FROM SUB 3470 & ROUTE SUB 1450
604        KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
605        KM        PHOENIX AREAS C & D
606        BA   .8085
607        PB    4.22
608        PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
609        PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
610        PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
611        PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
612        PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
613        LS              74    4.30
614        UK     224   .0212     .15     100
615        RK   15500   .0191    .045            TRAP      30      20     YES
```



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

616        KK    3480     SUB
617        KM        RUNOFF FROM SUB 3480 & ROUTE SUB 3470
618        BA   .2590
619        LS              74    2.54
620        UK     100   .0213     .10     100
621        RK    5400   .0167    .045            TRAP      35      30     YES

622        KK    3490     SUB
623        KM        RUNOFF FROM SUB 3490 & ROUTE SUB 3400
```

```
624        BA   .7196
625        LS              74    3.86
626        UK    100   .0213     .10     100
627        RK  10100   .0140    .045           TRAP     50      40     YES

628        KK   3492      CP
629        KM        COMBINE SUB 3490 & CP 3491
630        HC      2

631        KK   3493     DIV
632        KM        LOW-FLOW DIVERT TO SUB 3500
633        DT   3494
634        DI      0     100     500    4000
635        DQ      0      15      25     100

636        KK   3521      CP
637        KM        ROUTE DIV 3493 TO CP 3521
638        RK    800   .0120    .027           TRAP     75       1

639        KK   1470     SUB
640        KM        RUNOFF FROM SUB 1470
641        BA   .2977
642        PB   4.71
643        PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
644        PC   .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
645        PC   .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
646        PC   .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
647        PC   .974    .979    .981    .985    .989    .991    .993    .996   1.000
648        LS              84       0
649        UK    200   .0500     .20     100
650        RK  15000   .0293    .045           TRAP     20       3

651        KK   1475     SUB
652        KM        RUNOFF FROM SUB 1475 AND ROUTE SUB 1470
653        BA  1.6895
654        LS              84
655        UK    285   .0419     .20     100
656        RK  17600   .0188    .045           TRAP     25       3     YES

657        KK   1480     SUB
658        KM        RUNOFF FROM SUB 1480 AND ROUTE SUB 1475
659        BA  1.0015
660        LS              83    1.07
661        UK    300   .0167     .20     100
662        RK   7500   .0213    .045           TRAP     25       3     YES
```



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

663        KK   1481     DIV
664        KM        DIVERT FLOW FROM SUB 1480 TO SUB 3510
665        DT   1482
666        DI      0    8000
667        DQ      0    4000

668        KK   3510     SUB
669        KM        RUNOFF FROM SUB 3510 & ROUTE DIV 1481
670        KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
```

```
671        KM       PHOENIX AREAS C & D
672        BA  1.4047
673        PB    4.22
674        PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
675        PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
676        PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
677        PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
678        PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
679        LS              75    3.86
680        UK     224   .0212     .15     100
681        RK   21800   .0188    .045            TRAP      30      30     YES

682        KK    3520     SUB
683        KM       RUNOFF FROM SUB 3520 & ROUTE SUB 3510
684        BA  1.1113
685        LS              74    1.88
686        UK     100   .0213     .10     100
687        RK   15400   .0146    .045            TRAP      30      30     YES

688        KK    3522      CP
689        KM       COMBINE SUB 3520 & CP 3521
690        KM       SOUTH END OF NEW CAVE CREEK ROAD CHANNEL
691        HC       2

692        KK    3523     DIV
693        KM       DIVERT CHANNEL UNDER CAVE CREEK ROAD
694        DT    3524
695        DI       0   15000
696        DQ       0   15000

697        KK    3262     RET
698        KM       RETRIEVE LOW-FLOW DIVERT FROM SUB 3260
699        DR    3262

700        KK    3270     SUB
701        KM       RUNOFF FROM SUB 3270 & ROUTE RET 3262
702        BA   .3745
703        LS              77    3.64
704        UK     224   .0212     .15     100
705        RK    7900   .0177    .045            TRAP      10       4     YES
```



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

706        KK    3004     RET
707        KM       RETRIEVE LOW-FLOW DIVERT FROM SUB 3000
708        DR    3004

709        KK    3010     SUB
710        KM       RUNOFF FROM SUB 3010 & ROUTE RET 3004
711        BA   .1535
712        LS              76    6.06
713        UK     224   .0212     .15     100
```

```
714          RK    6800   .0168    .045            TRAP      30       3     YES

715          KK    3024     RET
716          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3020
717          DR    3024

718          KK    3030     SUB
719          KM        RUNOFF FROM SUB 3030 & ROUTE RET 3024
720          BA   .2159
721          LS              81   13.28
722          UK     224   .0212     .15     100
723          RK    5800   .0159    .045            TRAP      20       3     YES

724          KK    3031      CP
725          KM        COMBINE SUB 3010 & SUB 3030
726          HC       2

727          KK    3040     SUB
728          KM        RUNOFF FROM SUB 3040 & ROUTE CP 3031
729          BA   .1177
730          LS              79
731          UK     224   .0212     .15     100
732          RK    4100   .0146    .045            TRAP      30       3     YES

733          KK    3054     RET
734          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3050
735          DR    3054

736          KK    3060     SUB
737          KM        RUNOFF FROM SUB 3060 & ROUTE RET 3054
738          BA   .3824
739          LS              76    2.98
740          UK     224   .0212     .15     100
741          RK    8720   .0162    .045            TRAP      25       3     YES

742          KK    3061      CP
743          KM        COMBINE SUB 3040 & SUB 3060
744          HC       2

745          KK    3071      CP
746          KM        ROUTE CP 3061 TO CP 3071
747          RK    2600   .0119    .045            TRAP      25       3
```



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

748          KK    3070     SUB
749          KM        RUNOFF FROM SUB 3070
750          BA   .2339
751          LS              81    1.22
752          UK     224   .0212     .15     100
753          RK   10400   .0141    .045            TRAP      10       3

754          KK    3080     SUB
755          KM        RUNOFF FROM SUB 3080
```

```
BA   .5244
LS              81    2.54
UK     307   .0266     .15     100
RK   13800   .0136    .045           TRAP      25       3

KK    3091     RET
KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3130
DR    3091

KK    3090     SUB
KM        RUNOFF FROM SUB 3090 & ROUTE RET 3091
BA   .4441
LS              76    3.42
UK     224   .0212     .15     100
RK    9200   .0160    .045           TRAP      20       3     YES

KK    3072      CP
KM        COMBINE SUB 3070, SUB 3080, SUB 3090, & CP 3071
HC       4

KK    3100     SUB
KM        RUNOFF FROM SUB 3100 & ROUTE CP 3072
BA   .4376
LS              81
UK     307   .0266     .15     100
RK   10000   .0113    .045           TRAP      60       3     YES

KK    3120     SUB
KM        RUNOFF FROM SUB 3120
BA   .6263
LS              84    3.64
UK     307   .0266     .15     100
RK   13400   .0149    .045           TRAP      15       3

KK    3121      CP
KM        COMBINE SUB 3100 & SUB 3120
HC       2

KK    3151      CP
KM        ROUTE CP 3121 TO CP 3151
RK    9000   .0067    .045           TRAP      30       3
```



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

KK    3139     RET
KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3135
DR    3139

KK    3140     SUB
KM        RUNOFF FROM SUB 3140 & ROUTE RET 3139
BA   .4347
LS              76    4.08
```

```
 798          RK   11400   .0149    .045           TRAP      15       3     YES

 799          KK    3150     SUB
 800          KM        RUNOFF FROM SUB 3150 & ROUTE SUB 3140
 801          BA   .5438
 802          LS              83
 803          UK     307   .0266     .15     100
 804          RK   12920   .0108    .045           TRAP      20       3     YES

 805          KK    3152      CP
 806          KM        COMBINE SUB 3150 & CP 3151
 807          HC       2

 808          KK    3174     RET
 809          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3170
 810          DR    3174

 811          KK    3180     SUB
 812          KM        RUNOFF FROM SUB 3180 & ROUTE RET 3174
 813          BA   .3982
 814          LS              80    2.32
 815          UK     224   .0212     .15     100
 816          RK   13200   .0139    .045           TRAP      20       3     YES

 817          KK    3214     RET
 818          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3210
 819          DR    3214

 820          KK    3220     SUB
 821          KM        RUNOFF FROM SUB 3220 & ROUTE RET 3214
 822          BA   .6342
 823          LS              74
 824          UK     224   .0212     .15     100
 825          RK    9600   .0153    .045           TRAP      25       3     YES

 826          KK    3221      CP
 827          KM        COMBINE SUB 3180 & SUB 3220
 828          HC       2

 829          KK    3230     SUB
 830          KM        RUNOFF FROM SUB 3230 & ROUTE CP 3221
 831          BA   .3752
 832          LS              79
 833          UK     307   .0266     .15     100
 834          RK   10800   .0104    .045           TRAP      30       3     YES
```



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

 835          KK    3244     RET
 836          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3244
 837          DR    3244

 838          KK    3250     SUB
 839          KM        RUNOFF FROM SUB 3250 & ROUTE RET 3244
 840          BA   .3730
 841          LS              74
 842          UK     307   .0266     .15     100
```

```
843        RK   12800   .0143    .045          TRAP     20      3     YES

844        KK    3231      CP
845        KM        ROUTE SUB 3250 TO CP 3231
846        RK    6600   .0097    .045          TRAP     30      3

847        KK    3232      CP
848        KM        COMBINE SUB 3230 & CP 3231
849        HC       2

850        KK    3304     RET
851        KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3300
852        DR    3304

853        KK    3310     SUB
854        KM        RUNOFF FROM SUB 3310 & ROUTE RET 3304
855        BA   .5459
856        LS             74
857        UK     307   .0266     .15     100
858        RK   15000   .0129    .045          TRAP     25      3     YES

859        KK    3320     SUB
860        KM        RUNOFF FROM SUB 3320
861        BA   .5015
862        LS             74
863        UK     307   .0266     .15     100
864        RK   11600   .0132    .045          TRAP     15      3

865        KK    3344     RET
866        KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3340
867        DR    3344

868        KK    3350     SUB
869        KM        RUNOFF FROM SUB 3350 & ROUTE RET 3344
870        BA   .2009
871        LS             74    1.44
872        UK     224   .0212     .15     100
873        RK    3400   .0135    .045          TRAP     25      3     YES

874        KK    3360     SUB
875        KM        RUNOFF FROM SUB 3360
876        BA   .1349
877        LS             74
878        UK     224   .0212     .15     100
879        RK    5600   .0153    .045          TRAP      5      3
```



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

880        KK    3361      CP
881        KM        COMBINE SUB 3350 & SUB 3360
882        HC       2

883        KK    3370     SUB
884        KM        RUNOFF FROM SUB 3370 & ROUTE CP 3361
885        BA   .3444
886        LS             74
887        UK     307   .0266     .15     100
```

```
888        RK    7200   .0121    .045          TRAP     30      3     YES

889        KK    3371      CP
890        KM        COMBINE SUB 3310, SUB 3320, & SUB 3370
891        HC       3

892        KK    3380     SUB
893        KM        RUNOFF FROM SUB 3380 & ROUTE CP 3371
894        BA   .3049
895        LS             75
896        UK     307   .0266     .15     100
897        RK    5500   .0076    .045          TRAP     30      3     YES

898        KK    3404     RET
899        KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3400
900        DR    3404

901        KK    3410     SUB
902        KM        RUNOFF FROM SUB 3410 & ROUTE RET 3404
903        BA   .5947
904        LS             74
905        UK     307   .0266     .15     100
906        RK   12100   .0126    .045          TRAP     20      3     YES

907        KK    3411      CP
908        KM        ROUTE SUB 3410 TO CP 3411
909        RK     800   .0063    .045          TRAP     25      3

910        KK    3454     RET
911        KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3450
912        DR    3454

913        KK    3460     SUB
914        KM        RUNOFF FROM SUB 3460 & ROUTE RET 3454
915        BA   .2898
916        LS             74    1.22
917        UK     307   .0266     .15     100
918        RK    8800   .0119    .045          TRAP     25      3     YES

919        KK    3494     RET
920        KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3450
921        DR    3494
```



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

922        KK    3500     SUB
923        KM        RUNOFF FROM SUB 3500 & ROUTE RET 3494
924        BA   .2740
925        LS             74    1.44
926        UK     307   .0266     .15     100
927        RK    4800   .0092    .045          TRAP     50     50     YES

928        KK    3524     RET
929        KM        RETRIEVE TOTAL CAVE CREEK ROAD CHANNEL FLOW AT SOUTH END OF SUB 3520
```

```
930     KM      THIS FLOW WILL BE ROUTED UNDER CAVE CREEK ROAD
931     DR    3521

932     KK    3502     CP
933     KM       ROUTE RET 3524 TO CP 3502
934     RK    4200   .0083    .035          TRAP     75      1

935     KK    3501     CP
936     KM       COMBINE SUB 3380, CP 3411, SUB 3460, SUB 3500, & CP 3502
937     HC       5

938     KK    3530    SUB
939     KM       RUNOFF FROM SUB 3530
940     BA   .3121
941     LS            76
942     UK     307  .0266     .15     100
943     RK    5200  .0090    .045          TRAP     25      3

944     KK    3550    SUB
945     KM       RUNOFF FROM SUB 3550 & ROUTE SUB 3530
946     BA   .2109
947     LS            75    1.22
948     UK     307  .0266     .15     100
949     RK    6000  .0087    .045          TRAP     30      3     YES

950     KK    3540    SUB
951     KM       RUNOFF FROM SUB 3540
952     BA   .4921
953     LS            85
954     UK     575  .3161     .30     100
955     RK    2550  .0796    .045   .0984   TRAP      5      3
956     RK    9500  .0084    .045          TRAP     30      3

957     KK    3551     CP
958     KM       COMBINE SUB 3540 & SUB 3550
959     HC       2

960     KK    3561     CP
961     KM       ROUTE CP 3551 TO CP 3561
962     RK     600  .0117    .045          TRAP     30      3
```



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

963     KK    3560    SUB
964     KM       RUNOFF FROM SUB 3560
965     BA   .0488
966     LS            85
967     UK     780  .4487     .30     100
968     RK    2200  .0109    .045          TRAP     30      3

969     KK    3562     CP
970     KM       COMBINE SUB 3560 & CP 3561
```

```
 971          HC       2

 972          KK    3570     SUB
 973          KM        RUNOFF FROM SUB 3570
 974          BA   .2124
 975          LS              74
 976          UK     150   .0213     .10     100
 977          RK    5300   .0119    .045           TRAP      25       3

 978          KK    3580     SUB
 979          KM        RUNOFF FROM SUB 3580 & ROUTE SUB 3570
 980          BA   .7346
 981          LS              74    2.32
 982          UK     307   .0266     .15     100
 983          RK   13000   .0099    .045           TRAP      25       3     YES

 984          KK    3590     SUB
 985          KM        RUNOFF FROM SUB 3590
 986          BA   .1492
 987          LS              84    1.22
 988          UK     900   .3667     .30     100
 989          RK    5500   .0098    .045           TRAP      30       3

 990          KK    3591      CP
 991          KM        COMBINE SUB 3580 & SUB 3590
 992          HC       2

 993          KK    3600     SUB
 994          KM        RUNOFF FROM SUB 3600
 995          BA   .1951
 996          LS              74    1.22
 997          UK     307   .0266     .15     100
 998          RK    3800   .0111    .045           TRAP      10       3

 999          KK    3610     SUB
1000          KM        RUNOFF FROM SUB 3610
1001          BA   .4240
1002          LS              74
1003          UK     307   .0266     .15     100
1004          RK   10800   .0094    .045           TRAP      15       3
```



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

1005          KK    3620     SUB
1006          KM        RUNOFF FROM SUB 3620
1007          BA   .6858
1008          LS              77    3.64
1009          UK     224   .0212     .15     100
1010          RK   16000   .0194    .045           TRAP      15      30

1011          KK    3630     SUB
1012          KM        RUNOFF FROM SUB 3630 & ROUTE SUB 3620
```

```
1013        BA   .8300
1014        LS              74    1.22
1015        UK     100   .0213     .10     100
1016        RK   11300   .0177    .045           TRAP      30      30     YES

1017        KK    3640     SUB
1018        KM        RUNOFF FROM SUB 3640 & ROUTE SUB 3630
1019        BA  1.6299
1020        LS              74
1021        UK     150   .0213     .10     100
1022        RK   11600   .0129    .045           TRAP      40      50     YES

1023        KK    3650     SUB
1024        KM        RUNOFF FROM SUB 3650 & ROUTE SUB 3640
1025        BA  1.1780
1026        LS              74    1.22
1027        UK     150   .0213     .10     100
1028        RK    9700   .0082    .045           TRAP     100      50     YES

1029        KK    3655     SUB
1030        KM        RUNOFF FROM SUB 3655
1031        BA   .1069
1032        LS              74       0
1033        UK     150   .0213     .10     100
1034        RK    2200   .0059    .045           TRAP      15      15

1035        KK    1482     RET
1036        KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 1480
1037        DR    1482

1038        KK    3660     SUB
1039        KM        RUNOFF FROM SUB 3660 & ROUTE RET 1482
1040        BA   .7554
1041        LS              76    3.20
1042        UK     224   .0212     .15     100
1043        RK   18600   .0184    .045           TRAP      30      30     YES

1044        KK    3670     SUB
1045        KM        RUNOFF FROM SUB 3670 & ROUTE SUB 3660
1046        BA  1.4355
1047        LS              74    1.22
1048        UK     100   .0213     .10     100
1049        RK   10900   .0183    .045           TRAP      40      50     YES
```



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

1050        KK    3680     SUB
1051        KM        RUNOFF FROM SUB 3680 & ROUTE SUB 3670
1052        BA  2.2512
1053        LS              74    3.64
1054        UK     150   .0213     .10     100
1055        RK   11200   .0134    .045           TRAP      40      75     YES

1056        KK    3690     SUB
1057        KM        RUNOFF FROM SUB 3690 & ROUTE SUB 3680
```

```
1058        8A  1.4778
1059        LS            74
1060        UK     150  .0213     .10     100
1061        RK    7300  .0110    .045           TRAP     50     100     YES
1062        ZZ
```

```
            SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE     (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

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

   10       1260
               V
               V
   22       1270 ***
               .
               .
   28          .        1280
```

```
                .          V
                .          V
 34             .       1271
                .          .
                .          .
 37         1272............
              V
              V
 40         1291
              .
              .
 43           .       1290
              .          .
              .          .
 50         1292............
              V
              V
 53         1300 ***
              .
              .
 62           .-------)    1304
 60         1303
              V
              V
 65         1311
              .
              .
 68           .       1310
              .          .
              .          .
 75         1312............
              .
              .
 80           .-------)    1314
 78         1313
              V
              V
 83         1320 ***
              .
              .
 89           .       3260
              .          .
              .          .
 97           .          .-------)    3262
 95           .       3261
              .          V
              .          V
100           .       3001
              .          .
              .          .
103           .          .       1210
              .          .          V
              .          .          V
109           .          .       1220 ***
              .          .          V
              .          .          V
116           .          .       1230 ***
              .          .          V
              .          .          V
123           .          .       1240 ***
              .          .          .
              .          .          .
132           .          .          .-------)    1244
130           .          .       1243
              .          .          .
```

```
137          .          .          .          .(-------    1304
135          .          .          .       1304
             .          .          .          .
             .          .          .          .
138          .          .       1331............
             .          .          V
             .          .          V
141          .          .       3000 ***
             .          .          .
             .          .          .
155          .       3002............
             .          .
             .          .
160          .          .-------)    3004
158          .       3003
             .          V
             .          V
163          .       3021
             .          .
             .          .
166          .          .       3020
             .          .          .
             .          .          .
172          .       3022............
             .          .
             .          .
177          .          .-------)    3024
175          .       3023
             .          V
             .          V
180          .       3051
             .          .
             .          .
185          .          .          .(-------    1244
183          .          .       1244
             .          .          V
             .          .          V
186          .          .       3045 ***
             .          .          .
             .          .          .
194          .          .          .-------)    3047
192          .          .       3046
             .          .          V
             .          .          V
197          .          .       3050 ***
             .          .          .
             .          .          .
203          .       3052............
             .          .
             .          .
208          .          .-------)    3054
206          .       3053
             .          V
             .          V
211          .       3131
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214          .          .       1340
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229          .          .          .-------)    1342
227          .          .       1341
             .          .          V
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232          .          .       3125 ***
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248          .          .          .          .(-------    3047
246          .          .          .       3047
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249          .          .       3126............
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             .          .          V
252          .          .       3130 ***
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258          .          .          .       3160
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266          .          .          .          .-------)    3162
264          .          .          .       3161
             .          .          .          V
             .          .          .          V
269          .          .          .       3132
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272          .       3133........................
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277          .          .-------)    3091
275          .       3134
             .          V
             .          V
280          .       3136
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283          .          .       3135
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289          .       3137............
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294          .          .-------)    3139
292          .       3138
             .          V
             .          V
297          .       3171
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302          .          .          .(-------    3162
300          .          .       3162
             .          .          V
             .          .          V
303          .          .       3170 ***
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309          .       3172............
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314          .          .-------)    3174
312          .       3173
             .          V
             .          V
317          .       3211
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322          .          .          .(-------    1342
320          .          .       1342
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323                     .       3190 ***
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329             .          .          .        1360
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341             .          .       3191............
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344             .          .       3200 ***
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360             .          .          .-------)    3202
358             .          .       3201
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                .          .          V
363             .          .       3210 ***
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369             .       3212............
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374             .          .-------)    3214
372             .       3213
                .          V
                .          V
377             .       3241
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382             .          .          .(-------    3202
380             .          .       3202
                .          .          V
                .          .          V
383             .          .       3240 ***
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389             .       3242............
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394             .          .-------)    3244
392             .       3243
                .          V
                .          V
397             .       3301
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400             .          .       1380
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412             .          .       1390 ***
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420             .          .          .-------)    1392
418             .          .       1391
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423             .          .       3280 ***
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439             .          .          .-------)    3282
437             .          .       3281
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442             .          .       3290 ***
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448             .          .       3300 ***
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558             .          .       3450 ***
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564             .       3452............
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569             .          .-------)    3454
567             .       3453
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572             .       3491
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575             .          .       1430
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587             .          .          .       1440
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593             .          .       1441............
                .          .          V
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596             .          .       1450 ***
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602             .          .       3470 ***
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616             .          .       3480 ***
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622             .          .       3490 ***
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628             .       3492............
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633             .          .-------)    3494
631             .       3493
                .          V
                .          V
636             .       3521
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639             .          .       1470
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651             .          .       1475 ***
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                .          .          V
657             .          .       1480 ***
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665             .          .          .-------)    1482
663             .          .       1481
                .          .          V
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668             .          .       3510 ***
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682             .          .       3520 ***
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688             .       3522............
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694          .          .-------)    3524
692          .       3523
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699          .          .          .(-------    3262
697          .          .       3262
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             .          .          V
700          .          .       3270 ***
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708          .          .          .          .(-------    3004
706          .          .          .       3004
             .          .          .          V
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709          .          .          .       3010 ***
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717          .          .          .          .          .(-------    3024
715          .          .          .          .       3024
             .          .          .          .          V
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718          .          .          .          .       3030 ***
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724          .          .          .       3031............
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727          .          .          .       3040 ***
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735          .          .          .          .          .(-------    3054
733          .          .          .          .       3054
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736          .          .          .          .       3060 ***
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742          .          .          .       3061............
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745          .          .          .       3071
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748          .          .          .          .       3070
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754          .          .          .          .          .       3080
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762          .          .          .          .          .          .          .(-------    3091
760          .          .          .          .          .          .       3091
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763          .          .          .          .          .          .       3090 ***
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769          .          .          .       3072.................................
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772          .          .          .       3100 ***
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778          .          .          .          .       3120
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784                 3121............
                      V
                      V
787                 3151
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792                   .          .(-------    3139
790                   .       3139
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793                   .       3140 ***
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                      .          V
799                   .       3150 ***
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805                 3152............
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810                   .          .(-------    3174
808                   .       3174
                      .          V
                      .          V
811                   .       3180 ***
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819                   .          .          .(-------    3214
817                   .          .       3214
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820                   .          .       3220 ***
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826                   .       3221............
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829                   .       3230 ***
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837                   .          .          .(-------    3244
835                   .          .       3244
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838                   .          .       3250 ***
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844                   .          .       3231
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847                   .       3232............
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852                   .          .          .(-------    3304
850                   .          .       3304
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853                   .          .       3310 ***
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859                   .          .          .       3320
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867                   .          .          .          .          .(-------    3344
865                   .          .          .          .       3344
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868                                                            3350 ***
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874                                                                  .        3360
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880                                                            3361............
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                                                                  V
883                                                            3370 ***
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889                                          3371......................
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                                                V
892                                          3380 ***
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900                                                     .(-------    3404
898                                                  3404
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901                                                  3410 ***
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907                                                  3411
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912                                                                .(-------    3454
910                                                            3454
                                                                  V
                                                                  V
913                                                            3460 ***
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921                                                                          .(-------    3494
919                                                                       3494
                                                                             V
                                                                             V
922                                                                       3500 ***
*** HEC1 ERROR 5 *** TOO MANY HYDROGRAPHS. COMBINE MORE OFTEN.
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931                                                                          .(-------    3524
928                                                                       3524
                                                                             V
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932                                                                       3502
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935                                     3501.........................................
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938                                          3530
                                                V
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944                                          3550 ***
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950                                                  3540
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957                                          3551............
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 960                                                  3561
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 963                                                    .        3560
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 969                                                    .  3562............
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 972                                                    .        3570
                                                        .          V
                                                        .          V
 978                                                    .        3580 ***
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 984                                                    .          .        3590
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 990                                                    .        3591............
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 993                                                    .          .        3600
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 999                                                    .          .          .        3610
*** HEC1 ERROR 5 *** TOO MANY HYDROGRAPHS. COMBINE MORE OFTEN.
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1005                                                    .          .          .        3620
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1011                                                    .          .          .        3630 ***
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1017                                                    .          .          .        3640 ***
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1023                                                    .          .          .        3650 ***
*** HEC1 ERROR 5 *** TOO MANY HYDROGRAPHS. COMBINE MORE OFTEN.
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1029                                                    .          .          .        3655
*** HEC1 ERROR 5 *** TOO MANY HYDROGRAPHS. COMBINE MORE OFTEN.
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1037                                                    .          .          .          .(-------    1482
1035                                                    .          .          .        1482
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1038                                                    .          .          .        3660 ***
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1044                                                    .          .          .        3670 ***
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1050                                                    .          .          .        3680 ***
                                                        .          .          .          V
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1056                                                    .          .          .        3690 ***
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

4 ERRORS IN STREAM SYSTEM

****

FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985

U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616

****

GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
CITY OF PHOENIX AREAS C & D, EXISTING CONDITIONS
MODEL CCF2.24I -- SUB-BASIN SERIES 1210 TO 1360 & 3000 TO 3270
PROPOSED CHANNEL ALONG EAST SIDE OF CAVE CREEK ROAD
100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)

```
8 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

 IT         HYDROGRAPH TIME DATA
                  NMIN          5  MINUTES IN COMPUTATION INTERVAL
                 IDATE     9JAN89  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        289  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE    10JAN89  ENDING DATE
                NDTIME       0000  ENDING TIME

