

**SUPPLEMENTAL DRAINAGE ANALYSIS
FOR PROPOSED STREAM CROSSING**

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*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
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* RUN DATE 04OCT06 TIME 11:36:24
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*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
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X X XXXXXXX XXXX X
X X X X X XX
X X X X X X
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X X X X XXXXX X
X X X X X X
X X XXXXXXX XXXX X

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

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

HEC-1 INPUT

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LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1 ID +-----DEV_T1_H1OUT-----
2 ID
3 ID
4 ID HYDROLOGY FOR: COMPREHENSIVE DRAINAGE STUDY, KJ #04080
5 ID VILLAGE OF KIRYAS JOEL, ORANGE COUNTY, NEW YORK
6 ID DEVELOPMENT IN THE VICINITY OF MOUNTAIN ROAD CONSIDERED
7 ID PROJECTS: HAKIRYAH-II, WOMEN'S HEALTH SERVICE ROAD
8 ID PORTION OF JACOB SOFER SITE
9 ID OFFSITE AREA - 4,5A, 5B, DIVERTED
10 ID OFFSITE AREA - 7, 6A & 6B CONSIDERED FOR TREATMENT
11 ID DETENTION BASIN BASIN_T2 USED IN ANALYSIS
12 ID SCS HYDROGRAPHS CALIBRATED TO 25-YEAR RATIONAL METHOD PEAK DISCHARGE
13 ID ANALYSIS PREPARED BY: LEONARD JACKSON ASSOCIATES
14 ID
15 ID ANALYSIS PARAMETERS:
16 ID EXISTING CONDITIONS RUN
17 ID STORM RECURRENCE INTERVALS = 2, 5, 10, 25 & 100 YEAR
18 ID HYDROGRAPH METHOD: SCS HYDROGRAPH
19 ID RAINFALL DISTRIBUTION: SCS TYPE III
20 ID
21 ID 100-YEAR 24 HOUR RAINFALL 7.2 INCHES

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73 UD 0.082
74 KK LAG-8LAG "PT.B" HYDROGRAPH TO "PT.Q"
75 RT 0 1
76 KK SITE-6ONSITE HAKIRYAH 1 RUNOFF TO PT. Q AND FOREST BROOK
77 KM *****
78 KM * DRAINAGE AREA =16.49 AC = 0.02576 SQ. MI. Q25 =70.00 CFS
79 KM * TIME OF CONCENTRATION = 0.213 HR, SCS LAG = 0.128
80 KM *****
81 KM *****
82 KM *****
83 BA 0.0257 6
84 LS 1.0 99 100
85 UD 0.128
86 KK PT.QADD "LAG-7" & "LAG-8" & "SITE-6" AT PT.Q
87 HC 3
88 KK LAG-9LAG "PT.Q" HYDROGRAPH TO "PT.P"
89 RT 0 0 1
90 KK SITE12HAKIRYAH 1 RUNOFF TO PT P AND FOREST BROOK
91 KM *****
92 KM *****
93 KM * DRAINAGE AREA = 1.23 AC = 0.00192 SQ. MI. Q25 = 2.60 CFS
94 KM * TIME OF CONCENTRATION = 0.120 HR, SCS LAG = 0.075
95 KM *****
96 KM *****
97 BA .00192
98 LS 1.0 57 19
99 UD 0.075
100 ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
101 KK PT.PADD "LAG-9" & "SITE-12" AT PT. P
102 HC 2 1
103 KK PR WQB*****EXISTING*****
104 KM ROUTING THROUGH PROPOSED HAKIRYAH WATER QUALITY/DETENTION BASIN
105 KM (1) OUTLET STRUCTURE FROM BASIN
106 KM 8" ORIFICE AT ELEV. 750.0
107 KM 4' WEIR ELEV. 753.80 IN EACH OS
108 KM 12' OVERFLOW SPILLWAY ELEV. 754.5 FROM BASIN
109 KM *****
110 RS 1 ELEV 750.0 0
111 SA 0.346 0.402 0.460 0.505
112 SE 750.0 752.0 754.0 755.0
113 SQ 0.0 0.00 0.75 1.15 1.45 1.69 1.91 2.10 2.27 2.44
114 SQ 2.59 2.73 2.87 3.00 3.13 3.93 6.52 10.11 18.62 32.19
115 SE 750.00 750.26 750.53 750.79 751.05 751.32 751.58 751.84 752.11 752.37
SE 752.63 752.89 753.16 753.42 753.68 753.95 754.21 754.47 754.74 755.00
116 KK LAG-10LAG "PT.P" HYDROGRAPH TO "PT.N"
117 RT 0 0 1
118 KK SITE10RUNOFF FROM ABOVE MOUNTAIN ROAD TO PT. G AND FOREST BROOK

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19 KM *****
 20 KM * DRAINAGE AREA = 4.86 AC = 0.00759 SQ. MI. Q25 = 9.59 CFS
 21 KM * TIME OF CONCENTRATION = 0.190 HR, SCS LAG = 0.114
 22 KM *****
 23 KM *****
 24 KM *****
 25 BA 0.0075 9
 26 LS 1.0 57.65 20
 27 UD 0.114

128 KK SITE8ARUNOFF FROM MOUNTAIN ROAD TOWNHOMES SITE 8A TO PT. G AND FOREST BROOK

129 KM *****
 130 KM * DRAINAGE AREA = 4.51 AC = 0.00705SQ. MI. Q25 = 5.52 CFS
 131 KM * TIME OF CONCENTRATION = 0.270HR, SCS LAG = 0.162
 132 KM *****
 133 KM *****
 134 KM *****
 135 BA 0.0070 5
 136 LS 1.0 50.2 4.43
 137 UD 0.162

138 KK PT.GADD "SITE-10" & "SITE-8A" AT PT. G
 139 HC 2

140 KK LAG-12LAG "PT.G" HYDROGRAPH TO "PT.R"
 141 RT 0 0 1 HEC-1 INPUT

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

142 KK SITE8BRUNOFF FROM MOUNTAIN RD. TOWNHOMES SITE TO PT. H AND FOREST BROOK

143 KM *****
 144 KM * DRAINAGE AREA = 2.30 AC = 0.00359 SQ. MI. Q25 = 2.90 CFS
 145 KM * TIME OF CONCENTRATION = 0.130 HR, SCS LAG = 0.078
 146 KM *****
 147 KM *****
 148 KM *****
 149 BA 0.0035 9
 150 LS 1.0 51.2 0
 151 UD 0.078

152 KK HLAG "PT.H" HYDROGRAPH TO "PT.R"
 153 RT 0 0 1

154 KK OFF-10RUNOFF FROM GELB SITE TO PT. J AND FOREST BROOK

155 KM *****
 156 KM * DRAINAGE AREA = 7.64 AC = 0.01193 SQ. MI. Q25 = 11.83 CFS
 157 KM * TIME OF CONCENTRATION = 0.270 HR, SCS LAG = 0.106
 158 KM *****
 159 KM *****
 160 KM *****
 161 BA .01193
 162 LS 1.0 53.3 8.38
 163 UD 0.106

164 KK JLAG "OFF-10" HYDROGRAPH TO "PT.R"
 165 RT 0 0 1

66 KK KRUNOFF FROM GELB SITE TO PT. K AND FC BROOK
 167 KM
 168 KM *****
 169 KM * DRAINAGE AREA = 7.16 AC = 0.01119 SQ. MI. Q25 = 10.52 CFS
 170 KM * TIME OF CONCENTRATION = 0.182 HR, SCS LAG = 0.109
 171 KM *****
 172 KM
 173 BA 0.0111 9
 174 LS 1.0 54.85 3.57
 175 UD 0.109

176 KK LAG-15LAG "OFF-11" TO "PT.R"
 177 RT 0 0 1

178 KK SITE-7RUNOFF FROM ATZEL TIMURIM SITE TO PT. R AND FOREST BROOK
 179 KM
 180 KM *****
 181 KM * DRAINAGE AREA =15.67 AC = 0.02442 SQ. MI. Q25 =50.68 CFS
 182 KM * TIME OF CONCENTRATION = 0.230 HR, SCS LAG = 0.133
 183 KM *****
 184 KM
 185 BA 0.0244 2
 186 LS 1.0 78.95 45
 187 UD 0.133

