

APPENDIX D

**FISHERS CANYON BASIN HYDRAULICS
EXISTING CHANNEL FLOOD PLAIN ANALYSIS, HEC-2
RESOURCE CONSULTANTS, INC.**

FLOODPLAIN ANALYSIS

The 100-year flood plain for the Fishers Canyon Drainageway has been delineated between B Street and Fountain Creek. This reach is the downstream channel segment within El Paso County. The flood plain was delineated for existing development condition flow rates by Resource Consultants as part of a Flood Insurance Study for El Paso County and the City of Colorado Springs. The flood plain was delineated using the U.S. Army Corps of Engineers HEC-2 Water Surface Profile Program. Channel cross section and length information was obtained from the same aerial mapping as utilized in this project. The flood plain based on the slightly increased flow rates representative of future development conditions does not differ significantly from the existing condition flood plain. The 100-year flood plain for the existing conditions is shown in plan view on Figure VIII-2 and in profile on Figure VIII-5 in the report. The flood plain and cross section locations are also shown on the map enclosed (back pocket) prepared by RCI. Also shown is the flood profile. The RCI flood plain has not been formally approved by FEMA as of the date of this report. Flow within the 100-year flood plain on the Fishers Canyon Drainageway would be characterized by high velocities (up to 15 feet per second), turbulence and instability (critical flow is indicated in the HEC-2 model at a number of cross sections). Without improvements to stabilize the channel, significant bed and bank erosion and loss of existing vegetation would be expected during large runoff events in the Fishers Canyon Drainageway.

BANK ELEV								
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA
LEFT/RIGHT								
TIME	VLOB	VCH	VROB	XML	XNCH	XNR	WIN	ELMI
STA								
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICOM	CORAR	TOPW
ID	ENDS							

CCHV= .100 CENV= .300
*SECNO 5775.000

3301 HW CHANGED MORE THAN HVINS

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .33

5775.000	10.81	5853.81	.00	.00	5856.54	2.73	.43	.
*2 5854.00								
4300.	0.	4300.	0.	0.	324.	0.	149.	3
.. 5856.00								
.27	.00	13.26	.00	.000	.035	.000	.000	5843.
00 1023.38								
.008992	200.	200.	200.	4	0	0	.00	48.
*8 1072.15								

8/15/90 10:10:24

THIS RUN EXECUTED 8/15/90 10:11:52

HEC2 RELEASE DATED SEP 88 UPDATED SEPT 1989

ERROR CORR - 01,02,03
MODIFICATION -

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

FC

SUMMARY PRINTOUT

SECNO	Q	CWSEL	DEPTH	TOPWID	SSTA	ENDST
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2.000	1420.00	5775.74	5.14	182.12	1054.81	1258.32
2.000	2590.00	5776.43	5.83	214.83	1053.84	1260.67
2.000	3090.00	5778.00	7.40	268.36	1051.64	1320.00
2.000	4800.00	5784.90	14.30	474.74	1042.07	1516.81
3.000	1420.00	5776.28	3.98	31.40	1054.00	1085.40
3.000	2590.00	5778.26	5.96	31.40	1054.00	1085.40
3.000	3090.00	5779.52	7.22	209.66	1054.00	1346.43
3.000	4800.00	5784.88	12.58	436.01	1054.00	1490.01
3.100	1420.00	5777.47	5.07	31.40	1054.00	1085.40
3.100	2590.00	5781.02	8.62	228.46	1054.00	1282.46
3.100	3090.00	5782.13	9.73	346.00	1054.00	1400.00
3.100	4800.00	5785.02	12.62	346.04	1054.00	1400.04
4.000	1420.00	5777.58	3.98	51.94	1085.48	1137.42
4.000	2590.00	5781.01	7.41	217.04	1078.44	1295.48
4.000	3090.00	5782.13	8.53	302.77	1076.26	1379.02
4.000	4800.00	5785.04	11.44	511.77	1070.62	1582.39
5.000	1420.00	5779.66	5.86	93.94	1154.27	1248.21
5.000	2590.00	5781.75	7.95	206.40	1069.44	1275.85
5.000	3090.00	5782.46	8.66	218.37	1066.83	1285.20
5.000	4800.00	5785.08	11.29	289.26	1057.19	1346.45
5.910	1420.00	5779.60	5.40	30.46	1169.92	1201.68
5.910	2590.00	5780.97	6.77	30.60	1169.90	1201.70
5.910	3090.00	5781.73	7.53	31.80	1169.90	1201.70
5.910	4800.00	5785.15	10.95	279.38	1056.96	1336.34
5.920	1420.00	5780.04	4.94	30.45	1289.92	1321.67
5.920	2590.00	5784.88	9.78	31.80	1289.90	1321.70
5.920	3090.00	5788.69	13.59	338.72	1044.50	1383.23
5.920	4800.00	5790.00	14.90	601.10	1037.49	1638.59