            COMPUTATION INTERVAL     .08 HOURS
                 TOTAL TIME BASE   24.00 HOURS

     ENGLISH UNITS
```

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	1260	943.	6.08	115.	35.	35.	.49		
HYDROGRAPH AT	1270	2331.	6.08	289.	88.	88.	1.13		
HYDROGRAPH AT	1280	839.	6.08	103.	31.	31.	.41		

ROUTED TO	1271	814.	6.17	103.	31.	31.	.41
2 COMBINED AT	1272	3086.	6.08	392.	119.	119.	1.54
ROUTED TO	1291	2831.	6.17	392.	119.	119.	1.54
HYDROGRAPH AT	1290	1175.	6.08	119.	35.	35.	.43
2 COMBINED AT	1292	3970.	6.08	510.	154.	154.	1.97
HYDROGRAPH AT	1300	4297.	6.17	570.	172.	172.	2.23
DIVERSION TO	1304	1504.	6.17	200.	60.	60.	2.23
HYDROGRAPH AT	1303	2793.	6.17	371.	112.	112.	2.23
ROUTED TO	1311	2742.	6.17	374.	113.	113.	2.23
HYDROGRAPH AT	1310	1202.	6.08	117.	35.	35.	.48
2 COMBINED AT	1312	3681.	6.17	489.	148.	148.	2.71
DIVERSION TO	1314	1840.	6.17	245.	74.	74.	2.71
HYDROGRAPH AT	1313	1840.	6.17	245.	74.	74.	2.71
HYDROGRAPH AT	1320	2041.	6.17	283.	86.	86.	2.90
HYDROGRAPH AT	3260	94.	6.08	10.	3.	3.	.05
DIVERSION TO	3262	14.	6.08	2.	1.	1.	.05
HYDROGRAPH AT	3261	80.	6.08	8.	2.	2.	.05
ROUTED TO	3001	73.	6.17	8.	2.	2.	.05
HYDROGRAPH AT	1210	1519.	6.17	240.	74.	74.	1.07
HYDROGRAPH AT	1220	2488.	6.25	380.	118.	118.	1.75
HYDROGRAPH AT	1230	2984.	6.33	509.	159.	159.	2.36
HYDROGRAPH AT	1240	3142.	6.33	608.	190.	190.	2.83
DIVERSION TO	1244	2985.	6.33	578.	180.	180.	2.83
HYDROGRAPH AT	1243	157.	6.33	30.	9.	9.	2.83
HYDROGRAPH AT	1304	1504.	6.17	200.	60.	60.	.00
2 COMBINED AT	1331	1609.	6.17	230.	70.	70.	2.83
HYDROGRAPH AT	3000	1973.	6.17	289.	88.	88.	3.13
2 COMBINED AT	3002	2046.	6.17	297.	91.	91.	3.19
DIVERSION TO	3004	58.	6.17	18.	7.	7.	3.19
HYDROGRAPH AT	3003	1988.	6.17	279.	84.	84.	3.19
ROUTED TO	3021	1842.	6.25	279.	84.	84.	3.19
HYDROGRAPH AT	3020	433.	6.17	57.	18.	18.	.31
2 COMBINED AT	3022	2261.	6.17	336.	101.	101.	3.50

DIVERSION TO	3024	63.	6.17	19.	7.	7.	3.50
HYDROGRAPH AT	3023	2199.	6.17	317.	94.	94.	3.50
ROUTED TO	3051	2132.	6.25	317.	94.	94.	3.50
HYDROGRAPH AT	1244	2985.	6.33	578.	180.	180.	.00
HYDROGRAPH AT	3045	3012.	6.42	615.	192.	192.	.23
DIVERSION TO	3047	903.	6.42	184.	58.	58.	.23
HYDROGRAPH AT	3046	2108.	6.42	430.	134.	134.	.23
HYDROGRAPH AT	3050	2191.	6.58	486.	153.	153.	.56
2 COMBINED AT	3052	3674.	6.42	803.	247.	247.	4.06
DIVERSION TO	3054	93.	6.42	31.	14.	14.	4.06
HYDROGRAPH AT	3053	3581.	6.42	772.	233.	233.	4.06
ROUTED TO	3131	3542.	6.42	772.	233.	233.	4.06
HYDROGRAPH AT	1340	2174.	6.25	358.	110.	110.	1.55
DIVERSION TO	1342	1087.	6.25	179.	55.	55.	1.55
HYDROGRAPH AT	1341	1087.	6.25	179.	55.	55.	1.55
HYDROGRAPH AT	3125	1360.	6.33	260.	81.	81.	2.01
HYDROGRAPH AT	3047	903.	6.42	184.	58.	58.	.00
2 COMBINED AT	3126	2176.	6.33	444.	139.	139.	2.01
HYDROGRAPH AT	3130	2236.	6.50	479.	150.	150.	2.21
HYDROGRAPH AT	3160	532.	6.17	72.	23.	23.	.40
DIVERSION TO	3162	239.	6.17	33.	10.	10.	.40
HYDROGRAPH AT	3161	293.	6.17	40.	12.	12.	.40
ROUTED TO	3132	282.	6.33	42.	13.	13.	.40
3 COMBINED AT	3133	5968.	6.50	1293.	396.	396.	6.68
DIVERSION TO	3091	142.	6.50	42.	18.	18.	6.68
HYDROGRAPH AT	3134	5826.	6.50	1251.	377.	377.	6.68
ROUTED TO	3136	5819.	6.50	1251.	377.	377.	6.68
HYDROGRAPH AT	3135	66.	6.08	7.	2.	2.	.04
2 COMBINED AT	3137	5835.	6.50	1257.	379.	379.	6.72
DIVERSION TO	3139	139.	6.50	41.	18.	18.	6.72
HYDROGRAPH AT	3138	5696.	6.50	1216.	361.	361.	6.72
ROUTED TO	3171	5678.	6.50	1217.	362.	362.	6.72
HYDROGRAPH AT	3162	239.	6.17	33.	10.	10.	.00

HYDROGRAPH AT	3170	679.	6.08	98.	31.	31.	.39
2 COMBINED AT	3172	5980.	6.50	1313.	392.	392.	7.11
DIVERSION TO	3174	142.	6.50	42.	18.	18.	7.11
HYDROGRAPH AT	3173	5838.	6.50	1271.	374.	374.	7.11
ROUTED TO	3211	5796.	6.50	1276.	375.	375.	7.11
HYDROGRAPH AT	1342	1087.	6.25	179.	55.	55.	.00
HYDROGRAPH AT	3190	1376.	6.25	252.	79.	79.	.47
HYDROGRAPH AT	1360	1406.	6.08	157.	48.	48.	.66
2 COMBINED AT	3191	2309.	6.17	408.	127.	127.	1.12
HYDROGRAPH AT	3200	2714.	6.25	494.	155.	155.	1.76
DIVERSION TO	3202	814.	6.25	148.	47.	47.	1.76
HYDROGRAPH AT	3201	1900.	6.25	346.	109.	109.	1.76
HYDROGRAPH AT	3210	1867.	6.33	358.	113.	113.	1.85
2 COMBINED AT	3212	7377.	6.50	1635.	488.	488.	8.96
DIVERSION TO	3214	172.	6.50	49.	20.	20.	8.96
HYDROGRAPH AT	3213	7204.	6.50	1585.	468.	468.	8.96
ROUTED TO	3241	7204.	6.50	1586.	468.	468.	8.96
HYDROGRAPH AT	3202	814.	6.25	148.	47.	47.	.00
HYDROGRAPH AT	3240	800.	6.42	159.	50.	50.	.06
2 COMBINED AT	3242	7964.	6.42	1745.	518.	518.	9.02
DIVERSION TO	3244	185.	6.42	52.	21.	21.	9.02
HYDROGRAPH AT	3243	7779.	6.42	1693.	497.	497.	9.02
ROUTED TO	3301	7754.	6.50	1692.	497.	497.	9.02
HYDROGRAPH AT	1380	1418.	6.17	213.	66.	66.	.93
HYDROGRAPH AT	1390	2820.	6.25	547.	170.	170.	2.39
DIVERSION TO	1392	1410.	6.25	274.	85.	85.	2.39
HYDROGRAPH AT	1391	1410.	6.25	274.	85.	85.	2.39
HYDROGRAPH AT	3280	1649.	6.42	363.	114.	114.	2.91
DIVERSION TO	3282	1073.	6.42	248.	78.	78.	2.91
HYDROGRAPH AT	3281	576.	6.42	115.	36.	36.	2.91
HYDROGRAPH AT	3290	811.	6.58	221.	70.	70.	3.63
HYDROGRAPH AT	3300	865.	6.58	246.	78.	78.	3.80
2 COMBINED AT	3302	8601.	6.50	1938.	575.	575.	12.82

DIVERSION TO	3304	199.	6.50	56.	22.	22.	12.82
HYDROGRAPH AT	3303	8403.	6.50	1882.	553.	553.	12.82
ROUTED TO	3341	8360.	6.50	1890.	555.	555.	12.82
HYDROGRAPH AT	3282	1073.	6.42	248.	78.	78.	.00
HYDROGRAPH AT	3330	1230.	6.50	317.	101.	101.	.54
HYDROGRAPH AT	3340	1413.	6.58	391.	126.	126.	1.10
2 COMBINED AT	3342	9730.	6.50	2278.	681.	681.	13.92
DIVERSION TO	3344	223.	6.50	63.	25.	25.	13.92
HYDROGRAPH AT	3343	9507.	6.50	2215.	656.	656.	13.92
ROUTED TO	3401	9473.	6.58	2215.	656.	656.	13.92
HYDROGRAPH AT	3390	380.	6.25	84.	27.	27.	.56
HYDROGRAPH AT	3400	655.	6.33	157.	51.	51.	1.07
2 COMBINED AT	3402	10019.	6.58	2369.	707.	707.	14.99
DIVERSION TO	3404	229.	6.58	65.	25.	25.	14.99
HYDROGRAPH AT	3403	9790.	6.58	2304.	681.	681.	14.99
ROUTED TO	3451	9790.	6.58	2304.	681.	681.	14.99
HYDROGRAPH AT	1392	1410.	6.25	274.	85.	85.	.00
HYDROGRAPH AT	1410	1448.	6.42	311.	97.	97.	.16
HYDROGRAPH AT	3420	1457.	6.67	386.	123.	123.	.71
HYDROGRAPH AT	3430	308.	6.25	59.	19.	19.	.39
2 COMBINED AT	3431	1649.	6.58	445.	141.	141.	1.09
HYDROGRAPH AT	3440	1820.	6.67	521.	167.	167.	1.66
HYDROGRAPH AT	3450	1818.	6.75	537.	173.	173.	1.79
2 COMBINED AT	3452	11390.	6.58	2839.	854.	854.	16.79
DIVERSION TO	3454	258.	6.58	75.	29.	29.	16.79
HYDROGRAPH AT	3453	11131.	6.58	2764.	825.	825.	16.79
ROUTED TO	3491	11106.	6.67	2772.	827.	827.	16.79
HYDROGRAPH AT	1430	1455.	6.17	310.	97.	97.	1.43
HYDROGRAPH AT	1440	2162.	6.17	407.	127.	127.	1.89
2 COMBINED AT	1441	3618.	6.17	718.	224.	224.	3.32
HYDROGRAPH AT	1450	3614.	6.42	858.	271.	271.	4.09
HYDROGRAPH AT	3470	3052.	6.83	946.	306.	306.	4.89
HYDROGRAPH AT	3480	3083.	6.92	970.	316.	316.	5.15

HYDROGRAPH AT	3490	2824.	7.25	1041.	347.	347.	5.87
2 COMBINED AT	3492	12000.	6.75	3811.	1174.	1174.	22.66
DIVERSION TO	3494	271.	6.75	96.	36.	36.	22.66
HYDROGRAPH AT	3493	11729.	6.75	3715.	1138.	1138.	22.66
ROUTED TO	3521	11726.	6.75	3715.	1138.	1138.	22.66
HYDROGRAPH AT	1470	458.	6.17	73.	22.	22.	.30
HYDROGRAPH AT	1475	2931.	6.17	491.	151.	151.	1.99
HYDROGRAPH AT	1480	4124.	6.25	735.	226.	226.	2.99
DIVERSION TO	1482	2062.	6.25	367.	113.	113.	2.99
HYDROGRAPH AT	1481	2062.	6.25	367.	113.	113.	2.99
HYDROGRAPH AT	3510	1495.	6.83	554.	178.	178.	4.39
HYDROGRAPH AT	3520	1417.	7.42	680.	227.	227.	5.50
2 COMBINED AT	3522	12712.	6.75	4390.	1364.	1364.	28.16
DIVERSION TO	3524	12712.	.08	4390.	1364.	1364.	28.16
HYDROGRAPH AT	3523	0.	.08	0.	0.	0.	28.16
HYDROGRAPH AT	3262	14.	6.08	2.	1.	1.	.00
HYDROGRAPH AT	3270	443.	6.17	64.	20.	20.	.37
HYDROGRAPH AT	3004	58.	6.17	18.	7.	7.	.00
HYDROGRAPH AT	3010	168.	6.25	42.	15.	15.	.15
HYDROGRAPH AT	3024	63.	6.17	19.	7.	7.	.00
HYDROGRAPH AT	3030	406.	6.08	64.	21.	21.	.22
2 COMBINED AT	3031	557.	6.17	106.	36.	36.	.37
HYDROGRAPH AT	3040	633.	6.25	127.	43.	43.	.49
HYDROGRAPH AT	3054	93.	6.42	31.	14.	14.	.00
HYDROGRAPH AT	3060	380.	6.25	89.	33.	33.	.38
2 COMBINED AT	3061	1013.	6.25	217.	76.	76.	.87
ROUTED TO	3071	1000.	6.33	217.	76.	76.	.87
HYDROGRAPH AT	3070	249.	6.25	44.	14.	14.	.23
HYDROGRAPH AT	3080	456.	6.33	98.	31.	31.	.52
HYDROGRAPH AT	3091	142.	6.50	42.	18.	18.	.00
HYDROGRAPH AT	3090	447.	6.25	110.	40.	40.	.44
4 COMBINED AT	3072	2104.	6.25	468.	161.	161.	2.07
HYDROGRAPH AT	3100	2187.	6.42	534.	184.	184.	2.51

HYDROGRAPH AT	3120	736.	6.17	132.	41.	41.	.63
2 COMBINED AT	3121	2743.	6.42	664.	224.	224.	3.14
ROUTED TO	3151	2605.	6.58	653.	221.	221.	3.14
HYDROGRAPH AT	3139	139.	6.50	41.	18.	18.	.00
HYDROGRAPH AT	3140	368.	6.33	107.	39.	39.	.43
HYDROGRAPH AT	3150	674.	6.42	211.	73.	73.	.98
2 COMBINED AT	3152	3250.	6.58	859.	294.	294.	4.11
HYDROGRAPH AT	3174	142.	6.50	42.	18.	18.	.00
HYDROGRAPH AT	3180	346.	6.33	111.	40.	40.	.40
HYDROGRAPH AT	3214	172.	6.50	49.	20.	20.	.00
HYDROGRAPH AT	3220	500.	6.25	134.	48.	48.	.63
2 COMBINED AT	3221	838.	6.25	245.	88.	88.	1.03
HYDROGRAPH AT	3230	934.	6.58	300.	107.	107.	1.41
HYDROGRAPH AT	3244	185.	6.42	52.	21.	21.	.00
HYDROGRAPH AT	3250	276.	6.67	98.	37.	37.	.37
ROUTED TO	3231	263.	6.92	96.	36.	36.	.37
2 COMBINED AT	3232	1127.	6.67	394.	143.	143.	1.78
HYDROGRAPH AT	3304	199.	6.50	56.	22.	22.	.00
HYDROGRAPH AT	3310	329.	6.75	125.	46.	46.	.55
HYDROGRAPH AT	3320	325.	6.33	68.	22.	22.	.50
HYDROGRAPH AT	3344	223.	6.50	63.	25.	25.	.00
HYDROGRAPH AT	3350	284.	6.58	89.	33.	33.	.20
HYDROGRAPH AT	3360	121.	6.17	18.	6.	6.	.13
2 COMBINED AT	3361	376.	6.17	107.	39.	39.	.34
HYDROGRAPH AT	3370	538.	6.25	152.	54.	54.	.68
3 COMBINED AT	3371	1104.	6.33	344.	122.	122.	1.73
HYDROGRAPH AT	3380	1258.	6.33	384.	135.	135.	2.03
HYDROGRAPH AT	3404	229.	6.58	65.	25.	25.	.00
HYDROGRAPH AT	3410	406.	6.58	143.	51.	51.	.59
ROUTED TO	3411	406.	6.67	143.	51.	51.	.59
HYDROGRAPH AT	3454	258.	6.58	75.	29.	29.	.00
HYDROGRAPH AT	3460	313.	6.83	112.	41.	41.	.29
HYDROGRAPH AT	3494	271.	6.75	96.	36.	36.	.00

HYDROGRAPH AT	3500	309.	7.00	131.	48.	48.	.27
HYDROGRAPH AT	3524	12712.	6.75	4390.	1364.	1364.	.00
ROUTED TO	3502	12678.	6.83	4390.	1362.	1362.	.00
5 COMBINED AT	3501	14733.	6.83	5151.	1637.	1637.	3.19
HYDROGRAPH AT	3530	313.	6.17	46.	15.	15.	.31
HYDROGRAPH AT	3550	402.	6.33	76.	25.	25.	.52
HYDROGRAPH AT	3540	551.	6.25	104.	32.	32.	.49
2 COMBINED AT	3551	915.	6.33	180.	57.	57.	1.02
ROUTED TO	3561	913.	6.33	180.	57.	57.	1.02
HYDROGRAPH AT	3560	99.	6.08	11.	3.	3.	.05
2 COMBINED AT	3562	954.	6.33	191.	60.	60.	1.06
HYDROGRAPH AT	3570	241.	6.17	29.	9.	9.	.21
HYDROGRAPH AT	3580	513.	6.42	131.	43.	43.	.95
HYDROGRAPH AT	3590	180.	6.25	31.	10.	10.	.15
2 COMBINED AT	3591	669.	6.33	162.	52.	52.	1.10
HYDROGRAPH AT	3600	224.	6.17	27.	9.	9.	.20
HYDROGRAPH AT	3610	249.	6.33	57.	19.	19.	.42
HYDROGRAPH AT	3620	394.	6.58	111.	35.	35.	.69
HYDROGRAPH AT	3630	603.	6.58	226.	73.	73.	1.52
HYDROGRAPH AT	3640	1059.	6.58	440.	145.	145.	3.15
HYDROGRAPH AT	3650	1175.	6.92	580.	196.	196.	4.32
HYDROGRAPH AT	3655	136.	6.08	15.	5.	5.	.11
HYDROGRAPH AT	1482	2062.	6.25	367.	113.	113.	.00
HYDROGRAPH AT	3660	1361.	6.83	465.	149.	149.	.76
HYDROGRAPH AT	3670	1428.	7.17	653.	213.	213.	2.19
HYDROGRAPH AT	3680	1710.	6.58	953.	316.	316.	4.44
HYDROGRAPH AT	3690	2006.	6.67	1127.	379.	379.	5.92

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

*** O U T P U T D A T A ***
REVISED JUNE 1988 TO UPDATE COMPUTATION OF SHORT-DURATION VALUES

PRECIPITATION FREQUENCY VALUES FOR North Scottsdale, Arizona
PRIMARY ZONE NUMBER= 7

HEC-1

INPUT/OUTPUT FILES: 3PD2.24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

INTERCEPTOR CHANNELS ALONG THE NORTH SIDE OF LONE MOUNTAIN ROAD,

DIXILETA ROAD, AND DYNAMITE ROAD. ALL CHANNELS TERMINATE

AT CAVE CREEK ROAD.

NO LOW-FLOW DIVERTS ARE INCLUDED

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,  EXISTING CONDITIONS
  3           ID        MODEL 3PD2.24I  --  SUB-BASIN SERIES 1210 TO 1360 & 3000 TO 3270
  4           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  5           ID        INTERCEPTOR CHANNELS ALONG LONE MOUNTAIN ROAD, DIXILETA ROAD, AND
  6           ID        DYNAMITE ROAD -- TEST MODEL
  7           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
  8           ID        EXISTING LAND-USE DENSITIES FROM AERIAL PHOTOGRAPHS
  9           IT       5 25FEB89       0     289
 10           IO       5       0
 11           IN      30 25FEB89       0

 12           KK    1380     SUB
 13           KM        RUNOFF FROM SUB 1380
 14           BA   .9305
 15           PB    4.71
 16           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 17           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 18           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 19           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 20           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 21           LS              82    1.26
 22           UK     240   .0555     .20     100
 23           RK   18000   .0311    .045            TRAP      20       3

 24           KK    1390     SUB
 25           KM        RUNOFF FROM SUB 1390 AND ROUTE SUB 1380
 26           BA  1.4599
 27           LS              82    1.19
 28           UK     300   .0333     .20     100
 29           RK   17800   .0191    .045            TRAP      25       3     YES

 30           KK    1392     DIV
 31           KM       DIVERT FLOW FROM SUB 1390 TO SUB 3280
 32           DT    1391
 33           DI       0    8000
 34           DQ       0    4000

 35           KK    1410     SUB
 36           KM        RUNOFF FROM SUB 1410 AND ROUTE DIV 1392
 37           BA   .1643
 38           LS              82       0
 39           UK     200   .0250     .15     100
 40           RK    5400   .0185    .045            TRAP      30       3     YES

 41           KK   3390A     SUB
 42           KM        RUNOFF FROM SUB 3390A & ROUTE SUB 1410
 43           BA   .0890
 44           PB    4.22
 45           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 46           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 47           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 48           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 49           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 50           LS              75    4.96
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  51          UK     224   .0212     .15     100
  52          RK    3400   .0205    .030            TRAP     100       1     YES

  53          KK  3330A1      CP
  54          KM        ROUTE SUB 3390A TO CP 3330A1
  55          RK    5380   .0175    .030            TRAP     100       1

  56          KK    1391     RET
  57          KM        RETEIEVE DIVERTED FLOW FROM OUTLET OF SUB 1390
  58          DR    1391

  59          KK    3280     SUB
  60          KM        RUNOFF FROM SUB 3280 & ROUTE RET 1391
  61          BA   .5215
  62          LS              79    2.32
  63          UK     224   .0212     .15     100
  64          RK    7200   .0176    .045            TRAP      35       3     YES

  65          KK    3282     DIV
  66          KM        DIVERT FLOW TO SUB 3290A
  67          DT    3281
  68          DI       0    1000    5000
  69          DQ       0     300    2000

  70          KK   3330A     SUB
  71          KM        RUNOFF FROM SUB 3330A & ROUTE DIV 3282
  72          BA   .2210
  73          LS              73    3.64
  74          UK     224   .0212     .15     100
  75          RK    6000   .0181    .045            TRAP      25       3     YES

  76          KK  3330A2      CP
  77          KM        COMBINE CP 3330A1 & SUB 3330A
  78          HC       2

  79          KK  3290A1      CP
  80          KM        ROUTE CP 3330A2 TO CP 3290A1
  81          RK    3950   .0175    .030            TRAP     100       1

  82          KK    3281     RET
  83          KM        RETRIEVE DIVERTED FLOW FROM OUTLET OF SUB 3280
  84          DR    3281

  85          KK   3290A     SUB
  86          KM        RUNOFF FROM SUB 3290A & ROUTE RET 3281
  87          BA   .3300
  88          LS              75    4.52
  89          UK     224   .0212     .15     100
  90          RK    9800   .0177    .045            TRAP      25       3     YES
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LINE          IO.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  91          KK  3290A2      CP
  92          KM        COMBINE CP 3290A1 & SUB 3290A
  93          HC       2

  94          KK  3200A1      CP
  95          KM        ROUTE CP 3290A2 TO CP 3200A1
  96          RK    4150   .0175    .030            TRAP     100       1

  97          KK    1340     SUB
  98          KM        RUNOFF FROM SUB 1340
  99          BA  1.5539
 100          PB    4.71
 101          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 102          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 103          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 104          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 105          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 106          LS              83    1.11
 107          UK     300   .0333     .20     100
 108          RK    3300   .0228    .045    .062    TRAP      10       3
 109          RK   15600   .0199    .045            TRAP      35       3

 110          KK    1342     DIV
 111          KM        DIVERT FLOW FROM SUB 1340 TO SUB 3125
 112          DT    1341
 113          DI       0    4000
 114          DQ       0    2000

 115          KK    3190     SUB
 116          KM        RUNOFF FROM SUB 3190 & ROUTE DIV 1342
 117          BA   .4656
 118          PB    4.22
 119          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 120          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 121          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 122          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 123          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 124          LS              77    2.32
 125          UK     224   .0212     .15     100
 126          RK    8300   .0195    .045            TRAP      30       3     YES

 127          KK    1360     SUB
 128          KM        RUNOFF FROM SUB 1360
 129          BA   .6557
 130          PB    4.71
 131          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 132          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 133          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 134          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 135          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 136          LS              83    1.21
 137          UK     250   .0200     .15     100
 138          RK    9400   .0245    .045            TRAP      20       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 139          KK    3191      CP
 140          KM        COMBINE SUB 1360 & SUB 3190
 141          HC       2

 142          KK   3200A     SUB
 143          KM        RUNOFF FROM SUB 3200A & ROUTE CP 3191
 144          KM        NEW RAINFALL VALUES ARE USED TO TRANSITION MODEL INTO CITY OF PHOENIX
 145          KM        AREAS C & D
 146          BA   .6198
 147          PB    4.22
 148          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 149          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 150          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 151          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 152          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 153          LS              74    2.54
 154          UK     224   .0212     .15     100
 155          RK   11600   .0182    .045            TRAP      30       3     YES

 156          KK  3200A2      CP
 157          KM        COMBINE CP 3200A1 & SUB 3200A
 158          KM        THIS IS THE WEST END OF THE LONE MOUNTAIN ROAD CHANNEL
 159          KM        AT CAVE CREEK ROAD
 160          HC       2

 161          KK    1470     SUB
 162          KM        RUNOFF FROM SUB 1470
 163          BA   .2977
 164          PB    4.71
 165          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 166          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 167          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 168          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 169          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 170          LS              84       0
 171          UK     200   .0500     .20     100
 172          RK   15000   .0293    .045            TRAP      20       3

 173          KK    1475     SUB
 174          KM        RUNOFF FROM SUB 1475 AND ROUTE SUB 1470
 175          BA  1.6895
 176          LS              84       0
 177          UK     285   .0419     .20     100
 178          RK   17600   .0188    .045            TRAP      25       3     YES

 179          KK    1480     SUB
 180          KM        RUNOFF FROM SUB 1480 AND ROUTE SUB 1475
 181          BA  1.0015
 182          LS              83    1.07
 183          UK     300   .0167     .20     100
 184          RK    7500   .0213    .045            TRAP      25       3     YES
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LINE          IO.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 185          KK    1481     DIV
 186          KM        DIVERT FLOW FROM SUB 1480 TO SUB 3660
 187          DT    1482
 188          DI       0    8000
 189          DQ       0    4000

 190          KK   3510A     SUB
 191          KM        RUNOFF FROM SUB 3510A & ROUTE DIV 1481
 192          KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 193          KM        PHOENIX AREAS C & D
 194          BA   .7002
 195          PB    4.22
 196          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 197          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 198          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 199          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 200          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 201          LS              75    3.86
 202          UK     224   .0212     .15     100
 203          RK   12840   .0188    .045            TRAP      30      30     YES

 204          KK  3470A1      CP
 205          KM        ROUTE SUB 3510A TO CP 3470A1
 206          RK    3350   .0186    .030            TRAP     100       1

 207          KK    1430     SUB
 208          KM        RUNOFF FROM SUB 1430
 209          BA  1.4319
 210          PB    4.71
 211          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 212          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 213          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 214          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 215          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 216          LS              81    1.19
 217          UK     240   .0555     .20     100
 218          RK   25800   .0271    .045            TRAP      30       3

 219          KK    1440     SUB
 220          KM        RUNOFF FROM SUB 1440
 221          BA  1.8882
 222          LS              81       0
 223          UK     240   .0555     .20     100
 224          RK   24800   .0258    .045            TRAP      30       3

 225          KK    1441      CP
 226          KM        COMBINE SUB 1430 AND SUB 1440
 227          HC       2
```

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

 228          KK    1450     SUB
 229          KM        RUNOFF FROM SUB 1450 AND ROUTE CP 1441
 230          BA   .7662
 231          LS              79    1.04
 232          UK     200   .0200     .20     100
 233          RK   18200   .0189    .045           TRAP      30       3     YES

 234          KK   3470A     SUB
 235          KM        RUNOFF FROM SUB 3470A & ROUTE SUB 1450
 236          KM        USE NEW RAINFALL VALUES TO REFLECT MODEL TRANSITION INTO CITY OF
 237          KM        PHOENIX AREAS C & D
 238          BA   .3408
 239          PB    4.22
 240          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 241          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 242          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 243          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 244          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 245          LS              74    4.30
 246          UK     224   .0212     .15     100
 247          RK   10600   .0191    .045           TRAP      30      20     YES

 248          KK  3470A2      CP
 249          KM        COMBINE CP 3470A1 & SUB 3470A
 250          HC       2

 251          KK  3420A1      CP
 252          KM        ROUTE CP 3470A2 TO CP 3420A1
 253          RK    1860   .0161    .030           TRAP     100       1

 254          KK   3420A     SUB
 255          KM        RUNOFF FROM SUB 3420A
 256          BA   .4039
 257          LS              76    4.08
 258          UK     224   .0212     .15     100
 259          RK   12600   .0192    .045           TRAP      30       3

 260          KK  3420A2      CP
 261          KM        COMBINE CP 3420A1 & SUB 3420A
 262          HC       2

 263          KK  3430A1      CP
 264          KM        ROUTE CP 3420A2 TO CP 3430A1
 265          RK    1700   .0161    .030           TRAP     100       1

 266          KK   3430A     SUB
 267          KM        RUNOFF FROM SUB 3430A
 268          BA   .3551
 269          LS              75    5.62
 270          UK     224   .0212     .15     100
 271          RK   11200   .0189    .045           TRAP      15       3
```

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

 272          KK  3430A2      CP
 273          KM        COMBINE CP 3430A1 & SUB 3430A
 274          HC       2

 275          KK  3400A1      CP
 276          KM        ROUTE CP 3430A2 TO CP 3400A1
 277          RK    2550   .0161    .030            TRAP     100       1

 278          KK   3390B     SUB
 279          KM        RUNOFF FROM SUB 3390B
 280          BA   .4871
 281          LS              75    4.96
 282          UK     224   .0212     .15     100
 283          RK   15100   .0189    .045            TRAP      15       3

 284          KK   3400A     SUB
 285          KM        RUNOFF FROM SUB 3400A & ROUTE SUB 3390B
 286          BA   .0682
 287          LS              74    3.42
 288          UK     224   .0212     .15     100
 289          RK    2600   .0168    .045            TRAP      20       3     YES

 290          KK  3400A2      CP
 291          KM        COMBINE CP 3400A1 & SUB 3400A
 292          HC       2

 293          KK  3340A1      CP
 294          KM        ROUTE CP 3400A2 TO CP 3340A1
 295          RK    4000   .0161    .030            TRAP     100       1

 296          KK   3330B     SUB
 297          KM        RUNOFF FROM SUB 3330B
 298          BA   .3178
 299          LS              73    3.64
 300          UK     224   .0212     .15     100
 301          RK    9200   .0181    .045            TRAP      25       3

 302          KK   3340A     SUB
 303          KM        RUNOFF FROM SUB 3340A & ROUTE SUB 3330B
 304          BA   .3974
 305          LS              74    1.44
 306          UK     224   .0212     .15     100
 307          RK    7000   .0178    .045            TRAP      25       3     YES

 308          KK  3340A2      CP
 309          KM        COMBINE CP 3340A1 & SUB 3340A
 310          KM        THIS IS THE WEST END OF THE DIXILETA ROAD CHANNEL AT CAVE CREEK ROAD
 311          HC       2
```

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

 312          KK   3510B     SUB
 313          KM        RUNOFF FROM SUB 3510B
 314          BA   .7045
 315          LS              75    3.86
 316          UK     224   .0212     .15     100
 317          RK   12000   .0188    .045           TRAP      30      10

 318          KK    3481      CP
 319          KM        ROUTE SUB 3510B TO CP 3481
 320          RK    4100   .0154    .030           TRAP      75       1

 321          KK   3470B     SUB
 322          KM        RUNOFF FROM SUB 3470B
 323          BA   .4677
 324          LS              74    4.30
 325          UK     224   .0212     .15     100
 326          RK    6200   .0191    .045           TRAP      30      10

 327          KK    3480     SUB
 328          KM        RUNOFF FROM SUB 3480 & ROUTE SUB 3470B
 329          BA   .2590
 330          LS              74    2.54
 331          UK     100   .0213     .10     100
 332          RK    6100   .0167    .045           TRAP      35      10     YES

 333          KK    3482      CP
 334          KM        COMBINE CP 3481 & SUB 3480
 335          HC       2

 336          KK  3440A1      CP
 337          KM        ROUTE CP 3482 TO CP 3440A1
 338          RK    1750   .0083    .030           TRAP      75       1

 339          KK   3420B     SUB
 340          KM        RUNOFF FROM SUB 3420B
 341          BA   .1184
 342          LS              76    4.08
 343          UK     224   .0212     .15     100
 344          RK    3300   .0192    .045           TRAP      30       3

 345          KK   3430B     SUB
 346          KM        RUNOFF FROM SUB 3430B
 347          BA   .0301
 348          LS              75    5.62
 349          UK     224   .0212     .15     100
 350          RK    1200   .0189    .045           TRAP      15       3

 351          KK    3431      CP
 352          KM        COMBINE SUB 3420B & SUB 3430B
 353          HC       2
```

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

 354          KK   3440A     SUB
 355          KM        RUNOFF FROM SUB 3440A & ROUTE CP 3431
 356          BA   .5352
 357          LS              74    3.86
 358          UK     224   .0212     .15     100
 359          RK    8260   .0167    .045           TRAP      25       3     YES

 360          KK  3440A2      CP
 361          KM        COMBINE CP 3440A1 & SUB 3440A
 362          HC       2

 363          KK  340081      CP
 364          KM        ROUTE CP 3440A2 TO CP 340081
 365          RK    1400   .0083    .030           TRAP      75       1

 366          KK   3400B     SUB
 367          KM        RUNOFF FROM SUB 3400B (USE NEW DIXILETA ALIGNMENT AS NW BOUNDARY)
 368          BA   .3824
 369          LS              74    3.42
 370          UK     224   .0212     .15     100
 371          RK    8400   .0168    .045           TRAP      20       3

 372          KK  340082      CP
 373          KM        COMBINE CP 340081 & SUB 3400B
 374          KM        THIS IS THE WEST END OF THE DYNAMITE ROAD CHANNEL AT CAVE CREEK ROAD
 375          HC       2
 376          ZZ
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                                   ****
                 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
       U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                   ****


                         GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                         CITY OF PHOENIX AREAS C & D,  EXISTING CONDITIONS
                         MODEL 3PD2.24I  --  SUB-BASIN SERIES 1210 TO 1360 & 3000 TO 3270
                         100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                         INTERCEPTOR CHANNELS ALONG LONE MOUNTAIN ROAD, DIXILETA ROAD, AND
                         DYNAMITE ROAD -- TEST MODEL
                         RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
                         EXISTING LAND-USE DENSITIES FROM AERIAL PHOTOGRAPHS

10 IO          OUTPUT CONTROL VARIABLES
                     IPRNT          5  PRINT CONTROL
                     IPLOT          0  PLOT CONTROL
                     QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT          HYDROGRAPH TIME DATA
                      NMIN          5  MINUTES IN COMPUTATION INTERVAL
                     IDATE     25FEB89  STARTING DATE
                     ITIME        0000  STARTING TIME
                        NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE     26FEB89  ENDING DATE
                    NDTIME        0000  ENDING TIME

               COMPUTATION INTERVAL     .08 HOURS
                    TOTAL TIME BASE   24.00 HOURS

       ENGLISH UNITS
```

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	1380	1418.	6.17	213.	66.	66.	.93		
HYDROGRAPH AT	1390	2820.	6.25	547.	170.	170.	2.39		
DIVERSION TO	1391	1410.	6.25	274.	85.	85.	2.39		
HYDROGRAPH AT	1392	1410.	6.25	274.	85.	85.	2.39		
HYDROGRAPH AT	1410	1448.	6.42	311.	97.	97.	2.55		
HYDROGRAPH AT	3390A	1443.	6.42	324.	101.	101.	2.64		
ROUTED TO	3330A1	1428.	6.50	320.	100.	100.	2.64		
HYDROGRAPH AT	1391	1410.	6.25	274.	85.	85.	.00		
HYDROGRAPH AT	3280	1649.	6.42	363.	114.	114.	.52		
DIVERSION TO	3281	576.	6.42	115.	36.	36.	.52		
HYDROGRAPH AT	3282	1073.	6.42	248.	78.	78.	.52		
HYDROGRAPH AT	3330A	1138.	6.33	281.	89.	89.	.74		
2 COMBINED AT	3330A2	2559.	6.50	601.	189.	189.	3.39		
ROUTED TO	3290A1	2554.	6.58	600.	189.	189.	3.39		
HYDROGRAPH AT	3281	576.	6.42	115.	36.	36.	.00		
HYDROGRAPH AT	3290A	676.	6.50	163.	52.	52.	.33		
2 COMBINED AT	3290A2	3224.	6.58	762.	241.	241.	3.72		
ROUTED TO	3200A1	3197.	6.67	763.	240.	240.	3.72		
HYDROGRAPH AT	1340	2174.	6.25	358.	110.	110.	1.55		
DIVERSION TO	1341	1087.	6.25	179.	55.	55.	1.55		
HYDROGRAPH AT	1342	1087.	6.25	179.	55.	55.	1.55		
HYDROGRAPH AT	3190	1376.	6.25	252.	79.	79.	2.02		
HYDROGRAPH AT	1360	1406.	6.08	157.	48.	48.	.66		
2 COMBINED AT	3191	2309.	6.17	408.	127.	127.	2.68		
HYDROGRAPH AT	3200A	2569.	6.33	491.	154.	154.	3.30		
2 COMBINED AT	3200A2	4981.	6.50	1249.	395.	395.	7.01		
HYDROGRAPH AT	1470	458.	6.17	73.	22.	22.	.30		
HYDROGRAPH AT	1475	2931.	6.17	491.	151.	151.	1.99		
HYDROGRAPH AT	1480	4124.	6.25	735.	226.	226.	2.99		

DIVERSION TO	1482	2062.	6.25	367.	113.	113.	2.99
HYDROGRAPH AT	1481	2062.	6.25	367.	113.	113.	2.99
HYDROGRAPH AT	3510A	1718.	6.58	462.	146.	146.	3.69
ROUTED TO	3470A1	1713.	6.67	462.	145.	145.	3.69
HYDROGRAPH AT	1430	1455.	6.17	310.	97.	97.	1.43
HYDROGRAPH AT	1440	2162.	6.17	407.	127.	127.	1.89
2 COMBINED AT	1441	3618.	6.17	718.	224.	224.	3.32
HYDROGRAPH AT	1450	3614.	6.42	858.	271.	271.	4.09
HYDROGRAPH AT	3470A	3341.	6.67	891.	285.	285.	4.43
2 COMBINED AT	3470A2	5054.	6.67	1352.	430.	430.	8.12
ROUTED TO	3420A1	5005.	6.67	1353.	430.	430.	8.12
HYDROGRAPH AT	3420A	292.	6.33	63.	20.	20.	.40
2 COMBINED AT	3420A2	5201.	6.67	1412.	450.	450.	8.52
ROUTED TO	3430A1	5163.	6.75	1412.	450.	450.	8.52
HYDROGRAPH AT	3430A	273.	6.25	54.	17.	17.	.36
2 COMBINED AT	3430A2	5303.	6.75	1462.	467.	467.	8.87
ROUTED TO	3400A1	5298.	6.75	1462.	467.	467.	8.87
HYDROGRAPH AT	3390B	336.	6.33	74.	24.	24.	.49
HYDROGRAPH AT	3400A	359.	6.42	84.	27.	27.	.56
2 COMBINED AT	3400A2	5554.	6.75	1543.	493.	493.	9.43
ROUTED TO	3340A1	5488.	6.83	1542.	492.	492.	9.43
HYDROGRAPH AT	3330B	210.	6.25	43.	14.	14.	.32
HYDROGRAPH AT	3340A	495.	6.25	99.	32.	32.	.72
2 COMBINED AT	3340A2	5745.	6.75	1633.	524.	524.	10.15
HYDROGRAPH AT	3510B	494.	6.33	106.	34.	34.	.70
ROUTED TO	3481	489.	6.42	107.	34.	34.	.70
HYDROGRAPH AT	3470B	461.	6.17	68.	22.	22.	.47
HYDROGRAPH AT	3480	558.	6.25	105.	34.	34.	.73
2 COMBINED AT	3482	989.	6.33	211.	68.	68.	1.43
ROUTED TO	3440A1	974.	6.42	212.	68.	68.	1.43
HYDROGRAPH AT	3420B	166.	6.17	19.	6.	6.	.12
HYDROGRAPH AT	3430B	46.	6.08	5.	2.	2.	.03
2 COMBINED AT	3431	208.	6.08	24.	7.	7.	.15

HYDROGRAPH AT	3440A	649.	6.17	102.	33.	33.	.68
2 COMBINED AT	3440A2	1511.	6.25	313.	100.	100.	2.11
ROUTED TO	3400B1	1496.	6.33	313.	100.	100.	2.11
HYDROGRAPH AT	3400B	256.	6.33	55.	18.	18.	.38
2 COMBINED AT	3400B2	1753.	6.33	368.	118.	118.	2.50

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

HEC-1

INPUT/OUTPUT FILES: DRC1.24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

EAST-WEST DESERT RIDGE CHANNEL BEGINNING NEAR

JOMAX/SCOTTSDALE ROAD INTERSECTION.