188 KK PT.RADD "LAG-12" & "LAG-13" & "LAG-14" & "LAG-15" & "SITE-7" AT PT.R
 189 HC 5

190 KK LAG-16LAG "PT.R" HYDROGRAPH TO "PT.O"
 191 RT 0 0 1

192 KK SITE13VAAD MTN. PH. 5 OFFSITE TO EX. BASIN AND FOREST BROOK
 193 KM
 194 KM *****
 195 KM * DRAINAGE AREA = 1.65 AC = 0.00257 SQ. MI. Q25 = 3.23 CFS
 196 KM * TIME OF CONCENTRATION = 0.160 HR, SCS LAG = 0.093
 197 KM *****
 198 KM
 199 BA .00257
 200 LS 1.0 59.7 13.9
 201 UD 0.093

202 KK PT.OADD "LAG-16" & "SITE-12" AT PT.O
 203 HC 2

204 KK EX.DET*****
 205 KM ROUTING THROUGH EXISTING VAAD MTN. WATER QUALITY/DET. BASIN (AT PT. O)
 206 KM (2) OUTLET STRUDURES FROM BASIN
 207 KM 12" ORIFICE AT ELEV. 756 IN EACH OS
 208 KM 4' WEIR ELEV. 758.0 IN EACH OS
 209 KM 20' OVERFLOW SPILLWAY ELEV. 759.5 FROM BASIN
 210 KM
 211 RS 1 ELEV 756.0 0
 212 SA 0.206 0.282 0.363
 213 SE 756.0 758.0 760.0

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

14 SQ 0.0 0.00 0.00 2.79 4.50 5. 6.72 7.59 8.37 9.08
 215 SQ 10.56 14.62 20.11 26.68 34.16 42.44 51.44 62.44 80.74 103.48
 216 SE 756.00 756.21 756.42 756.63 756.84 757.05 757.26 757.47 757.68 757.89
 217 SE 758.11 758.32 758.53 758.74 758.95 759.16 759.37 759.58 759.79 760.00
 218 KK LAG-17LAG "PT.0" HYDROGRAPH TO "PT. N"
 219 RT 0 0 1

220 KK OFF-12UNDEVELOPED AREAS BETWEEN VAAD MTN. DEVELOPMENTS TO PT. L AND FOREST B
 221 KM
 222 KM *****
 223 KM * DRAINAGE AREA = 2.56 AC = 0.0040 SQ. MI. Q25 = 3.23 CFS
 224 KM * TIME OF CONCENTRATION = 0.100 HR. SCS LAG = 0.058
 225 KM *****
 226 KM *****

227 BA 0.004
 228 LS 1.0 48.2 0
 229 UD 0.058

HEC-1 INPUT
 ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

230 KK LLAG "OFF-12" HYDROGRAPH TO "PT.N"
 231 RT 0 0 1

232 KK SITE11VAAD MTN. PH. 5 TO PT. 0 AND FOREST BROOK
 233 KM *****
 234 KM *****
 235 KM * DRAINAGE AREA = 1.40 AC = 0.00218 SQ. MI. Q25 = 5.0 CFS
 236 KM * TIME OF CONCENTRATION = 0.230 HR. SCS LAG = 0.117
 237 KM *****
 238 KM *****

239 BA .00218
 240 LS 1.0 86 53
 241 UD 0.117

242 KK SLAG "SITE12" HYDROGRAPH TO "PT.N"
 243 RT 0 0 1

244 KK 14UNDEVELOPED AREAS DOWNSTREAM OF HAKIRYAH 1 TO PT. N AND FOREST BROOK
 245 KM *****
 246 KM *****
 247 KM * DRAINAGE AREA =17.30 AC = 0.02703 SQ. MI. Q25 =18.5 CFS
 248 KM * TIME OF CONCENTRATION = 0.470 HR. SCS LAG = 0.285
 249 KM *****
 250 KM *****

251 BA .02703
 252 LS 1.0 54.82 0.0
 253 UD 0.285

254 KK PT. NADD "LAG-10", "LAG-17", "L", "S" & "14" AT PT.N
 255 HC 5

256 KK LAG-20LAG "PT.N" HYDROGRAPH TO "PT.X" HYDROGRAPH - CONFLUENCE OF FOREST BRO
 257 RT 0 0 7

258 KK 15FOREST BROOK DRAINAGE BASIN DOWNSTREAM OF PT. N; EXCLUDING DELTA BRONZ
 259 KM

60 *****
 261 KM * DRAINAGE AREA =300.59 AC = 0.46967 SQ. MI. Q25 = 406.51 CFS
 262 KM * TIME OF CONCENTRATION = 0.82 HR, SCS LAG = 0.492
 263 KM *****
 264 KM
 265 BA 0.4696 7
 266 LS 1.0 52.15 33.27
 267 UD 0.492

 268 KK DEWESTERN PORTION OF DELTA BRONZE SITE TO FOREST BROOK
 269 KM
 270 KM *****
 271 KM * DRAINAGE AREA =7.39 AC = 0.01155 SQ. MI. Q25 = 19.95 CFS
 272 KM * TIME OF CONCENTRATION = 0.39 HR, SCS LAG = 0.234
 273 KM *****
 274 KM
 275 BA 0.0115 5
 276 LS 1.0 71.2 52.23

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
 277 UD 0.234
 278 KK COMB-1ADD "LAG-20" & "15" & "DBW" AT POINT COMB-1
 279 HC 3

280 KK 16TRIB. 25 DRAINAGE BASIN UPSTREAM OF CONFLUENCE WITH CORONET BR.
 281 KM *****
 282 KM * DRAINAGE AREA = 285.19 AC = 0.44561 SQ. MI. Q25 = 282.62 CFS
 283 KM * TIME OF CONCENTRATION = 1.12HR, SCS LAG = 0.672
 284 KM *****
 285 KM
 286 KM
 287 BA 0.4456 1
 288 LS 1.0 49.08 26.3
 289 UD 0.672

290 KK CORONETCORONET BROOK DRAINAGE BASIN AT ITS CONFLUENCE WITH TRIB. 25
 291 KM *****
 292 KM * DRAINAGE AREA =291.37 AC = 0.45526 SQ. MI. Q25 = 278.88 CFS
 293 KM * TIME OF CONCENTRATION = 0.89 HR, SCS LAG = 0.533
 294 KM *****
 295 KM
 296 KM
 297 BA 0.4552 6
 298 LS 1.0 51.694 13.73
 299 UD 0.533

300 KK PF. WADD "15" & "CORONET" AT PT. W
 301 HC 2
 302 KK LAG-21LAG "PT. W" TO "PT. Y" - CONFLUENCE OF HIGHLAND BR. AND TRIB 25
 303 RT 0 0 1

304 KK HIGHLANDHIGHLAND BROOK DRAINAGE BASIN AT ITS CONFLUENCE WITH TRIB. 25 (PT. Y
 305 KM *****
 306 KM * DRAINAGE AREA =275.89 AC = 0.43109 SQ. MI. Q25 = 272.08 CFS
 307 KM

KM * TIME OF CONCENTRATION = 0.71 HR, SCS LAG .426
 KM *****
 KM *****
 BA 0.4310 9
 LS 1.0 30.859 25
 UD 0.426
 KK 19TRIB. 25 DRAINAGE BASIN BETWEEN PT. W & PT. Y
 KM *****
 KM * DRAINAGE AREA = 16.36 AC = 0.02556 SQ. MI. Q25 = 14.72 CFS
 KM * TIME OF CONCENTRATION = 0.38 HR, SCS LAG = 0.228
 KM *****
 KM *****
 BA 0.0255 6
 LS 1.0 46.25 0
 UD 0.228

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

KK KBCKJ BUSINESS CENTER DRAINAGE BASIN TO PT.Y
 KM *****
 KM *****
 KM * DRAINAGE AREA = 2.34 AC = 0.00365 SQ. MI. Q25 = 9.45 CFS
 KM * TIME OF CONCENTRATION = 0.21 HR, SCS LAG = 0.126
 KM *****
 KM *****
 BA 0.0036 5
 LS 1.0 99 100
 UD 0.126

KK LAG-22LAG "KBC" TO "PT.Y" - CONFLUENCE OF HIGHLAND BR. AND TRIB 25
 RT 0 0 1
 KK PT.YADD "PT. W", "HIGHLAND", "19" & "KBC"
 HC 4
 KK LAG-23LAG "PT.Y" TO "PT.X"
 RT 0 0 4

KK 20TRIB. 25 BROOK DRAINAGE BASIN BETWEEN PT. Y & PT. X
 KM *****
 KM *****
 KM * DRAINAGE AREA = 26.04 AC = 0.0407 SQ. MI. Q25 = 15.36 CFS
 KM * TIME OF CONCENTRATION = 0.79 HR, SCS LAG = 0.475
 KM *****
 KM *****
 BA 0.0407
 LS 1.0 43.3 0
 UD 0.475