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SECNO	Q	CWSEL	DEPTH	TOPWID	SSTA	ENDST
7.000	1420.00	5782.42	6.12	196.11	1258.31	1454.42
7.000	2590.00	5786.55	10.25	495.86	1094.30	1590.16
7.000	3090.00	5788.74	12.44	563.86	1054.76	1618.62
7.000	4800.00	5790.06	13.76	592.12	1043.82	1635.94
8.000	1420.00	5795.60	5.60	31.73	1131.83	1163.56
8.000	2590.00	5797.73	7.73	38.87	1127.95	1166.82
8.000	3090.00	5798.96	8.96	72.96	1125.71	1198.68
8.000	4800.00	5800.73	10.73	84.81	1122.49	1207.29
9.000	1360.00	5802.96	5.56	129.93	1172.05	1301.97
9.000	2520.00	5804.60	7.20	185.37	1164.71	1350.08
9.000	3000.00	5805.03	7.63	195.86	1162.77	1358.62

*	9.000	4600.00	5806.50	9.10	225.98	1156.07	1382.04
*	10.000	1360.00	5809.76	5.66	65.34	1140.22	1205.56
*	10.000	2520.00	5811.41	7.11	92.84	1129.60	1222.45
*	10.000	3000.00	5811.90	7.60	102.27	1125.95	1228.22
*	10.000	4600.00	5813.32	9.02	138.02	1115.49	1253.51
	11.000	1360.00	5817.06	6.56	34.78	1117.71	1152.50
*	11.000	2520.00	5819.00	8.50	43.90	1114.66	1158.57
*	11.000	3000.00	5819.69	9.19	47.13	1113.59	1160.71
*	11.000	4600.00	5821.48	10.98	60.99	1102.76	1163.75
	12.000	1360.00	5822.71	6.51	53.58	1064.86	1118.43
*	12.000	2520.00	5824.79	8.59	79.89	1059.72	1139.61
*	12.000	3000.00	5825.43	9.23	88.08	1058.12	1146.20
*	12.000	4600.00	5827.20	11.00	107.69	1053.73	1161.42
*	13.000	1360.00	5829.36	6.46	59.10	1078.51	1137.62
*	13.000	2520.00	5830.62	7.72	63.75	1075.16	1138.91
*	13.000	3000.00	5831.10	8.20	65.51	1073.89	1139.40
*	13.000	4600.00	5832.50	9.60	70.66	1070.16	1140.83
*	14.100	1360.00	5831.62	6.62	28.22	1112.81	1141.03
*	14.100	2520.00	5833.92	8.92	35.05	1110.58	1145.63
*	14.100	3000.00	5834.63	9.63	36.51	1110.55	1147.06
*	14.100	4600.00	5837.76	12.76	106.58	1095.13	1201.71
*	14.200	1360.00	5832.38	5.38	30.77	1110.69	1141.46
*	14.200	2520.00	5834.50	7.50	35.53	1108.02	1143.55
*	14.200	3000.00	5835.38	8.38	36.68	1106.91	1143.59
*	14.200	4600.00	5838.28	11.28	128.18	1088.95	1217.13
*	15.000	1360.00	5834.91	7.21	135.78	1023.78	1159.56
*	15.000	2520.00	5837.91	10.21	187.23	982.47	1169.70
*	15.000	3000.00	5838.94	11.24	210.90	968.43	1179.33
*	15.000	4600.00	5841.54	13.84	335.34	924.13	1259.48