INCLUDES LOW-FLOW DIVERTS

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,   EXISTING CONDITIONS
  3           ID        MODEL DRC1.24I
  4           ID        DESERT RIDGE CHANNEL, EAST-WEST ALIGNMENT
  5           ID        INCLUDES LOW-FLOW DIVERTS
  6           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  7           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
  8           IT       5 12JUL89       0     289
  9           IO       5       0
 10           IN      30 12JUL89       0
              *DIAGRAM

 11           KK       7     SUB
 12           KM        RUNOFF FROM SUB 7
 13           BA   .6690
 14           PB    4.32
 15           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 16           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 17           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 18           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 19           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 20           LS              78    2.13
 21           UK     255   .0262     .20     100
 22           RK   12200   .0197    .045            TRAP      50      50

 23           KK     8.1     SUB
 24           KM        RUNOFF FROM SUB 8.1 & ROUTE SUB 7
 25           BA   .8609
 26           LS              74    2.71
 27           UK     116   .0213     .10     100
 28           RK    7800   .0196    .045            TRAP      50     100     YES

 29           KK     8.2     DIV
 30           KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 31           DT     8.3
 32           DI       0     106     500    1000    5000
 33           DQ       0     106     200     300     400

 34           KK    5.1A      CP
 35           KM        ROUTE NON-DIVERTED FLOW (DIV 8.2) TO CP 5.1A  (NEW CHANNEL)
 36           RK    6000   .0150    .025            TRAP      25       2

 37           KK       1     SUB
 38           KM        RUNOFF FROM SUB-BASIN 1
 39           BA   .3371
 40           LS              75
 41           UK     255   .0262     .20     100
 42           RK    7160   .0289    .045            TRAP      35       3

 43           KK       2     SUB
 44           KM        RUNOFF FROM SUB-BASIN 2
 45           BA  1.2170
 46           LS              83    1.28
 47           UK     337   .0308     .20     100
 48           RK   24000   .0196    .045            TRAP      35       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 49           KK       3     SUB
 50           KM        RUNOFF FROM SUB-BASIN 3
 51           BA   .5448
 52           LS              81    1.44
 53           UK     255   .0262     .20     100
 54           RK   16400   .0201    .045            TRAP      35       3

 55           KK     CP4
 56           KM        COMBINE HYDROGRAPHS SUB1, SUB2, & SUB3
 57           HC       3

 58           KK    SUB4
 59           KM        RUNOFF FROM SUB-BASIN 4 & ROUTE CP 4
 60           BA  1.5102
 61           LS              73    3.05
 62           UK      84   .0213     .10     100
 63           RK   10633   .0191    .045            TRAP      50     100     YES

 64           KK     5.1     SUB
 65           KM        RUNOFF FROM SUB 5.1 & ROUTE SUB 4
 66           BA   .3695
 67           LS              74    1.44
 68           UK      81   .0213     .10     100
 69           RK    2250   .0175    .045            TRAP      50     130     YES

 70           KK     5.2      CP
 71           KM        COMBINE SUB 5.1 & CP 5.1A
 72           HC       2

 73           KK     5.3     DIV
 74           KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 75           DT     5.4
 76           DI       0     178     500    1000    5000
 77           DQ       0     178     250     350     600

 78           KK    3666      CP
 79           KM        ROUTE NON-DIVERTED FLOW (DIV 5.3) TO CP 3666  (NEW CHANNEL)
 80           RK    6250   .0157    .025            TRAP      50       2

 81           KK    1470     SUB
 82           KM        RUNOFF FROM SUB 1470
 83           BA   .2977
 84           PB    4.71
 85           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 86           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 87           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 88           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 89           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 90           LS              84
 91           UK     200   .0500     .20     100
 92           RK   15000   .0293    .045            TRAP      20       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  93          KK    1475     SUB
  94          KM        RUNOFF FROM SUB 1475 AND ROUTE SUB 1470
  95          BA  1.6895
  96          LS              84
  97          UK     285   .0419     .20     100
  98          RK   17600   .0188    .045           TRAP      25       3     YES

  99          KK    1480     SUB
 100          KM        RUNOFF FROM SUB 1480 AND ROUTE SUB 1475
 101          BA  1.0015
 102          LS              83    1.07
 103          UK     300   .0167     .20     100
 104          RK    7500   .0213    .045           TRAP      25       3     YES

 105          KK    1482     DIV
 106          KM        DIVERT FLOW FROM SUB 1480 TO SUB 3510
 107          KM        NOTE: DIV & DT PREFIXES ARE INTENTIONALLY REVERSED FROM THOSE USED
 108          KM              IN THE BASELINE PH & FR MODELS
 109          DT    1481
 110          DI       0    8000
 111          DQ       0    4000

 112          KK    3660     SUB
 113          KM        RUNOFF FROM SUB 3660 & ROUTE DIV 1482
 114          BA   .7554
 115          PB    4.22
 116          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 117          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 118          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 119          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 120          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 121          LS              76    3.20
 122          UK     224   .0212     .15     100
 123          RK   18600   .0184    .045           TRAP      30      30     YES

 124          KK    3665     SUB
 125          KM        RUNOFF FROM SUB 3665 & ROUTE SUB 3660
 126          BA   .8949
 127          LS              74    1.22
 128          UK     100   .0213     .10     100
 129          RK    7400   .0183    .045           TRAP      40      50     YES

 130          KK    3667      CP
 131          KM        COMBINE CP 3666 & SUB 3665
 132          HC       2

 133          KK    3668     DIV
 134          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 135          DT    3669
 136          DI       0     224     500    1000    5000
 137          DQ       0     224     300     400     800
```

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

 138          KK    3642      CP
 139          KM       ROUTE NON-DIVERTED FLOW (DIV 3668) TO CP 3642  (NEW CHANNEL)
 140          RK    8000   .0138    .025            TRAP      50       2

 141          KK    3620     SUB
 142          KM        RUNOFF FROM SUB 3620
 143          BA   .6858
 144          LS              77    3.64
 145          UK     224   .0212     .15     100
 146          RK   16000   .0194    .045            TRAP      15      30

 147          KK    3630     SUB
 148          KM        RUNOFF FROM SUB 3630 & ROUTE SUB 3620
 149          BA   .8300
 150          LS              74    1.22
 151          UK     100   .0213     .10     100
 152          RK   11300   .0177    .045            TRAP      30      30     YES

 153          KK    3641     SUB
 154          KM        RUNOFF FROM SUB 3641 & ROUTE SUB 3630
 155          BA   .4060
 156          LS              74
 157          UK     150   .0213     .10     100
 158          RK    3650   .0129    .045            TRAP      40      50     YES

 159          KK    3643      CP
 160          KM        COMBINE CP 3642 & SUB 3641
 161          HC       2

 162          KK    3644     DIV
 163          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 164          DT    3645
 165          DI       0     132     500    1000    5000
 166          DQ       0     132     210     325     450

 167          KK    3646      CP
 168          KM        ROUTE NON-DIVERTED FLOW (DIV 3644) TO CP 3646 (NEW CHANNEL)
 169          RK    8240   .0121    .025            TRAP      50       2

 170          KK    3647     SUB
 171          KM        RUNOFF FROM SUB 3647
 172          BA   .6213
 173          LS              74
 174          UK     150   .0213     .10     100
 175          RK    8800   .0129    .045            TRAP      30       7

 176          KK    3648      CP
 177          KM        COMBINE SUB 3647 & CP 3646
 178          HC       2
```

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

 179          KK    3653     DIV
 180          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 181          DT    3654
 182          DI       0    1000    5000
 183          DQ       0       0       0

 184          KK    3651      CP
 185          KM        ROUTE NON-DIVERTED FLOW (DIV 3653) TO CP 3651  (NEW CHANNEL)
 186          RK    4800   .0083    .025           TRAP      50       2

 187          KK    3652     SUB
 188          KM        RUNOFF FROM SUB 3652
 189          BA   .1356
 190          LS              74    1.22
 191          UK     150   .0213     .10     100
 192          RK    4700   .0082    .045           TRAP      20       3

 193          KK    3655      CP
 194          KM        COMBINE SUB 3652 & CP 3651
 195          HC       2

 196          KK   3655A     DIV
 197          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 198          DT   3655B
 199          DI       0      13     500    1000    5000
 200          DQ       0      13      20      30      40

 201          KK    3659      CP
 202          KM        ROUTE NON-DIVERTED FLOW (DIV 3655A) TO THE DOWNSTREAM END OF THE NEW
 203          KM        CHANNEL, AT CP 3659.  THIS LOCATION IS AT THE CAP DIKE.
 204          RK    3840   .0078    .025           TRAP      50       2
              *  ****************************************************************************
              *
              *  THE FOLLOWING SECTION OF THIS MODEL RETRIEVES THE LOW-FLOWS DIVERTED FROM THE
              *  NEW EAST-WEST CHANNEL & COMBINES THEM WITH FLOWS DOWNSTREAM OF THE NEW
              *  CHANNEL IN ORDER TO DETERMINE THE TOTAL FLOW INTO DESERT RIDGE.
              *
              *  ****************************************************************************

 205          KK     8.3     RET
 206          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 8.1 (DT 8.3)
 207          DR     8.3

 208          KK     8.5     SUB
 209          KM        RUNOFF FROM SUB 8.5 & ROUTE RET 8.3
 210          BA   .2276
 211          PB    4.32
 212          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 213          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 214          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 215          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 216          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 217          LS              74    2.71
 218          UK     116   .0213     .10     100
```

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

 219          RK    2100   .0196    .045           TRAP      50     100     YES

 220          KK       9     SUB
 221          KM        RUNOFF FROM SUB-BASIN 9 & ROUTE SUB 8.5
 222          BA  1.4559
 223          LS              74
 224          UK      95   .0213     .10     100
 225          RK   10700   .0187    .045           TRAP      50     130     YES

 226          KK      10     SUB
 227          KM        RUNOFF FROM SUB-BASIN 10 ROUTE SUB 9
 228          BA  2.1144
 229          LS              74
 230          UK     107   .0213     .10     100
 231          RK   12400   .0137    .045           TRAP      50     175     YES

 232          KK    10.1     SUB
 233          KM        RUNOFF FROM SUB 10.1 & ROUTE SUB 10
 234          BA  1.2239
 235          LS              74
 236          UK     107   .0213     .10     100
 237          RK    5600   .0098    .045           TRAP      50     190     YES

 238          KK     5.4     RET
 239          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 5.1 (DT 5.4)
 240          DR     5.4

 241          KK     5.5     SUB
 242          KM        RUNOFF FROM SUB 5.5 & ROUTE RET 5.4
 243          BA  1.5084
 244          LS              74    1.44
 245          UK      81   .0213     .10     100
 246          RK    8850   .0175    .045           TRAP      50     130     YES

 247          KK       6     SUB
 248          KM        RUNOFF FROM SUB-BASIN 6 & ROUTE SUB 5.5
 249          BA  2.7719
 250          LS              74
 251          UK     146   .0213     .10     100
 252          RK   16100   .0124    .045           TRAP      50     150     YES

 253          KK     6.1     SUB
 254          KM        RUNOFF FROM SUB 6.1 & ROUTE SUB 6
 255          BA   .5632
 256          LS              74
 257          UK     146   .0213     .10     100
 258          RK    3400   .0094    .045           TRAP      50     160     YES

 259          KK    3669     RET
 260          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3665 (DT 3669)
 261          DR    3669
```

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

 262          KK    3675     SUB
 263          KM        RUNOFF FROM SUB 3675 & ROUTE RET 3669
 264          BA   .5632
 265          PB    4.22
 266          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 267          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 268          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 269          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 270          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 271          LS              74    1.22
 272          UK     100   .0213     .10     100
 273          RK    3900   .0183    .045            TRAP      40      50     YES

 274          KK    3685     SUB
 275          KM        RUNOFF FROM SUB 3685 & ROUTE SUB 3675
 276          BA  2.2286
 277          LS              74    3.64
 278          UK     150   .0213     .10     100
 279          RK   11200   .0134    .045            TRAP      40      75     YES

 280          KK    3690     SUB
 281          KM        RUNOFF FROM SUB 3690 & ROUTE SUB 3685
 282          BA  1.4778
 283          LS              74
 284          UK     150   .0213     .10     100
 285          RK    7300   .0110    .045            TRAP      50     100     YES

 286          KK    3645     RET
 287          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3641 (DT 3645)
 288          DR    3645

 289          KK    3649     SUB
 290          KM        RUNOFF FROM SUB 3649 & ROUTE RET 3645
 291          BA   .6026
 292          LS              74
 293          UK     150   .0213     .10     100
 294          RK    8200   .0129    .045            TRAP      40      50     YES

 295          KK    3654     RET
 296          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3647 (DT 3654)
 297          DR    3654

 298          KK   3655B     RET
 299          KM        RETRIEVE LOW-FLOW DIVERT FOM SUB 3652 (DT 3655B)
 300          DR   3655B

 301          KK    3656      CP
 302          KM        COMBINE SUB 3649, RET 3654, & RET 3655B FOR ROUTING THROUGH SUB 3657
 303          HC       3
```

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

 304          KK    3657     SUB
 305          KM        RUNOFF FROM SUB 3657 & ROUTE CP 3656
 306          BA  1.0424
 307          LS              74    1.22
 308          UK     150   .0213     .10     100
 309          RK    9700   .0082    .045           TRAP     100      50     YES
 310          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

  11          7
              V
              V
  23        8.1 ***
              .
              .
  31          .------->     8.3
  29        8.2
              V
              V
  34       5.1A
              .
              .
  37          .          1
              .          .
              .          .
  43          .          .          2
              .          .          .
              .          .          .
  49          .          .          .          3
              .          .          .          .
              .          .          .          .
  55          .        CP4.......................
              .          V
              .          V
  58          .       SU84 ***
              .          V
              .          V
  64          .        5.1 ***
              .          .
              .          .
  70        5.2............
              .
              .
  75          .------->     5.4
  73        5.3
              V
              V
  78       3666
              .
              .
  81          .       1470
              .          V
              .          V
  93          .       1475 ***
              .          V
              .          V
  99          .       1480 ***
              .          .
              .          .
 109          .          .------->    1481
 105          .       1482
              .          V
              .          V
 112          .       3660 ***
              .          V
              .          V
 124          .       3665 ***
```

```
                .          .
                .          .
130         3667............
                .
                .
135             .-------)    3669
133         3668
                V
                V
138         3642
                .
                .
141             .        3620
                .          V
                .          V
147             .        3630 ***
                .          V
                .          V
153             .        3641 ***
                .          .
                .          .
159         3643............
                .
                .
164             .-------)    3645
162         3644
                V
                V
167         3646
                .
                .
170             .        3647
                .          .
                .          .
176         3648............
                .
                .
181             .-------)    3654
179         3653
                V
                V
184         3651
                .
                .
187             .        3652
                .          .
                .          .
193         3655............
                .
                .
198             .-------)   3655B
196        3655A
                V
                V
201        3659
                .
                .
207             .          .(-------     8.3
205             .        8.3
                .          V
                .          V
208             .        8.5 ***
                .          V
                .          V
220             .          9 ***
                .          V
```

```
                .          V
 226            .         10 ***
                .          V
                .          V
 232            .       10.1 ***
                .          .
                .          .
 240            .          .          .(-------     5.4
 238            .          .        5.4
                .          .          V
                .          .          V
 241            .          .        5.5 ***
                .          .          V
                .          .          V
 247            .          .          6 ***
                .          .          V
                .          .          V
 253            .          .        6.1 ***
                .          .          .
                .          .          .
 261            .          .          .          .(-------    3669
 259            .          .          .       3669
                .          .          .          V
                .          .          .          V
 262            .          .          .       3675 ***
                .          .          .          V
                .          .          .          V
 274            .          .          .       3685 ***
                .          .          .          V
                .          .          .          V
 280            .          .          .       3690 ***
                .          .          .          .
                .          .          .          .
 288            .          .          .          .          .(-------    3645
 286            .          .          .          .       3645
                .          .          .          .          V
                .          .          .          .          V
 289            .          .          .          .       3649 ***
                .          .          .          .          .
                .          .          .          .          .
 297            .          .          .          .          .          .(-------    3654
 295            .          .          .          .          .       3654
                .          .          .          .          .          .
                .          .          .          .          .          .
 300            .          .          .          .          .          .          .(-------   3655B
 298            .          .          .          .          .          .      3655B
                .          .          .          .          .          .          .
                .          .          .          .          .          .          .
 301            .          .          .          .       3656.......................
                .          .          .          .          V
                .          .          .          .          V
 304            .          .          .          .       3657 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
                                   ****
                 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
       U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                   ****


                        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                        CITY OF PHOENIX AREAS C & D,   EXISTING CONDITIONS
                        MODEL DRC1.24I
                        DESERT RIDGE CHANNEL, EAST-WEST ALIGNMENT
                        INCLUDES LOW-FLOW DIVERTS
                        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)

9 IO         OUTPUT CONTROL VARIABLES
                  IPRNT          5  PRINT CONTROL
                  IPLOT          0  PLOT CONTROL
                  QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT         HYDROGRAPH TIME DATA
                   NMIN          5  MINUTES IN COMPUTATION INTERVAL
                  IDATE     12JUL89  STARTING DATE
                  ITIME        0000  STARTING TIME
                     NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                 NDDATE     13JUL89  ENDING DATE
                 NDTIME        0000  ENDING TIME

            COMPUTATION INTERVAL     .08 HOURS
                 TOTAL TIME BASE   24.00 HOURS

      ENGLISH UNITS
```

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	7	460.	6.50	116.	37.	37.	.67		
HYDROGRAPH AT	8.1	752.	6.17	246.	79.	79.	1.53		
DIVERSION TO	8.3	250.	6.17	128.	49.	49.	1.53		
HYDROGRAPH AT	8.2	502.	6.17	118.	29.	29.	1.53		
ROUTED TO	5.1A	493.	6.33	118.	29.	29.	1.53		
HYDROGRAPH AT	1	318.	6.17	50.	16.	16.	.34		
HYDROGRAPH AT	2	913.	6.33	245.	77.	77.	1.22		
HYDROGRAPH AT	3	462.	6.33	104.	33.	33.	.54		
3 COMBINED AT	CP4	1637.	6.25	399.	126.	126.	2.10		
HYDROGRAPH AT	SUB4	1779.	6.67	608.	196.	196.	3.61		
HYDROGRAPH AT	5.1	1827.	6.75	660.	213.	213.	3.98		
2 COMBINED AT	5.2	2286.	6.67	778.	243.	243.	5.51		
DIVERSION TO	5.4	430.	6.67	272.	116.	116.	5.51		
HYDROGRAPH AT	5.3	1856.	6.67	506.	126.	126.	5.51		
ROUTED TO	3666	1854.	6.75	505.	126.	126.	5.51		
HYDROGRAPH AT	1470	458.	6.17	73.	22.	22.	.30		
HYDROGRAPH AT	1475	2931.	6.17	491.	151.	151.	1.99		
HYDROGRAPH AT	1480	4124.	6.25	735.	226.	226.	2.99		
DIVERSION TO	1481	2062.	6.25	367.	113.	113.	2.99		
HYDROGRAPH AT	1482	2062.	6.25	367.	113.	113.	2.99		
HYDROGRAPH AT	3660	1361.	6.83	465.	149.	149.	3.74		
HYDROGRAPH AT	3665	1419.	7.08	582.	189.	189.	4.64		
2 COMBINED AT	3667	3163.	6.83	1087.	315.	315.	10.15		
DIVERSION TO	3669	616.	6.83	360.	133.	133.	10.15		
HYDROGRAPH AT	3668	2546.	6.83	727.	182.	182.	10.15		
ROUTED TO	3642	2542.	6.92	727.	182.	182.	10.15		
HYDROGRAPH AT	3620	394.	6.58	111.	35.	35.	.69		
HYDROGRAPH AT	3630	603.	6.58	226.	73.	73.	1.52		
HYDROGRAPH AT	3641	859.	6.17	281.	91.	91.	1.92		

2 COMBINED AT	3643	3175.	6.92	1007.	273.	273.	12.07
DIVERSION TO	3645	393.	6.92	236.	80.	80.	12.07
HYDROGRAPH AT	3644	2782.	6.92	771.	193.	193.	12.07
ROUTED TO	3646	2768.	7.00	770.	193.	193.	12.07
HYDROGRAPH AT	3647	537.	6.17	85.	27.	27.	.62
2 COMBINED AT	3648	2910.	6.92	855.	220.	220.	12.69
DIVERSION TO	3654	0.	6.92	0.	0.	0.	12.69
HYDROGRAPH AT	3653	2910.	6.92	855.	220.	220.	12.69
ROUTED TO	3651	2908.	7.00	856.	220.	220.	12.69
HYDROGRAPH AT	3652	145.	6.17	19.	6.	6.	.14
2 COMBINED AT	3655	2934.	7.00	875.	227.	227.	12.83
DIVERSION TO	3655B	35.	7.00	22.	12.	12.	12.83
HYDROGRAPH AT	3655A	2899.	7.00	853.	215.	215.	12.83
ROUTED TO	3659	2892.	7.08	854.	215.	215.	12.83
HYDROGRAPH AT	8.3	250.	6.17	128.	49.	49.	.00
HYDROGRAPH AT	8.5	509.	6.08	161.	60.	60.	.23
HYDROGRAPH AT	9	996.	6.33	363.	128.	128.	1.68
HYDROGRAPH AT	10	1334.	6.75	637.	224.	224.	3.80
HYDROGRAPH AT	10.1	1502.	6.83	793.	279.	279.	5.02
HYDROGRAPH AT	5.4	430.	6.67	272.	116.	116.	.00
HYDROGRAPH AT	5.5	1222.	6.17	479.	187.	187.	1.51
HYDROGRAPH AT	6	1440.	6.92	803.	307.	307.	4.28
HYDROGRAPH AT	6.1	1509.	7.00	866.	331.	331.	4.84
HYDROGRAPH AT	3669	616.	6.83	360.	133.	133.	.00
HYDROGRAPH AT	3675	1084.	6.17	436.	159.	159.	.56
HYDROGRAPH AT	3685	1701.	6.33	731.	261.	261.	2.79
HYDROGRAPH AT	3690	1986.	6.67	905.	324.	324.	4.27
HYDROGRAPH AT	3645	393.	6.92	236.	80.	80.	.00
HYDROGRAPH AT	3649	509.	6.67	308.	106.	106.	.60
HYDROGRAPH AT	3654	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	3655B	35.	7.00	22.	12.	12.	.00
3 COMBINED AT	3656	543.	6.67	330.	118.	118.	.60
HYDROGRAPH AT	3657	696.	6.83	447.	162.	162.	1.64

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

HEC-1

INPUT/OUTPUT FILES: DRC2.24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

EAST-WEST DESERT RIDGE CHANNEL BEGINNING NEAR

JOMAX/SCOTTSDALE ROAD INTERSECTION.

NO LOW-FLOW DIVERTS

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,   EXISTING CONDITIONS
  3           ID        MODEL DRC2.24I
  4           ID        DESERT RIDGE CHANNEL, EAST-WEST ALIGNMENT
  5           ID        NO LOW-FLOW DIVERTS FROM NEW CHANNEL
  6           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  7           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
  8           IT       5 12JUL89       0     289
  9           IO       5       0
 10           IN      30 12JUL89       0         -
              *DIAGRAM

 11           KK       7     SUB
 12           KM        RUNOFF FROM SUB 7
 13           BA   .6690
 14           PB    4.32
 15           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 16           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 17           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 18           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 19           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 20           LS              78    2.13
 21           UK     255   .0262     .20     100
 22           RK   12200   .0197    .045            TRAP      50      50

 23           KK     8.1     SUB
 24           KM        RUNOFF FROM SUB 8.1 & ROUTE SUB 7
 25           BA   .8609
 26           LS              74    2.71
 27           UK     116   .0213     .10     100
 28           RK    7800   .0196    .045            TRAP      50     100     YES

 29           KK     8.2     DIV
 30           KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 31           DT     8.3
 32           DI       0     106     500    1000    5000
 33           DQ       0       0       0       0       0

 34           KK    5.1A      CP
 35           KM        ROUTE NON-DIVERTED FLOW (DIV 8.2) TO CP 5.1A  (NEW CHANNEL)
 36           RK    6000   .0150    .025            TRAP      25       2

 37           KK       1     SUB
 38           KM        RUNOFF FROM SUB-BASIN 1
 39           BA   .3371
 40           LS              75
 41           UK     255   .0262     .20     100
 42           RK    7160   .0289    .045            TRAP      35       3

 43           KK       2     SUB
 44           KM        RUNOFF FROM SUB-BASIN 2
 45           BA  1.2170
 46           LS              83    1.28
 47           UK     337   .0308     .20     100
 48           RK   24000   .0196    .045            TRAP      35       3
```

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

  49          KK       3     SUB
  50          KM        RUNOFF FROM SUB-BASIN 3
  51          BA   .5448
  52          LS              81    1.44
  53          UK     255   .0262     .20     100
  54          RK   16400   .0201    .045           TRAP      35       3

  55          KK     CP4
  56          KM        COMBINE HYDROGRAPHS SUB1, SUB2, & SUB3
  57          HC       3

  58          KK    SUB4
  59          KM        RUNOFF FROM SUB-BASIN 4 & ROUTE CP 4
  60          BA  1.5102
  61          LS              73    3.05
  62          UK      84   .0213     .10     100
  63          RK   10633   .0191    .045           TRAP      50     100     YES

  64          KK     5.1     SUB
  65          KM        RUNOFF FROM SUB 5.1 & ROUTE SUB 4
  66          BA   .3695
  67          LS              74    1.44
  68          UK      81   .0213     .10     100
  69          RK    2250   .0175    .045           TRAP      50     130     YES

  70          KK     5.2      CP
  71          KM        COMBINE SUB 5.1 & CP 5.1A
  72          HC       2

  73          KK     5.3     DIV
  74          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
  75          DT     5.4
  76          OI       0     178     500    1000    5000
  77          OQ       0       0       0       0       0

  78          KK    3666      CP
  79          KM        ROUTE NON-DIVERTED FLOW (DIV 5.3) TO CP 3666  (NEW CHANNEL)
  80          RK    6250   .0157    .025           TRAP      50       2

  81          KK    1470     SUB
  82          KM        RUNOFF FROM SUB 1470
  83          BA   .2977
  84          PB    4.71
  85          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
  86          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
  87          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
  88          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
  89          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
  90          LS              84
  91          UK     200   .0500     .20     100
  92          RK   15000   .0293    .045           TRAP      20       3
```

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

 93           KK    1475     SUB
 94           KM        RUNOFF FROM SUB 1475 AND ROUTE SUB 1470
 95           BA  1.6895
 96           LS              84
 97           UK     285   .0419     .20     100
 98           RK   17600   .0188    .045           TRAP      25       3     YES

 99           KK    1480     SUB
100           KM        RUNOFF FROM SUB 1480 AND ROUTE SUB 1475
101           BA  1.0015
102           LS              83    1.07
103           UK     300   .0167     .20     100
104           RK    7500   .0213    .045           TRAP      25       3     YES

105           KK    1482     DIV
106           KM        DIVERT FLOW FROM SUB 1480 TO SUB 3510
107           KM        NOTE: DIV & DT PREFIXES ARE INTENTIONALLY REVERSED FROM THOSE USED
108           KM              IN THE BASELINE PH & FR MODELS
109           DT    1481
110           DI       0    8000
111           DQ       0    4000

112           KK    3660     SUB
113           KM        RUNOFF FROM SUB 3660 & ROUTE DIV 1482
114           BA   .7554
115           PB    4.22
116           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
117           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
118           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
119           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
120           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
121           LS              76    3.20
122           UK     224   .0212     .15     100
123           RK   18600   .0184    .045           TRAP      30      30     YES

124           KK    3665     SUB
125           KM        RUNOFF FROM SUB 3665 & ROUTE SUB 3660
126           BA   .8949
127           LS              74    1.22
128           UK     100   .0213     .10     100
129           RK    7400   .0183    .045           TRAP      40      50     YES

130           KK    3667      CP
131           KM        COMBINE CP 3666 & SUB 3665
132           HC       2

133           KK    3668     DIV
134           KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
135           DT    3669
136           DI       0     224     500    1000    5000
137           DQ       0       0       0       0       0
```

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

 138          KK    3642      CP
 139          KM       ROUTE NON-DIVERTED FLOW (DIV 3668) TO CP 3642  (NEW CHANNEL)
 140          RK    8000   .0138    .025           TRAP      50       2

 141          KK    3620     SUB
 142          KM        RUNOFF FROM SUB 3620
 143          BA   .6858
 144          LS              77    3.64
 145          UK     224   .0212     .15     100
 146          RK   16000   .0194    .045           TRAP      15      30

 147          KK    3630     SUB
 148          KM        RUNOFF FROM SUB 3630 & ROUTE SUB 3620
 149          BA   .8300
 150          LS              74    1.22
 151          UK     100   .0213     .10     100
 152          RK   11300   .0177    .045           TRAP      30      30     YES

 153          KK    3641     SUB
 154          KM        RUNOFF FROM SUB 3641 & ROUTE SUB 3630
 155          BA   .4060
 156          LS              74
 157          UK     150   .0213     .10     100
 158          RK    3650   .0129    .045           TRAP      40      50     YES

 159          KK    3643      CP
 160          KM        COMBINE CP 3642 & SUB 3641
 161          HC       2

 162          KK    3644     DIV
 163          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 164          DT    3645
 165          DI       0     132     500    1000    5000
 166          DQ       0       0       0       0       0

 167          KK    3646      CP
 168          KM        ROUTE NON-DIVERTED FLOW (DIV 3644) TO CP 3646 (NEW CHANNEL)
 169          RK    8240   .0121    .025           TRAP      50       2

 170          KK    3647     SUB
 171          KM        RUNOFF FROM SUB 3647
 172          BA   .6213
 173          LS              74
 174          UK     150   .0213     .10     100
 175          RK    8800   .0129    .045           TRAP      30       7

 176          KK    3648      CP
 177          KM        COMBINE SUB 3647 & CP 3646
 178          HC       2
```

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

 179          KK    3653     DIV
 180          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 181          DT    3654
 182          DI       0    1000    5000
 183          DQ       0       0       0

 184          KK    3651      CP
 185          KM        ROUTE NON-DIVERTED FLOW (DIV 3653) TO CP 3651  (NEW CHANNEL)
 186          RK    4800   .0083    .025           TRAP      50       2

 187          KK    3652     SUB
 188          KM        RUNOFF FROM SUB 3652
 189          BA   .1356
 190          LS              74    1.22
 191          UK     150   .0213     .10     100
 192          RK    4700   .0082    .045           TRAP      20       3

 193          KK    3655      CP
 194          KM        COMBINE SUB 3652 & CP 3651
 195          HC       2

 196          KK   3655A     DIV
 197          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 198          DT   3655B
 199          DI       0      13     500    1000    5000
 200          DQ       0       0       0       0       0

 201          KK    3659      CP
 202          KM        ROUTE NON-DIVERTED FLOW (DIV 3655A) TO THE DOWNSTREAM END OF THE NEW
 203          KM        CHANNEL, AT CP 3659.  THIS LOCATION IS AT THE CAP DIKE.
 204          RK    3840   .0078    .025           TRAP      50       2
              *  ***********************************************************************
              *
              *  THE FOLLOWING SECTION OF THIS MODEL RETRIEVES THE LOW-FLOWS DIVERTED FROM THE
              *  NEW EAST-WEST CHANNEL & COMBINES THEM WITH FLOWS DOWNSTREAM OF THE NEW
              *  CHANNEL IN ORDER TO DETERMINE THE TOTAL FLOW INTO DESERT RIDGE.
              *
              *  ***********************************************************************

 205          KK     8.3     RET
 206          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 8.1 (DT 8.3)
 207          DR     8.3

 208          KK     8.5     SUB
 209          KM        RUNOFF FROM SUB 8.5 & ROUTE RET 8.3
 210          BA   .2276
 211          PB    4.32
 212          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 213          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 214          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 215          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 216          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 217          LS              74    2.71
 218          UK     116   .0213     .10     100
```

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

 219          RK    2100   .0196    .045           TRAP      50     100     YES

 220          KK       9     SUB
 221          KM        RUNOFF FROM SUB-BASIN 9 & ROUTE SUB 8.5
 222          BA  1.4559
 223          LS              74
 224          UK      95   .0213     .10     100
 225          RK   10700   .0187    .045           TRAP      50     130     YES

 226          KK      10     SUB
 227          KM        RUNOFF FROM SUB-BASIN 10 ROUTE SUB 9
 228          BA  2.1144
 229          LS              74
 230          UK     107   .0213     .10     100
 231          RK   12400   .0137    .045           TRAP      50     175     YES

 232          KK    10.1     SUB
 233          KM        RUNOFF FROM SUB 10.1 & ROUTE SUB 10
 234          BA  1.2239
 235          LS              74
 236          UK     107   .0213     .10     100
 237          RK    5600   .0098    .045           TRAP      50     190     YES

 238          KK     5.4     RET
 239          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 5.1 (DT 5.4)
 240          DR     5.4

 241          KK     5.5     SUB
 242          KM        RUNOFF FROM SUB 5.5 & ROUTE RET 5.4
 243          BA  1.5084
 244          LS              74    1.44
 245          UK      81   .0213     .10     100
 246          RK    8850   .0175    .045           TRAP      50     130     YES

 247          KK       6     SUB
 248          KM        RUNOFF FROM SUB-BASIN 6 & ROUTE SUB 5.5
 249          BA  2.7719
 250          LS              74
 251          UK     146   .0213     .10     100
 252          RK   16100   .0124    .045           TRAP      50     150     YES

 253          KK     6.1     SUB
 254          KM        RUNOFF FROM SUB 6.1 & ROUTE SUB 6
 255          BA   .5632
 256          LS              74
 257          UK     146   .0213     .10     100
 258          RK    3400   .0094    .045           TRAP      50     160     YES

 259          KK    3669     RET
 260          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3665 (DT 3669)
 261          DR    3669
```