KK DBERASTERN PORTION OF DELTA BRONZE SITE RUNOFF DRAINING TO TRIB. 25
 KM *****
 KM *****
 KM * DRAINAGE AREA = 5.06 AC = 0.00791SQ. MI. Q25 = 11.41 CFS
 KM * TIME OF CONCENTRATION = 0.4 HR, SCS LAG = 0.24
 KM *****
 KM *****

56	KM				
357	BA	0.0079	1		
358	LS	1.0	63.8	38.74	
359	UD	0.24			
360	KK	LAG-24LAG	"DBE" TO "PT.X"		
361	RT	0	0	4	
362	KK	PT.XADD	"20", "DBE", "LAG-23" & "COMB-1"		
363	HC	4			
364	KK	LAG-25LAG	"PT. X" TO "PT. Z" - ROUTE 17 CULVERT		
365	RT	0			
	LINE	ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10			
			HEC-1 INPUT		
366	KK	21TRIB. 25 DRAINAGE BASIN BETWEEN CONFLUENCE WITH FOREST BR. & RT.17 CUL			
367	KM				
368	KM	*****			
369	KM	* DRAINAGE AREA = 43.86 AC = 0.06853 SQ. MI.	Q25 = 38.60 CFS		
370	KM	* TIME OF CONCENTRATION = 0.41 HR, SCS LAG = 0.246			
371	KM	*****			
372	KM				
373	BA	0.0685	3		
374	LS	1.0	46.57	0	
375	UD	0.246			
376	KK	PT.ZADD	"21" & "LAG-25" AT RT 17 CULVERT PT.Z		
377	HC	2			
378	ZZ				

SCHEMATIC DIAGRAM OF STREAM NETWORK

(V) ROUTING (->->) DIVERSION OR PUMP FLOW
 (.) CONNECTOR (<-<-) RETURN OF DIVERTED OR PUMPED FLOW

26	SITE-1			
	V			
	V			
62	LAG-7			
	.			
64	SITE-2			
	V			
	V			
74	LAG-8			
	.			
	.			
76	SITE-6			
	.			
	.			
86	PT.Q.....			
	V			
	V			
88	LAG-9			

90	.....	SITE12	.....
100	PT.P.....			
	V			
102	PR WQB			
	V			
116	LAG-10			
118	.....	SITE10	.....
128	.....		
		SITE8A	.....
138	PT.G.....			
	V			
140	LAG-12			
142	.....		
		SITE8B	V	
152	.....		V	
			H	
154	.....		
			OFF-10	
164	.....		V	
			V	
166	.....		J	
176	.....		
178	.....		
188	PT.R.....			
	V			
190	LAG-16			
192	.....		
		SITE13	.....
202	PT.O.....			
	V			
204	EX.DET			

K
V
V
LAG-15

SITE-7

336 PT. Y.....
 V
 V
 338 LAG-23
 .
 .
 340 . 20
 .
 .
 350 DBE
 V
 V
 360 LAG-24
 .
 .
 362 PT. X.....
 V
 V
 364 LAG-25
 .
 .
 366 . 21
 .
 .
 376 PT. Z.....

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

1 *****
 * FLOOD HYDROGRAPH PACKAGE (HEC-1) *
 * JUN 1998 *
 * VERSION 4.1 *
 * RUN DATE 04OCT06 TIME 11:36:24 *
 * *****

 * U.S. ARMY CORPS OF ENGINEERS *
 * HYDROLOGIC ENGINEERING CENTER *
 * 609 SECOND STREET *
 * DAVIS, CALIFORNIA 95616 *
 * (916) 756-1104 *
 * *****

-----DEV_T1.H1OVT-----

HYDROLOGY FOR: COMPREHENSIVE DRAINAGE STUDY, KJ #04080
 VILLAGE OF KIRYAS JOEL, ORANGE COUNTY, NEW YORK
 DEVELOPMENT IN THE VICINITY OF MOUNTAIN ROAD CONSIDERED
 PROJECTS: HAKIRYAH-II, WOMEN'S HEALTH SERVICE ROAD
 PORTION OF JACOB SOFER SITE
 OFFSITE AREA - 4.5A, 5B, DIVERTED
 OFFSITE AREA - 7, 6A & 6B CONSIDERED FOR TREATMENT
 DETENTION BASIN BASIN_T2 USED IN ANALYSIS
 SCS HYDROGRAPHS CALIBRATED TO 25-YEAR RATIONAL METHOD PEAK DISCHARGE
 ANALYSIS PREPARED BY: LEONARD JACKSON ASSOCIATES
 ANALYSIS PARAMETERS:
 EXISTING CONDITIONS RUN
 STORM RECURRENCE INTERVALS = 2, 5, 10, 25 & 100 YEAR
 HYDROGRAPH METHOD: SCS HYDROGRAPH

RAINFALL DISTRIBUTION: SCS TYPE I.

100-YEAR 24 HOUR RAINFALL 7.2 INCHES

24 IO OUTPUT CONTROL VARIABLES
 IPRNT 4 PRINT CONTROL
 IPLPT 0 PLOT CONTROL
 QSCAL 0. HYDROGRAPH PLOT SCALE

IT HYDROGRAPH TIME DATA
 NMIN 6 MINUTES IN COMPUTATION INTERVAL
 IDATE 1 0 STARTING DATE
 ITIME 0000 STARTING TIME
 NQ 300 NUMBER OF HYDROGRAPH ORDINATES
 NDDATE 2 0 ENDING DATE
 NDTIME 0554 ENDING TIME
 ICENT 19 CENTURY MARK

COMPUTATION INTERVAL .10 HOURS
 TOTAL TIME BASE 29.90 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

JP MULTI-PLAN OPTION
 NPLAN 1 NUMBER OF PLANS

JR MULTI-RATIO OPTION
 RATIOS OF PRECIPITATION
 7.20

**** **

 * SITE-1 *
 * ONSITE HAKIRYAH 2 RUNOFF TO PT. A AND FOREST BROOK

 * DRAINAGE AREA = 0.58 AC = 0.00091 SQ. MI. Q25 =1.69 CFS
 * TIME OF CONCENTRATION = 0.087 HR, SCS LAG = 0.052

35 IN TIME DATA FOR INPUT TIME SERIES
 JXMIN 6 TIME INTERVAL IN MINUTES
 JXDATE 1 0 STARTING DATE
 JXTIME 0 STARTING TIME


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.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
.00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00

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72 LS SCS LOSS RATE
STRFL 1.00 INITIAL ABSTRACTION
CRVNR 80.00 CURVE NUMBER
RTIMP 26.91 PERCENT IMPERVIOUS AREA

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73 UD SCS DIMENSIONLESS UNITGRAPH
TLAG .08 LAG

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UNIT HYDROGRAPH
6 END-OF-PERIOD ORDINATES
4. 3. 1. 0. 0. 0.

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* LAG-8 * LAG "PT.B" HYDROGRAPH TO "PT.Q"
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74 KK
*****
* LAG-8 * LAG "PT.B" HYDROGRAPH TO "PT.Q"
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75 RT HYDROGRAPH ROUTING DATA
TATUM OR STRADDLE-STAGGER ROUTING
NSTPS 0 NUMBER OF TATUM STEPS
NSTDL 0 NUMBER OF ORDINATES TO BE AVERAGED
LAG 1 NUMBER OF INTERVALS TO LAG HYDROGRAPH

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76 KK
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* SITE-6 * ONSITE HAKIRYAH 1 RUNOFF TO PT. Q AND FOREST BROOK
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* DRAINAGE AREA =16.49 AC = 0.02576 SQ. MI. Q25 =70.00 CFS
* TIME OF CONCENTRATION = 0.213 HR, SCS LAG = 0.128
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87 HC HYDROGRAPH COMBINATION 3 NUMBER OF HYDROGRAPHS TO COMBINE
ICOMP

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*
* LAG-9 * LAG "PT.Q" HYDROGRAPH TO "PT.P"
*

HYDROGRAPH ROUTING DATA

89 RT TATUM OR STRADDLE-STAGGER ROUTING
NSTPS 0 NUMBER OF TATUM STEPS
NSTDL 0 NUMBER OF ORDINATES TO BE AVERAGED
LAG 1 NUMBER OF INTERVALS TO LAG HYDROGRAPH