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	SECNO	Q	CWSEL	DEPTH	TOPWID	SSTA	ENDST
*	16.000	1200.00	5840.83	7.33	74.79	1136.10	1210.89
*	16.000	2300.00	5842.41	8.91	122.82	1091.33	1214.15
*	16.000	2740.00	5842.64	9.14	136.17	1078.44	1214.61
*	16.000	4300.00	5843.83	10.33	207.33	1009.74	1217.07
*	17.000	1200.00	5844.78	7.18	47.02	1156.41	1203.43
	17.000	2300.00	5846.03	8.43	51.45	1154.40	1205.86
	17.000	2740.00	5846.59	8.99	53.44	1153.50	1206.94
	17.000	4300.00	5847.47	9.87	56.59	1152.08	1208.66
*	18.100	1200.00	5844.79	4.00	30.00	1164.00	1194.00

18.100	2300.00	5846.45	5.65	30.00	1164.00	1194.00
18.100	2740.00	5847.18	6.38	30.00	1164.00	1194.00
18.100	4300.00	5849.39	8.59	30.00	1164.00	1194.00
18.200	1200.00	5847.46	4.56	30.00	1164.00	1194.00
18.200	2300.00	5849.93	7.03	30.00	1164.00	1194.00
18.200	2740.00	5850.80	7.90	30.00	1164.00	1194.00
18.200	4300.00	5855.00	12.10	300.80	965.57	1266.37
19.000	1200.00	5848.78	6.98	45.61	1217.34	1262.96
19.000	2300.00	5852.02	10.22	141.49	1150.57	1292.06
19.000	2740.00	5853.27	11.47	186.67	1116.71	1303.38
19.000	4300.00	5855.07	13.27	347.25	998.02	1345.27
5775.000	1200.00	5849.28	6.28	33.86	1032.42	1066.28
5775.000	2300.00	5851.87	8.87	42.38	1027.26	1069.63
5775.000	2740.00	5852.89	9.89	45.73	1025.22	1070.96
5775.000	4300.00	5853.81	10.81	48.78	1023.38	1072.15

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SUMMARY PRINTOUT TABLE 100

SECNO	EGLWC	ELLCD	EGPRS	ELTRD	QPR	QWEIR	CLA
H3	DEPTH	CWSEL	VCH	EG			
3.100	5778.70	5779.50	.00	5780.50	1420.00	.00	2
.00	.00	5.07	5777.47	8.93	5778.70		
3.100	5781.81	5779.50	5782.05	5780.50	2418.70	159.43	30
.00	.00	8.62	5781.02	6.76	5781.56		
3.100	5781.74	5779.50	5784.92	5780.50	2291.86	802.84	30
.00	.00	9.73	5782.13	5.98	5782.49		
3.100	5784.96	5779.50	5797.89	5780.50	719.06	4088.67	30
.00	.00	12.62	5785.02	4.43	5785.17		
5.920	5781.89	5781.56	5781.17	5788.41	1420.00	.00	1
.44	4.94	5780.04	10.91	5781.89			
5.920	5784.94	5781.56	5786.19	5788.41	2590.00	.00	10
.00	.00	9.78	5784.88	9.18	5786.19		
5.920	5786.08	5781.56	5789.15	5788.41	3003.74	114.15	30
.00	.00	13.59	5788.69	2.55	5788.74		
5.920	5789.63	5781.56	5803.06	5788.41	2514.95	2291.89	30
.00	.00	14.90	5790.00	3.15	5790.07		
14.200	5834.73	5835.70	.00	5837.80	1360.00	.00	59
.00	.00	5.38	5832.38	11.31	5834.37		
14.200	5837.59	5835.70	5836.23	5837.80	2520.00	.00	59
.00	.00	7.50	5834.50	13.16	5837.19		
14.200	5838.55	5835.70	5837.91	5837.80	3000.00	.00	59