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

 262          KK    3675     SUB
 263          KM        RUNOFF FROM SUB 3675 & ROUTE RET 3669
 264          BA   .5632
 265          PB    4.22
 266          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 267          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 268          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 269          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 270          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 271          LS              74    1.22
 272          UK     100   .0213     .10     100
 273          RK    3900   .0183    .045            TRAP      40      50     YES

 274          KK    3685     SUB
 275          KM        RUNOFF FROM SUB 3685 & ROUTE SUB 3675
 276          BA  2.2286
 277          LS              74    3.64
 278          UK     150   .0213     .10     100
 279          RK   11200   .0134    .045            TRAP      40      75     YES

 280          KK    3690     SUB
 281          KM        RUNOFF FROM SUB 3690 & ROUTE SUB 3685
 282          BA  1.4778
 283          LS              74
 284          UK     150   .0213     .10     100
 285          RK    7300   .0110    .045            TRAP      50     100     YES

 286          KK    3645     RET
 287          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3641 (DT 3645)
 288          DR    3645

 289          KK    3649     SUB
 290          KM        RUNOFF FROM SUB 3649 & ROUTE RET 3645
 291          BA   .6026
 292          LS              74
 293          UK     150   .0213     .10     100
 294          RK    8200   .0129    .045            TRAP      40      50     YES

 295          KK    3654     RET
 296          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3647 (DT 3654)
 297          DR    3654

 298          KK   3655B     RET
 299          KM        RETRIEVE LOW-FLOW DIVERT FOM SUB 3652 (DT 3655B)
 300          DR   3655B

 301          KK    3656      CP
 302          KM        COMBINE SUB 3649, RET 3654, & RET 3655B FOR ROUTING THROUGH SUB 3657
 303          HC       3
```

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

 304          KK    3657     SUB
 305          KM        RUNOFF FROM SUB 3657 & ROUTE CP 3656
 306          BA  1.0424
 307          LS              74    1.22
 308          UK     150   .0213     .10     100
 309          RK    9700   .0082    .045           TRAP     100      50     YES
 310          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

  11          7
              V
              V
  23        8.1 ***
              .
              .
  31          .-------)     8.3
  29        8.2
              V
              V
  34       5.1A
              .
              .
  37          .          1
              .          .
              .          .
  43          .          .          2
              .          .          .
              .          .          .
  49          .          .          .          3
              .          .          .          .
              .          .          .          .
  55          .        CP4.......................
              .          V
              .          V
  58          .       SUB4 ***
              .          V
              .          V
  64          .        5.1 ***
              .          .
              .          .
  70        5.2............
              .
              .
  75          .-------)     5.4
  73        5.3
              V
              V
  78       3666
              .
              .
  81          .       1470
              .          V
              .          V
  93          .       1475 ***
              .          V
              .          V
  99          .       1480 ***
              .          .
              .          .
 109          .          .-------)    1481
 105          .       1482
              .          V
              .          V
 112          .       3660 ***
              .          V
              .          V
 124          .       3665 ***
```

```
                .          .
                .          .
130         3667............
                .
                .
135             .-------)    3669
133         3668
                V
                V
138         3642
                .
                .
141             .        3620
                .          V
                .          V
147             .        3630 ***
                .          V
                .          V
153             .        3641 ***
                .          .
                .          .
159         3643............
                .
                .
164             .-------)    3645
162         3644
                V
                V
167         3646
                .
                .
170             .        3647
                .          .
                .          .
176         3648............
                .
                .
181             .-------)    3654
179         3653
                V
                V
184         3651
                .
                .
187             .        3652
                .          .
                .          .
193         3655............
                .
                .
198             .-------)   3655B
196        3655A
                V
                V
201         3659
                .
                .
207             .          .(-------     8.3
205             .        8.3
                .          V
                .          V
208             .        8.5 ***
                .          V
                .          V
220             .          9 ***
                .          V
```

```
                .          V
 226            .         10 ***
                .          V
                .          V
 232            .       10.1 ***
                .          .
                .          .
 240            .          .          .(-------     5.4
 238            .          .        5.4
                .          .          V
                .          .          V
 241            .          .        5.5 ***
                .          .          V
                .          .          V
 247            .          .          6 ***
                .          .          V
                .          .          V
 253            .          .        6.1 ***
                .          .          .
                .          .          .
 261            .          .          .          .(-------    3669
 259            .          .          .       3669
                .          .          .          V
                .          .          .          V
 262            .          .          .       3675 ***
                .          .          .          V
                .          .          .          V
 274            .          .          .       3685 ***
                .          .          .          V
                .          .          .          V
 280            .          .          .       3690 ***
                .          .          .          .
                .          .          .          .
 288            .          .          .          .          .(-------    3645
 286            .          .          .          .       3645
                .          .          .          .          V
                .          .          .          .          V
 289            .          .          .          .       3649 ***
                .          .          .          .          .
                .          .          .          .          .
 297            .          .          .          .          .          .(-------    3654
 295            .          .          .          .          .       3654
                .          .          .          .          .          .
                .          .          .          .          .          .
 300            .          .          .          .          .          .          .(-------   3655B
 298            .          .          .          .          .          .      3655B
                .          .          .          .          .          .          .
                .          .          .          .          .          .          .
 301            .          .          .          .       3656.......................
                .          .          .          .          V
                .          .          .          .          V
 304            .          .          .          .       3657 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
                                   ****
                 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
       U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                   ****


                         GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                         CITY OF PHOENIX AREAS C & D,   EXISTING CONDITIONS
                         MODEL DRC2.24I
                         DESERT RIDGE CHANNEL, EAST-WEST ALIGNMENT
                         NO LOW-FLOW DIVERTS FROM NEW CHANNEL
                         100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                         RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)

9 IO          OUTPUT CONTROL VARIABLES
                    IPRNT          5  PRINT CONTROL
                    IPLOT          0  PLOT CONTROL
                    QSCAL         0.  HYDROGRAPH PLOT SCALE

 IT           HYDROGRAPH TIME DATA
                     NMIN          5  MINUTES IN COMPUTATION INTERVAL
                    IDATE     12JUL89  STARTING DATE
                    ITIME       0000  STARTING TIME
                       NQ        289  NUMBER OF HYDROGRAPH ORDINATES
                   NDDATE     13JUL89  ENDING DATE
                   NDTIME       0000  ENDING TIME

             COMPUTATION INTERVAL     .08 HOURS
                  TOTAL TIME BASE   24.00 HOURS

     ENGLISH UNITS
```

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	7	460.	6.50	116.	37.	37.	.67		
HYDROGRAPH AT	8.1	752.	6.17	246.	79.	79.	1.53		
DIVERSION TO	8.3	0.	6.17	0.	0.	0.	1.53		
HYDROGRAPH AT	8.2	752.	6.17	246.	79.	79.	1.53		
ROUTED TO	5.1A	744.	6.33	244.	78.	78.	1.53		
HYDROGRAPH AT	1	318.	6.17	50.	16.	16.	.34		
HYDROGRAPH AT	2	913.	6.33	245.	77.	77.	1.22		
HYDROGRAPH AT	3	462.	6.33	104.	33.	33.	.54		
3 COMBINED AT	CP4	1637.	6.25	399.	126.	126.	2.10		
HYDROGRAPH AT	SUB4	1779.	6.67	608.	196.	196.	3.61		
HYDROGRAPH AT	5.1	1827.	6.75	660.	213.	213.	3.98		
2 COMBINED AT	5.2	2527.	6.67	903.	292.	292.	5.51		
DIVERSION TO	5.4	0.	6.67	0.	0.	0.	5.51		
HYDROGRAPH AT	5.3	2527.	6.67	903.	292.	292.	5.51		
ROUTED TO	3666	2526.	6.75	901.	291.	291.	5.51		
HYDROGRAPH AT	1470	458.	6.17	73.	22.	22.	.30		
HYDROGRAPH AT	1475	2931.	6.17	491.	151.	151.	1.99		
HYDROGRAPH AT	1480	4124.	6.25	735.	226.	226.	2.99		
DIVERSION TO	1481	2062.	6.25	367.	113.	113.	2.99		
HYDROGRAPH AT	1482	2062.	6.25	367.	113.	113.	2.99		
HYDROGRAPH AT	3660	1361.	6.83	465.	149.	149.	3.74		
HYDROGRAPH AT	3665	1419.	7.08	582.	189.	189.	4.64		
2 COMBINED AT	3667	3846.	6.92	1481.	480.	480.	10.15		
DIVERSION TO	3669	0.	6.92	0.	0.	0.	10.15		
HYDROGRAPH AT	3668	3846.	6.92	1481.	480.	480.	10.15		
ROUTED TO	3642	3845.	6.92	1474.	477.	477.	10.15		
HYDROGRAPH AT	3620	394.	6.58	111.	35.	35.	.69		
HYDROGRAPH AT	3630	603.	6.58	226.	73.	73.	1.52		
HYDROGRAPH AT	3641	859.	6.17	281.	91.	91.	1.92		

2 COMBINED AT	3643	4478.	6.92	1750.	569.	569.	12.07
DIVERSION TO	3645	0.	6.92	0.	0.	0.	12.07
HYDROGRAPH AT	3644	4478.	6.92	1750.	569.	569.	12.07
ROUTED TO	3646	4468.	6.92	1741.	566.	566.	12.07
HYDROGRAPH AT	3647	537.	6.17	85.	27.	27.	.62
2 COMBINED AT	3648	4616.	6.92	1816.	593.	593.	12.69
DIVERSION TO	3654	0.	6.92	0.	0.	0.	12.69
HYDROGRAPH AT	3653	4616.	6.92	1816.	593.	593.	12.69
ROUTED TO	3651	4607.	7.00	1814.	591.	591.	12.69
HYDROGRAPH AT	3652	145.	6.17	19.	6.	6.	.14
2 COMBINED AT	3655	4633.	7.00	1829.	598.	598.	12.83
DIVERSION TO	3655B	0.	7.00	0.	0.	0.	12.83
HYDROGRAPH AT	3655A	4633.	7.00	1829.	598.	598.	12.83
ROUTED TO	3659	4621.	7.00	1827.	596.	596.	12.83
HYDROGRAPH AT	8.3	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	8.5	380.	6.08	35.	11.	11.	.23
HYDROGRAPH AT	9	934.	6.25	247.	79.	79.	1.68
HYDROGRAPH AT	10	1295.	6.67	537.	177.	177.	3.80
HYDROGRAPH AT	10.1	1484.	6.75	701.	233.	233.	5.02
HYDROGRAPH AT	5.4	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	5.5	1218.	6.25	228.	72.	72.	1.51
HYDROGRAPH AT	6	1385.	6.75	597.	198.	198.	4.28
HYDROGRAPH AT	6.1	1462.	6.83	669.	223.	223.	4.84
HYDROGRAPH AT	3669	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	3675	768.	6.08	81.	26.	26.	.56
HYDROGRAPH AT	3685	1576.	6.25	404.	130.	130.	2.79
HYDROGRAPH AT	3690	1861.	6.58	599.	195.	195.	4.27
HYDROGRAPH AT	3645	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	3649	387.	6.33	83.	27.	27.	.60
HYDROGRAPH AT	3654	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	3655B	0.	.08	0.	0.	0.	.00
3 COMBINED AT	3656	387.	6.33	83.	27.	27.	.60
HYDROGRAPH AT	3657	610.	6.58	223.	73.	73.	1.64

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

HEC-1

INPUT/OUTPUT FILES: DRC3.24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

NORTH-SOUTH DESERT RIDGE CHANNEL BEGINNING NEAR

JOMAX/SCOTTSDALE ROAD INTERSECTION.

INCLUDES LOW-FLOW DIVERTS

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D, EXISTING CONDITIONS
  3           ID        MODEL DRC3.24I
  4           ID        DESERT RIDGE CHANNEL, NORTH-SOUTH ALIGNMENT (SCOTTSDALE ROAD)
  5           ID        INCLUDES LOW-FLOW DIVERTS
  6           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  7           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR
              *DIAGRAM
  8           IT       5 14JUL89       0     289
  9           IO       5       0
 10           IN      30 14JUL89       0

 11           KK   SUB11
 12           KM        RUNOFF FROM SUB-BASIN 11
 13           BA   .5865
 14           PB    4.32
 15           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 16           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 17           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 18           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 19           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 20           LS              74    1.53
 21           UK     150   .0425     .20     100
 22           RK    6200   .0226    .045            TRAP      50      50

 23           KK   SUB12
 24           KM        RUNOFF FROM SUB 12 & ROUTE SUB 11
 25           BA  1.3372
 26           LS              74    1.39
 27           UK      95   .0213     .10     100
 28           RK    9850   .0214    .045            TRAP      50     100     YES

 29           KK    12.1      CP
 30           KM        ROUTE SUB 12 TO CP 12.1  (NEW CHANNEL)
 31           RK    3600   .0165    .025            TRAP      75       2

 32           KK    12.2     DIV
 33           KM        DIVERT FLOW FROM SUB 12 (CP 12.1) UNDER SCOTTSDALE ROAD
 34           KM        THIS DIVERT WILL FEED LOW-FLOW WASHES
 35           DT    12.3
 36           DI       0     145     500    1000    5000
 37           DQ       0     145     225     325     550

 38           KK    28A1      CP
 39           KM        ROUTE NON-DIVERTED FLOW FROM SUB 12 (DIV 12.2) TO CP 28A1 (NEW CHANNEL)
 40           RK    8000   .0165    .025            TRAP      75       2

 41           KK   SUB16
 42           KM        RUNOFF FROM SUB-BASIN 16
 43           BA  1.4809
 44           LS              83
 45           UK     217   .0581     .20     100
 46           RK   14800   .0216    .045            TRAP      25       3
```

```
                .          .          .
                .          .          .
454             .       3302...........
                .          .
                .          .
459             .          .-------)    3304
457             .       3303
                .          V
                .          V
462             .       3341
                .          .
                .          .
467             .          .          .(-------    3282
465             .          .       3282
                .          .          V
                .          .          V
468             .          .       3330 ***
                .          .          V
                .          .          V
474             .          .       3340 ***
                .          .          .
                .          .          .
480             .       3342...........
                .          .
                .          .
485             .          .-------)    3344
483             .       3343
                .          V
                .          V
488             .       3401
                .          .
                .          .
491             .          .       3390
                .          .          V
                .          .          V
497             .          .       3400 ***
                .          .          .
                .          .          .
503             .       3402...........
                .          .
                .          .
508             .          .-------)    3404
506             .       3403
                .          V
                .          V
511             .       3451
                .          .
                .          .
516             .          .          .(-------    1392
514             .          .       1392
                .          .          V
                .          .          V
517             .          .       1410 ***
                .          .          V
                .          .          V
529             .          .       3420 ***
                .          .          .
                .          .          .
543             .          .          .       3430
                .          .          .          .
                .          .          .          .
549             .          .       3431...........
                .          .          V
                .          .          V
552             .          .       3440 ***
                .          .          V
```

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

  47          KK   SUB17
  48          KM        RUNOFF FROM SUB-BASIN 17
  49          BA  1.1459
  50          LS              83
  51          UK     285   .0421     .20     100
  52          RK   12200   .0254    .045            TRAP      25       3

  53          KK   SUB18
  54          KM        RUNOFF FROM SUB-BASIN 18
  55          BA  1.2670
  56          LS              83
  57          UK     285   .0421     .20     100
  58          RK   10840   .0259    .045            TRAP      25       3

  59          KK   CP19A
  60          KM        COMBINE HYDROGRAPHS SUB16, SUB17, & SUB18
  61          HC       3

  62          KK   CP19B
  63          KM        ROUTE CP19A TO CP19B
  64          RK    1100   .0155   0.045            TRAP      35       3

  65          KK   SUB15
  66          KM        RUNOFF FROM SUB-BASIN 15
  67          BA  1.3327
  68          LS              82
  69          UK     217   .0581     .20     100
  70          RK   21200   .0236    .045            TRAP      25       3

  71          KK   CP19C
  72          KM        COMBINE HYDROGRAPHS SUB15 & CP19B
  73          HC       2

  74          KK   SUB19
  75          KM        RUNOFF FROM SUB-BASIN 19 & ROUTE CP 19C
  76          BA   .1774
  77          LS              84
  78          UK     275   .0800     .20     100
  79          RK    3730   .0352    .045    .160    TRAP      15       3
  80          RK    1800   .0200    .045            TRAP      50      30     YES

  81          KK   SUB20
  82          KM        RUNOFF FROM SUB-BASIN 20
  83          BA   .5698
  84          LS              84
  85          UK     300   .0750     .20     100
  86          RK    9640   .0197    .045            TRAP      15       3

  87          KK    CP21
  88          KM        COMBINE HYDROGRAPHS SUB19 & SUB20
  89          HC       2
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  90          KK   SUB21
  91          KM        RUNOFF FROM SUB-BASIN 21 & ROUTE CP 21
  92          BA  3.6841
  93          LS              80    1.08
  94          UK     297   .0558     .20     100
  95          RK   27600   .0196    .045           TRAP      50      30     YES

  96          KK   SUB22
  97          KM        RUNOFF FROM SUB-BASIN 22
  98          BA  1.3860
  99          LS              84
 100          UK     225   .0590     .20     100
 101          RK   13000   .0238    .045           TRAP      25       3

 102          KK   SUB23
 103          KM        RUNOFF FROM SUB-BASIN 23
 104          BA   .3945
 105          LS              84
 106          UK     225   .0590     .20     100
 107          RK   10200   .0304    .045           TRAP      20       3

 108          KK    CP24
 109          KM        COMBINE HYDROGRAPHS SUB22 & SUB23
 110          HC       2

 111          KK   SUB24
 112          KM        RUNOFF FROM SUB-BASIN 24 & ROUTE CP 24
 113          BA   .4550
 114          LS              77    1.07
 115          UK     295   .0438     .20     100
 116          RK    6800   .0257    .045           TRAP      15       3     YES

 117          KK   SUB25
 118          KM        RUNOFF FROM SUB-BASIN 25
 119          BA  1.5216
 120          LS              85    1.02
 121          UK     295   .0438     .20     100
 122          RK   16700   .0302    .045           TRAP      25       3

 123          KK    CP26
 124          KM        COMBINE HYDROGRAPHS SUB24 & SUB25
 125          HC       2

 126          KK   SUB26
 127          KM        RUNOFF FROM SUB-BASIN 26 & ROUTE CP 26
 128          BA   .6095
 129          LS              74    1.51
 130          UK     200   .0250     .20     100
 131          RK   11400   .0241    .045           TRAP      30       3     YES
```

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

 132          KK    CP27
 133          KM        COMBINE HYDROGRAPHS SUB21 & SUB26
 134          HC       2

 135          KK   SUB27
 136          KM        RUNOFF FROM SUB-BASIN 27 & ROUTE CP 27
 137          BA   .7639
 138          LS              73    1.59
 139          UK     159   .0213     .10     100
 140          RK    3200   .0310    .045            TRAP    1500       2     YES

 141          KK  SUB28A
 142          KM        RUNOFF FROM SUB 28A & ROUTE SUB 27
 143          BA   .8637
 144          LS              73    1.27
 145          UK      96   .0213     .10     100
 146          RK    4500   .0303    .045            TRAP    2500       2     YES

 147          KK    28A2      CP
 148          KM        ROUTE SUB 28A TO CP 28A2  (NEW CHANNEL)
 149          RK    5000   .0165    .025            TRAP      75       2

 150          KK    28A3      CP
 151          KM        COMBINE CP 28A1 & CP 28A2
 152          HC       2

 153          KK    28.1     DIV
 154          KM        DIVERT FLOW FROM SUB 28A (CP 28A3) UNDER SCOTTSDALE ROAD
 155          KM        THIS DIVERT WILL FEED LOW-FLOW WASHES
 156          DT    28.2
 157          DI       0     165     500    1000    5000
 158          DQ       0     165     250     350     600

 159          KK    33A1      CP
 160          KM        ROUTE NON-DIVERTED FLOW FROM SUB 28A (DIV 28.1) TO CP 33A1 (NEW CHANNEL)
 161          RK    9300   .0165    .025            TRAP      75       2

 162          KK   SUB30
 163          KM        RUNOFF FROM SUB-BASIN 30
 164          BA  1.3296
 165          LS              82    1.52
 166          UK     110   .0408     .20     100
 167          RK   10640   .0371    .045            TRAP      50     100

 168          KK   SUB31
 169          KM        RUNOFF FROM SUB 31 & ROUTE SUB 30
 170          BA  1.2325
 171          LS              74    3.20
 172          UK     102   .0213     .10     100
 173          RK    9450   .0228    .045            TRAP      50     130     YES
```

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

 174          KK   SUB32
 175          KM        RUNOFF FROM SUB-BASIN 32 & ROUTE SUB 31
 176          BA  1.3985
 177          LS              74    2.99
 178          UK      67   .0213     .10     100
 179          RK    9300   .0214    .045           TRAP      50     130     YES

 180          KK  SUB33A
 181          KM        RUNOFF FROM SUB 33A & ROUTE SUB 32
 182          BA   .6858
 183          LS              74
 184          UK      89   .0213     .10     100
 185          RK    4200   .0161    .045           TRAP      50     175     YES

 186          KK    33A2      CP
 187          KM        ROUTE SUB 33A TO CP 33A2 (NEW CHANNEL)
 188          RK    4900   .0165    .025           TRAP      75       2

 189          KK    33A3      CP
 190          KM        COMBINE CP 33A1 & CP 33A2
 191          HC       2

 192          KK    33.2     DIV
 193          KM        DIVERT FLOW FROM SUB 33A UNDER SCOTTSDALE ROAD
 194          KM        THIS DIVERT WILL FEED LOW-FLOW WASHES
 195          KM        THE REMAINING FLOW IS THE TOTAL AMOUNT THAT WILL BE PASSED UNDER THE
 196          KM        OUTER LOOP AT THE SCOTTSDALE ROAD INTERSECTION.
 197          DT    33.3
 198          DI       0     198     500    1000    5000
 199          DQ       0     198     275     375     625

 200          KK    33.4      CP
 201          KM        ROUTE NON-DIVERTED FLOW FROM CP 33A3 (DIV 33.2) TO THE CAP DIKE.
 202          KM        THIS IS THE DOWNSTREAM END OF THE NORTH-SOUTH CHANNEL ALONG
 203          KM        SCOTTSDALE ROAD.
 204          RK    7700   .0165    .025           TRAP      75       2
              * ***************************************************************************
              *
              * THE FOLLOWING SECTION OF THIS MODEL RETRIEVES THE LOW-FLOW DIVERTS FROM THE
              * NEW NORTH-SOUTH CHANNEL & COMBINES THEM WITH FLOWS DOWNSTREAM OF THE NEW
              * CHANNEL IN ORDER TO DETERMINE THE TOTAL FLOW INTO DESERT RIDGE.
              *
              * ***************************************************************************

 205          KK    12.3     RET
 206          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 12 (DT 12.3)
 207          DR    12.3

 208          KK      13     SUB
 209          KM        RUNOFF FROM SUB 13 & ROUTE RET 12.3
 210          BA  1.1981
 211          LS              74    1.22
 212          UK      86   .0213     .10     100
 213          RK   10533   .0192    .045           TRAP      50     130     YES
```

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

 214          KK      14     SUB
 215          KM        RUNOFF FROM SUB 14 & ROUTE SUB 13
 216          BA  1.1209
 217          LS              74
 218          UK     101   .0213     .10     100
 219          RK   11200   .0142    .045           TRAP      50     150     YES

 220          KK    14.1     SUB
 221          KM        RUNOFF FROM SUB 14.1 & ROUTE SUB 14
 222          BA   .6349
 223          LS              74
 224          UK     101   .0213     .10     100
 225          RK    5800   .0112    .045           TRAP      50     160     YES

 226          KK    28.2     RET
 227          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 28A (DT 28.2)
 228          DR    28.2

 229          KK      28     SUB
 230          KM        RUNOFF FROM SUB 28 & ROUTE RET 28.2
 231          BA   .5598
 232          LS              73    1.27
 233          UK      96   .0213     .10     100
 234          RK    4000   .0303    .045           TRAP      50     100     YES

 235          KK      29     SUB
 236          KM        RUNOFF FROM SUB 29 & ROUTE SUB 28
 237          BA  1.8786
 238          LS              74
 239          UK      88   .0213     .10     100
 240          RK   10900   .0147    .045           TRAP      50     130     YES

 241          KK    29.1     SUB
 242          KM        RUNOFF FROM SUB 29.1 & ROUTE SUB 29
 243          BA  1.0603
 244          LS              74
 245          UK      88   .0213     .10     100
 246          RK    5500   .0118    .045           TRAP      50     140     YES

 247          KK    33.3     RET
 248          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 33A (DT 33.3)
 249          DR    33.3

 250          KK      33     SUB
 251          KM        RUNOFF FROM SUB 33 & ROUTE RET 33.3
 252          BA   .8859
 253          LS              74
 254          UK      89   .0213     .10     100
 255          RK    5300   .0161    .045           TRAP      50     175     YES
```

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

 256          KK    33.1     SUB
 257          KM        RUNOFF FROM SUB 33.1 & ROUTE SUB 33
 258          BA  1.3602
 259          LS              74    1.66
 260          UK      89   .0213     .10     100
 261          RK    6700   .0116    .045           TRAP      50     190     YES
 262          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

  11       SUB11
              V
              V
  23       SUB12 ***
              V
              V
  29        12.1
              .
              .
  35          .-------)    12.3
  32        12.2
              V
              V
  38        28A1
              .
              .
  41          .       SUB16
              .          .
              .          .
  47          .          .       SUB17
              .          .          .
              .          .          .
  53          .          .          .      SUB18
              .          .          .          .
              .          .          .          .
  59          .       CP19A.......................
              .          V
              .          V
  62          .       CP19B
              .          .
              .          .
  65          .          .       SUB15
              .          .          .
              .          .          .
  71          .       CP19C............
              .          V
              .          V
  74          .       SUB19 ***
              .          .
              .          .
  81          .          .       SUB20
              .          .          .
              .          .          .
  87          .        CP21............
              .          V
              .          V
  90          .       SUB21 ***
              .          .
              .          .
  96          .          .       SUB22
              .          .          .
              .          .          .
 102          .          .          .      SUB23
              .          .          .          .
              .          .          .          .
 108          .          .        CP24............
              .          .          V
              .          .          V
```

```
111          .           .       SUB24 ***
             .           .           .
             .           .           .
117          .           .           .       SUB25
             .           .           .           .
             .           .           .           .
123          .           .       CP26............
             .           .          V
             .           .          V
126          .           .       SUB26 ***
             .           .           .
             .           .           .
132          .        CP27............
             .           V
             .           V
135          .       SUB27 ***
             .           V
             .           V
141          .      SUB28A ***
             .           V
             .           V
147          .        28A2
             .           .
             .           .
150       28A3............
             .
             .
156          .-------)    28.2
153       28.1
             V
             V
159       33A1
             .
             .
162          .       SUB30
             .           V
             .           V
168          .       SUB31 ***
             .           V
             .           V
174          .       SUB32 ***
             .           V
             .           V
180          .      SUB33A ***
             .           V
             .           V
186          .        33A2
             .           .
             .           .
189       33A3............
             .
             .
197          .-------)    33.3
192       33.2
             V
             V
200       33.4
             .
             .
207          .           .(-------    12.3
205          .        12.3
             .           V
             .           V
208          .          13 ***
             .           V
             .           V
```

```
214          .          14 ***
             .           V
             .           V
220          .        14.1 ***
             .           .
             .           .
228          .           .          .(-------    28.2
226          .           .       28.2
             .           .          V
             .           .          V
229          .           .         28 ***
             .           .          V
             .           .          V
235          .           .         29 ***
             .           .          V
             .           .          V
241          .           .       29.1 ***
             .           .          .
             .           .          .
249          .           .          .          .(-------    33.3
247          .           .          .       33.3
             .           .          .          V
             .           .          .          V
250          .           .          .         33 ***
             .           .          .          V
             .           .          .          V
256          .           .          .       33.1 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
                                   ****
                 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
       U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                   ****


                        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                        CITY OF PHOENIX AREAS C & D, EXISTING CONDITIONS
                        MODEL DRC3.24I
                        DESERT RIDGE CHANNEL, NORTH-SOUTH ALIGNMENT (SCOTTSDALE ROAD)
                        INCLUDES LOW-FLOW DIVERTS
                        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR

9 IO          OUTPUT CONTROL VARIABLES
                   IPRNT          5  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT          HYDROGRAPH TIME DATA
                    NMIN          5  MINUTES IN COMPUTATION INTERVAL
                   IDATE     14JUL89  STARTING DATE
                   ITIME        0000  STARTING TIME
                      NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE     15JUL89  ENDING DATE
                  NDTIME        0000  ENDING TIME

             COMPUTATION INTERVAL     .08 HOURS
                  TOTAL TIME BASE   24.00 HOURS

      ENGLISH UNITS
```

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	SUB11	607.	6.17	86.	27.	27.	.59		
HYDROGRAPH AT	SUB12	1107.	6.33	285.	92.	92.	1.92		
ROUTED TO	12.1	1106.	6.33	286.	92.	92.	1.92		
DIVERSION TO	12.3	331.	6.33	151.	58.	58.	1.92		
HYDROGRAPH AT	12.2	775.	6.33	135.	34.	34.	1.92		
ROUTED TO	28A1	735.	6.58	134.	34.	34.	1.92		
HYDROGRAPH AT	SUB16	2314.	6.08	306.	94.	94.	1.48		
HYDROGRAPH AT	SUB17	1803.	6.17	236.	73.	73.	1.15		
HYDROGRAPH AT	SUB18	2222.	6.08	262.	81.	81.	1.27		
3 COMBINED AT	CP19A	6253.	6.08	805.	248.	248.	3.89		
ROUTED TO	CP19B	6229.	6.17	805.	248.	248.	3.89		
HYDROGRAPH AT	SUB15	1415.	6.17	261.	81.	81.	1.33		
2 COMBINED AT	CP19C	7643.	6.17	1066.	329.	329.	5.23		
HYDROGRAPH AT	SUB19	7490.	6.17	1104.	341.	341.	5.40		
HYDROGRAPH AT	SUB20	1015.	6.08	123.	38.	38.	.57		
2 COMBINED AT	CP21	8468.	6.17	1226.	379.	379.	5.97		
HYDROGRAPH AT	SUB21	5492.	6.75	1835.	587.	587.	9.66		
HYDROGRAPH AT	SUB22	2637.	6.08	299.	91.	91.	1.39		
HYDROGRAPH AT	SUB23	712.	6.08	85.	26.	26.	.39		
2 COMBINED AT	CP24	3348.	6.08	384.	117.	117.	1.78		
HYDROGRAPH AT	SUB24	3542.	6.17	470.	144.	144.	2.24		
HYDROGRAPH AT	SUB25	2433.	6.17	340.	104.	104.	1.52		
2 COMBINED AT	CP26	5976.	6.17	809.	248.	248.	3.76		
HYDROGRAPH AT	SUB26	6097.	6.33	928.	285.	285.	4.37		
2 COMBINED AT	CP27	9710.	6.42	2762.	871.	871.	14.02		
HYDROGRAPH AT	SUB27	9831.	6.50	2874.	908.	908.	14.79		
HYDROGRAPH AT	SUB28A	9993.	6.67	2966.	946.	946.	15.65		
ROUTED TO	28A2	9926.	6.67	2967.	945.	945.	15.65		
2 COMBINED AT	28A3	10636.	6.67	3102.	978.	978.	17.58		

DIVERSION TO	28.2	952.	6.67	474.	231.	231.	17.58
HYDROGRAPH AT	28.1	9684.	6.67	2628.	748.	748.	17.58
ROUTED TO	33A1	9670.	6.75	2625.	749.	749.	17.58
HYDROGRAPH AT	SUB30	1903.	6.17	275.	84.	84.	1.33
HYDROGRAPH AT	SUB31	1876.	6.42	459.	144.	144.	2.56
HYDROGRAPH AT	SUB32	2055.	6.67	664.	212.	212.	3.96
HYDROGRAPH AT	SUB33A	2143.	6.75	758.	244.	244.	4.65
ROUTED TO	33A2	2141.	6.83	757.	243.	243.	4.65
2 COMBINED AT	33A3	11775.	6.75	3365.	992.	992.	22.22
DIVERSION TO	33.3	1048.	6.75	513.	237.	237.	22.22
HYDROGRAPH AT	33.2	10727.	6.75	2851.	755.	755.	22.22
ROUTED TO	33.4	10691.	6.83	2869.	762.	762.	22.22
HYDROGRAPH AT	12.3	331.	6.33	151.	58.	58.	.00
HYDROGRAPH AT	13	755.	6.42	317.	114.	114.	1.20
HYDROGRAPH AT	14	868.	6.92	452.	164.	164.	2.32
HYDROGRAPH AT	14.1	919.	7.17	525.	192.	192.	2.95
HYDROGRAPH AT	28.2	952.	6.67	474.	231.	231.	.00
HYDROGRAPH AT	28	1060.	6.67	534.	255.	255.	.56
HYDROGRAPH AT	29	1292.	6.67	758.	334.	334.	2.44
HYDROGRAPH AT	29.1	1562.	6.58	884.	379.	379.	3.50
HYDROGRAPH AT	33.3	1048.	6.75	513.	237.	237.	.00
HYDROGRAPH AT	33	1116.	7.00	615.	276.	276.	.89
HYDROGRAPH AT	33.1	1310.	6.42	781.	336.	336.	2.25