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*
* SITE12 * HAKIRYAH 1 RUNOFF TO PT P AND FOREST BROOK
*

* DRAINAGE AREA = 1.23 AC = 0.00192 SQ. MI. Q25 = 2.60 CFS
* TIME OF CONCENTRATION = 0.120 HR, SCS LAG = 0.075

SUBBASIN RUNOFF DATA

97 BA SUBBASIN CHARACTERISTICS
TAREA .00 SUBBASIN AREA

PRECIPITATION DATA

34 PB STORM 1.00 BASIN TOTAL PRECIPITATION
36 PI INCREMENTAL PRECIPITATION PATTERN
.00 .00 .00 .00 .00 .00 .00 .00
.00 .00 .00 .00 .00 .00 .00 .00
.00 .00 .00 .00 .00 .00 .00 .00


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126 LS SCS LOSS RATE          1.00 INITIAL ABSTRACTION
      STRFL              57.65 CURVE NUMBER
      CRVNR              20.00 PERCENT IMPERVIOUS AREA
      RTIME
      FLAG
127 UD SCS DIMENSIONLESS UNITGRAPH
      FLAG              .11 LAG

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      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
      .08 .08 .05 .05 .03 .03 .02 .02 .01 .01 .01 .01 .01 .01 .01 .01 .01 .01
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00
      .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00 .00

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UNIT HYDROGRAPH
      8 END-OF-PERIOD ORDINATES
      1. 0. 0. 0.

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128 KK * * * SITESA * * * RUNOFF FROM MOUNTAIN ROAD TOWNHOMES SITE 8A TO PT. G AND FOREST BROOK
      * * * * *

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*****
* DRAINAGE AREA = 4.51 AC = 0.00705SQ. MI.
* TIME OF CONCENTRATION = 0.270HR, SCS LAG = 0.162
*****

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SUBBASIN RUNOFF DATA
SUBBASIN CHARACTERISTICS
TAREA .01 SUBBASIN AREA
SNAP 5.00 NORMAL ANNUAL PRECIPITATION
RATIO .00 RATIO OF HYDROGRAPH