00	.00	8.38	5835.38	13.45	5838.19			
+	14.200	5842.38	5835.70	5845.46	5837.80	2822.40	1783.76	30
.00	.00	11.28	5838.28	13.25	5840.88			
+	18.200	5848.65	5851.30	.00	5854.60	1200.00	.00	2
.00	.00	4.56	5847.46	8.78	5848.65			
+	18.200	5851.78	5851.30	5848.52	5854.60	2300.00	.00	2
.00	.00	7.03	5849.93	10.91	5851.78			
+	18.200	5852.88	5851.30	5850.11	5854.60	2740.00	.00	2
.00	.00	7.90	5850.80	11.56	5852.88			
+	18.200	5856.37	5851.30	5856.61	5854.60	3890.65	413.45	30
.00	.00	12.10	5855.00	5.65	5855.30			

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SUMMARY PRINTOUT TABLE 150

WS	SECNO EG	XLCH 10*KS	ELTRD VCH	ELLC AREA	ELMIN .01K	Q	CWSEL	CRI
+	2.000	.00	.00	.00	5770.60	1420.00	5775.74	5775
.74	5776.48	80.28	7.89	251.68	158.49			
+	2.000	.00	.00	.00	5770.60	2590.00	5776.43	5776
.43	5777.37	93.73	9.41	389.51	267.52			
.00	2.000	.00	.00	.00	5770.60	3090.00	5778.00	
.00	5778.30	20.53	5.60	775.44	681.99			
.00	2.000	.00	.00	.00	5770.60	4800.00	5784.90	
.00	5784.93	.68	1.80	3663.34	5808.13			
+	3.000	40.00	.00	.00	5772.30	1420.00	5776.28	5776
.28	5778.28	113.78	11.37	124.89	133.12			
+	3.000	40.00	.00	.00	5772.30	2590.00	5778.26	5778
.26	5781.23	98.45	13.85	187.07	261.03			
+	3.000	40.00	.00	.00	5772.30	3090.00	5779.52	5779
.52	5780.35	29.96	8.68	516.69	564.57			
+	3.000	40.00	.00	.00	5772.30	4800.00	5784.88	
.00	5784.95	1.90	3.16	2541.25	3485.74			
+	3.100	115.00	5780.50	5779.50	5772.40	1420.00	5777.47	
.00	5778.70	50.77	8.93	159.10	199.28			
+	3.100	115.00	5780.50	5779.50	5772.40	2590.00	5781.02	
.00	5781.56	14.35	6.76	530.78	683.81			
+	3.100	115.00	5780.50	5779.50	5772.40	3090.00	5782.13	
.00	5782.49	9.56	5.98	859.09	999.61			
.00	3.100	115.00	5780.50	5779.50	5772.40	4800.00	5785.02	
.00	5785.17	3.70	4.43	1857.62	2495.58			
+	4.000	20.00	.00	.00	5773.60	1420.00	5777.58	
.00	5778.87	110.25	9.11	155.79	135.24			