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

HEC-1

INPUT/OUTPUT FILES: DRC4.24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

NORTH-SOUTH DESERT RIDGE CHANNEL BEGINNING NEAR

JOMAX/SCOTTSDALE ROAD INTERSECTION

NO LOW-FLOW DIVERTS

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D, EXISTING CONDITIONS
  3           ID        MODEL DRC4.24I
  4           ID        DESERT RIDGE CHANNEL, NORTH-SOUTH ALIGNMENT (SCOTTSDALE ROAD)
  5           ID        NO LOW-FLOW DIVERTS
  6           ID        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  7           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR
             *DIAGRAM
  8           IT       5 14JUL89       0     289
  9           IO       5       0
 10           IN      30 14JUL89       0

 11           KK   SUB11
 12           KM        RUNOFF FROM SUB-BASIN 11
 13           BA   .5865
 14           PB    4.32
 15           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 16           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 17           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 18           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 19           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 20           LS              74    1.53
 21           UK     150   .0425     .20     100
 22           RK    6200   .0226    .045            TRAP      50      50

 23           KK   SUB12
 24           KM        RUNOFF FROM SUB 12 & ROUTE SUB 11
 25           BA  1.3372
 26           LS              74    1.39
 27           UK      95   .0213     .10     100
 28           RK    9850   .0214    .045            TRAP      50     100     YES

 29           KK    12.1      CP
 30           KM        ROUTE SUB 12 TO CP 12.1  (NEW CHANNEL)
 31           RK    3600   .0165    .025            TRAP      75       2

 32           KK    12.2     DIV
 33           KM        DIVERT FLOW FROM SUB 12 (CP 12.1) UNDER SCOTTSDALE ROAD
 34           KM        THIS DIVERT WILL FEED LOW-FLOW WASHES
 35           DT    12.3
 36           DI       0     145     500    1000    5000
 37           DQ       0       0       0       0       0

 38           KK    28A1      CP
 39           KM        ROUTE NON-DIVERTED FLOW FROM SUB 12 (DIV 12.2) TO CP 28A1 (NEW CHANNEL)
 40           RK    8000   .0165    .025            TRAP      75       2

 41           KK   SUB16
 42           KM        RUNOFF FROM SUB-BASIN 16
 43           BA  1.4809
 44           LS              83
 45           UK     217   .0581     .20     100
 46           RK   14800   .0216    .045            TRAP      25       3
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LINE          IO.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 47           KK   SUB17
 48           KM        RUNOFF FROM SUB-BASIN 17
 49           BA  1.1459
 50           LS             83
 51           UK     285   .0421     .20     100
 52           RK   12200   .0254    .045           TRAP      25       3

 53           KK   SUB18
 54           KM        RUNOFF FROM SUB-BASIN 18
 55           BA  1.2670
 56           LS             83
 57           UK     285   .0421     .20     100
 58           RK   10840   .0259    .045           TRAP      25       3

 59           KK   CP19A
 60           KM        COMBINE HYDROGRAPHS SUB16, SUB17, & SUB18
 61           HC       3

 62           KK   CP19B
 63           KM        ROUTE CP19A TO CP19B
 64           RK    1100   .0155   0.045           TRAP      35       3

 65           KK   SUB15
 66           KM        RUNOFF FROM SUB-BASIN 15
 67           BA  1.3327
 68           LS             82
 69           UK     217   .0581     .20     100
 70           RK   21200   .0236    .045           TRAP      25       3

 71           KK   CP19C
 72           KM        COMBINE HYDROGRAPHS SUB15 & CP19B
 73           HC       2

 74           KK   SUB19
 75           KM        RUNOFF FROM SUB-BASIN 19 & ROUTE CP 19C
 76           BA   .1774
 77           LS             84
 78           UK     275   .0800     .20     100
 79           RK    3730   .0352    .045    .160   TRAP      15       3
 80           RK    1800   .0200    .045           TRAP      50      30     YES

 81           KK   SUB20
 82           KM        RUNOFF FROM SUB-BASIN 20
 83           BA   .5698
 84           LS             84
 85           UK     300   .0750     .20     100
 86           RK    9640   .0197    .045           TRAP      15       3

 87           KK   CP21
 88           KM        COMBINE HYDROGRAPHS SUB19 & SUB20
 89           HC       2
```

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

  90          KK   SUB21
  91          KM        RUNOFF FROM SUB-BASIN 21 & ROUTE CP 21
  92          BA  3.6841
  93          LS              80    1.08
  94          UK     297   .0558     .20     100
  95          RK   27600   .0196    .045           TRAP      50      30     YES

  96          KK   SUB22
  97          KM        RUNOFF FROM SUB-BASIN 22
  98          BA  1.3860
  99          LS              84
 100          UK     225   .0590     .20     100
 101          RK   13000   .0238    .045           TRAP      25       3

 102          KK   SUB23
 103          KM        RUNOFF FROM SUB-BASIN 23
 104          BA   .3945
 105          LS              84
 106          UK     225   .0590     .20     100
 107          RK   10200   .0304    .045           TRAP      20       3

 108          KK    CP24
 109          KM        COMBINE HYDROGRAPHS SUB22 & SUB23
 110          HC       2

 111          KK   SUB24
 112          KM        RUNOFF FROM SUB-BASIN 24 & ROUTE CP 24
 113          BA   .4550
 114          LS              77    1.07
 115          UK     295   .0438     .20     100
 116          RK    6800   .0257    .045           TRAP      15       3     YES

 117          KK   SUB25
 118          KM        RUNOFF FROM SUB-BASIN 25
 119          BA  1.5216
 120          LS              85    1.02
 121          UK     295   .0438     .20     100
 122          RK   16700   .0302    .045           TRAP      25       3

 123          KK    CP26
 124          KM        COMBINE HYDROGRAPHS SUB24 & SUB25
 125          HC       2

 126          KK   SUB26
 127          KM        RUNOFF FROM SUB-BASIN 26 & ROUTE CP 26
 128          BA   .6095
 129          LS              74    1.51
 130          UK     200   .0250     .20     100
 131          RK   11400   .0241    .045           TRAP      30       3     YES
```

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

 132          KK    CP27
 133          KM        COMBINE HYDROGRAPHS SUB21 & SUB26
 134          HC       2

 135          KK   SUB27
 136          KM        RUNOFF FROM SUB-BASIN 27 & ROUTE CP 27
 137          BA   .7639
 138          LS              73    1.59
 139          UK     159   .0213     .10     100
 140          RK    3200   .0310    .045           TRAP    1500       2     YES

 141          KK  SUB28A
 142          KM        RUNOFF FROM SUB 28A & ROUTE SUB 27
 143          BA   .8637
 144          LS              73    1.27
 145          UK      96   .0213     .10     100
 146          RK    4500   .0303    .045           TRAP    2500       2     YES

 147          KK    28A2      CP
 148          KM        ROUTE SUB 28A TO CP 28A2  (NEW CHANNEL)
 149          RK    5000   .0165    .025           TRAP      75       2

 150          KK    28A3      CP
 151          KM        COMBINE CP 28A1 & CP 28A2
 152          HC       2

 153          KK    28.1     DIV
 154          KM        DIVERT FLOW FROM SUB 28A (CP 28A3) UNDER SCOTTSDALE ROAD
 155          KM        THIS DIVERT WILL FEED LOW-FLOW WASHES
 156          DT    28.2
 157          DI       0     165     500    1000    5000
 158          DQ       0       0       0       0       0

 159          KK    33A1      CP
 160          KM        ROUTE NON-DIVERTED FLOW FROM SUB 28A (DIV 28.1) TO CP 33A1 (NEW CHANNEL)
 161          RK    9300   .0165    .025           TRAP      75       2

 162          KK   SUB30
 163          KM        RUNOFF FROM SUB-BASIN 30
 164          BA  1.3296
 165          LS              82    1.52
 166          UK     110   .0408     .20     100
 167          RK   10640   .0371    .045           TRAP      50     100

 168          KK   SUB31
 169          KM        RUNOFF FROM SUB 31 & ROUTE SUB 30
 170          BA  1.2325
 171          LS              74    3.20
 172          UK     102   .0213     .10     100
 173          RK    9450   .0228    .045           TRAP      50     130     YES
```

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

 174          KK   SUB32
 175          KM        RUNOFF FROM SUB-BASIN 32 & ROUTE SUB 31
 176          BA  1.3985
 177          LS              74    2.99
 178          UK      67   .0213     .10     100
 179          RK    9300   .0214    .045           TRAP      50     130     YES

 180          KK  SUB33A
 181          KM        RUNOFF FROM SUB 33A & ROUTE SUB 32
 182          BA   .6858
 183          LS              74
 184          UK      89   .0213     .10     100
 185          RK    4200   .0161    .045           TRAP      50     175     YES

 186          KK    33A2      CP
 187          KM        ROUTE SUB 33A TO CP 33A2 (NEW CHANNEL)
 188          RK    4900   .0165    .025           TRAP      75       2

 189          KK    33A3      CP
 190          KM        COMBINE CP 33A1 & CP 33A2
 191          HC       2

 192          KK    33.2     DIV
 193          KM        DIVERT FLOW FROM SUB 33A UNDER SCOTTSDALE ROAD
 194          KM        THIS DIVERT WILL FEED LOW-FLOW WASHES
 195          KM        THE REMAINING FLOW IS THE TOTAL AMOUNT THAT WILL BE PASSED UNDER THE
 196          KM        OUTER LOOP AT THE SCOTTSDALE ROAD INTERSECTION.
 197          DT    33.3
 198          DI       0     198     500    1000    5000
 199          DQ       0       0       0       0       0

 200          KK    33.4      CP
 201          KM        ROUTE NON-DIVERTED FLOW FROM CP 33A3 (DIV 33.2) TO THE CAP DIKE.
 202          KM        THIS IS THE DOWNSTREAM END OF THE NORTH-SOUTH CHANNEL ALONG
 203          KM        SCOTTSDALE ROAD.
 204          RK    7700   .0165    .025           TRAP      75       2
              * ******************************************************************************
              *
              * THE FOLLOWING SECTION OF THIS MODEL RETRIEVES THE LOW-FLOW DIVERTS FROM THE
              * NEW NORTH-SOUTH CHANNEL & COMBINES THEM WITH FLOWS DOWNSTREAM OF THE NEW
              * CHANNEL IN ORDER TO DETERMINE THE TOTAL FLOW INTO DESERT RIDGE.
              *
              * ******************************************************************************

 205          KK    12.3     RET
 206          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 12 (DT 12.3)
 207          DR    12.3

 208          KK      13     SUB
 209          KM        RUNOFF FROM SUB 13 & ROUTE RET 12.3
 210          BA  1.1981
 211          LS              74    1.22
 212          UK      86   .0213     .10     100
 213          RK   10533   .0192    .045           TRAP      50     130     YES
```

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

 214          KK      14     SUB
 215          KM        RUNOFF FROM SUB 14 & ROUTE SUB 13
 216          BA  1.1209
 217          LS              74
 218          UK     101   .0213     .10     100
 219          RK   11200   .0142    .045           TRAP      50     150     YES

 220          KK    14.1     SUB
 221          KM        RUNOFF FROM SUB 14.1 & ROUTE SUB 14
 222          BA   .6349
 223          LS              74
 224          UK     101   .0213     .10     100
 225          RK    5800   .0112    .045           TRAP      50     160     YES

 226          KK    28.2     RET
 227          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 28A (DT 28.2)
 228          DR    28.2

 229          KK      28     SUB
 230          KM        RUNOFF FROM SUB 28 & ROUTE RET 28.2
 231          BA   .5598
 232          LS              73    1.27
 233          UK      96   .0213     .10     100
 234          RK    4000   .0303    .045           TRAP      50     100     YES

 235          KK      29     SUB
 236          KM        RUNOFF FROM SUB 29 & ROUTE SUB 28
 237          BA  1.8786
 238          LS              74
 239          UK      88   .0213     .10     100
 240          RK   10900   .0147    .045           TRAP      50     130     YES

 241          KK    29.1     SUB
 242          KM        RUNOFF FROM SUB 29.1 & ROUTE SUB 29
 243          BA  1.0603
 244          LS              74
 245          UK      88   .0213     .10     100
 246          RK    5500   .0118    .045           TRAP      50     140     YES

 247          KK    33.3     RET
 248          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 33A (DT 33.3)
 249          DR    33.3

 250          KK      33     SUB
 251          KM        RUNOFF FROM SUB 33 & ROUTE RET 33.3
 252          BA   .8859
 253          LS              74
 254          UK      89   .0213     .10     100
 255          RK    5300   .0161    .045           TRAP      50     175     YES
```

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

 256          KK    33.1     SUB
 257          KM        RUNOFF FROM SUB 33.1 & ROUTE SUB 33
 258          BA  1.3602
 259          LS              74    1.66
 260          UK      89   .0213     .10     100
 261          RK    6700   .0116    .045           TRAP      50     190     YES
 262          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

  11      SUB11
             V
             V
  23      SUB12 ***
             V
             V
  29       12.1
             .
             .
  35         .-------)    12.3
  32       12.2
             V
             V
  38       28A1
             .
             .
  41         .       SUB16
             .          .
             .          .
  47         .          .       SUB17
             .          .          .
             .          .          .
  53         .          .          .       SUB18
             .          .          .          .
             .          .          .          .
  59         .       CP19A.......................
             .          V
             .          V
  62         .       CP19B
             .          .
             .          .
  65         .          .       SUB15
             .          .          .
             .          .          .
  71         .       CP19C............
             .          V
             .          V
  74         .       SUB19 ***
             .          .
             .          .
  81         .          .       SUB20
             .          .          .
             .          .          .
  87         .        CP21............
             .          V
             .          V
  90         .       SUB21 ***
             .          .
             .          .
  96         .          .       SUB22
             .          .          .
             .          .          .
 102         .          .          .       SUB23
             .          .          .          .
             .          .          .          .
 108         .          .        CP24............
             .          .          V
             .          .          V
```

```
111          .          .       SUB24 ***
             .          .          .
             .          .          .
117          .          .          .       SUB25
             .          .          .          .
             .          .          .          .
123          .          .       CP26............
             .          .          V
             .          .          V
126          .          .       SUB26 ***
             .          .          .
             .          .          .
132          .        CP27............
             .          V
             .          V
135          .       SUB27 ***
             .          V
             .          V
141          .      SUB28A ***
             .          V
             .          V
147          .        28A2
             .          .
             .          .
150       28A3............
             .
             .
156          .-------)    28.2
153       28.1
             V
             V
159       33A1
             .
             .
162          .       SUB30
             .          V
             .          V
168          .       SUB31 ***
             .          V
             .          V
174          .       SUB32 ***
             .          V
             .          V
180          .      SUB33A ***
             .          V
             .          V
186          .        33A2
             .          .
             .          .
189       33A3............
             .
             .
197          .-------)    33.3
192       33.2
             V
             V
200       33.4
             .
             .
207          .          .(-------    12.3
205          .        12.3
             .          V
             .          V
208          .         13 ***
             .          V
             .          V
```

```
214          .          14 ***
             .           V
             .           V
220          .        14.1 ***
             .           .
             .           .
228          .           .          .(-------    28.2
226          .           .       28.2
             .           .          V
             .           .          V
229          .           .         28 ***
             .           .          V
             .           .          V
235          .           .         29 ***
             .           .          V
             .           .          V
241          .           .       29.1 ***
             .           .          .
             .           .          .
249          .           .          .          .(-------    33.3
247          .           .          .       33.3
             .           .          .          V
             .           .          .          V
250          .           .          .         33 ***
             .           .          .          V
             .           .          .          V
256          .           .          .       33.1 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
                                   ****
                 FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985
        U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616
                                   ****


                        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
                        CITY OF PHOENIX AREAS C & D, EXISTING CONDITIONS
                        MODEL DRC4.24I
                        DESERT RIDGE CHANNEL, NORTH-SOUTH ALIGNMENT (SCOTTSDALE ROAD)
                        NO LOW-FLOW DIVERTS
                        100-YEAR, 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR

9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

 IT         HYDROGRAPH TIME DATA
                  NMIN          5  MINUTES IN COMPUTATION INTERVAL
                 IDATE     14JUL89  STARTING DATE
                 ITIME        0000  STARTING TIME
                    NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE     15JUL89  ENDING DATE
                NDTIME        0000  ENDING TIME

             COMPUTATION INTERVAL     .08 HOURS
                  TOTAL TIME BASE   24.00 HOURS

     ENGLISH UNITS
```

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	SUB11	607.	6.17	86.	27.	27.	.59		
HYDROGRAPH AT	SUB12	1107.	6.33	285.	92.	92.	1.92		
ROUTED TO	12.1	1106.	6.33	286.	92.	92.	1.92		
DIVERSION TO	12.3	0.	6.33	0.	0.	0.	1.92		
HYDROGRAPH AT	12.2	1106.	6.33	286.	92.	92.	1.92		
ROUTED TO	28A1	1105.	6.50	288.	92.	92.	1.92		
HYDROGRAPH AT	SUB16	2314.	6.08	306.	94.	94.	1.48		
HYDROGRAPH AT	SUB17	1803.	6.17	236.	73.	73.	1.15		
HYDROGRAPH AT	SUB18	2222.	6.08	262.	81.	81.	1.27		
3 COMBINED AT	CP19A	6253.	6.08	805.	248.	248.	3.89		
ROUTED TO	CP19B	6229.	6.17	805.	248.	248.	3.89		
HYDROGRAPH AT	SUB15	1415.	6.17	261.	81.	81.	1.33		
2 COMBINED AT	CP19C	7643.	6.17	1066.	329.	329.	5.23		
HYDROGRAPH AT	SUB19	7490.	6.17	1104.	341.	341.	5.40		
HYDROGRAPH AT	SUB20	1015.	6.08	123.	38.	38.	.57		
2 COMBINED AT	CP21	8468.	6.17	1226.	379.	379.	5.97		
HYDROGRAPH AT	SUB21	5492.	6.75	1835.	587.	587.	9.66		
HYDROGRAPH AT	SUB22	2637.	6.08	299.	91.	91.	1.39		
HYDROGRAPH AT	SUB23	712.	6.08	85.	26.	26.	.39		
2 COMBINED AT	CP24	3348.	6.08	384.	117.	117.	1.78		
HYDROGRAPH AT	SUB24	3542.	6.17	470.	144.	144.	2.24		
HYDROGRAPH AT	SUB25	2433.	6.17	340.	104.	104.	1.52		
2 COMBINED AT	CP26	5976.	6.17	809.	248.	248.	3.76		
HYDROGRAPH AT	SUB26	6097.	6.33	928.	285.	285.	4.37		
2 COMBINED AT	CP27	9710.	6.42	2762.	871.	871.	14.02		
HYDROGRAPH AT	SUB27.	9831.	6.50	2874.	908.	908.	14.79		
HYDROGRAPH AT	SUB28A	9993.	6.67	2966.	946.	946.	15.65		
ROUTED TO	28A2	9926.	6.67	2967.	945.	945.	15.65		
2 COMBINED AT	28A3	10996.	6.67	3255.	1037.	1037.	17.58		

DIVERSION TO	28.2	0.	6.67	0.	0.	0.	17.58
HYDROGRAPH AT	28.1	10986.	6.67	3255.	1037.	1037.	17.58
ROUTED TO	33A1	10963.	6.75	3253.	1037.	1037.	17.58
HYDROGRAPH AT	SUB30	1903.	6.17	275.	84.	84.	1.33
HYDROGRAPH AT	SUB31	1876.	6.42	459.	144.	144.	2.56
HYDROGRAPH AT	SUB32	2055.	6.67	664.	212.	212.	3.96
HYDROGRAPH AT	SUB33A	2143.	6.75	758.	244.	244.	4.65
ROUTED TO	33A2	2141.	6.83	757.	243.	243.	4.65
2 COMBINED AT	33A3	13069.	6.75	3987.	1280.	1280.	22.22
DIVERSION TO	33.3	0.	6.75	0.	0.	0.	22.22
HYDROGRAPH AT	33.2	13069.	6.75	3987.	1280.	1280.	22.22
ROUTED TO	33.4	13012.	6.83	3993.	1279.	1279.	22.22
HYDROGRAPH AT	12.3	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	13	800.	6.33	180.	57.	57.	1.20
HYDROGRAPH AT	14	857.	6.75	332.	109.	109.	2.32
HYDROGRAPH AT	14.1	903.	7.08	414.	138.	138.	2.95
HYDROGRAPH AT	28.2	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	28	761.	6.08	81.	25.	25.	.56
HYDROGRAPH AT	29	1238.	6.33	352.	114.	114.	2.44
HYDROGRAPH AT	29.1	1531.	6.58	502.	163.	163.	3.50
HYDROGRAPH AT	33.3	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	33	897.	6.17	131.	42.	42.	.89
HYDROGRAPH AT	33.1	1298.	6.33	334.	107.	107.	2.25

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

HEC-1

INPUT/OUTPUT FILES: DRC5.24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

EAST-WEST DESERT RIDGE CHANNEL ALONG PINNACLE PEAK ROAD

WITH LOW-FLOW DIVERTS

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,  EXISTING CONDITIONS
  3           ID        MODEL DRC5.24I   -   WITH LOW-FLOW DIVERTS
  4           ID        DESERT RIDGE CHANNEL, EAST-WEST ALIGNMENT ALONG PINNACLE PEAK ROAD
  5           ID        100-YR, 24-HR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  6           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
  7           IT       5 26AUG89       0     289
  8           IO       5       0
  9           IN      30 26AUG89       0
              *DIAGRAM

 10           KK    SUB7
 11           KM        RUNOFF FROM SUB-BASIN 7
 12           BA   .6690
 13           PB    4.32
 14           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 15           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 16           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 17           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 18           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 19           LS              78    2.13
 20           UK     255   .0262     .20     100
 21           RK   12200   .0197    .045            TRAP      50      50

 22           KK    SUB8
 23           KM        RUNOFF FROM SUB-BASIN 8 & ROUTE SUB 7
 24           BA  1.0885
 25           LS              74    2.71
 26           UK     116   .0213     .10     100
 27           RK   10550   .0196    .045            TRAP      50     100     YES

 28           KK    SUB9
 29           KM        RUNOFF FROM SUB-BASIN 9 & ROUTE SUB 8
 30           BA  1.4292
 31           LS              74
 32           UK      95   .0213     .10     100
 33           RK   10700   .0187    .045            TRAP      50     130     YES

 34           KK     9.1     DIV
 35           KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 36           DT     9.2
 37           DI       0     112     500    1000    5000
 38           DQ       0     112     225     320     440

 39           KK     6.4      CP
 40           KM        ROUTE NON-DIVERTED FLOW (DIV 9.1) TO CP 6.4 (NEW CHANNEL)
 41           RK    3000   .0180    .025            TRAP      35       2

 42           KK    SUB1
 43           KM        RUNOFF FROM SUB-BASIN 1
 44           BA   .3371
 45           LS              75
 46           UK     255   .0262     .20     100
 47           RK    7160   .0289    .045            TRAP      35       3
```

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

 48           KK    SUB2
 49           KM        RUNOFF FROM SUB-BASIN 2
 50           BA  1.2170
 51           LS              83    1.28
 52           UK     337   .0308     .20     100
 53           RK   24000   .0196    .045            TRAP      35       3

 54           KK    SUB3
 55           KM        RUNOFF FROM SUB-BASIN 3
 56           BA   .5448
 57           LS              81    1.44
 58           UK     255   .0262     .20     100
 59           RK   16400   .0201    .045            TRAP      35       3

 60           KK     CP4
 61           KM        COMBINE HYDROGRAPHS SUB1, SUB2, & SUB3
 62           HC       3

 63           KK    SUB4
 64           KM        RUNOFF FROM SUB-BASIN 4 & ROUTE CP 4
 65           BA  1.5102
 66           LS              73    3.05
 67           UK      84   .0213     .10     100
 68           RK   10633   .0191    .045            TRAP      50     100     YES

 69           KK    SUB5
 70           KM        RUNOFF FROM SUB-BASIN 5 & ROUTE SUB 4
 71           BA  1.8713
 72           LS              74    1.44
 73           UK      81   .0213     .10     100
 74           RK   11433   .0175    .045            TRAP      50     130     YES

 75           KK    6.3     SUB
 76           KM        RUNOFF FROM SUB 6.3 & ROUTE SUB 5
 77           BA   .5381
 78           LS              74
 79           UK     146   .0213     .10     100
 80           RK    3000   .0173    .045            TRAP      50     150     YES

 81           KK     6.5     CP
 82           KM        COMBINE SUB 6.3 & CP 6.4
 83           HC       2

 84           KK     6.6    DIV
 85           KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 86           DT     6.7
 87           DI       0     125     500    1000    5000
 88           DQ       0     125     200     330     450
```

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

 89           KK    3681      CP
 90           KM        ROUTE NON-DIVERTED FLOW (DIV 6.6) TO CP 3681 (NEW CHANNEL)
 91           RK    7000   .0081    .025           TRAP      50       2

 92           KK    1470     SUB
 93           KM        RUNOFF FROM SUB 1470
 94           BA   .2977
 95           PB    4.71
 96           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 97           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 98           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 99           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
100           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
101           LS             84
102           UK     200   .0500     .20     100
103           RK   15000   .0293    .045           TRAP      20       3

104           KK    1475     SUB
105           KM        RUNOFF FROM SUB 1475 AND ROUTE SUB 1470
106           BA  1.6895
107           LS             84
108           UK     285   .0419     .20     100
109           RK   17600   .0188    .045           TRAP      25       3     YES

110           KK    1480     SUB
111           KM        RUNOFF FROM SUB 1480 AND ROUTE SUB 1475
112           BA  1.0015
113           LS             83    1.07
114           UK     300   .0167     .20     100
115           RK    7500   .0213    .045           TRAP      25       3     YES

116           KK    1482     DIV
117           KM        DIVERT FLOW FROM SUB 1480 TO SUB 3510
118           KM        NOTE: DIV & DT PREFIXES ARE INTENTIONALLY REVERSED FROM THOSE USED
119           KM              IN THE BASELINE PH & FR MODELS
120           DT    1481
121           DI       0    8000
122           DQ       0    4000

123           KK    3660     SUB
124           KM        RUNOFF FROM SUB 3660 & ROUTE DIV 1482
125           BA   .7554
126           PB    4.22
127           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
128           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
129           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
130           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
131           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
132           LS             76    3.20
133           UK     224   .0212     .15     100
134           RK   18600   .0184    .045           TRAP      30      30     YES
```

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

 135          KK    3670     SUB
 136          KM        RUNOFF FROM SUB 3670 & ROUTE SUB 3660
 137          BA  1.4355
 138          LS              74    1.22
 139          UK     100   .0213     .10     100
 140          RK   10900   .0183    .045           TRAP      40      50     YES

 141          KK    3680     SUB
 142          KM        RUNOFF FROM SUB 3680 & ROUTE SUB 3670
 143          BA  1.5216
 144          LS              74    3.64
 145          UK     150   .0213     .10     100
 146          RK    7700   .0142    .045           TRAP      40      75     YES

 147          KK    3682      CP
 148          KM        COMBINE SUB 3680 & CP 3681
 149          HC       2

 150          KK    3683     DIV
 151          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 152          DT    3684
 153          DI       0     158     500    1000    5000
 154          DQ       0     158     280     370     500

 155          KK    3641      CP
 156          KM        ROUTE NON-DIVERTED FLOW (DIV 3683) TO CP 3641 (NEW CHANNEL)
 157          RK    5300   .0081    .025           TRAP      50       2

 158          KK    3620     SUB
 159          KM        RUNOFF FROM SUB 3620
 160          BA   .6858
 161          LS              77    3.64
 162          UK     224   .0212     .15     100
 163          RK   16000   .0194    .045           TRAP      15      30

 164          KK    3630     SUB
 165          KM        RUNOFF FROM SUB 3630 & ROUTE SUB 3620
 166          BA   .8300
 167          LS              74    1.22
 168          UK     100   .0213     .10     100
 169          RK   11300   .0177    .045           TRAP      30      30     YES

 170          KK    3640     SUB
 171          KM        RUNOFF FROM SUB 3640 & ROUTE SUB 3630
 172          BA  1.6051
 173          LS              74
 174          UK     150   .0213     .10     100
 175          RK   11600   .0129    .045           TRAP      40      50     YES
```

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

 176          KK    3642      CP
 177          KM        COMBINE SUB 3640 & CP 3641
 178          HC       2

 179          KK    3643     DIV
 180          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 181          DT    3644
 182          DI       0      79     500    1000    5000
 183          DQ       0      79     150     200     300

 184          KK    3651      CP
 185          KM        ROUTE NON-DIVERTED FLOW (DIV 3643) TO CP 3651 (NEW CHANNEL)
 186          RK    5340   .0071    .025           TRAP      50       2

 187          KK    3652     SUB
 188          KM        RUNOFF FROM SUB 3652
 189          BA   .2073
 190          LS              74    1.22
 191          UK     150   .0213     .10     100
 192          RK    4600   .0087    .045           TRAP      50      80

 193          KK    3655      CP
 194          KM        COMBINE SUB 3652 & CP 3651
 195          HC       2

 196          KK    3659      CP
 197          KM        ROUTE CP 3655 TO DOWNSTREAM END OF NEW CHANNEL
 198          RK    3840   .0078    .025           TRAP      50       2
              *  ****************************************************************************
              *
              *  THE FOLLOWING SECTION OF THIS MODEL RETRIEVES THE LOW-FLOWS DIVERTED FROM THE
              *  PINNACLE PEAK ROAD, EAST-WEST CHANNEL & COMBINES THEM WITH FLOWS DOWNSTREAM
              *  OF THE NEW CHANNEL IN ORDER TO DETERMINE THE TOTAL FLOW INTO DESERT RIDGE.
              *
              *  ****************************************************************************

 199          KK     9.2     RET
 200          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 9 (DT 9.2)
 201          DR     9.2

 202          KK      10     SUB
 203          KM        RUNOFF FROM SUB 10 & ROUTE RET 9.2
 204          BA  2.1411
 205          PB    4.32
 206          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 207          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 208          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 209          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 210          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 211          LS              74
 212          UK     107   .0213     .10     100
 213          RK   12650   .0137    .045           TRAP      50     175     YES
```

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

 214          KK    10.1     SUB
 215          KM        RUNOFF FROM SUB 10.1 & ROUTE SUB 10
 216          BA  1.2239
 217          LS              74
 218          UK     107   .0213     .10     100
 219          RK    5600   .0098    .045            TRAP      50     190     YES

 220          KK     6.7     RET
 221          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 6.3 (DT 6.7)
 222          DR     6.7

 223          KK       6     SUB
 224          KM        RUNOFF FROM SUB 6 & ROUTE RET 6.7
 225          BA  2.2338
 226          LS              74
 227          UK     146   .0213     .10     100
 228          RK   12050   .0116    .045            TRAP      50     150     YES

 229          KK     6.1     SUB
 230          KM        RUNOFF FROM SUB 6.1 & ROUTE SUB 6
 231          BA   .5632
 232          LS              74
 233          UK     146   .0213     .10     100
 234          RK    3400   .0094    .045            TRAP      50     160     YES

 235          KK    3684     RET
 236          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3680 (DT 3684)
 237          DR    3684

 238          KK    3685     SUB
 239          KM        RUNOFF FROM SUB 3685 & ROUTE RET 3684
 240          BA   .7296
 241          PB    4.22
 242          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 243          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 244          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 245          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 246          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 247          LS              74    3.64
 248          UK     150   .0213     .10     100
 249          RK    3500   .0117    .045            TRAP      40      75     YES

 250          KK    3690     SUB
 251          KM        RUNOFF FROM SUB 3690 & ROUTE SUB 3685
 252          BA  1.4778
 253          LS              74
 254          UK     150   .0213     .10     100
 255          RK    7300   .0110    .045            TRAP      50     100     YES
```

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

 256          KK    3644     RET
 257          KM        RETRIEVE LOW-FLOW DIVERT FROM CP 3642 (DT 3644)
 258          DR    3644

 259          KK    3657     SUB
 260          KM        RUNOFF FROM SUB 3657 & ROUTE RET 3644
 261          BA   .9955
 262          LS              74    1.22
 263          UK     150   .0213     .10     100
 264          RK    8700   .0090    .045           TRAP     100      80     YES
 265          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

  10        SUB7
               V
               V
  22        SUB8 ***
               V
               V
  28        SUB9 ***
               .
               .
  36           .-------)     9.2
  34         9.1
               V
               V
  39         6.4
               .
               .
  42           .        SUB1
               .          .
               .          .
  48           .          .        SUB2
               .          .          .
               .          .          .
  54           .          .          .        SUB3
               .          .          .          .
               .          .          .          .
  60           .         CP4.......................
               .          V
               .          V
  63           .        SUB4 ***
               .          V
               .          V
  69           .        SUB5 ***
               .          V
               .          V
  75           .         6.3 ***
               .          .
               .          .
  81         6.5............
               .
               .
  86           .-------)     6.7
  84         6.6
               V
               V
  89        3681
               .
               .
  92           .       1470
               .          V
               .          V
 104           .       1475 ***
               .          V
               .          V
 110           .       1480 ***
               .          .
               .          .
 120           .          .-------)    1481
 116           .       1482
```

```
                .          V
                .          V
 123            .       3660 ***
                .          V
                .          V
 135            .       3670 ***
                .          V
                .          V
 141            .       3680 ***
                .          .
                .          .
 147         3682............
                .
                .
 152            .-------)    3684
 150         3683
                V
                V
 155         3641
                .
                .
 158            .       3620
                .          V
                .          V
 164            .       3630 ***
                .          V
                .          V
 170            .       3640 ***
                .          .
                .          .
 176         3642............
                .
                .
 181            .-------)    3644
 179         3643
                V
                V
 184         3651
                .
                .
 187            .       3652
                .          .
                .          .
 193         3655............
                V
                V
 196         3659
                .
                .
 201            .          .(-------     9.2
 199            .        9.2
                .          V
                .          V
 202            .         10 ***
                .          V
                .          V
 214            .       10.1 ***
                .          .
                .          .
 222            .          .          .(-------     6.7
 220            .          .        6.7
                .          .          V
                .          .          V
 223            .          .          6 ***
                .          .          V
                .          .          V
```