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PRECIPITATION DATA

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34 PB STORM 1.00 BASIN TOTAL PRECIPITATION

```


.08	.05	.03	.02	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

150 LS SCS LOSS RATE

STRFL 1.00 INITIAL ABSTRACTION
 CRVNR 51.20 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

151 UD SCS DIMENSIONLESS UNITGRAPH

TLAG .08 LAG

UNIT HYDROGRAPH
 6 END-OF-PERIOD ORDINATES
 0.

12. 8. 2. 1. 0.

*** **

 * * * * *
 * H * LAG "PT.H" HYDROGRAPH TO "PT.R"
 * * * * *

152 KK

HYDROGRAPH ROUTING DATA

TATUM OR STRADDLE-STAGGER ROUTING
 NSTPS 0 NUMBER OF TATUM STEPS
 NSTDL 0 NUMBER OF ORDINATES TO BE AVERAGED
 LAG 1 NUMBER OF INTERVALS TO LAG HYDROGRAPH

*** **

 * * * * *
 * OFF-10 * RUNOFF FROM GELB SITE TO PT. J AND FOREST BROOK
 * * * * *

154 KK

204 KK * * * * *
 * EX.DET * * * * *
 * * * * *

ROUTING THROUGH EXISTING VAAD MTN. WATER QUALITY/DET. BASIN (AT PT. O)
 (2) OUTLET STRUDURES FROM BASIN
 12" ORIFICE AT ELEV. 756 IN EACH OS
 4' WEIR ELEV. 758.0 IN EACH OS
 20' OVERFLOW SPILLWAY ELEV. 759.5 FROM BASIN

HYDROGRAPH ROUTING DATA

211 RS	STORAGE ROUTING	1 NUMBER OF SUBREACHES								
	NSTPS	ELEV	TYPE OF INITIAL CONDITION							
	ITYP	756.00	INITIAL CONDITION							
	RSVRIC	.00	WORKING R AND D COEFFICIENT							
	X									
212 SA	AREA	.2	.3	.4						
213 SE	ELEVATION	756.00	758.00	760.00						
214 SQ	DISCHARGE	0.	0.	0.	3.	5.	6.	7.	8.	9.
		11.	15.	20.	27.	34.	42.	51.	62.	81.
216 SE	ELEVATION	756.00	756.21	756.42	756.63	756.84	757.05	757.26	757.47	757.68
		758.11	758.32	758.53	758.74	758.95	759.16	759.37	759.58	759.79
										103.

COMPUTED STORAGE-ELEVATION DATA

STORAGE	.00	.49	1.13							
ELEVATION	756.00	758.00	760.00							
STORAGE	.00	.04	.09	.14	.19	.24	.29	.34	.40	.46
OUTFLOW	.00	.00	.00	2.79	4.50	5.72	6.72	7.59	8.37	9.08
ELEVATION	756.00	756.21	756.42	756.63	756.84	757.05	757.26	757.47	757.68	757.89
STORAGE	.49	.52	.58	.64	.71	.77	.84	.91	.98	1.05
OUTFLOW	9.82	10.56	14.62	20.11	26.68	34.16	42.44	51.44	62.44	80.74
ELEVATION	758.00	758.11	758.32	758.53	758.74	758.95	759.16	759.37	759.58	759.79
STORAGE	1.13									
OUTFLOW	103.48									
ELEVATION	760.00									

*** WARNING *** MODIFIED PULS ROUTING MAY BE NUMERICALLY UNSTABLE FOR OUTFLOWS BETWEEN 62. TO 103.
 THE ROUTED HYDROGRAPH SHOULD BE EXAMINED FOR OSCILLATIONS OR OUTFLOWS GREATER THAN PEAK INFLOWS.
 THIS CAN BE CORRECTED BY DECREASING THE TIME INTERVAL OR INCREASING STORAGE (USE A LONGER REACH.)

WARNING --- ROUTED OUTFLOW (126.) IS GREATER THAN MAXIMUM OUTFLOW (103.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (129.) IS GREATER THAN MAXIMUM OUTFLOW (103.) IN STORAGE-OUTFLOW TABLE

WARNING --- ROUTED OUTFLOW (107.) IS GREATER THAN MAXIMUM OUTFLOW (103.) IN STORAGE-OUTFLOW TABLE

252 LS SCS LOSS RATE
 STRFL 1.00 INITIAL ABSTRACTION
 CRVNR 54.82 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

253 UD SCS DIMENSIONLESS UNITGRAPH
 TLAG .28 LAG

UNIT HYDROGRAPH
 16 END-OF-PERIOD ORDINATES

7.	25.	38.	36.	27.	15.	10.	4.	2.
1.	1.	1.	0.	0.	0.	0.		

*** **

 *
 * PT. N * ADD "LAG-10", "LAG-17", "L", "S" & "14" AT PT.N
 *

254 KK

255 HC HYDROGRAPH COMBINATION 5 NUMBER OF HYDROGRAPHS TO COMBINE
 ICOMP

*** ** ** **~

 *
 * LAG-20 * LAG "PT.N" HYDROGRAPH TO "PT.X" HYDROGRAPH - CONFLUENCE OF FOREST BRO
 *

256 KK

HYDROGRAPH ROUTING DATA

257 RT TATUM OR STRADDLE-STAGGER ROUTING
 NSTPS 0 NUMBER OF TATUM STEPS
 NSTDL 0 NUMBER OF ORDINATES TO BE AVERAGED
 LAG 7 NUMBER OF INTERVALS TO LAG HYDROGRAPH

276 LS SCS LOSS RATE
 STRFL 1.00 INITIAL ABSTRACTION
 CRVNR 71.20 CURVE NUMBER
 RTIME 52.23 PERCENT IMPERVIOUS AREA
 TLAG .23 LAG

277 UD SCS DIMENSIONLESS UNITGRAPH
 TLAG .23 LAG

UNIT HYDROGRAPH
 14 END-OF-PERIOD ORDINATES

5.	16.	19.	15.	8.	5.	3.	1.	1.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

278 KK * * * * *
 * * * * *
 * COMB-1 * ADD "LAG-20" & "15" & "DBW" AT POINT COMB-1
 * * * * *
 * * * * *

279 HC HYDROGRAPH COMBINATION
 ICOMP 3 NUMBER OF HYDROGRAPHS TO COMBINE

280 KK * * * * *
 * * * * *
 * 16 * TRIB. 25 DRAINAGE BASIN UPSTREAM OF CONFLUENCE WITH CORONET BR.
 * * * * *

* * * * *
 * DRAINAGE AREA = 285.19 AC = 0.44561 SQ. MI. Q25 = 282.62 CFS
 * TIME OF CONCENTRATION = 1.12HR, SCS LAG = 0.672
 * * * * *

287 BA SUBBASIN RUNOFF DATA
 SUBBASIN CHARACTERISTICS
 TAREA .45 SUBBASIN AREA

* DRAINAGE AREA =291.37 AC = 0.45526 SQ. MI. Q25 = 278.88 CFS
* TIME OF CONCENTRATION = 0.89 HR, SCS LAG = 0.533

SUBBASIN RUNOFF DATA

297 BA SUBBASIN CHARACTERISTICS
TAREA .46 SUBBASIN AREA
SNAP 6.00 NORMAL ANNUAL PRECIPITATION
RATIO .00 RATIO OF HYDROGRAPH

PRECIPITATION DATA

Table with columns: STORM, 1.00 BASIN TOTAL PRECIPITATION, INCREMENTAL PRECIPITATION PATTERN. Rows include storm numbers 34 PB, 36 PI, 298 LS, 299 UD and their respective precipitation values.

SCS LOSS RATE
STRTL 1.00 INITIAL ABSTRACTION
CRVNR 51.69 CURVE NUMBER
RTIMP 13.73 PERCENT IMPERVIOUS AREA
SCS DIMENSIONLESS UNITGRAPH
TLAG .53 LAG

Table with columns: UNIT HYDROGRAPH, 29 END-OF-PERIOD ORDINATES. Rows include values for storms 30, 128, 91, 98, 188, 75, 301, 55, 364, 42, 376, 32, 351, 24, 303, 18, 237, 14, 170, 10.

8. 6. 5. 4. 3. 2. 1. 0.

*** ** ** ** **

*
* PT. W *
* ADD "16" & "CORONET" AT PT. W
*

301 HC HYDROGRAPH COMBINATION
ICOMP 2 NUMBER OF HYDROGRAPHS TO COMBINE

*** ** ** ** **

*
* LAG-21 *
* LAG "PT. W" TO "PT. Y" - CONFLUENCE OF HIGHLAND BR. AND TRIB 25
*

HYDROGRAPH ROUTING DATA

303 RT TATUM OR STRADDLE-STAGGER ROUTING
NSTPS 0 NUMBER OF TATUM STEPS
NSTDL 0 NUMBER OF ORDINATES TO BE AVERAGED
LAG 1 NUMBER OF INTERVALS TO LAG HYDROGRAPH

*** ** ** **~

*
* HIGHLA *
* NDHIGHLAND BROOK DRAINAGE BASIN AT ITS CONFLUENCE WITH TRIB. 25 (PT. Y
*

* DRAINAGE AREA =275.89 AC = 0.43109 SQ. MI. Q25 = 272.08 CFS
* TIME OF CONCENTRATION = 0.71 HR, SCS LAG = 0.426

SUBBASIN RUNOFF DATA

311 BA SUBBASIN CHARACTERISTICS
TAREA .43 SUBBASIN AREA

333 UD SCS DIMENSIONLESS UNITGRAPH
TLAG .13 LAG

UNIT HYDROGRAPH
8 END-OF-PERIOD ORDINATES

6. 10. 5. 2. 1. 0. 0. 0.

*** **

*
* LAG-22 *
*

334 KK * LAG "KBC" TO "PT.Y" - CONFLUENCE OF HIGHLAND BR. AND TRIB 25

HYDROGRAPH ROUTING DATA

335 RT TATUM OR STRADDLE-STAGGER ROUTING
NSTPS 0 NUMBER OF TATUM STEPS
NSTDL 0 NUMBER OF ORDINATES TO BE AVERAGED
LAG 1 NUMBER OF INTERVALS TO LAG HYDROGRAPH

*** **

*
* PT.Y *
*

336 KK * PT.Y * ADD "PT.W", "HIGHLAND", "19" & "KBC"

337 HC HYDROGRAPH COMBINATION
ICOMP 4 NUMBER OF HYDROGRAPHS TO COMBINE

*** **

*
* LAG-23 *
*

338 KK * LAG "PT.Y" TO "PT.X"

HYDROGRAPH ROUTING DATA

339 RT TATUM OR STRADDLE-STAGGER ROUTING

+		SITE-1	.00	1	FLOW TIME	2. 12.20
	ROUTED TO					
+		LAG-7	.00	1	FLOW TIME	2. 12.30
	HYDROGRAPH AT					
+		SITE-2	.00	1	FLOW TIME	4. 12.20
	ROUTED TO					
+		LAG-8	.00	1	FLOW TIME	4. 12.30
	HYDROGRAPH AT					
+		SITE-6	.03	1	FLOW TIME	85. 12.30
	3 COMBINED AT					
+		PT.Q	.03	1	FLOW TIME	91. 12.30
	ROUTED TO					
+		LAG-9	.03	1	FLOW TIME	91. 12.40
	HYDROGRAPH AT					
+		SITE12	.00	1	FLOW TIME	4. 12.20
	2 COMBINED AT					
+		PT.P	.03	1	FLOW TIME	93. 12.40
	ROUTED TO					
+		PR WQB	.03	1	FLOW TIME	83. 12.50
						** PEAK STAGES IN FEET **
						1 STAGE
						755.98
						12.50
	ROUTED TO					
+		LAG-10	.03	1	FLOW TIME	83. 12.60