```
229          .          .          6.1 ***
             .          .           .
             .          .           .
237          .          .           .          .(-------    3684
235          .          .           .       3684
             .          .           .         V
             .          .           .         V
238          .          .           .       3685 ***
             .          .           .         V
             .          .           .         V
250          .          .           .       3690 ***
             .          .           .         .
             .          .           .         .
258          .          .           .         .          .(-------    3644
256          .          .           .         .       3644
             .          .           .         .         V
             .          .           .         .         V
259          .          .           .         .       3657 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

****

FLOOD HYDROGRAPH PACKAGE HEC-1 (IBM XT 512K VERSION) -FEB 1,1985

U.S. ARMY CORPS OF ENGINEERS, THE HYDROLOGIC ENGINEERING CENTER, 609 SECOND STREET, DAVIS, CA. 95616

****

GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
CITY OF PHOENIX AREAS C & D, EXISTING CONDITIONS
MODEL DRC5.24I - WITH LOW-FLOW DIVERTS
DESERT RIDGE CHANNEL, EAST-WEST ALIGNMENT ALONG PINNACLE PEAK ROAD
100-YR, 24-HR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)

```
8 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

 IT         HYDROGRAPH TIME DATA
                  NMIN          5  MINUTES IN COMPUTATION INTERVAL
                 IDATE     26AUG89  STARTING DATE
                 ITIME        0000  STARTING TIME
                    NQ         289  NUMBER OF HYDROGRAPH ORDINATES
                NODATE     27AUG89  ENDING DATE
                NOTIME        0000  ENDING TIME

           COMPUTATION INTERVAL     .08 HOURS
                TOTAL TIME BASE   24.00 HOURS

     ENGLISH UNITS
```

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	SUB7	460.	6.50	116.	37.	37.	.67		
HYDROGRAPH AT	SUB8	753.	6.58	278.	90.	90.	1.76		
HYDROGRAPH AT	SUB9	1103.	6.58	474.	156.	156.	3.19		
DIVERSION TO	9.2	323.	6.58	203.	88.	88.	3.19		
HYDROGRAPH AT	9.1	780.	6.58	272.	68.	68.	3.19		
ROUTED TO	6.4	780.	6.67	273.	68.	68.	3.19		
HYDROGRAPH AT	SUB1	318.	6.17	50.	16.	16.	.34		
HYDROGRAPH AT	SUB2	913.	6.33	245.	77.	77.	1.22		
HYDROGRAPH AT	SUB3	462.	6.33	104.	33.	33.	.54		
3 COMBINED AT	CP4	1637.	6.25	399.	126.	126.	2.10		
HYDROGRAPH AT	SUB4	1779.	6.67	608.	196.	196.	3.61		
HYDROGRAPH AT	SUB5	1900.	7.00	861.	283.	283.	5.48		
HYDROGRAPH AT	6.3	1964.	7.08	931.	307.	307.	6.02		
2 COMBINED AT	6.5	2653.	7.00	1204.	376.	376.	9.21		
DIVERSION TO	6.7	380.	7.00	278.	132.	132.	9.21		
HYDROGRAPH AT	6.6	2273.	7.00	926.	244.	244.	9.21		
ROUTED TO	3681	2271.	7.00	920.	244.	244.	9.21		
HYDROGRAPH AT	1470	458.	6.17	73.	22.	22.	.30		
HYDROGRAPH AT	1475	2931.	6.17	491.	151.	151.	1.99		
HYDROGRAPH AT	1480	4124.	6.25	735.	226.	226.	2.99		
DIVERSION TO	1481	2062.	6.25	367.	113.	113.	2.99		
HYDROGRAPH AT	1482	2062.	6.25	367.	113.	113.	2.99		
HYDROGRAPH AT	3660	1361.	6.83	465.	149.	149.	3.74		
HYDROGRAPH AT	3670	1428.	7.17	653.	213.	213.	5.18		
HYDROGRAPH AT	3680	1659.	6.25	859.	283.	283.	6.70		
2 COMBINED AT	3682	3775.	7.17	1776.	527.	527.	15.91		
DIVERSION TO	3684	460.	7.17	370.	165.	165.	15.91		
HYDROGRAPH AT	3683	3314.	7.17	1406.	362.	362.	15.91		
ROUTED TO	3641	3313.	7.25	1405.	363.	363.	15.91		

HYDROGRAPH AT	3620	394.	6.58	111.	35.	35.	.69
HYDROGRAPH AT	3630	603.	6.58	226.	73.	73.	1.52
HYDROGRAPH AT	3640	1046.	6.58	437.	144.	144.	3.12
2 COMBINED AT	3642	4186.	6.92	1839.	507.	507.	19.03
DIVERSION TO	3644	280.	6.92	203.	86.	86.	19.03
HYDROGRAPH AT	3643	3906.	6.92	1636.	421.	421.	19.03
ROUTED TO	3651	3906.	7.00	1638.	422.	422.	19.03
HYDROGRAPH AT	3652	152.	6.33	29.	9.	9.	.21
2 COMBINED AT	3655	3955.	7.00	1665.	432.	432.	19.23
ROUTED TO	3659	3954.	7.00	1668.	433.	433.	19.23
HYDROGRAPH AT	9.2	323.	6.58	203.	88.	88.	.00
HYDROGRAPH AT	10	1018.	6.58	483.	185.	185.	2.14
HYDROGRAPH AT	10.1	1344.	6.58	642.	240.	240.	3.36
HYDROGRAPH AT	6.7	380.	7.00	278.	132.	132.	.00
HYDROGRAPH AT	6	1070.	6.58	559.	229.	229.	2.23
HYDROGRAPH AT	6.1	1210.	6.67	627.	253.	253.	2.80
HYDROGRAPH AT	3684	460.	7.17	370.	165.	165.	.00
HYDROGRAPH AT	3685	1309.	6.17	468.	198.	198.	.73
HYDROGRAPH AT	3690	1550.	6.33	645.	261.	261.	2.21
HYDROGRAPH AT	3644	280.	6.92	203.	86.	86.	.00
HYDROGRAPH AT	3657	553.	6.58	320.	129.	129.	1.00

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

HEC-1

INPUT/OUTPUT FILES: DRC6.24I/.240

EXISTING CONDITIONS

100-YEAR, 24-HOUR, SCS TYPE IIA STORM

EAST-WEST DESERT RIDGE CHANNEL ALONG PINNACLE PEAK ROAD.

NO LOW-FLOW DIVERTS

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

  1           ID        GENERAL DRAINAGE PLAN FOR PARADISE VALLEY FAN TERRACE
  2           ID        CITY OF PHOENIX AREAS C & D,  EXISTING CONDITIONS
  3           ID        MODEL DRC6.24I   -   WITH NO LOW-FLOW DIVERTS
  4           ID        DESERT RIDGE CHANNEL, EAST-WEST ALIGNMENT ALONG PINNACLE PEAK ROAD
  5           ID        100-YR, 24-HR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  6           ID        RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR (.985)
  7           IT       5 26AUG89       0     289
  8           IO       5       0
  9           IN      30 26AUG89       0
              *DIAGRAM

 10           KK    SUB7
 11           KM        RUNOFF FROM SUB-BASIN 7
 12           BA   .6690
 13           PB    4.32
 14           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 15           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 16           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 17           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 18           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 19           LS              78    2.13
 20           UK     255   .0262     .20     100
 21           RK   12200   .0197    .045            TRAP      50      50

 22           KK    SUB8
 23           KM        RUNOFF FROM SUB-BASIN 8 & ROUTE SUB 7
 24           BA  1.0885
 25           LS              74    2.71
 26           UK     116   .0213     .10     100
 27           RK   10550   .0196    .045            TRAP      50     100     YES

 28           KK    SUB9
 29           KM        RUNOFF FROM SUB-BASIN 9 & ROUTE SUB 8
 30           BA  1.4292
 31           LS              74
 32           UK      95   .0213     .10     100
 33           RK   10700   .0187    .045            TRAP      50     130     YES

 34           KK     9.1     DIV
 35           KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 36           DT     9.2
 37           DI       0     112     500    1000    5000
 38           DQ       0       0       0       0       0

 39           KK     6.4      CP
 40           KM        ROUTE NON-DIVERTED FLOW (DIV 9.1) TO CP 6.4 (NEW CHANNEL)
 41           RK    3000   .0180    .025            TRAP      35       2

 42           KK    SUB1
 43           KM        RUNOFF FROM SUB-BASIN 1
 44           BA   .3371
 45           LS              75
 46           UK     255   .0262     .20     100
 47           RK    7160   .0289    .045            TRAP      35       3
```

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

  48          KK    SUB2
  49          KM        RUNOFF FROM SUB-BASIN 2
  50          BA  1.2170
  51          LS              83    1.28
  52          UK     337   .0308     .20     100
  53          RK   24000   .0196    .045           TRAP      35       3

  54          KK    SUB3
  55          KM        RUNOFF FROM SUB-BASIN 3
  56          BA   .5448
  57          LS              81    1.44
  58          UK     255   .0262     .20     100
  59          RK   16400   .0201    .045           TRAP      35       3

  60          KK     CP4
  61          KM        COMBINE HYDROGRAPHS SUB1, SUB2, & SUB3
  62          HC       3

  63          KK    SUB4
  64          KM        RUNOFF FROM SUB-BASIN 4 & ROUTE CP 4
  65          BA  1.5102
  66          LS              73    3.05
  67          UK      84   .0213     .10     100
  68          RK   10633   .0191    .045           TRAP      50     100     YES

  69          KK    SUB5
  70          KM        RUNOFF FROM SUB-BASIN 5 & ROUTE SUB 4
  71          BA  1.8713
  72          LS              74    1.44
  73          UK      81   .0213     .10     100
  74          RK   11433   .0175    .045           TRAP      50     130     YES

  75          KK     6.3     SUB
  76          KM        RUNOFF FROM SUB 6.3 & ROUTE SUB 5
  77          BA   .5381
  78          LS              74
  79          UK     146   .0213     .10     100
  80          RK    3000   .0173    .045           TRAP      50     150     YES

  81          KK     6.5      CP
  82          KM        COMBINE SUB 6.3 & CP 6.4
  83          HC       2

  84          KK     6.6     DIV
  85          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
  86          DT     6.7
  87          DI       0     125     500    1000    5000
  88          DQ       0       0       0       0       0
```

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

 89           KK    3681      CP
 90           KM        ROUTE NON-DIVERTED FLOW (DIV 6.6) TO CP 3681 (NEW CHANNEL)
 91           RK    7000   .0081    .025            TRAP      50       2

 92           KK    1470     SUB
 93           KM        RUNOFF FROM SUB 1470
 94           BA   .2977
 95           PB    4.71
 96           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 97           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 98           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 99           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
100           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
101           LS             84
102           UK     200   .0500     .20     100
103           RK   15000   .0293    .045            TRAP      20       3

104           KK    1475     SUB
105           KM        RUNOFF FROM SUB 1475 AND ROUTE SUB 1470
106           BA  1.6895
107           LS             84
108           UK     285   .0419     .20     100
109           RK   17600   .0188    .045            TRAP      25       3     YES

110           KK    1480     SUB
111           KM        RUNOFF FROM SUB 1480 AND ROUTE SUB 1475
112           BA  1.0015
113           LS             83    1.07
114           UK     300   .0167     .20     100
115           RK    7500   .0213    .045            TRAP      25       3     YES

116           KK    1482     DIV
117           KM        DIVERT FLOW FROM SUB 1480 TO SUB 3510
118           KM        NOTE: DIV & DT PREFIXES ARE INTENTIONALLY REVERSED FROM THOSE USED
119           KM              IN THE BASELINE PH & FR MODELS
120           DT    1481
121           DI       0    8000
122           DQ       0    4000

123           KK    3660     SUB
124           KM        RUNOFF FROM SUB 3660 & ROUTE DIV 1482
125           BA   .7554
126           PB    4.22
127           PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
128           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
129           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
130           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
131           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
132           LS             76    3.20
133           UK     224   .0212     .15     100
134           RK   18600   .0184    .045            TRAP      30      30     YES
```

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

 135          KK    3670     SUB
 136          KM        RUNOFF FROM SUB 3670 & ROUTE SUB 3660
 137          BA  1.4355
 138          LS              74    1.22
 139          UK     100   .0213     .10     100
 140          RK   10900   .0183    .045            TRAP      40      50     YES

 141          KK    3680     SUB
 142          KM        RUNOFF FROM SUB 3680 & ROUTE SUB 3670
 143          BA  1.5216
 144          LS              74    3.64
 145          UK     150   .0213     .10     100
 146          RK    7700   .0142    .045            TRAP      40      75     YES

 147          KK    3682      CP
 148          KM        COMBINE SUB 3680 & CP 3681
 149          HC       2

 150          KK    3683     DIV
 151          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 152          DT    3684
 153          DI       0     158     500    1000    5000
 154          DQ       0       0       0       0       0

 155          KK    3641      CP
 156          KM        ROUTE NON-DIVERTED FLOW (DIV 3683) TO CP 3641 (NEW CHANNEL)
 157          RK    5300   .0081    .025            TRAP      50       2

 158          KK    3620     SUB
 159          KM        RUNOFF FROM SUB 3620
 160          BA   .6858
 161          LS              77    3.64
 162          UK     224   .0212     .15     100
 163          RK   16000   .0194    .045            TRAP      15      30

 164          KK    3630     SUB
 165          KM        RUNOFF FROM SUB 3630 & ROUTE SUB 3620
 166          BA   .8300
 167          LS              74    1.22
 168          UK     100   .0213     .10     100
 169          RK   11300   .0177    .045            TRAP      30      30     YES

 170          KK    3640     SUB
 171          KM        RUNOFF FROM SUB 3640 & ROUTE SUB 3630
 172          BA  1.6051
 173          LS              74
 174          UK     150   .0213     .10     100
 175          RK   11600   .0129    .045            TRAP      40      50     YES
```

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

 176          KK    3642      CP
 177          KM        COMBINE SUB 3640 & CP 3641
 178          HC       2

 179          KK    3643     DIV
 180          KM        DIVERT LOW-FLOWS OUT OF NEW CHANNEL
 181          DT    3644
 182          DI       0      79     500    1000    5000
 183          DQ       0       0       0       0       0

 184          KK    3651      CP
 185          KM        ROUTE NON-DIVERTED FLOW (DIV 3643) TO CP 3651 (NEW CHANNEL)
 186          RK    5340   .0071    .025           TRAP      50       2

 187          KK    3652     SUB
 188          KM        RUNOFF FROM SUB 3652
 189          BA   .2073
 190          LS              74    1.22
 191          UK     150   .0213     .10     100
 192          RK    4600   .0087    .045           TRAP      50      80

 193          KK    3655      CP
 194          KM        COMBINE SUB 3652 & CP 3651
 195          HC       2

 196          KK    3659      CP
 197          KM        ROUTE CP 3655 TO DOWNSTREAM END OF NEW CHANNEL
 198          RK    3840   .0078    .025           TRAP      50       2
              *  ***************************************************************************
              *
              *  THE FOLLOWING SECTION OF THIS MODEL RETRIEVES THE LOW-FLOWS DIVERTED FROM THE
              *  PINNACLE PEAK ROAD, EAST-WEST CHANNEL & COMBINES THEM WITH FLOWS DOWNSTREAM
              *  OF THE NEW CHANNEL IN ORDER TO DETERMINE THE TOTAL FLOW INTO DESERT RIDGE.
              *
              *  ***************************************************************************

 199          KK     9.2     RET
 200          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 9 (DT 9.2)
 201          DR     9.2

 202          KK      10     SUB
 203          KM        RUNOFF FROM SUB 10 & ROUTE RET 9.2
 204          BA  2.1411
 205          PB    4.32
 206          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 207          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 208          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 209          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 210          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 211          LS              74
 212          UK     107   .0213     .10     100
 213          RK   12650   .0137    .045           TRAP      50     175     YES
```

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

 214          KK    10.1     SUB
 215          KM        RUNOFF FROM SUB 10.1 & ROUTE SUB 10
 216          BA  1.2239
 217          LS              74
 218          UK     107   .0213     .10     100
 219          RK    5600   .0098    .045           TRAP      50     190     YES

 220          KK     6.7     RET
 221          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 6.3 (DT 6.7)
 222          DR     6.7

 223          KK       6     SUB
 224          KM        RUNOFF FROM SUB 6 & ROUTE RET 6.7
 225          BA  2.2338
 226          LS              74
 227          UK     146   .0213     .10     100
 228          RK   12050   .0116    .045           TRAP      50     150     YES

 229          KK     6.1     SUB
 230          KM        RUNOFF FROM SUB 6.1 & ROUTE SUB 6
 231          BA   .5632
 232          LS              74
 233          UK     146   .0213     .10     100
 234          RK    3400   .0094    .045           TRAP      50     160     YES

 235          KK    3684     RET
 236          KM        RETRIEVE LOW-FLOW DIVERT FROM SUB 3680 (DT 3684)
 237          DR    3684

 238          KK    3685     SUB
 239          KM        RUNOFF FROM SUB 3685 & ROUTE RET 3684
 240          BA   .7296
 241          PB    4.22
 242          PC       0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 243          PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 244          PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 245          PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 246          PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 247          LS              74    3.64
 248          UK     150   .0213     .10     100
 249          RK    3500   .0117    .045           TRAP      40      75     YES

 250          KK    3690     SUB
 251          KM        RUNOFF FROM SUB 3690 & ROUTE SUB 3685
 252          BA  1.4778
 253          LS              74
 254          UK     150   .0213     .10     100
 255          RK    7300   .0110    .045           TRAP      50     100     YES
```

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

 256          KK    3644     RET
 257          KM        RETRIEVE LOW-FLOW DIVERT FROM CP 3642 (DT 3644)
 258          DR    3644

 259          KK    3657     SUB
 260          KM        RUNOFF FROM SUB 3657 & ROUTE RET 3644
 261          BA   .9955
 262          LS              74    1.22
 263          UK     150   .0213     .10     100
 264          RK    8700   .0090    .045           TRAP     100      80     YES
 265          ZZ
```

```
                SCHEMATIC DIAGRAM OF STREAM NETWORK
INPUT
 LINE      (V) ROUTING          (---)) DIVERSION OR PUMP FLOW

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

  10        SUB7
               V
               V
  22        SUB8 ***
               V
               V
  28        SUB9 ***
               .
               .
  36           .-------)     9.2
  34         9.1
               V
               V
  39         6.4
               .
               .
  42           .        SUB1
               .          .
               .          .
  48           .          .        SUB2
               .          .          .
               .          .          .
  54           .          .          .        SUB3
               .          .          .          .
               .          .          .          .
  60           .        CP4.......................
               .          V
               .          V
  63           .       SUB4 ***
               .          V
               .          V
  69           .       SUB5 ***
               .          V
               .          V
  75           .        6.3 ***
               .          .
               .          .
  81         6.5............
               .
               .
  86           .-------)     6.7
  84         6.6
               V
               V
  89        3681
               .
               .
  92           .       1470
               .          V
               .          V
 104           .       1475 ***
               .          V
               .          V
 110           .       1480 ***
               .          .
               .          .
 120           .          .-------)    1481
 116           .       1482
```

```
                .          V
                .          V
123             .       3660 ***
                .          V
                .          V
135             .       3670 ***
                .          V
                .          V
141             .       3680 ***
                .          .
                .          .
147          3682............
                .
                .
152             .-------)    3684
150          3683
                V
                V
155          3641
                .
                .
158             .       3620
                .          V
                .          V
164             .       3630 ***
                .          V
                .          V
170             .       3640 ***
                .          .
                .          .
176          3642............
                .
                .
181             .-------)    3644
179          3643
                V
                V
184          3651
                .
                .
187             .       3652
                .          .
                .          .
193          3655............
                V
                V
196          3659
                .
                .
201             .          .(-------     9.2
199             .        9.2
                .          V
                .          V
202             .         10 ***
                .          V
                .          V
214             .       10.1 ***
                .          .
                .          .
222             .          .          .(-------     6.7
220             .          .        6.7
                .          .          V
                .          .          V
223             .          .          6 ***
                .          .          V
                .          .          V
```

```
229          .          .        6.1 ***
             .          .          .
             .          .          .
237          .          .          .        .(-------    3684
235          .          .          .     3684
             .          .          .        V
             .          .          .        V
238          .          .          .     3685 ***
             .          .          .        V
             .          .          .        V
250          .          .          .     3690 ***
             .          .          .        .
             .          .          .        .
258          .          .          .        .          .(-------    3644
256          .          .          .        .       3644
             .          .          .        .          V
             .          .          .        .          V
259          .          .          .        .       3657 ***
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

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	SUB7	460.	6.50	116.	37.	37.	.67		
HYDROGRAPH AT	SUB8	753.	6.58	278.	90.	90.	1.76		
HYDROGRAPH AT	SUB9	1103.	6.58	474.	156.	156.	3.19		
DIVERSION TO	9.2	0.	6.58	0.	0.	0.	3.19		
HYDROGRAPH AT	9.1	1103.	6.58	474.	156.	156.	3.19		
ROUTED TO	6.4	1103.	6.67	475.	156.	156.	3.19		
HYDROGRAPH AT	SUB1	318.	6.17	50.	16.	16.	.34		
HYDROGRAPH AT	SUB2	913.	6.33	245.	77.	77.	1.22		
HYDROGRAPH AT	SUB3	462.	6.33	104.	33.	33.	.54		
3 COMBINED AT	CP4	1637.	6.25	399.	126.	126.	2.10		
HYDROGRAPH AT	SUB4	1779.	6.67	608.	196.	196.	3.61		
HYDROGRAPH AT	SUB5	1900.	7.00	861.	283.	283.	5.48		
HYDROGRAPH AT	6.3	1964.	7.08	931.	307.	307.	6.02		
2 COMBINED AT	6.5	2972.	6.92	1406.	463.	463.	9.21		
DIVERSION TO	6.7	0.	6.92	0.	0.	0.	9.21		
HYDROGRAPH AT	6.6	2972.	6.92	1406.	463.	463.	9.21		
ROUTED TO	3681	2971.	7.00	1397.	461.	461.	9.21		
HYDROGRAPH AT	1470	458.	6.17	73.	22.	22.	.30		
HYDROGRAPH AT	1475	2931.	6.17	491.	151.	151.	1.99		
HYDROGRAPH AT	1480	4124.	6.25	735.	226.	226.	2.99		
DIVERSION TO	1481	2062.	6.25	367.	113.	113.	2.99		
HYDROGRAPH AT	1482	2062.	6.25	367.	113.	113.	2.99		
HYDROGRAPH AT	3660	1361.	6.83	465.	149.	149.	3.74		
HYDROGRAPH AT	3670	1428.	7.17	653.	213.	213.	5.18		
HYDROGRAPH AT	3680	1659.	6.25	859.	283.	283.	6.70		
2 COMBINED AT	3682	4465.	7.17	2250.	744.	744.	15.91		
DIVERSION TO	3684	0.	7.17	0.	0.	0.	15.91		
HYDROGRAPH AT	3683	4465.	7.17	2250.	744.	744.	15.91		
ROUTED TO	3641	4464.	7.17	2250.	742.	742.	15.91		

HYDROGRAPH AT	3620	394.	6.58	111.	35.	35.	.69
HYDROGRAPH AT	3630	603.	6.58	226.	73.	73.	1.52
HYDROGRAPH AT	3640	1046.	6.58	437.	144.	144.	3.12
2 COMBINED AT	3642	5352.	6.92	2681.	886.	886.	19.03
DIVERSION TO	3644	0.	6.92	0.	0.	0.	19.03
HYDROGRAPH AT	3643	5352.	6.92	2681.	886.	886.	19.03
ROUTED TO	3651	5351.	7.00	2683.	886.	886.	19.03
HYDROGRAPH AT	3652	152.	6.33	29.	9.	9.	.21
2 COMBINED AT	3655	5403.	6.92	2711.	895.	895.	19.23
ROUTED TO	3659	5401.	7.00	2709.	893.	893.	19.23
HYDROGRAPH AT	9.2	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	10	1128.	6.58	312.	100.	100.	2.14
HYDROGRAPH AT	10.1	1392.	6.67	485.	158.	158.	3.36
HYDROGRAPH AT	6.7	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	6	1160.	6.58	320.	103.	103.	2.23
HYDROGRAPH AT	6.1	1287.	6.67	398.	129.	129.	2.80
HYDROGRAPH AT	3684	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	3685	929.	6.17	107.	34.	34.	.73
HYDROGRAPH AT	3690	1366.	6.25	311.	100.	100.	2.21
HYDROGRAPH AT	3644	0.	.08	0.	0.	0.	.00
HYDROGRAPH AT	3657	550.	6.42	139.	45.	45.	1.00

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

HEC-1

INPUT/OUTPUT FILES: CAP2.DAT

EXISTING CONDITIONS

2-YEAR, 24-HOUR, SCS TYPE IIA STORM

STORM DRAINS FLOWING TO CAP AQUEDUCT

```
****************************************
*                                      *
*  FLOOD HYDROGRAPH PACKAGE (HEC-1)    *
*           FEBRUARY 1981              *
*          REVISED  6 FEB 87           *
*                                      *
* RUN DATE  01/01/1980  TIME  06:50:32 *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
* THE HYDROLOGIC ENGINEERING CENTER    *
*         609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616        *
* (916) 440-3285 OR (FTS) 448-3285     *
*                                      *
****************************************
```

```
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

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

  1           ID      HYDROLOGY FOR PARADISE VALLEY FAN TERRACE  (AREAS C AND D)
  2           ID      MODEL COP.DAT -- SUB-BASIN SERIES 5000
  3           ID      2-YEAR 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  4           ID      STORM DRAIN ROUTING WEST ALONG SECTION ROADS
  5           ID      RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR
  6           ID      WATER RESOURCES ASSOCIATES, INC.,  AUGUST 10, 1989
              *DIAGRAM
  7           IT      5 01AUG89      0     289
  8           IN     30 01AUG89      0
  9           IO      5      0

 10           KK   5000     SUB
 11           KM       HYDROGRAPH FROM SUB 5000
 12           BA   1.076
 13           PB   1.67
 14           PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 15           PC    .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 16           PC    .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 17           PC    .930    .934    .939    .944    .950    .958    .961    .963    .969    .971
 18           PC    .974    .979    .981    .985    .989    .991    .993    .996   1.000
 19           LS            78
 20           UK     224   .0212     .15     100
 21           RK    7400   .0205    .045            TRAP      25       3
 22           RK    3800   .0064    .012            CIRC       4

 23           KK   5010     SUB
 24           KM       HYDROGRAPH FROM SUB 5010
 25           BA    .786
 26           LS            80
 27           UK     224   .0212     .15     100
 28           RK    7650   .0191    .045            TRAP      15       3
 29           RK    2050   .0060    .012            CIRC       4

 30           KK   5011      CP
 31           KM       COMBINE HYDROGRAPHS FROM SUB 5000 & SUB 5010
 32           HC       2

 33           KK   5020     SUB
 34           KM       HYDROGRAPH FROM SUB 5020
 35           BA    .206
 36           LS            79
 37           UK     224   .0212     .15     100
 38           RK    2500   .0200    .045            TRAP      25       3
 39           RK    2900   .0157    .012            CIRC       3

 40           KK   5030     SUB
 41           KM       HYDROGRAPH FROM SUB 5030
 42           BA   1.756
 43           LS            77
 44           UK     224   .0212     .15     100
 45           RK    4900   .0192    .045            TRAP      25       3
 46           RK    8550   .0050    .012            CIRC       4
```

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

 47           KK   5031     CP
 48           KM       COMBINE HYDROGRAPHS FROM SUB 5020 & SUB 5030
 49           HC      2

 50           KK   5032     CP
 51           KM       ROUTE HYDROGRAPH FROM CP 5031
 52           RK   5280  .0040   .012          CIRC      5

 53           KK   5040    SUB
 54           KM       HYDROGRAPH FROM SUB 5040
 55           BA   .202
 56           LS            75
 57           UK    224  .0212    .15    100
 58           RK   2800  .0040   .045          TRAP     25      3
 59           RK   2750  .0181   .012          CIRC      5

 60           KK   5050    SUB
 61           KM       HYDROGRAPH FROM SUB 5050
 62           BA   .553
 63           LS            75
 64           UK    224  .0212    .15    100
 65           RK   5800  .0199   .045          TRAP     30      3
 66           RK   1300  .0046   .012          CIRC      3

 67           KK   5051     CP
 68           KM       COMBINE HYDROGRAPHS FROM SUB 5040 & SUB 5050 & CP 5032
 69           HC      3

 70           KK   5052     CP
 71           KM       ROUTE HYDROGRAPH FROM CP 5051
 72           RK   6400  .0037   .012          CIRC      5

 73           KK   5060    SUB
 74           KM       HYDROGRAPH FROM SUB 5060
 75           BA   .211
 76           LS            74
 77           UK    224  .0212    .15    100
 78           RK   3700  .0182   .045          TRAP     30      3
 79           RK   2950  .0037   .012          CIRC      5

 80           KK   5070    SUB
 81           KM       HYDROGRAPH FROM SUB 5070
 82           BA   .588
 83           LS            76
 84           UK    224  .0212    .15    100
 85           RK   4500  .0178   .040          TRAP     20      3
 86           RK   2300  .0113   .012          CIRC      3

 87           KK   5071     CP
 88           KM       COMBINE HYDROGRAPHS FROM SUB 5060, 5070 & CP 5052
 89           HC      3
```

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

 90         KK   5080     SUB
 91         KM       HYDROGRAPH FROM SUB 5080
 92         BA   .310
 93         LS            76
 94         UK    224   .0212    .15     100
 95         RK   3500   .0171    .045           TRAP     30      30
 96         RK   2400   .0183    .012           CIRC      3

 97         KK   5090     SUB
 98         KM       HYDROGRAPH FROM SUB 5090
 99         BA   .686
100         LS            76
101         UK    224   .0212    .015    100
102         RK   5550   .0192    .045           TRAP     30      20
103         RK   2400   .0079    .012           CIRC      3

104         KK   5091     CP
105         KM       COMBINE HYDROGRAPHS FROM SUB 5080 & 5090
106         HC      2

107         KK   5092     CP
108         KM       ROUTE HYDROGRAPH FROM CP 5091
109         RK   5280   .0066    .012           CIRC      4

110         KK   5100     SUB
111         KM       HYDROGRAPH FROM SUB 5100
112         BA   .241
113         LS            73
114         UK    224   .0212    .15     100
115         RK   3300   .0218    .045           TRAP     30      20
116         RK   2300   .0066    .012           CIRC      4

117         KK   5110     SUB
118         KM       HYDROGRAPH FROM SUB 5110
119         BA   .762
120         LS            74
121         UK    224   .0212    .15     100
122         RK   5600   .0196    .045           TRAP     15       3
123         RK   2400   .0088    .012           CIRC      3

124         KK   5111     CP
125         KM       COMBINE HYDROGRAPHS FROM SUB 5100 & SUB 5110 & CP 5092
126         HC      3

127         KK   5112     CP
128         KM       ROUTE HYDROGRAPHS FROM CP 5111
129         RK   7300   .0052    .012           CIRC      4

130         KK   5130     SUB
131         KM       HYDROGRAPH FROM SUB 5130
132         BA   .291
133         LS            74
134         UK    224   .0212    .15     100
135         RK   3400   .0206    .045           TRAP     20       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 136          RK    1400   .0206    .012           CIRC      3

 137          KK    5131      CP
 138          KM       COMBINE HYDROGRAPHS FROM SUB 5130 & CP 5112
 139          HC       2

 140          KK    5132      CP
 141          KM       ROUTE HYDROGRAPH FROM CP 5132
 142          RK    2200   .0050    .012           CIRC      4

 143          KK    5120     SUB
 144          KM       HYDROGRAPH FROM SUB 5120
 145          BA    .563
 146          LS             74
 147          UK     224   .0212     .15     100
 148          RK    5500   .0178    .045           TRAP     20      3
 149          RK    4900   .0052    .012           CIRC      4

 150          KK    5140     SUB
 151          KM       HYDROGRAPH FROM SUB 5140
 152          BA    .972
 153          LS             75
 154          UK     224   .0212     .15     100
 155          RK    7100   .0177    .045           TRAP     25      3
 156          RK    2700   .0096    .012           CIRC      3

 157          KK    5141      CP
 158          KM       COMBINE HYDROGRAPHS FROM SUB 5120 & SUB 5140 & CP 5132
 159          HC       3

 160          KK    5150     SUB
 161          KM       HYDROGRAPH FROM SUB 5150
 162          BA    .458
 163          LS             74
 164          UK     224   .0212     .15     100
 165          RK    4100   .0188    .045           TRAP     50     100
 166          RK    2500   .0168    .012           CIRC      3

 167          KK    5160     SUB
 168          KM       HYDROGRAPH FROM SUB 5160
 169          BA    .542
 170          LS             77
 171          UK     224   .0212     .15     100
 172          RK    6300   .0190    .045           TRAP     30      30
 173          RK    1800   .0115    .012           CIRC      3

 174          KK    5161      CP
 175          KM       COMBINE HYDROGRAPHS FROM SUB 5150 & SUB 5160
 176          HC       2
```

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

 177          KK   5162      CP
 178          KM       ROUTE HYDROGRAPH FROM CP 5161
 179          RK   5280   .0077    .012           CIRC       3

 180          KK   5170     SUB
 181          KM       HYDROGRAPH FROM SUB 5170
 182          BA   .327
 183          LS             74
 184          UK    224   .0212     .15     100
 185          RK   3700   .0194    .045           TRAP      15      30
 186          RK   2350   .0077    .012           CIRC       3

 187          KK   5180     SUB
 188          KM       HYDROGRAPH FROM SUB 5180
 189          BA   .671
 190          LS             74
 191          UK    224   .0212     .15     100
 192          RK   5100   .0216    .045           TRAP      30      20
 193          RK   2100   .0083    .012           CIRC       3

 194          KK   5181      CP
 195          KM       COMBINE HYDROGRAPHS FROM SUB 5170, SUB 5180 & CP 5162
 196          HC      3

 197          KK   5182      CP
 198          KM       ROUTE HYDROGRAPH FROM CP 5181
 199          RK   5280   .0052    .012           CIRC       4

 200          KK   5190     SUB
 201          KM       HYDROGRAPH FROM SUB 5190
 202          BA   .293
 203          LS             74
 204          UK    224   .0212     .15     100
 205          RK   4000   .0170    .045           TRAP      30      30
 206          RK   1800   .0052    .012           CIRC       4

 207          KK   5200     SUB
 208          KM       HYDROGRAPH FROM SUB 5200
 209          BA   .521
 210          LS             74
 211          UK    224   .0212     .15     100
 212          RK   6350   .0191    .045           TRAP      35      30
 213          RK   1200   .0108    .012           CIRC       3

 214          KK   5201      CP
 215          KM       COMBINE HYDROGRAPHS FROM SUB 5190 & SUB 5200 & CP 5182
 216          HC      3

 217          KK   5202      CP
 218          KM       ROUTE HYDROGRAPH FROM CP 5202
 219          RK   6100   .0043    .012           CIRC       5
```

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

 220          KK   5210     SUB
 221          KM       HYDROGRAPH FROM SUB 5210
 222          BA   .610
 223          LS            74
 224          UK    224  .0212    .15     100
 225          RK   4500  .0167   .045           TRAP     20      3
 226          RK   2000  .0043   .012           CIRC      5

 227          KK   5220     SUB
 228          KM       HYDROGRAPH FROM SUB 5220
 229          BA   .148
 230          LS            74
 231          UK    224  .0212    .15     100
 232          RK   2100  .0178   .045           TRAP     25      3
 233          RK   3100  .0171   .012           CIRC      3

 234          KK   5221     CP
 235          KM       COMBINE HYDROGRAPHS FROM SUB 5210, SUB 5220 & CP 5202
 236          HC      3

 237          KK   5230     SUB
 238          KM       HYDROGRAPH FROM SUB 5230
 239          BA   .500
 240          LS            74
 241          UK    224  .0212    .15     100
 242          RK   4600  .0200   .045           TRAP     50    100
 243          RK   1950  .0149   .012           CIRC      3

 244          KK   5240     SUB
 245          KM       HYDROGRAPH FROM SUB 5240
 246          BA   .500
 247          LS            74
 248          UK    224  .0212    .15     100
 249          RK   5100  .0220   .045           TRAP     50    100
 250          RK   1650  .0133   .012           CIRC      3

 251          KK   5241     CP
 252          KM       COMBINE HYDROGRAPHS FROM SUB 5230 & SUB 5240
 253          HC      2

 254          KK   5242     CP
 255          KM       ROUTE HYDROGRAPH FROM CP 5241
 256          RK   5280  .0084   .012           CIRC      3

 257          KK   5250     SUB
 258          KM       HYDROGRAPH FROM SUB 5250
 259          BA   .500
 260          LS            74
 261          UK    224  .0212    .15     100
 262          RK   5100  .0202   .045           TRAP     50    130
 263          RK   1650  .0084   .012           CIRC      3
```

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

 264        KK   5260     SUB
 265        KM       HYDROGRAPH FROM SUB 5260
 266        BA   .500
 267        LS            74
 268        UK    224  .0212    .15     100
 269        RK   5100  .0200   .045           TRAP     30      30
 270        RK   1600  .0113   .012           CIRC      3

 271        KK   5261     CP
 272        KM       COMBINE HYDROGRAPHS FROM SUB 5250, SUB 5260 & CP 5242
 273        HC      3

 274        KK   5262
 275        KM       ROUTE HYDROGRAPH FROM CP 5261
 276        RK   5280  .0062   .012           CIRC      4

 277        KK   5270     SUB
 278        KM       HYDROGRAPH FROM SUB 5270
 279        BA   .334
 280        LS            74
 281        UK    224  .0212    .15     100
 282        RK   4200  .0195   .045           TRAP     40      50
 283        RK   1650  .0062   .012           CIRC      4

 284        KK   5280     SUB
 285        KM       HYDROGRAPH FROM SUB 5280
 286        BA   .670
 287        LS            74
 288        UK    224  .0212    .15     100
 289        RK   6300  .0190   .045           TRAP     30      30
 290        RK   1800  .0067   .012           CIRC      3

 291        KK   5281     CP
 292        KM       COMBINE HYDROGRAPHS FROM SUB 5270, SUB 5280 & CP 5262
 293        HC      3

 294        KK   5282
 295        KM       ROUTE HYDROGRAPH FROM CP 5282
 296        RK   2800  .0052   .012           CIRC      4

 297        KK   5290     SUB
 298        KM       RUNOFF FROM SUB 5290
 299        BA   .105
 300        LS            74
 301        UK    224  .0212    .15     100
 302        RK   2000  .0140   .045           TRAP     30      30
 303        RK   1100  .0052   .012           CIRC      4

 304        KK   5300     SUB
 305        KM       HYDROGRAPH FROM SUB 5300
 306        BA   .392
 307        LS            74
 308        UK    224  .0212    .15     100
 309        RK   3000  .0167   .045           TRAP     30      30
```

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

 310          RK    2350   .0085    .012           CIRC      3

 311          KK    5301      CP
 312          KM       COMBINE HYDROGRAPHS FROM SUB 5290 AND SUB 5300
 313          HC       3

 314          KK    5302      CP
 315          KM       ROUTE HYDROGRAPH FROM CP 5301
 316          RK    4200   .0050    .012           CIRC      4

 317          KK    5310     SUB
 318          KM       HYDROGRAPH FROM SUB 5310
 319          BA    .172
 320          LS             74
 321          UK     224   .0212     .15     100
 322          RK    2700   .0146    .045           TRAP     30      30
 323          RK    2000   .0050    .012           CIRC      4

 324          KK    5320     SUB
 325          KM       HYDROGRAPH FROM SUB 5320
 326          BA    .288
 327          LS             74
 328          UK     224   .0212     .15     100
 329          RK    5000   .0146    .045           TRAP     50      40
 330          RK     900   .0100    .012           CIRC      3

 331          KK    5321      CP
 332          KM       COMBINE HYDROGRAPHS FROM SUB 5310 & SUB 5320 & CP 5302
 333          HC       3

 334          KK    5322      CP
 335          KM       ROUTE HYDROGRAPH FROM CP 5321
 336          RK    2100   .0043    .012           CIRC      5

 337          KK    5340     SUB
 338          KM       HYDROGRAPH FROM SUB 5340
 339          BA    .121
 340          LS             74
 341          UK     224   .0212     .15     100
 342          RK    2150   .0140    .045           TRAP     50      40

 343          KK    5330     SUB
 344          KM       HYDROGRAPH FROM SUB 5330
 345          BA    .448
 346          LS             74
 347          UK     224   .0212     .15     100
 348          RK    4200   .0167    .045           TRAP     25       3
 349          RK    3050   .0125    .012           CIRC      3

 350          KK    5341      CP
 351          KM       COMBINE HYDROGRAPHS FROM SUB 5340, SUB 5330 & CP 5322
 352          HC       3
```

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

 353        KK   5342     CP
 354        KM       ROUTE HYDROGRAPH FROM CP 5341
 355        RK   2000  .0040   .012          CIRC      5

 356        KK   5350    SUB
 357        KM       HYDROGRAPH FROM SUB 5350
 358        BA   .169
 359        LS            74
 360        UK    224  .0212    .15    100
 361        RK   2200  .0159   .045          TRAP     30      30
 362        RK    500  .0100   .012          CIRC      3

 363        KK   5351     CP
 364        KM       ROUTE HDROGRAPH FROM SUB 5350
 365        RK   3250  .0111   .012          CIRC      3

 366        KK   5360    SUB
 367        KM       HYDROGRAPH FROM SUB 5360
 368        BA   .186
 369        LS            74
 370        UK    224  .0212    .15    100
 371        RK   2350  .0146   .045          TRAP     30      30

 372        KK   5361     CP
 373        KM       COMBINE HYDROGRAPHS FROM SUB 5360, CP 5342  & CP 5351
 374        HC      3
 375        ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

   10      5000
              .
              .
   23         .       5010
              .         .
              .         .
   30      5011............
              .
              .
   33         .       5020
              .         .
              .         .
   40         .         .       5030
              .         .         .
              .         .         .
   47         .       5031............
              .         V
              .         V
   50         .       5032
              .         .
              .         .
   53         .         .       5040
              .         .         .
              .         .         .
   60         .         .         .       5050
              .         .         .         .
              .         .         .         .
   67         .       5051........................
              .         V
              .         V
   70         .       5052
              .         .
              .         .
   73         .         .       5060
              .         .         .
              .         .         .
   80         .         .         .       5070
              .         .         .         .
              .         .         .         .
   87         .       5071........................
              .         .
              .         .
   90         .         .       5080
              .         .         .
              .         .         .
   97         .         .         .       5090
              .         .         .         .
              .         .         .         .
  104         .         .       5091............
              .         .         V
              .         .         V
  107         .         .       5092
              .         .         .
              .         .         .
  110         .         .         .       5100
              .         .         .         .
              .         .         .         .
```

```
117   .     .     .     .     5110
      .     .     .     .       .
      .     .     .     .       .
124   .     .   5111.....................
      .     .     V
      .     .     V
127   .     .   5112
      .     .     .
      .     .     .
130   .     .     .   5130
      .     .     .     .
      .     .     .     .
137   .     .   5131............
      .     .     V
      .     .     V
140   .     .   5132
      .     .     .
      .     .     .
143   .     .     .   5120
      .     .     .     .
      .     .     .     .
150   .     .     .     .     5140
      .     .     .     .       .
      .     .     .     .       .
157   .     .   5141.....................
      .     .     .
      .     .     .
160   .     .     .   5150
      .     .     .     .
      .     .     .     .
167   .     .     .     .     5160
      .     .     .     .       .
      .     .     .     .       .
174   .     .     .   5161............
      .     .     .     V
      .     .     .     V
177   .     .     .   5162
      .     .     .     .
      .     .     .     .
180   .     .     .     .     5170
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      .     .     .     .       .
187   .     .     .     .       .     5180
      .     .     .     .       .       .
      .     .     .     .       .       .
194   .     .     .   5181.....................
      .     .     .     V
      .     .     .     V
197   .     .     .   5182
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      .     .     .     .
200   .     .     .     .     5190
      .     .     .     .       .
      .     .     .     .       .
207   .     .     .     .       .     5200
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      .     .     .     .       .       .
214   .     .     .   5201.....................
      .     .     .     V
      .     .     .     V
217   .     .     .   5202
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      .     .     .     .
220   .     .     .     .     5210
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227                                                  5220
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234                                  5221.............
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237                                    .        5230
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244                                    .          .        5240
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251                                    .        5241.........
                                       .          V
                                       .          V
254                                    .        5242
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257                                    .          .        5250
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264                                    .          .          .        5260
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271                                    .        5261.......................
                                       .          V
                                       .          V
274                                    .        5262
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277                                    .          .        5270
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                                       .          .          .
284                                    .          .          .        5280
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291                                    .        5281.......................
                                       .          V
                                       .          V
294                                    .        5282
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297                                    .          .        5290
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304                                    .          .          .        5300
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311                                    .        5301.......................
                                       .          V
                                       .          V
314                                    .        5302
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                                       .          .
317                                    .          .        5310
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                                       .          .          .
324                                    .          .          .        5320
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331                                    .        5321.......................
                                       .          V
                                       .          V
334                                    .        5322
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337          .          .          .          .          .       5340
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343          .          .          .          .          .          .       5330
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350          .          .          .          .       5341.......................
             .          .          .          .          V
             .          .          .          .          V
353          .          .          .          .       5342
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             .          .          .          .          .
356          .          .          .          .          .       5350
             .          .          .          .          .          V
             .          .          .          .          .          V
363          .          .          .          .          .       5351
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366          .          .          .          .          .          .       5360
             .          .          .          .          .          .          .
             .          .          .          .          .          .          .
372          .          .          .          .       5361.......................
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
****************************************
*                                      *
*  FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*           FEBRUARY 1981              *
*         REVISED  6 FEB 87            *
*                                      *
* RUN DATE  01/01/1980  TIME  06:50:32 *
*                                      *
****************************************
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```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
* THE HYDROLOGIC ENGINEERING CENTER    *
*         609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616        *
* (916) 440-3285 OR (FTS) 448-3285     *
*                                      *
****************************************
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```
                    HYDROLOGY FOR PARADISE VALLEY FAN TERRACE  (AREAS C AND D)
                    MODEL COP.DAT -- SUB-BASIN SERIES 5000
                    2-YEAR 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                    STORM DRAIN ROUTING WEST ALONG SECTION ROADS
                    RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR
                    WATER RESOURCES ASSOCIATES, INC.,  AUGUST 10, 1989

 9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

  IT         HYDROGRAPH TIME DATA
                  NMIN          5  MINUTES IN COMPUTATION INTERVAL
                 IDATE      1AUG89  STARTING DATE
                 ITIME       0000  STARTING TIME
                    NQ        289  NUMBER OF HYDROGRAPH ORDINATES
                NDDATE      2AUG89  ENDING DATE
                NDTIME       0000  ENDING TIME
                 ICENT         19  CENTURY MARK

            COMPUTATION INTERVAL     .08 HOURS
                 TOTAL TIME BASE   24.00 HOURS

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

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	5000	64.	6.75	22.	8.	8.	1.08		
HYDROGRAPH AT	5010	71.	6.67	20.	7.	7.	.79		
2 COMBINED AT	5011	133.	6.67	42.	15.	15.	1.86		
HYDROGRAPH AT	5020	18.	6.58	5.	2.	2.	.21		
HYDROGRAPH AT	5030	104.	6.67	32.	12.	12.	1.76		
2 COMBINED AT	5031	120.	6.67	37.	14.	14.	1.96		
ROUTED TO	5032	119.	6.75	37.	14.	14.	1.96		
HYDROGRAPH AT	5040	8.	7.00	3.	1.	1.	.20		
HYDROGRAPH AT	5050	20.	7.00	8.	3.	3.	.55		
3 COMBINED AT	5051	142.	6.83	48.	18.	18.	2.72		
ROUTED TO	5052	140.	6.92	47.	18.	18.	2.72		
HYDROGRAPH AT	5060	7.	7.08	3.	1.	1.	.21		
HYDROGRAPH AT	5070	28.	6.75	10.	4.	4.	.59		
3 COMBINED AT	5071	173.	6.92	60.	22.	22.	3.52		
HYDROGRAPH AT	5080	15.	6.83	5.	2.	2.	.31		
HYDROGRAPH AT	5090	49.	6.42	12.	4.	4.	.69		
2 COMBINED AT	5091	55.	6.42	17.	6.	6.	1.00		
ROUTED TO	5092	55.	6.50	17.	6.	6.	1.00		
HYDROGRAPH AT	5100	6.	7.08	3.	1.	1.	.24		
HYDROGRAPH AT	5110	23.	7.00	10.	4.	4.	.76		
3 COMBINED AT	5111	76.	6.75	30.	11.	11.	2.00		
ROUTED TO	5112	75.	6.92	29.	11.	11.	2.00		
HYDROGRAPH AT	5130	9.	6.92	4.	1.	1.	.29		
2 COMBINED AT	5131	84.	6.92	33.	13.	13.	2.29		
ROUTED TO	5132	84.	6.92	33.	13.	13.	2.29		
HYDROGRAPH AT	5120	17.	7.08	7.	3.	3.	.56		
HYDROGRAPH AT	5140	35.	7.00	14.	5.	5.	.97		
3 COMBINED AT	5141	136.	7.00	54.	21.	21.	3.83		

HYDROGRAPH AT	5150	14.	7.17	6.	2.	2.	.46
HYDROGRAPH AT	5160	27.	7.00	10.	4.	4.	.54
2 COMBINED AT	5161	40.	7.08	16.	6.	6.	1.00
ROUTED TO	5162	40.	7.17	16.	6.	6.	1.00
HYDROGRAPH AT	5170	11.	7.00	4.	2.	2.	.33
HYDROGRAPH AT	5180	21.	7.08	9.	3.	3.	.67
3 COMBINED AT	5181	72.	7.08	29.	11.	11.	2.00
ROUTED TO	5182	71.	7.17	29.	11.	11.	2.00
HYDROGRAPH AT	5190	9.	7.08	4.	2.	2.	.29
HYDROGRAPH AT	5200	15.	7.25	7.	3.	3.	.52
3 COMBINED AT	5201	95.	7.17	39.	15.	15.	2.81
ROUTED TO	5202	94.	7.25	39.	15.	15.	2.81
HYDROGRAPH AT	5210	20.	7.00	8.	3.	3.	.61
HYDROGRAPH AT	5220	5.	6.92	2.	1.	1.	.15
3 COMBINED AT	5221	116.	7.25	49.	19.	19.	3.57
HYDROGRAPH AT	5230	15.	7.25	6.	3.	3.	.50
HYDROGRAPH AT	5240	14.	7.25	6.	3.	3.	.50
2 COMBINED AT	5241	29.	7.25	13.	5.	5.	1.00
ROUTED TO	5242	29.	7.33	13.	5.	5.	1.00
HYDROGRAPH AT	5250	14.	7.33	6.	3.	3.	.50
HYDROGRAPH AT	5260	15.	7.17	6.	3.	3.	.50
3 COMBINED AT	5261	58.	7.25	26.	10.	10.	2.00
ROUTED TO	5262	58.	7.33	26.	10.	10.	2.00
HYDROGRAPH AT	5270	10.	7.17	4.	2.	2.	.33
HYDROGRAPH AT	5280	19.	7.25	9.	3.	3.	.67
3 COMBINED AT	5281	87.	7.33	38.	15.	15.	3.00
ROUTED TO	5282	86.	7.42	38.	15.	15.	3.00
HYDROGRAPH AT	5290	4.	6.92	1.	1.	1.	.10
HYDROGRAPH AT	5300	13.	7.00	5.	2.	2.	.39
3 COMBINED AT	5301	100.	7.33	45.	18.	18.	3.50
ROUTED TO	5302	100.	7.42	45.	18.	18.	3.50
HYDROGRAPH AT	5310	6.	7.00	2.	1.	1.	.17
HYDROGRAPH AT	5320	8.	7.33	4.	1.	1.	.29

3 COMBINED AT	5321	112.	7.42	51.	20.	20.	3.96
ROUTED TO	5322	112.	7.42	51.	20.	20.	3.96
HYDROGRAPH AT	5340	4.	7.00	2.	1.	1.	.12
HYDROGRAPH AT	5330	14.	7.00	6.	2.	2.	.45
3 COMBINED AT	5341	127.	7.42	58.	23.	23.	4.53
ROUTED TO	5342	127.	7.42	58.	23.	23.	4.53
HYDROGRAPH AT	5350	6.	6.92	2.	1.	1.	.17
ROUTED TO	5351	6.	7.00	2.	1.	1.	.17
HYDROGRAPH AT	5360	6.	6.92	2.	1.	1.	.19
3 COMBINED AT	5361	136.	7.42	62.	25.	25.	4.88

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

HEC-1

INPUT/OUTPUT FILES: CCW.DAT

EXISTING CONDITIONS

2-YEAR, 24-HOUR, SCS TYPE IIA STORM

STORM DRAINS FLOWING TO CAVE CREEK WASH

```
*************************************
*                                   *
*  FLOOD HYDROGRAPH PACKAGE (HEC-1) *
*          FEBRUARY 1981            *
*         REVISED  6 FEB 87         *
*                                   *
* RUN DATE  01/01/1980  TIME  03:58:51 *
*                                   *
*************************************
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*************************************
*                                   *
*   U.S. ARMY CORPS OF ENGINEERS    *
* THE HYDROLOGIC ENGINEERING CENTER *
*        609 SECOND STREET          *
*      DAVIS, CALIFORNIA 95616      *
* (916) 440-3285 OR (FTS) 448-3285  *
*                                   *
*************************************
```

```
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

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

  1           ID      HYDROLOGY FOR PARADISE VALLEY FAN TERRACE  (AREAS C AND D)
  2           ID      MODEL PHCAP1.DAT -- SUB-BASIN SERIES 6000 -- EXISTING CONDITIONS
  3           ID      2-YEAR 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
  4           ID      RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR
  5           ID      WATER RESOURCES ASSOCIATES, INC.,  AUGUST 10, 1989
  6           ID      REVISED SLOPES, MANNINGS "N", AND PRECIPITATION 8/9/89
              *DIAGRAM
  7           IT      5 10AUG89      0     289
  8           IN     30 10AUG89      0
  9           ID      5      0

 10           KK    6000     SUB
 11           KM       HYDROGRAPH FROM SUB 6000
 12           BA   0.309
 13           PB    1.67
 14           PC      0    .005    .009    .010    .013    .019    .021    .028    .032    .044
 15           PC   .057    .100    .660    .745    .776    .800    .816    .830    .840    .850
 16           PC   .861    .868    .878    .884    .891    .900    .905    .912    .919    .923
 17           PC   .930    .934    .939    .944    .950    .959    .961    .963    .969    .971
 18           PC   .974    .979    .981    .985    .989    .991    .993    .996   1.000
 19           LS             74
 20           UK    110   .0213     .10     100
 21           RK   3900   .0208    .045            TRAP      50     100
 22           RK   1600   .0175    .012            CIRC       3

 23           KK    6005     SUB
 24           KM       HYDROGRAPH FROM SUB 6005
 25           BA   .645
 26           LS             74
 27           UK    110   .0213     .10     100
 28           RK   3800   .0202    .045            TRAP      50     100
 29           RK   2100   .0124    .012            CIRC       3

 30           KK    6006      CP
 31           KM       COMBINE HYDROGRAPHS FROM SUB 6000 & SUB 6005
 32           HC      2

 33           KK    6007      CP
 34           KM       ROUTE HYDROGRAPH FROM CP 6006
 35           RK   5280   .0100    .012            CIRC       3

 36           KK    6010     SUB
 37           KM       HYDROGRAPH FROM SUB 6010
 38           BA   .344
 39           LS             74
 40           UK    110   .0213     .10     100
 41           RK   3800   .0216    .045            TRAP      50     130
 42           RK   2000   .0080    .012            CIRC       3

 43           KK    6015     SUB
 44           KM       HYDROGRAPH FROM SUB 6015
 45           BA   .659
 46           LS             74
 47           UK    110   .0213     .10     100
 48           RK   6200   .0210    .045            TRAP      50     130
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

 49           RK    1950   .0103    .012           CIRC      3

 50           KK    6016      CP
 51           KM       COMBINE HYDROGRAPHS FROM SUB 6010, SUB 6015 & CP 6006
 52           HC       3

 53           KK    6017      CP
 54           KM       ROUTE HYDROGRAPH FROM CP 6016
 55           RK    5280   .0055    .012           CIRC      4

 56           KK    6020     SUB
 57           KM       HYDROGRAPH FROM SUB 6020
 58           BA    .320
 59           LS            74
 60           UK     110   .0213     .10     100
 61           RK    3550   .0192    .045           TRAP     50     130
 62           RK    2250   .0055    .012           CIRC      4

 63           KK    6025     SUB
 64           KM       HYDROGRAPH FROM SUB 6025
 65           BA    .680
 66           LS            74
 67           UK     110   .0213     .10     100
 68           RK    6100   .0198    .045           TRAP    400       2
 69           RK    2100   .0100    .012           CIRC      3

 70           KK    6026      CP
 71           KM       COMBINE HYDROGRAPHS FROM SUB 6020, SUB 6025 & CP 6017
 72           HC       3

 73           KK    6027      CP
 74           KM       ROUTE HYDROGRAPH FROM CP 6026
 75           RK    5280   .0050    .012           CIRC      5

 76           KK    6030     SUB
 77           KM       HYDROGRAPH FROM SUB 6030
 78           BA    .344
 79           LS            74
 80           UK     110   .0213     .10     100
 81           RK    4100   .0166    .045           TRAP    400       2
 82           RK    1700   .0050    .012           CIRC      5

 83           KK    6035     SUB
 84           KM       HYDROGRAPH FROM SUB 6035
 85           BA    .664
 86           LS            74
 87           UK     110   .0213     .10     100
 88           RK    6200   .0163    .045           TRAP     50     175
 89           RK    1950   .0067    .012           CIRC      3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  90          KK    6036      CP
  91          KM        COMBINE HYDROGRAPHS FROM SUB 6030, 6035 & CP 6027
  92          HC       3

  93          KK    6037      CP
  94          KM        ROUTE HYDROGRAPH FROM CP 6036
  95          RK    3000   .0043    .012           CIRC      5

  96          KK    6040     SUB
  97          KM        HYDROGRAPH FROM SUB 6040
  98          BA    .109
  99          LS             74
 100          UK     110   .0213     .10     100
 101          RK    2150   .0140    .045           TRAP    400      2
 102          RK    1100   .0043    .012           CIRC      5

 103          KK    6045     SUB
 104          KM        HYDROGRAPH FROM SUB 6045
 105          BA    .593
 106          LS             74
 107          UK     110   .0213    .010     100
 108          RK    4200   .0152    .045           TRAP     50    175
 109          RK    3700   .0110    .012           CIRC      3

 110          KK    6046      CP
 111          KM        COMBINE HYDROGRAPHS FROM SUB 6040,SUB 6045 & CP 6037
 112          HC       3

 113          KK    6047      CP
 114          KM        ROUTE HYDROGRAPH FROM CP 6047
 115          RK    3000   .0040    .012           CIRC      5

 116          KK    6050     SUB
 117          KM        HYDROGRAPH FROM SUB 6050
 118          BA    .091
 119          LS             74
 120          UK     110   .0213     .10     100
 121          RK    2100   .0129    .045           TRAP     50    175
 122          RK    1250   .0040    .012           CIRC      5

 123          KK    6055     SUB
 124          KM        HYDROGRAPH FROM SUB 6055
 125          BA    .625
 126          LS             74
 127          UK     110   .0213     .10     100
 128          RK    3800   .0126    .045           TRAP     50    175
 129          RK    4100   .0030    .012           CIRC      3

 130          KK    6056      CP
 131          KM        COMBINE HYDROGRAPHS FROM SUB 6050, SUB 6055 & CP 6047
 132          HC       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 133          KK    6057      CP
 134          KM        ROUTE HYDROGRAPHS FROM CP 6057
 135          RK    3500   .0037    .012           CIRC       5

 136          KK    6060     SUB
 137          KM        HYDROGRAPH FROM SUB 6060
 138          BA    .092
 139          LS             74
 140          UK     110   .0213     .10     100
 141          RK    2050   .0107    .045           TRAP      50     175
 142          RK    1200   .0037    .012           CIRC       5

 143          KK    6065     SUB
 144          KM        HYDROGRAPH FROM SUB 6065
 145          BA    .513
 146          LS             74
 147          UK     110   .0213     .10     100
 148          RK    3200   .0103    .045           TRAP      50     175

 149          KK    6066      CP
 150          KM        COMBINE HYDROGRAPHS FROM SUB 6060, SUB 6065 & CP 6057
 151          HC       3

 152          KK    6100     SUB
 153          KM        HYDROGRAPH FROM SUB 6100
 154          BA   0.453
 155          LS             74
 156          UK     110   .0213     .10     100
 157          RK    4300   .0205    .045           TRAP      50     130
 158          RK    1950   .0072    .012           CIRC       3

 159          KK    6105     SUB
 160          KM        HYDROGRAPH FROM SUB 6105
 161          BA    .352
 162          LS             74
 163          UK     110   .0213     .10     100
 164          RK    4100   .0205    .045           TRAP      50     130
 165          RK    1300   .0131    .012           CIRC       3

 166          KK    6106      CP
 167          KM        COMBINE HYDROGRAPHS FROM SUB 6100 & SUB 6105
 168          HC       2

 169          KK    6107      CP
 170          KM        ROUTE HYDROGRAPH FROM CP 6106
 171          RK    5400   .0081    .012           CIRC       3

 172          KK    6110     SUB
 173          KM        HYDROGRAPH FROM SUB 6110
 174          BA    .419
 175          LS             74
 176          UK     110   .0213     .10     100
 177          RK    4250   .0198    .045           TRAP      50     130
 178          RK     900   .0081    .012           CIRC       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 179          KK   6115     SUB
 180          KM       HYDROGRAPH FROM SUB 6115
 181          BA   .180
 182          LS            74
 183          UK    110   .0213    .10     100
 184          RK   3050   .0187   .045           TRAP     50     130
 185          RK    900   .0122   .012           CIRC      3

 186          KK   6116     CP
 187          KM       COMBINE HYDROGRAPHS FROM SUB 6110, SUB 6115 & CP 6106
 188          HC      3

 189          KK   6117     CP
 190          KM       ROUTE HYDROGRAPH FROM CP 6116
 191          RK   4850   .0073   .012           CIRC      3

 192          KK   6120     SUB
 193          KM       HYDROGRAPH FROM SUB 6120
 194          BA   .231
 195          LS            74
 196          UK    110   .0213    .10     100
 197          RK   3950   .0185   .045           TRAP     50     175
 198          RK   1550   .0073   .012           CIRC      3

 199          KK   6125     SUB
 200          KM       HYDROGRAPH FROM SUB 6125
 201          BA   .302
 202          LS            74
 203          UK    110   .0213    .10     100
 204          RK   4000   .0185   .045           TRAP     50     140
 205          RK   1100   .0036   .012           CIRC      3

 206          KK   6126     CP
 207          KM       COMBINE HYDROGRAPHS FROM SUB 6120, SUB 6125 & CP 6117
 208          HC      3

 209          KK   6127     CP
 210          KM       ROUTE HYDROGRAPH FROM CP 6126
 211          RK   5850   .0057   .012           CIRC      4

 212          KK   6130     SUB
 213          KM       HYDROGRAPH FROM SUB 6130
 214          BA   .225
 215          LS            74
 216          UK    110   .0213    .10     100
 217          RK   4000   .0145   .045           TRAP     50     140
 218          RK   2150   .0057   .012           CIRC      4

 219          KK   6135     SUB
 220          KM       HYDROGRAPH FROM SUB 6135
 221          BA   .544
 222          LS            74
 223          UK    110   .0213    .10     100
 224          RK   5400   .0146   .045           TRAP    400       2
```

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

 225        RK    1700   .0065    .012           CIRC      3

 226        KK    6136      CP
 227        KM       COMBINE HYDROGRAPHS FROM SUB 6130, 6135 & CP 6127
 228        HC       3

 229        KK    6137      CP
 230        KM       ROUTE HYDROGRAPH FROM CP 6136
 231        RK     900   .0054    .012           CIRC      4

 232        KK    6140     SUB
 233        KM       HYDROGRAPH FROM SUB 6140
 234        BA    .378
 235        LS             74
 236        UK     110   .0213     .10     100
 237        RK    3100   .0129    .045           TRAP    400       2
 238        RK    3550   .0030    .012           CIRC      3

 239        KK    6141      CP
 240        KM       COMBINE HYDROGRAPHS FROM SUB 6140 & CP 6137
 241        HC       2

 242        KK    6142      CP
 243        KM       ROUTE HYDROGRAPH FROM CP 6041
 244        RK    3400   .0052    .012           CIRC      4

 245        KK    6150     SUB
 246        KM       HYDROGRAPH FROM SUB 6150
 247        BA    .072
 248        LS             74
 249        UK     110   .0213     .10     100
 250        RK    2400   .0117    .045           TRAP    400       2
 251        RK     900   .0052    .012           CIRC      4

 252        KK    6155     SUB
 253        KM       HYDROGRAPH FROM SUB 6155
 254        BA    .541
 255        LS             74
 256        UK     110   .0213     .10     100
 257        RK    3100   .0119    .045           TRAP    400       2
 258        RK    3900   .0030    .012           CIRC      3

 259        KK    6156      CP
 260        KM       COMBINE HYDROGRAPHS FROM SUB 6150, SUB 6155 & CP 6142
 261        HC       3

 262        KK    6157      CP
 263        KM       ROUTE HYDROGRAPHS FROM CP 6056
 264        RK    2400   .0044    .012           CIRC      5
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 265        KK   6160     SUB
 266        KM       HYDROGRAPH FROM SUB 6160
 267        BA   .061
 268        LS            74
 269        UK    110   .0213     .10     100
 270        RK   1600   .0144    .045           TRAP     400       2
 271        RK    750   .0044    .012           CIRC       5

 272        KK   6165     SUB
 273        KM       HYDROGRAPH FROM SUB 6165
 274        BA   .545
 275        LS            74
 276        UK    110   .0213     .10     100
 277        RK   3100   .0123    .045           TRAP     400       2

 278        KK   6166      CP
 279        KM       COMBINE HYDROGRAPHS FROM SUB 6160, SUB 6165 & CP 6157
 280        HC      3

 281        KK   6200     SUB
 282        KM       HYDROGRAPH FROM SUB 6200
 283        BA  0.484
 284        LS            74
 285        UK    110   .0213     .10     100
 286        RK   4550   .0180    .045           TRAP      50     130
 287        RK   1600   .0100    .012           CIRC       3

 288        KK   6205     SUB
 289        KM       HYDROGRAPH FROM SUB 6205
 290        BA   .522
 291        LS            74
 292        UK    110   .0213     .10     100
 293        RK   4400   .0173    .045           TRAP      50     130
 294        RK   2100   .0095    .012           CIRC       3

 295        KK   6106      CP
 296        KM       COMBINE HYDROGRAPHS FROM SUB 6200 & SUB 6205
 297        HC      2

 298        KK   6207      CP
 299        KM       ROUTE HYDROGRAPH FROM CP 6206
 300        RK   5750   .0075    .012           CIRC       3

 301        KK   6210     SUB
 302        KM       HYDROGRAPH FROM SUB 6210
 303        BA   .503
 304        LS            74
 305        UK    110   .0213     .10     100
 306        RK   3900   .0167    .045           TRAP      50     130
 307        RK   2050   .0075    .012           CIRC       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 308          KK   6215     SUB
 309          KM       HYDROGRAPH FROM SUB 6215
 310          BA   .531
 311          LS            74
 312          UK    110   .0213    .10     100
 313          RK   4600   .0170   .045           TRAP     50     130
 314          RK   1750   .0091   .012           CIRC      3

 315          KK   6216     CP
 316          KM       COMBINE HYDROGRAPHS FROM SUB 6210, SUB 6215 & CP 6206
 317          HC      3

 318          KK   6217     CP
 319          KM       ROUTE HYDROGRAPH FROM CP 6216
 320          RK   4100   .0057   .012           CIRC      4