	HYDROGRAPH AT					
+		SITE10	.01	1	FLOW TIME	14. 12.30
	HYDROGRAPH AT					
+		SITE8A	.01	1	FLOW TIME	9. 12.30
	2 COMBINED AT					
+		PT.G	.01	1	FLOW TIME	23. 12.30

ROUTED TO	LAG-12	.01	1	FLOW TIME	23.12.40
+					
HYDROGRAPH AT	SITE8B	.00	1	FLOW TIME	5.12.20
+					
ROUTED TO	H	.00	1	FLOW TIME	5.12.30
+					
HYDROGRAPH AT	OFF-10	.01	1	FLOW TIME	19.12.30
+					
ROUTED TO	J	.01	1	FLOW TIME	19.12.40
+					
HYDROGRAPH AT	K	.01	1	FLOW TIME	17.12.30
+					
ROUTED TO	LAG-15	.01	1	FLOW TIME	17.12.40
+					
HYDROGRAPH AT	SITE-7	.02	1	FLOW TIME	69.12.30
+					
5 COMBINED AT	PT.R	.07	1	FLOW TIME	130.12.30
+					
ROUTED TO	LAG-16	.07	1	FLOW TIME	130.12.40
+					
HYDROGRAPH AT	SITE13	.00	1	FLOW TIME	5.12.20
+					
2 COMBINED AT	PT.0	.07	1	FLOW TIME	133.12.40
+					
ROUTED TO	EX.DBT	.07	1	FLOW TIME	129.12.50
+					
** PEAK STAGES IN FEET **					
			1	STAGE TIME	760.23 12.50
ROUTED TO	LAG-17	.07	1	FLOW TIME	129.12.60
+					

HYDROGRAPH AT	OFF-12	.00	1	FLOW TIME	5.12.20
ROUTED TO	L	.00	1	FLOW TIME	5.12.30
HYDROGRAPH AT	SITELL	.00	1	FLOW TIME	7.12.20
ROUTED TO	S	.00	1	FLOW TIME	7.12.30
HYDROGRAPH AT	14	.03	1	FLOW TIME	30.12.50
5 COMBINED AT	PT. N	.13	1	FLOW TIME	247.12.50
ROUTED TO	LAG-20	.13	1	FLOW TIME	247.13.20
HYDROGRAPH AT	15	.47	1	FLOW TIME	582.12.60
HYDROGRAPH AT	DBW	.01	1	FLOW TIME	27.12.40
3 COMBINED AT	COMB-1	.61	1	FLOW TIME	622.12.70
HYDROGRAPH AT	16	.45	1	FLOW TIME	413.12.80
HYDROGRAPH AT	CORONE	.46	1	FLOW TIME	430.12.70
2 COMBINED AT	PT. W	.90	1	FLOW TIME	830.12.80
ROUTED TO	LAG-21	.90	1	FLOW TIME	830.12.90
HYDROGRAPH AT	HIGHLA	.43	1	FLOW	389.

HYDROGRAPH AT	19	.03	1	FLOW TIME	12.60
+					
HYDROGRAPH AT	KBC	.00	1	FLOW TIME	25.40
+					
ROUTED TO	LAG-22	.00	1	FLOW TIME	12.30
+					
4 COMBINED AT	PT.Y	1.36	1	FLOW TIME	12.40
+					
ROUTED TO	LAG-23	1.36	1	FLOW TIME	1158.80
+					
HYDROGRAPH AT	20	.04	1	FLOW TIME	12.80
+					
HYDROGRAPH AT	DBE	.01	1	FLOW TIME	26.40
+					
ROUTED TO	LAG-24	.01	1	FLOW TIME	16.80
+					
4 COMBINED AT	PT.X	2.02	1	FLOW TIME	1724.20
+					
ROUTED TO	LAG-25	2.02	1	FLOW TIME	13.20
+					
HYDROGRAPH AT	21	.07	1	FLOW TIME	1724.40
+					
2 COMBINED AT	PT.Z	2.09	1	FLOW TIME	66.10
+					

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

HEC-RAS Plan: prop F River: Trib 25 Reach: bald hill Profile: 100-YR

Reach	River Sta	Profile	Q Total (cfs)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Total (ft/s)	Flow Area (sq ft)	Sta W.S. Lft (ft)	Sta W.S. Rgt (ft)	Top Width (ft)
bald hill	2220	100-YR	1740.00	586.18	586.18	587.58	0.009367	5.25	332	4936	5063	127
bald hill	2300	100-YR	1740.00	586.92	586.92	588.69	0.011564	7.58	229	4954	5034	79
bald hill	2400	100-YR	1740.00	589.06	589.06	591.37	0.012506	9.83	177	4979	5027	48
bald hill	2550	100-YR	1740.00	592.20	592.20	594.40	0.013038	10.26	170	4971	5018	46
bald hill	2800	100-YR	1740.00	596.83	596.83	597.58	0.012829	4.37	398	4869	5018	148
bald hill	2990	100-YR	1740.00	599.69	599.69	601.49	0.010729	7.62	228	4937	5015	79
bald hill	3055	100-YR	1740.00	601.28	601.28	603.16	0.010001	7.30	238	4949	5035	86
bald hill	3110		Culvert									
bald hill	3170	100-YR	1740.00	604.75	601.34	605.12	0.001363	2.71	642	4913	5057	144
bald hill	3200	100-YR	1740.00	604.96		605.17	0.000836	1.97	884	4893	5110	216
bald hill	3300	100-YR	1740.00	605.02		605.27	0.001043	1.93	902	4874	5155	281

HEC-RAS Plan: prop F River: Trib 25 Reach: bald hill Profile: 100-YR

Reach	River Sta	Profile	E.G. US. (ft)	W.S. US. (ft)	E.G. IC (ft)	E.G. OC (ft)	Min EI Weir Flow (ft)	Q Culv Group (cfs)	Q Weir (cfs)	Delta WS (ft)	Culv Vel US (ft/s)	Culv Vel DS (ft/s)
bald hill	3110	Culvert #1	605.12	604.75	605.01	605.12	613.21	1740.00		3.47	11.77	11.96

Plan: prop F Trib 25 bald hill RS: 3300 Profile: 100-YR

E.G. Elev (ft)	605.27	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.25	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	605.02	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)		Flow Area (sq ft)	281.90	228.30	391.53
E.G. Slope (ft/ft)	0.001043	Area (sq ft)	281.90	228.30	391.53
Q Total (cfs)	1740.00	Flow (cfs)	248.32	1123.12	368.56
Top Width (ft)	281.36	Top Width (ft)	113.15	26.00	142.21
Vel Total (ft/s)	1.93	Avg. Vel. (ft/s)	0.88	4.92	0.94
Max Chl Dpth (ft)	10.02	Hydr. Depth (ft)	2.49	8.78	2.75
Conv. Total (cfs)	53866.8	Conv. (cfs)	7687.5	34769.3	11410.0
Length Wtd. (ft)	100.00	Wetted Per. (ft)	113.38	27.50	142.55
Min Ch El (ft)	595.00	Shear (lb/sq ft)	0.16	0.54	0.18
Alpha	4.28	Stream Power (lb/ft s)	0.14	2.66	0.17
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	3.38	3.32	1.59
C & E Loss (ft)	0.01	Cum SA (acres)	1.30	0.56	0.65

Plan: prop F Trib 25 bald hill RS: 3200 Profile: 100-YR

E.G. Elev (ft)	605.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.21	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	604.96	Reach Len. (ft)	30.00	30.00	30.00
Crit W.S. (ft)		Flow Area (sq ft)	343.69	250.11	289.72
E.G. Slope (ft/ft)	0.000836	Area (sq ft)	343.69	250.11	289.72
Q Total (cfs)	1740.00	Flow (cfs)	353.01	1128.74	258.25
Top Width (ft)	216.25	Top Width (ft)	92.65	27.00	96.60
Vel Total (ft/s)	1.97	Avg. Vel. (ft/s)	1.03	4.51	0.89
Max Chl Dpth (ft)	10.26	Hydr. Depth (ft)	3.71	9.26	3.00
Conv. Total (cfs)	60194.5	Conv. (cfs)	12212.3	39048.2	8934.0
Length Wtd. (ft)	30.00	Wetted Per. (ft)	92.94	29.03	96.91
Min Ch El (ft)	594.70	Shear (lb/sq ft)	0.19	0.45	0.16
Alpha	3.49	Stream Power (lb/ft s)	0.20	2.03	0.14
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)	2.66	2.77	0.81
C & E Loss (ft)	0.02	Cum SA (acres)	1.06	0.50	0.38

Plan: prop F Trib 25 bald hill RS: 3170 Profile: 100-YR

E.G. Elev (ft)	605.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.37	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	604.75	Reach Len. (ft)	115.00	115.00	115.00
Crit W.S. (ft)	601.34	Flow Area (sq ft)	306.17	195.90	139.66
E.G. Slope (ft/ft)	0.001383	Area (sq ft)	306.17	195.90	139.66
Q Total (cfs)	1740.00	Flow (cfs)	423.97	1155.98	160.04
Top Width (ft)	143.75	Top Width (ft)	76.75	21.00	46.00
Vel Total (ft/s)	2.71	Avg. Vel. (ft/s)	1.38	5.90	1.15
Max Chl Dpth (ft)	10.25	Hydr. Depth (ft)	3.99	9.33	3.04
Conv. Total (cfs)	46795.9	Conv. (cfs)	11402.4	31089.2	4304.3
Length Wtd. (ft)	115.00	Wetted Per. (ft)	77.16	22.19	46.75
Min Ch El (ft)	594.50	Shear (lb/sq ft)	0.34	0.76	0.26
Alpha	3.23	Stream Power (lb/ft s)	0.47	4.50	0.30
Frctn Loss (ft)		Cum Volume (acre-ft)	2.44	2.62	0.66
C & E Loss (ft)		Cum SA (acres)	1.01	0.48	0.33

Plan: prop F Trib 25 bald hill RS: 3055 Profile: 100-YR

E.G. Elev (ft)	603.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.87	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	601.28	Reach Len. (ft)	65.00	65.00	65.00
Crit W.S. (ft)	601.28	Flow Area (sq ft)	62.39	121.11	54.97
E.G. Slope (ft/ft)	0.010001	Area (sq ft)	67.57	121.11	54.97
Q Total (cfs)	1740.00	Flow (cfs)	153.97	1450.78	135.25
Top Width (ft)	85.92	Top Width (ft)	41.51	19.00	25.41
Vel Total (ft/s)	7.30	Avg. Vel. (ft/s)	2.47	11.98	2.46
Max Chl Dpth (ft)	7.28	Hydr. Depth (ft)	2.15	6.37	2.16
Conv. Total (cfs)	17399.2	Conv. (cfs)	1539.7	14507.1	1352.4
Length Wtd. (ft)	65.00	Wetted Per. (ft)	29.15	20.92	25.80
Min Ch El (ft)	594.00	Shear (lb/sq ft)	1.34	3.62	1.33
Alpha	2.27	Stream Power (lb/ft s)	3.30	43.31	3.27