 321          KK   6220     SUB
 322          KM       HYDROGRAPH FROM SUB 6220
 323          BA   .069
 324          LS            74
 325          UK    110   .0213    .10     100
 326          RK   2100   .0162   .045           TRAP     50     120
 327          RK   2400   .0146   .012           CIRC      4

 328          KK   6225     SUB
 329          KM       HYDROGRAPH FROM SUB 6225
 330          BA   .827
 331          LS            74
 332          UK    110   .0213    .10     100
 333          RK   5400   .0167   .045           TRAP     50     175
 334          RK   3500   .0046   .012           CIRC      3

 335          KK   6226     CP
 336          KM       COMBINE HYDROGRAPHS FROM SUB 6220, SUB 6225 & CP 6217
 337          HC      3

 338          KK   6227     CP
 339          KM       ROUTE HYDROGRAPH FROM CP 6226
 340          RK   4600   .0050   .012           CIRC      4

 341          KK   6230     SUB
 342          KM       HYDROGRAPH FROM SUB 6230
 343          BA   .166
 344          LS            74
 345          UK    110   .0213    .10     100
 346          RK   3700   .0135   .045           TRAP     50     175
 347          RK   1200   .0050   .012           CIRC      4

 348          KK   6235     SUB
 349          KM       HYDROGRAPH FROM SUB 6235
 350          BA  1.094
 351          LS            74
 352          UK    110   .0213    .10     100
 353          RK   6100   .0134   .045           TRAP     50     175
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 354          RK    4250   .0030    .012           CIRC       3

 355          KK    6236      CP
 356          KM        COMBINE HYDROGRAPHS FROM SUB 6230, 6235 & CP 6227
 357          HC       3

 358          KK    6237      CP
 359          KM        ROUTE HYDROGRAPH FROM CP 6236
 360          RK    1000   .0039    .012           CIRC       5

 361          KK    6240     SUB
 362          KM        HYDROGRAPH FROM SUB 6240
 363          BA    .130
 364          LS             74
 365          UK     110   .0213     .10     100
 366          RK     850   .0094    .045           TRAP      50     175
 367          RK    5900   .0030    .012           CIRC       3

 368          KK    6241      CP
 369          KM        COMBINE HYDROGRAPHS FROM SUB 6240 & CP 6237
 370          HC       2

 371          KK    6242      CP
 372          KM        ROUTE HYDROGRAPH FROM CP 6041
 373          RK    3700   .0038    .012           CIRC       5

 374          KK    6250     SUB
 375          KM        HYDROGRAPH FROM SUB 6250
 376          BA    .120
 377          LS             74
 378          UK     110   .0213     .10     100
 379          RK    2500   .0100    .045           TRAP      50     175
 380          RK    1350   .0038    .012           CIRC       5

 381          KK    6255     SUB
 382          KM        HYDROGRAPH FROM SUB 6255
 383          BA    .655
 384          LS             74
 385          UK     110   .0213     .10     100
 386          RK    3400   .0112    .045           TRAP      50     140
 387          RK    4600   .0030    .012           CIRC       3

 388          KK    6256      CP
 389          KM        COMBINE HYDROGRAPHS FROM SUB 6250, SUB 6255 & CP 6242
 390          HC       3

 391          KK    6257      CP
 392          KM        ROUTE HYDROGRAPHS FROM CP 6256
 393          RK    2300   .0038    .012           CIRC       5
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 394          KK   6260     SUB
 395          KM       HYDROGRAPH FROM SUB 6260
 396          BA   .043
 397          LS            74
 398          UK    110  .0213    .10     100
 399          RK   1400  .0100   .045          TRAP     50     140
 400          RK    700  .0038   .012          CIRC      5

 401          KK   6265     SUB
 402          KM       HYDROGRAPH FROM SUB 6265
 403          BA   .404
 404          LS            74
 405          UK    110  .0213    .10     100
 406          RK   2300  .0113   .045          TRAP     50     140

 407          KK   6266      CP
 408          KM       COMBINE HYDROGRAPHS FROM SUB 6260, SUB 6265 & CP 6257
 409          HC      3

 410          KK   6300     SUB
 411          KM       HYDROGRAPH FROM SUB 6300
 412          BA  0.198
 413          LS            74
 414          UK    110  .0213    .10     100
 415          RK   2900  .0155   .045          TRAP     50     150
 416          RK    800  .0088   .012          CIRC      3

 417          KK   6301      CP
 418          KM       ROUTE HYDROGRAPH FROM SUB 6300
 419          RK   3850  .0138   .012          CIRC      3

 420          KK   6310     SUB
 421          KM       HYDROGRAPH FROM SUB 6310
 422          BA   .088
 423          LS            74
 424          UK    110  .0213    .10     100
 425          RK   2800  .0139   .045          TRAP     50     150
 426          RK   1500  .0133   .012          CIRC      3

 427          KK   6315     SUB
 428          KM       HYDROGRAPH FROM SUB 6315
 429          BA   .297
 430          LS            74
 431          UK    110  .0213    .10     100
 432          RK   4400  .0148   .045          TRAP     50     150
 433          RK   1600  .0063   .012          CIRC      3

 434          KK   6316      CP
 435          KM       COMBINE HYDROGRAPHS FROM SUB 6310, SUB 6315 & CP 6301
 436          HC      3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 437          KK    6317      CP
 438          KM        ROUTE HYDROGRAPH FROM CP 6316
 439          RK    3800   .0121    .012           CIRC       3

 440          KK    6320     SUB
 441          KM        HYDROGRAPH FROM SUB 6320
 442          BA    .411
 443          LS              74
 444          UK     110   .0213     .10     100
 445          RK    4650   .0118    .045           TRAP      50     150
 446          RK    1900   .0030    .012           CIRC       3

 447          KK    6321      CP
 448          KM        COMBINE HYDROGRAPHS FROM SUB 6320 & CP 6317
 449          HC       2.

 450          KK    6322      CP
 451          KM        ROUTE HYDROGRAPH FROM CP 6321
 452          RK    2300   .0100    .012           CIRC       3

 453          KK    6330     SUB
 454          KM        HYDROGRAPH FROM SUB 6330
 455          BA    .208
 456          LS              74
 457          UK     110   .0213     .10     100
 458          RK    1200   .0092    .045           TRAP      50     175
 459          RK    3300   .0061    .012           CIRC       3

 460          KK    6331      CP
 461          KM        COMBINE HYDROGRAPHS FROM SUB 6330 & CP 6322
 462          HC       2

 463          KK    6332      CP
 464          KM        ROUTE HYDROGRAPH FROM CP 6331
 465          RK    2050   .0083    .012           CIRC       3

 466          KK    6340     SUB
 467          KM        HYDROGRAPH FROM SUB 6340
 468          BA    .484
 469          LS              74
 470          UK     110   .0213     .10     100
 471          RK    3650   .0097    .045           TRAP      50     175
 472          RK    3300   .0030    .012           CIRC       3

 473          KK    6341      CP
 474          KM        COMBINE HYDROGRAPHS FROM SUB 6340 & CP 6332
 475          HC       2

 476          KK    6342      CP
 477          KM        ROUTE HYDROGRAPH FROM CP 6341
 478          RK    2200   .0077    .012           CIRC       3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 479          KK   6350     SUB
 480          KM       HYDROGRAPH FROM SUB 6350
 481          BA   .431
 482          LS            74
 483          UK    110   .0213    .10     100
 484          RK   2150   .0112   .045          TRAP     50     190

 485          KK   6351     CP
 486          KM       COMBINE HYDROGRAPHS FROM SUB 6350 & CP 6342
 487          HC      2

 488          KK   6400     SUB
 489          KM       HYDROGRAPH FROM SUB 6400
 490          BA  0.347
 491          LS            74
 492          UK    110   .0213    .10     100
 493          RK   3800   .0163   .045          TRAP     30      30
 494          RK   2150   .0093   .012          CIRC      3

 495          KK   6405     SUB
 496          KM       HYDROGRAPH FROM SUB 6405
 497          BA   .169
 498          LS            74
 499          UK    110   .0213    .10     100
 500          RK   2800   .0154   .045          TRAP     40      75
 501          RK    900   .0100   .012          CIRC      3

 502          KK   6406     CP
 503          KM       COMBINE HYDROGRAPHS FROM SUB 6400 & SUB 6405
 504          HC      2

 505          KK   6407     CP
 506          KM       ROUTE HYDROGRAPH FROM CP 6406
 507          RK   5500   .0102   .012          CIRC      3

 508          KK   6410     SUB
 509          KM       HYDROGRAPH FROM SUB 6410
 510          BA   .309
 511          LS            74
 512          UK    110   .0213    .10     100
 513          RK   4200   .0143   .045          TRAP     40      75
 514          RK   2350   .0102   .012          CIRC      3

 515          KK   6415     SUB
 516          KM       HYDROGRAPH FROM SUB 6415
 517          BA   .509
 518          LS            74
 519          UK    110   .0213    .10     100
 520          RK   5600   .0150   .045          TRAP     40      75
 521          RK   1900   .0089   .012          CIRC      3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 522          KK   6416     CP
 523          KM       COMBINE HYDROGRAPHS FROM SUB 6410, SUB 6415 & CP 6406
 524          HC      3

 525          KK   6417     CP
 526          KM       ROUTE HYDROGRAPH FROM CP 6416
 527          RK   5100  .0074   .012          CIRC      3

 528          KK   6420    SUB
 529          KM       HYDROGRAPH FROM SUB 6420
 530          BA   .186
 531          LS           74
 532          UK    110  .0213    .10    100
 533          RK   4300  .0128   .045          TRAP     40     75
 534          RK   1500  .0074   .012          CIRC      3

 535          KK   6425    SUB
 536          KM       HYDROGRAPH FROM SUB 6425
 537          BA   .459
 538          LS           74
 539          UK    110  .0213    .10    100
 540          RK   5500  .0131   .045          TRAP     50    150
 541          RK   1450  .0145   .012          CIRC      3

 542          KK   6426     CP
 543          KM       COMBINE HYDROGRAPHS FROM SUB 6420, SUB 6425 & CP 6417
 544          HC      3

 545          KK   6427     CP
 546          KM       ROUTE HYDROGRAPH FROM CP 6426
 547          RK   2800  .0062   .012          CIRC      4

 548          KK   6430    SUB
 549          KM       HYDROGRAPH FROM SUB 6430
 550          BA   .092
 551          LS           74
 552          UK    110  .0213    .10    100
 553          RK   2400  .0113   .045          TRAP     50    150
 554          RK   1150  .0062   .012          CIRC      4

 555          KK   6435    SUB
 556          KM       HYDROGRAPH FROM SUB 6435
 557          BA   .358
 558          LS           74
 559          UK    110  .0213    .10    100
 560          RK   4250  .0115   .045          TRAP     50    150
 561          RK   2800  .0061   .012          CIRC      3

 562          KK   6436     CP
 563          KM       COMBINE HYDROGRAPHS FROM SUB 6430, 6435 & CP 6427
 564          HC      3
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LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 565          KK   6437     CP
 566          KM       ROUTE HYDROGRAPH FROM CP 6436
 567          RK   1800  .0056   .012          CIRC      4

 568          KK   6440    SUB
 569          KM       HYDROGRAPH FROM SUB 6440
 570          BA   .041
 571          LS            74
 572          UK    110  .0213    .10    100
 573          RK   1500  .0093   .045          TRAP     50     150
 574          RK    700  .0056   .012          CIRC      4

 575          KK   6445    SUB
 576          KM       HYDROGRAPH FROM SUB 6445
 577          BA   .205
 578          LS            74
 579          UK    110  .0213   .010    100
 580          RK   2600  .0096   .045          TRAP     50     150
 581          RK   2550  .0039   .012          CIRC      3

 582          KK   6446     CP
 583          KM       COMBINE HYDROGRAPHS FROM SUB 6440,SUB 6445 & CP 6437
 584          HC      3

 585          KK   6447     CP
 586          KM       ROUTE HYDROGRAPH FROM CP 6447
 587          RK   3000  .0053   .012          CIRC      4

 588          KK   6450    SUB
 589          KM       HYDROGRAPH FROM SUB 6450
 590          BA   .061
 591          LS            74
 592          UK    110  .0213    .10    100
 593          RK   2200  .0077   .045          TRAP     50     160
 594          RK   1000  .0053   .012          CIRC      4

 595          KK   6455    SUB
 596          KM       HYDROGRAPH FROM SUB 6455
 597          BA   .252
 598          LS            74
 599          UK    110  .0213    .10    100
 600          RK   4200  .0083   .045          TRAP     50     160

 601          KK   6456     CP
 602          KM       COMBINE HYDROGRAPHS FROM SUB 6450, SUB 6455 & CP 6447
 603          HC      3

 604          KK   6500    SUB
 605          KM       HYDROGRAPH FROM SUB 6500
 606          BA  0.259
 607          LS            74
 608          UK    110  .0213    .10    100
 609          RK   3900  .0131   .045          TRAP     40      50
 610          RK   2400  .0104   .012          CIRC      3
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 611        KK   6505     SUB
 612        KM       HYDROGRAPH FROM SUB 6505
 613        BA   .515
 614        LS            74
 615        UK    110   .0213    .10     100
 616        RK   6400   .0136   .045           TRAP     40     75
 617        RK   1750   .0114   .012           CIRC      3

 618        KK   6506     CP
 619        KM       COMBINE HYDROGRAPHS FROM SUB 6500 & SUB 6505
 620        HC      2

 621        KK   6507     CP
 622        KM       ROUTE HYDROGRAPH FROM CP 6506
 623        RK   5280   .0091   .012           CIRC      3

 624        KK   6510     SUB
 625        KM       HYDROGRAPH FROM SUB 6510
 626        BA   .269
 627        LS            74
 628        UK    110   .0213    .10     100
 629        RK   3850   .0114   .045           TRAP     40     75
 630        RK   1800   .0078   .012           CIRC      3

 631        KK   6515     SUB
 632        KM       HYDROGRAPH FROM SUB 6515
 633        BA   .250
 634        LS            74
 635        UK    110   .0213    .10     100
 636        RK   6500   .0114   .045           TRAP     40     75
 637        RK    150   .0114   .012           CIRC      3

 638        KK   6516     CP
 639        KM       COMBINE HYDROGRAPHS FROM SUB 6510, SUB 6515 & CP 6506
 640        HC      3

 641        KK   6517     CP
 642        KM       ROUTE HYDROGRAPH FROM CP 6516
 643        RK   2050   .0091   .012           CIRC      3

 644        KK   6520     SUB
 645        KM       HYDROGRAPH FROM SUB 6520
 646        BA   .212
 647        LS            74
 648        UK    110   .0213    .10     100
 649        RK   3450   .0107   .045           TRAP     50    100
 650        RK   1600   .0031   .012           CIRC      3

 651        KK   6530     SUB
 652        KM       HYDROGRAPH FROM SUB 6530
 653        BA   .076
 654        LS            74
 655        UK    110   .0213    .10     100
 656        RK   1050   .0095   .045           TRAP     50    100
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 657        RK    1000   .0030    .012           CIRC      3

 658        KK    6531      CP
 659        KM       COMBINE HYDROGRAPHS FROM SUB 6520, SUB 6530 & CP 6517
 660        HC      3

 661        KK    6532      CP
 662        KM       ROUTE HYDROGRAPH FROM CP 6531
 663        RK    2000   .0080    .012           CIRC      3

 664        KK    6540     SUB
 665        KM       HYDROGRAPH FROM SUB 6540
 666        BA    .240
 667        LS             74
 668        UK     110   .0213     .10     100
 669        RK    2200   .0095    .045           TRAP     50     100
 670        RK    2150   .0130    .012           CIRC      3

 671        KK    6541      CP
 672        KM       COMBINE HYDROGRAPHS FROM SUB 6540 & CP 6532
 673        HC      2

 674        KK    6700     SUB
 675        KM       HYDROGRAPH FROM SUB 6700
 676        BA   0.212
 677        LS             74
 678        UK     110   .0213     .10     100
 679        RK    5700   .0137    .045           TRAP     40      50
 680        RK     600   .0100    .012           CIRC      3

 681        KK    6705     SUB
 682        KM       HYDROGRAPH FROM SUB 6705
 683        BA    .366
 684        LS             74
 685        UK     110   .0213     .10     100
 686        RK    3500   .0134    .045           TRAP     40      50
 687        RK    1950   .0103    .012           CIRC      3

 688        KK    6706      CP
 689        KM       COMBINE HYDROGRAPHS FROM SUB 6700 & SUB 6705
 690        HC      2

 691        KK    6707      CP
 692        KM       ROUTE HYDROGRAPH FROM CP 6706
 693        RK    4700   .0106    .012           CIRC      3

 694        KK    6710     SUB
 695        KM       HYDROGRAPH FROM SUB 6710
 696        BA    .171
 697        LS             74
 698        UK     110   .0213     .10     100
 699        RK    3500   .0120    .045           TRAP     25       3
 700        RK    1250   .0100    .012           CIRC      3
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LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10

 701        KK   6715     SUB
 702        KM       HYDROGRAPH FROM SUB 6715
 703        BA   .249
 704        LS            74
 705        UK    110   .0213    .10     100
 706        RK   4150   .0130   .045           TRAP      40      50
 707        RK   1200   .0100   .012           CIRC       3

 708        KK   6716     CP
 709        KM       COMBINE HYDROGRAPHS FROM SUB 6710, SUB 6715 & CP 6706
 710        HC      3

 711        KK   6717     CP
 712        KM       ROUTE HYDROGRAPH FROM CP 6716
 713        RK   5200   .0089   .012           CIRC       3

 714        KK   6720     SUB
 715        KM       HYDROGRAPH FROM SUB 6720
 716        BA   .148
 717        LS            74
 718        UK    110   .0213    .10     100
 719        RK   3800   .0111   .045           TRAP      40      50
 720        RK   2000   .0080   .012           CIRC       3

 721        KK   6725     SUB
 722        KM       HYDROGRAPH FROM SUB 6725
 723        BA   .937
 724        LS            74
 725        UK    110   .0213    .10     100
 726        RK   5650   .0115   .045           TRAP      40      50
 727        RK   3400   .0053   .012           CIRC       3

 728        KK   6726     CP
 729        KM       COMBINE HYDROGRAPHS FROM SUB 6720, SUB 6725 & CP 6717
 730        HC      3
 731        ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

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

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

  10      6000
            .
            .
  23        .        6005
            .          .
            .          .
  30      6006............
            V
            V
  33      6007
            .
            .
  36        .        6010
            .          .
            .          .
  43        .          .        6015
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  50      6016........................
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  53      6017
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  56        .        6020
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  63        .          .        6025
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  70      6026........................
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  73      6027
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  76        .        6030
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  83        .          .        6035
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  90      6036........................
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  93      6037
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  96        .        6040
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 103        .          .        6045
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 110      6046........................
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113	6047			
116		6050		
123			6055	
130	6056			
133	6057			
136		6060		
143			6065	
149	6066			
152		6100		
159			6105	
166		6106		
169		6107		
172			6110	
179				6115
186		6116		
189		6117		
192			6120	
199				6125
206		6126		
209		6127		
212			6130	
219				6135

226	6136			
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229	6137			
232		6140		
239	6141			
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242	6142			
245		6150		
252			6155	
259	6156			
	↓			
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262	6157			
265		6160		
272			6165	
278	6166			
281		6200		
288			6205	
295		6106		
		↓		
		↓		
298		6207		
301			6210	
308				6215
315		6216		
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318		6217		
321			6220	
328				6225

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335          .          .        6226.......................
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338          .          .        6227
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341          .          .          .        6230
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348          .          .          .          .        6235
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355          .          .        6236.......................
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358          .          .        6237
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361          .          .          .        6240
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368          .          .        6241............
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371          .          .        6242
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374          .          .          .        6250
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381          .          .          .          .        6255
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389          .          .        6256.......................
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391          .          .        6257
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394          .          .          .        6260
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401          .          .          .          .        6265
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407          .          .        6266.......................
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410          .          .          .        6300
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434          .          .          .        6316.......................
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437          .          .          .        6317
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440 6320

447 6321

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460 6331

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488 6400

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542 6426

545				6427			
548					6430		
555						6435	
562				6436			
565				6437			
568					6440		
575						6445	
582				6446			
585				6447			
588					6450		
595						6455	
601				6456			
604					6500		
611						6505	
618					6506		
621					6507		
624						6510	
631							6515
638					6516		
641					6517		
644						6520	
651							6530

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*****************************************
*                                       *
*  FLOOD HYDROGRAPH PACKAGE (HEC-1)     *
*          FEBRUARY 1981                *
*        REVISED  6 FEB 87              *
*                                       *
* RUN DATE  01/01/1980  TIME  03:58:51  *
*                                       *
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*                                       *
*   U.S. ARMY CORPS OF ENGINEERS        *
* THE HYDROLOGIC ENGINEERING CENTER     *
*         609 SECOND STREET             *
*       DAVIS, CALIFORNIA 95616         *
* (916) 440-3285 OR (FTS) 448-3285      *
*                                       *
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                    HYDROLOGY FOR PARADISE VALLEY FAN TERRACE  (AREAS C AND D)
                    MODEL PHCAP1.DAT -- SUB-BASIN SERIES 6000 -- EXISTING CONDITIONS
                    2-YEAR 24-HOUR STORM, USING SCS TYPE IIA RAINFALL DISTRIBUTION
                    RAINFALL FROM NOAA ATLAS, USING 10 SQ MI AREAL REDUCTION FACTOR
                    WATER RESOURCES ASSOCIATES, INC.,  AUGUST 10, 1989
                    REVISED SLOPES, MANNINGS "N", AND PRECIPITATON 8/9/89

 9 IO        OUTPUT CONTROL VARIABLES
                 IPRNT          5  PRINT CONTROL
                 IPLOT          0  PLOT CONTROL
                 QSCAL         0.  HYDROGRAPH PLOT SCALE

 IT          HYDROGRAPH TIME DATA
                 NMIN          5  MINUTES IN COMPUTATION INTERVAL
                 IDATE     10AUG89  STARTING DATE
                 ITIME       0000  STARTING TIME
                   NQ        289  NUMBER OF HYDROGRAPH ORDINATES
               NODATE     11AUG89  ENDING DATE
               NDTIME       0000  ENDING TIME
               ICENT          19  CENTURY MARK

            COMPUTATION INTERVAL     .08 HOURS
                 TOTAL TIME BASE   24.00 HOURS

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

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	6000	12.	6.75	4.	2.	2.	.31		
HYDROGRAPH AT	6005	22.	6.92	9.	3.	3.	.64		
2 COMBINED AT	6006	33.	6.92	13.	5.	5.	.95		
ROUTED TO	6007	33.	6.92	13.	5.	5.	.95		
HYDROGRAPH AT	6010	13.	6.83	5.	2.	2.	.34		
HYDROGRAPH AT	6015	21.	7.08	9.	3.	3.	.66		
3 COMBINED AT	6016	66.	6.92	26.	10.	10.	1.96		
ROUTED TO	6017	66.	7.00	26.	10.	10.	1.96		
HYDROGRAPH AT	6020	13.	6.83	4.	2.	2.	.32		
HYDROGRAPH AT	6025	13.	7.75	9.	3.	3.	.68		
3 COMBINED AT	6026	86.	7.00	38.	15.	15.	2.96		
ROUTED TO	6027	86.	7.08	38.	15.	15.	2.96		
HYDROGRAPH AT	6030	7.	7.67	4.	2.	2.	.34		
HYDROGRAPH AT	6035	19.	7.17	9.	3.	3.	.66		
3 COMBINED AT	6036	111.	7.17	51.	20.	20.	3.97		
ROUTED TO	6037	111.	7.17	51.	20.	20.	3.97		
HYDROGRAPH AT	6040	3.	7.42	1.	1.	1.	.11		
HYDROGRAPH AT	6045	27.	6.67	8.	3.	3.	.59		
3 COMBINED AT	6046	130.	7.17	60.	24.	24.	4.67		
ROUTED TO	6047	129.	7.25	60.	24.	24.	4.67		
HYDROGRAPH AT	6050	4.	6.75	1.	0.	0.	.09		
HYDROGRAPH AT	6055	23.	6.92	8.	3.	3.	.63		
3 COMBINED AT	6056	152.	7.17	69.	27.	27.	5.38		
ROUTED TO	6057	152.	7.25	69.	27.	27.	5.38		
HYDROGRAPH AT	6060	4.	6.83	1.	0.	0.	.09		
HYDROGRAPH AT	6065	19.	6.83	7.	3.	3.	.51		
3 COMBINED AT	6066	170.	7.17	77.	31.	31.	5.99		
HYDROGRAPH AT	6100	17.	6.83	6.	2.	2.	.45		

HYDROGRAPH AT	6105	13.	6.83	5.	2.	2.	.35
2 COMBINED AT	6106	30.	6.83	11.	4.	4.	.81
ROUTED TO	6107	30.	6.92	11.	4.	4.	.81
HYDROGRAPH AT	6110	16.	6.83	6.	2.	2.	.42
HYDROGRAPH AT	6115	7.	6.75	2.	1.	1.	.18
3 COMBINED AT	6116	52.	6.92	19.	7.	7.	1.40
ROUTED TO	6117	52.	6.92	19.	7.	7.	1.40
HYDROGRAPH AT	6120	8.	7.00	3.	1.	1.	.23
HYDROGRAPH AT	6125	11.	6.92	4.	2.	2.	.30
3 COMBINED AT	6126	70.	6.92	26.	10.	10.	1.94
ROUTED TO	6127	69.	7.00	26.	10.	10.	1.94
HYDROGRAPH AT	6130	7.	7.08	3.	1.	1.	.22
HYDROGRAPH AT	6135	10.	7.92	6.	3.	3.	.54
3 COMBINED AT	6136	84.	7.08	35.	14.	14.	2.71
ROUTED TO	6137	84.	7.08	35.	14.	14.	2.71
HYDROGRAPH AT	6140	10.	7.33	5.	2.	2.	.38
2 COMBINED AT	6141	93.	7.08	39.	16.	16.	3.08
ROUTED TO	6142	93.	7.17	40.	16.	16.	3.08
HYDROGRAPH AT	6150	1.	8.08	1.	0.	0.	.07
HYDROGRAPH AT	6155	15.	7.17	7.	3.	3.	.54
3 COMBINED AT	6156	109.	7.17	47.	19.	19.	3.70
ROUTED TO	6157	109.	7.25	47.	19.	19.	3.70
HYDROGRAPH AT	6160	2.	7.33	1.	0.	0.	.06
HYDROGRAPH AT	6165	16.	7.08	7.	3.	3.	.55
3 COMBINED AT	6166	126.	7.25	55.	22.	22.	4.30
HYDROGRAPH AT	6200	17.	6.92	6.	3.	3.	.48
HYDROGRAPH AT	6205	19.	6.83	7.	3.	3.	.52
2 COMBINED AT	6106	36.	6.92	13.	5.	5.	1.01
ROUTED TO	6207	36.	7.00	13.	5.	5.	1.01
HYDROGRAPH AT	6210	19.	6.83	7.	3.	3.	.50
HYDROGRAPH AT	6215	19.	6.92	7.	3.	3.	.53
3 COMBINED AT	6216	73.	6.92	27.	11.	11.	2.04
ROUTED TO	6217	72.	7.00	27.	11.	11.	2.04

HYDROGRAPH AT	6222	3.	6.75	1.	0.	0.	.07
HYDROGRAPH AT	6225	27.	7.00	11.	4.	4.	.33
3 COMBINED AT	6226	102.	7.00	39.	15.	15.	2.94
ROUTED TO	6227	102.	7.00	39.	15.	15.	2.94
HYDROGRAPH AT	6230	5.	7.08	2.	1.	1.	.17
HYDROGRAPH AT	6235	34.	7.17	14.	6.	6.	1.09
3 COMBINED AT	6236	140.	7.08	55.	22.	22.	4.20
ROUTED TO	6237	140.	7.08	55.	22.	22.	4.20
HYDROGRAPH AT	6240	6.	6.67	2.	1.	1.	.13
2 COMBINED AT	6241	143.	7.08	57.	22.	22.	4.33
ROUTED TO	6242	143.	7.17	57.	22.	22.	4.33
HYDROGRAPH AT	6250	4.	6.92	2.	1.	1.	.12
HYDROGRAPH AT	6255	25.	6.83	9.	3.	3.	.65
3 COMBINED AT	6256	168.	7.08	67.	26.	26.	5.10
ROUTED TO	6257	167.	7.17	67.	26.	26.	5.10
HYDROGRAPH AT	6260	2.	6.67	1.	0.	0.	.04
HYDROGRAPH AT	6265	18.	6.58	5.	2.	2.	.40
3 COMBINED AT	6266	179.	7.17	73.	28.	28.	5.55
HYDROGRAPH AT	6300	8.	6.83	3.	1.	1.	.20
ROUTED TO	6301	8.	6.83	3.	1.	1.	.20
HYDROGRAPH AT	6310	3.	7.00	1.	0.	0.	.09
HYDROGRAPH AT	6315	10.	7.08	4.	2.	2.	.30
3 COMBINED AT	6316	20.	7.00	8.	3.	3.	.58
ROUTED TO	6317	20.	7.08	8.	3.	3.	.58
HYDROGRAPH AT	6320	13.	7.17	5.	2.	2.	.41
2 COMBINED AT	6321	33.	7.08	13.	5.	5.	.99
ROUTED TO	6322	32.	7.17	13.	5.	5.	.99
HYDROGRAPH AT	6330	10.	6.50	3.	1.	1.	.21
2 COMBINED AT	6331	38.	7.08	16.	6.	6.	1.20
ROUTED TO	6332	38.	7.08	16.	6.	6.	1.20
HYDROGRAPH AT	6340	17.	7.00	6.	2.	2.	.48
2 COMBINED AT	6341	54.	7.08	22.	9.	9.	1.69
ROUTED TO	6342	54.	7.08	22.	9.	9.	1.69

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658                                  6531.......................
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661                                  6532
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664                                    .        6540
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671                                  6541............
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674                                    .        6700
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681                                    .          .        6705
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688                                    .        6706............
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691                                    .        6707
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694                                    .          .        6710
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701                                    .          .          .        6715
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708                                    .        6716........................
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711                                    .        6717
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714                                    .          .        6720
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721                                    .          .          .        6725
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728                                    .        6726........................
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(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2 COMBINED AT	6331	67.	7.00	29.	11.	11.	1.12
HYDROGRAPH AT	6400	14.	6.67	5.	2.	2.	.35
HYDROGRAPH AT	6405	7.	6.75	2.	1.	1.	.17
2 COMBINED AT	6406	21.	6.67	7.	3.	3.	.52
ROUTED TO	6407	21.	6.83	7.	3.	3.	.52
HYDROGRAPH AT	6410	11.	6.92	4.	2.	2.	.31
HYDROGRAPH AT	6415	17.	7.00	7.	3.	3.	.51
3 COMBINED AT	6416	47.	6.92	18.	7.	7.	1.33
ROUTED TO	6417	47.	6.92	18.	7.	7.	1.33
HYDROGRAPH AT	6420	6.	7.08	2.	1.	1.	.19
HYDROGRAPH AT	6425	13.	7.25	6.	2.	2.	.46
3 COMBINED AT	6426	65.	7.00	26.	10.	10.	1.98
ROUTED TO	6427	65.	7.08	26.	10.	10.	1.98
HYDROGRAPH AT	6430	3.	6.92	1.	0.	0.	.09
HYDROGRAPH AT	6435	11.	7.08	5.	2.	2.	.36
3 COMBINED AT	6436	80.	7.08	32.	13.	13.	2.43
ROUTED TO	6437	80.	7.08	32.	13.	13.	2.43
HYDROGRAPH AT	6440	2.	6.75	1.	0.	0.	.04
HYDROGRAPH AT	6445	10.	6.67	3.	1.	1.	.20
3 COMBINED AT	6446	87.	7.08	35.	14.	14.	2.67
ROUTED TO	6447	87.	7.17	35.	14.	14.	2.67
HYDROGRAPH AT	6450	2.	7.08	1.	0.	0.	.06
HYDROGRAPH AT	6455	7.	7.33	3.	1.	1.	.25
3 COMBINED AT	6456	96.	7.17	39.	15.	15.	2.99
HYDROGRAPH AT	6500	10.	6.83	3.	1.	1.	.26
HYDROGRAPH AT	6505	15.	7.17	7.	3.	3.	.51
2 COMBINED AT	6506	24.	7.00	10.	4.	4.	.77
ROUTED TO	6507	24.	7.08	10.	4.	4.	.77
HYDROGRAPH AT	6510	10.	6.92	4.	1.	1.	.27
HYDROGRAPH AT	6515	6.	7.50	3.	1.	1.	.25
3 COMBINED AT	6516	38.	7.08	17.	7.	7.	1.29
ROUTED TO	6517	38.	7.17	17.	7.	7.	1.29

HYDROGRAPH AT	[illegible]	[illegible]	[illegible]	1.	[illegible]	[illegible]	.11
HYDROGRAPH AT	6531	[illegible]	[illegible]	1.	1.	1.	.08
2 COMBINED AT	6531	47.	7.08	21.	8.	8.	1.58
ROUTED TO	6532	47.	7.08	21.	8.	8.	1.53
HYDROGRAPH AT	6540	10.	6.67	3.	1.	1.	.24
2 COMBINED AT	6541	54.	7.08	24.	9.	9.	1.82
HYDROGRAPH AT	6700	6.	7.25	3.	1.	1.	.21
HYDROGRAPH AT	6705	15.	6.75	5.	2.	2.	.37
2 COMBINED AT	6706	20.	6.75	8.	3.	3.	.58
ROUTED TO	6707	20.	6.83	8.	3.	3.	.58
HYDROGRAPH AT	6710	7.	6.75	2.	1.	1.	.17
HYDROGRAPH AT	6715	9.	6.92	3.	1.	1.	.25
3 COMBINED AT	6716	35.	6.83	13.	5.	5.	1.00
ROUTED TO	6717	34.	6.92	13.	5.	5.	1.00
HYDROGRAPH AT	6720	5.	7.00	2.	1.	1.	.15
HYDROGRAPH AT	6725	33.	6.92	12.	5.	5.	.94
3 COMBINED AT	6726	72.	6.92	29.	11.	11.	2.08

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