Frctn Loss (ft)	0.67	Cum Volume (acre-ft)	1.94	2.20	0.40
C & E Loss (ft)	0.04	Cum SA (acres)	0.85	0.43	0.23

Plan: prop F Trib 25 bald hill RS: 2990 Profile: 100-YR

E.G. Elev (ft)	601.49	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.80	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	599.69	Reach Len. (ft)	150.00	190.00	190.00
Crit W.S. (ft)	599.69	Flow Area (sq ft)	87.46	133.58	7.43
E.G. Slope (ft/ft)	0.010729	Area (sq ft)	87.46	133.58	7.43
Q Total (cfs)	1740.00	Flow (cfs)	197.39	1529.58	13.03
Top Width (ft)	78.51	Top Width (ft)	49.13	24.00	5.38
Vel Total (ft/s)	7.62	Avg. Vel. (ft/s)	2.26	11.45	1.75
Max Chl Dpth (ft)	6.59	Hydr. Depth (ft)	1.78	5.57	1.38
Conv. Total (cfs)	16798.5	Conv. (cfs)	1905.7	14767.1	125.8
Length Wtd. (ft)	176.15	Wetted Per. (ft)	49.25	26.02	6.11
Min Ch El (ft)	593.10	Shear (lb/sq ft)	1.19	3.44	0.81
Alpha	2.00	Stream Power (lb/ft s)	2.68	39.38	1.43
Frctn Loss (ft)	2.06	Cum Volume (acre-ft)	1.83	2.01	0.36
C & E Loss (ft)	0.31	Cum SA (acres)	0.78	0.40	0.21

Plan: prop F Trib 25 bald hill RS: 2800 Profile: 100-YR

E.G. Elev (ft)	597.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	596.83	Reach Len. (ft)	200.00	250.00	250.00
Crit W.S. (ft)		Flow Area (sq ft)	317.99	70.15	10.22
E.G. Slope (ft/ft)	0.012829	Area (sq ft)	317.99	70.15	10.22
Q Total (cfs)	1740.00	Flow (cfs)	1007.78	713.61	18.61
Top Width (ft)	148.20	Top Width (ft)	122.54	17.00	8.66
Vel Total (ft/s)	4.37	Avg. Vel. (ft/s)	3.17	10.17	1.82
Max Chl Dpth (ft)	5.63	Hydr. Depth (ft)	2.60	4.13	1.18
Conv. Total (cfs)	15362.3	Conv. (cfs)	8897.6	6300.4	164.3
Length Wtd. (ft)	234.56	Wetted Per. (ft)	123.06	18.66	9.07
Min Ch El (ft)	591.20	Shear (lb/sq ft)	2.07	3.01	0.90
Alpha	2.53	Stream Power (lb/ft s)	6.56	30.63	1.64
Frctn Loss (ft)	3.03	Cum Volume (acre-ft)	1.13	1.56	0.32
C & E Loss (ft)	0.15	Cum SA (acres)	0.49	0.31	0.18

Plan: prop F Trib 25 baid hill RS: 2550 Profile: 100-YR

E.G. Elev (ft)	594.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.21	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	592.20	Reach Len. (ft)	150.00	150.00	150.00
Crit W.S. (ft)	592.20	Flow Area (sq ft)	26.10	135.93	7.54
E.G. Slope (ft/ft)	0.013038	Area (sq ft)	26.10	135.93	7.54
Q Total (cfs)	1740.00	Flow (cfs)	67.04	1658.86	14.10
Top Width (ft)	46.17	Top Width (ft)	13.59	27.00	5.59
Vel Total (ft/s)	10.26	Avg. Vel. (ft/s)	2.57	12.20	1.87
Max Chl Dpth (ft)	5.90	Hydr. Depth (ft)	1.92	5.03	1.35
Conv. Total (cfs)	15238.5	Conv. (cfs)	587.1	14527.8	123.5
Length Wtd. (ft)	150.00	Wetted Per. (ft)	14.01	27.86	6.51
Min Ch El (ft)	586.30	Shear (lb/sq ft)	1.52	3.97	0.94
Alpha	1.35	Stream Power (lb/ft s)	3.89	48.47	1.76
Frctn Loss (ft)	1.92	Cum Volume (acre-ft)	0.34	0.97	0.27
C & E Loss (ft)	0.01	Cum SA (acres)	0.17	0.18	0.14

Plan: prop F Trib 25 baid hill RS: 2400 Profile: 100-YR

E.G. Elev (ft)	591.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.31	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	589.06	Reach Len. (ft)	100.00	100.00	100.00
Crit W.S. (ft)	589.06	Flow Area (sq ft)	19.45	127.91	29.67
E.G. Slope (ft/ft)	0.012506	Area (sq ft)	19.45	127.91	29.67
Q Total (cfs)	1740.00	Flow (cfs)	47.35	1615.86	76.79
Top Width (ft)	47.89	Top Width (ft)	10.18	23.00	14.71
Vel Total (ft/s)	9.83	Avg. Vel. (ft/s)	2.43	12.63	2.59
Max Chl Dpth (ft)	5.76	Hydr. Depth (ft)	1.91	5.56	2.02
Conv. Total (cfs)	15559.2	Conv. (cfs)	423.4	14449.1	686.7
Length Wtd. (ft)	100.00	Wetted Per. (ft)	10.97	24.12	15.26
Min Ch El (ft)	583.30	Shear (lb/sq ft)	1.38	4.14	1.52
Alpha	1.54	Stream Power (lb/ft s)	3.37	52.30	3.93
Frctn Loss (ft)	1.20	Cum Volume (acre-ft)	0.26	0.52	0.20
C & E Loss (ft)	0.16	Cum SA (acres)	0.13	0.10	0.11

Plan: prop F Trib 25 baid hill RS: 2300 Profile: 100-YR

E.G. Elev (ft)	588.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.77	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	586.92	Reach Len. (ft)	80.00	80.00	80.00
Crit W.S. (ft)	586.92	Flow Area (sq ft)	55.94	131.24	42.25
E.G. Slope (ft/ft)	0.011564	Area (sq ft)	55.94	131.24	42.25
Q Total (cfs)	1740.00	Flow (cfs)	122.17	1503.49	114.33
Top Width (ft)	79.37	Top Width (ft)	34.60	26.00	18.76
Vel Total (ft/s)	7.58	Avg. Vel. (ft/s)	2.18	11.46	2.71
Max Chl Dpth (ft)	5.62	Hydr. Depth (ft)	1.62	5.05	2.25
Conv. Total (cfs)	16180.9	Conv. (cfs)	1136.1	13981.5	1063.2
Length Wtd. (ft)	80.00	Wetted Per. (ft)	35.01	27.02	19.17
Min Ch El (ft)	581.30	Shear (lb/sq ft)	1.15	3.51	1.59
Alpha	1.99	Stream Power (lb/ft s)	2.52	40.17	4.30
Frctn Loss (ft)	0.83	Cum Volume (acre-ft)	0.18	0.22	0.12
C & E Loss (ft)	0.11	Cum SA (acres)	0.08	0.04	0.07

Plan: prop F Trib 25 bald hill RS: 2220 Profile: 100-YR

E.G. Elev (ft)	587.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.40	Wt. n-Val.	0.100	0.040	0.100
W.S. Elev (ft)	586.18	Reach Len. (ft)			
Crit W.S. (ft)	586.18	Flow Area (sq ft)	134.96	107.53	89.12
E.G. Slope (ft/ft)	0.009367	Area (sq ft)	134.96	107.53	89.12
Q Total (cfs)	1740.00	Flow (cfs)	351.14	1211.58	177.28
Top Width (ft)	127.37	Top Width (ft)	55.28	18.00	54.09
Vel Total (ft/s)	5.25	Avg. Vel. (ft/s)	2.60	11.27	1.99
Max Chl Dpth (ft)	6.48	Hydr. Depth (ft)	2.44	5.97	1.65
Conv. Total (cfs)	17977.9	Conv. (cfs)	3628.0	12518.1	1831.7
Length Wtd. (ft)		Wetted Per. (ft)	55.47	19.38	54.78
Min Ch El (ft)	579.70	Shear (lb/sq ft)	1.42	3.24	0.95
Alpha	3.27	Stream Power (lb/ft s)	3.70	36.55	1.89
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

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HEC-RAS Version 3.1.3 May 2005
 U.S. Army Corp of Engineers
 Hydrologic Engineering Center
 609 Second Street
 Davis, California

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X      X  XXXXXX      XXXX      XXXX      XX      XXXX
X      X  X          X      X      X      X      X
X      X  X          X          X      X      X      X
XXXXXXXX XXXX      X      XXX XXXX XXXXXXX XXXX
X      X  X          X          X      X      X      X
X      X  X          X      X      X      X      X
X      X  XXXXXX      XXXX      X      X      X      XXXXX
    
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PROJECT DATA

Project Title: bald hill
 Project File : bald.prj
 Run Date and Time: 9/28/2006 2:56:21 PM

Project in English units

Project Description:
 Bald Hill Estates Hydraulic Analyses
 Existing Conditions and Proposed
 Conditions w/ stream crossing

GEOMETRY DATA

Geometry Title: pr 9-28-06 twin 11.5x10
 Geometry File : d:\LJA FILES\hec\00046.BALDHILL\hecras\bald.g11

CROSS SECTION

RIVER: Trib 25
 REACH: bald hill RS: 3300

INPUT

Description:

Station Elevation Data		num= 29									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4785	608	4802	607	4825	606	4875	605	4904	604		
4921	603	4943	602	4967	601	4978	600	4985	599		
4987	598.7	4993	595.8	5000	595	5008	596	5013	598.8		
5017	599	5033	600	5046	601	5058	602	5076	603		
5103	603.9	5117	603	5130	602.6	5141	603	5148	604		
5155	605	5164	606	5178	607	5194	608				

Manning's n Values

num= 3					
Sta	n Val	Sta	n Val	Sta	n Val
4785	.1	4987	.04	5013	.1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 Page 1

4987 5013 bald.rep 100 100 100 .1 .3

CROSS SECTION

RIVER: Trib 25
 REACH: bald hill RS: 3200

INPUT

Description:

Station Elevation Data num= 23

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4853	608	4886	606	4893	605	4901	604	4906	603
4917	602	4946	601	4965	600	4977	599	4986	598.6
4991	595.5	5000	594.7	5008	595	5013	598.5	5019	599
5028	600	5036	601	5048	602	5093	603	5101	604
5110	605	5121	606	5146	608				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
4853	.1	4986	.04	5013	.1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

4986	5013	30	30	30	.1	.3
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CROSS SECTION

RIVER: Trib 25
 REACH: bald hill RS: 3170

INPUT

Description:

Station Elevation Data num= 20

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4912	605	4917	604	4923	603	4933	602	4947	601
4960	600	4974	599	4984	598.5	4990	597.5	4994	595.5
5000	594.5	5007	595	5011	597.3	5015	599	5020	600
5027	601	5036	602	5043	603	5051	604	5059	605

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
4912	.1	4990	.04	5011	.1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

4990	5011	115	115	115	.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
4912	4962	604.5	F
5037	5059	604.5	F

CULVERT

RIVER: Trib 25
 REACH: bald hill RS: 3110

INPUT

Description: new stream crossing twin 11.5' x 10' boxes

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eff. area: (2) 9' x
12'

Distance from Upstream XS = 30
Deck/Roadway width = 50
Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 6

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
4835	614.5				4961	613.2				4990	613.3			
5000	613.6				5010	613.5				5133	616.6			

Upstream Bridge Cross Section Data

Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4912	605	4917	604	4923	603	4933	602	4947	601
4960	600	4974	599	4985	595.8	4989	594.5	5011	594.5
5014	597	5016	598.5	5020	600	5027	601	5036	602
5043	603	5051	604	5059	605				

Manning's n Values

num= 3

Sta	n Val	Sta	n Val	Sta	n Val
4912	.1	4974	.04	5020	.1

Bank Sta: Left Right Coeff Contr. Expan.
4985 5014 .3 .5

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
4912 4962 604.5 F
5037 5059 604.5 F

Downstream Deck/Roadway Coordinates

num= 6

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
4835	614.5				4961	613.2				4990	613.3			
5000	613.6				5010	613.5				5133	616.6			

Downstream Bridge Cross Section Data

Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4907	605	4913	604	4925	603	4938	602	4954	601
4968	600	4979	599	4987	598	4989	594	5000	594
5011	594	5014	598	5023	599	5029	600	5034	601
5039	602	5044	603	5048	604	5052	605		

Manning's n Values

num= 3

Sta	n Val	Sta	n Val	Sta	n Val
4907	.1	4987	.04	5014	.1

Bank Sta: Left Right Coeff Contr. Expan.
4987 5014 .3 .5

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
4907 4962 604 F
5037 5052 604 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical

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Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .95
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 11.5 10
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 2 - wingwall flared 90 or 15 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef
 Exit Loss Coef
 30 50 .015 .04 1.5 .5

1
 Number of Barrels = 2
 Upstream Elevation = 593
 Centerline Stations
 Sta. Sta.
 4994 5006
 Downstream Elevation = 592.5
 Centerline Stations
 Sta. Sta.
 4994 5006

CROSS SECTION

RIVER: Trib 25
 REACH: bald hill RS: 3055

INPUT

Description:

Station Elevation Data num= 21

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4907	605	4913	604	4925	603	4938	602	4954	601
4968	600	4979	599	4987	598	4991	597.5	4995	594.5
5000	594	5008	595	5010	597	5014	598	5023	599
5029	600	5034	601	5039	602	5044	603	5048	604
5052	605								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
4907	.1	4991	.04	5010	.1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

4991	5010	65	65	65	.3	.5
------	------	----	----	----	----	----

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
4907	4962	604	F
5037	5052	604	F

CROSS SECTION

RIVER: Trib 25
 REACH: bald hill RS: 2990

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INPUT

Description:

Station Elevation Data		num= 21		Sta		Elev		Sta		Elev	
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4893	605	4898	604	4904	603	4915	602	4928	601		
4935	600	4941	599	4958	598	4979	597	4986	596.7		
4989	594.4	5000	593.1	5007	594	5010	596.8	5012	598		
5014	599	5016	600	5019	601	5022	602	5026	603		
5034	605										

Manning's n Values		num= 3		Sta		n Val	
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
4893	.1	4986	.04	5010	.1		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	4986	5010		150	190	.1	.3

CROSS SECTION

RIVER: Trib 25
REACH: bald hill RS: 2800

INPUT

Description:

Station Elevation Data		num= 20		Sta		Elev		Sta		Elev	
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4856	600	4873	596	4876	595	4880	594	4885	593		
4888	592.8	4893	593	4913	594	4935	594.2	4952	594.4		
4992	595	4995	592.5	5000	591.2	5005	593	5009	594.5		
5013	595.8	5016	596	5020	598	5026	600	5049	605		

Manning's n Values		num= 3		Sta		n Val	
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
4856	.1	4992	.04	5009	.1		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff Contr.	Expan.
	4992	5009		200	250	.1	.3

CROSS SECTION

RIVER: Trib 25
REACH: bald hill RS: 2550

INPUT

Description:

Station Elevation Data		num= 14		Sta		Elev		Sta		Elev	
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4963	595	4966	594	4972	592	4978	590	4985	589		
4989	587	5000	586.3	5008	587.5	5012	589	5013	590		
5017	592	5020	593	5024	594	5050	595				

Manning's n Values		num= 3		Sta		n Val	
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
4963	.1	4985	.04	5012	.1		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 4985 5012 150 150 150 .1 .3

CROSS SECTION

RIVER: Trib 25
 REACH: bald hill RS: 2400

INPUT

Description:

Station Elevation Data num= 19

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4962	592	4969	591	4976	590	4982	588	4987	585.9
4989	585	4991	583.4	5000	583.3	5010	583.4	5012	585
5015	585.9	5023	588	5030	590	5042	591	5051	591.3
5066	591	5079	590	5087	590	5107	592		

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
4962	.1	4989	.04	5012	.1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 4989 5012 100 100 100 .1 .3

CROSS SECTION

RIVER: Trib 25
 REACH: bald hill RS: 2300

INPUT

Description:

Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4949	588	4954	587	4959	586	4963	585.2	4987	585
4989	584	4992	582	5000	581.3	5010	581.5	5015	583.5
5022	584	5028	585	5031	586	5034	587	5038	588
5054	588.5								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
4949	.1	4989	.04	5015	.1

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 4989 5015 80 80 80 .1 .3

CROSS SECTION

RIVER: Trib 25
 REACH: bald hill RS: 2220

INPUT

Description:

Station Elevation Data num= 22

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
4893	590	4923	588	4937	586	4943	585	4957	584

4975	583	4991	582	4995	580	5000	579.7	5007	579.9
5009	582	5016	584	5019	585	5022	585.2	5025	585
5042	584	5044	583.7	5045	584	5053	585	5062	586
5074	588	5085	590						

Manning's n Values num= 3
 Sta n Val Sta n Val Sta n Val

 4893 .1 4991 .04 5009 .1

Bank Sta: Left Right Coeff Contr. Expan.
 4991 5009 .1 .3