	4.000	20.00	.00	.00	5773.60	2590.00	5781.01	
	5781.65	30.14	6.54	440.80	471.78			
	4.000	20.00	.00	.00	5773.60	3090.00	5782.13	
00	5782.54	16.21	5.51	732.88	767.48			
	4.000	20.00	.00	.00	5773.60	4800.00	5785.04	
00	5785.19	4.41	3.75	1916.11	2285.16			
	5.000	180.00	.00	.00	5773.80	1420.00	5779.66	
00	5780.00	25.39	4.65	305.49	281.81			
	5.000	180.00	.00	.00	5773.80	2590.00	5781.75	
00	5782.12	15.38	4.91	570.11	660.38			
	5.000	180.00	.00	.00	5773.80	3090.00	5782.46	
00	5782.82	13.01	4.92	721.19	856.80			
	5.000	180.00	.00	.00	5773.80	4800.00	5785.08	
00	5785.33	6.32	4.39	1355.21	1909.04			
	5.910	100.00	.00	.00	5774.20	1420.00	5779.60	
00	5781.10	160.98	9.82	144.61	111.92			
	5.910	100.00	.00	.00	5774.20	2590.00	5780.97	5780
97	5783.97	272.96	13.88	186.56	156.77			
	5.910	100.00	.00	.00	5774.20	3090.00	5781.73	5781
5	5785.07	266.42	14.67	210.60	189.31			
	5.910	100.00	.00	.00	5774.20	4800.00	5785.15	
00	5785.47	20.89	5.42	1092.36	1050.16			
	5.920	146.00	5788.41	5781.56	5775.10	1420.00	5780.04	
00	5781.89	69.82	10.91	130.15	169.95			
	5.920	146.00	5788.41	5781.56	5775.10	2590.00	5784.88	
00	5786.19	21.90	9.18	282.26	553.51			
	5.920	146.00	5788.41	5781.56	5775.10	3090.00	5788.69	
00	5788.74	1.05	2.55	2088.86	3014.41			
	5.920	146.00	5788.41	5781.56	5775.10	4800.00	5790.00	
00	5790.07	1.41	3.15	2654.95	4044.48			
	7.000	80.00	.00	.00	5776.30	1420.00	5782.42	
00	5782.56	8.86	3.00	509.21	477.08			
	7.000	80.00	.00	.00	5776.30	2590.00	5786.55	
00	5786.59	1.16	1.79	1957.55	2408.71			
	7.000	80.00	.00	.00	5776.30	3090.00	5788.74	
00	5788.76	.48	1.36	3113.51	4439.07			
	7.000	80.00	.00	.00	5776.30	4800.00	5790.06	
00	5790.09	.63	1.70	3882.88	6024.06			
	8.000	800.00	.00	.00	5790.00	1420.00	5795.60	5795
00	5797.59	129.82	11.35	125.14	124.63			
	8.000	800.00	.00	.00	5790.00	2590.00	5797.73	5797
73	5800.32	119.55	12.92	200.43	236.88			
	8.000	800.00	.00	.00	5790.00	3090.00	5798.96	5798
6	5801.22	88.34	12.16	268.35	328.76			
	8.000	800.00	.00	.00	5790.00	4800.00	5800.73	5800
73	5803.25	81.01	13.26	408.32	533.30			

S	SECNO EG	XLCH 10*KG	ELTRD VCH	ELLC AREA	ELMIN .01K	Q	CWSEL	CRI
+	9.000	990.00	.00	.00	5797.40	1360.00	5802.96	
.00	5803.39	31.16	5.93	301.34	243.62			
+	9.000	990.00	.00	.00	5797.40	2520.00	5804.60	
.00	5804.98	22.92	5.80	559.56	526.37			
+	9.000	990.00	.00	.00	5797.40	3000.00	5805.03	
.00	5805.43	22.88	5.97	641.00	627.19			
+	9.000	990.00	.00	.00	5797.40	4600.00	5806.50	
.00	5806.90	18.69	5.91	954.85	1064.11			
+	10.000	750.00	.00	.00	5804.30	1360.00	5809.96	5809
.96	5811.28	114.11	9.42	155.48	127.32			
+	10.000	750.00	.00	.00	5804.30	2520.00	5811.41	5811
.41	5813.07	91.65	10.90	269.91	263.23			
+	10.000	750.00	.00	.00	5804.30	3000.00	5811.90	5811
.90	5813.65	85.78	11.31	318.21	323.92			
+	10.000	750.00	.00	.00	5804.30	4600.00	5813.32	5813
.32	5815.18	70.56	12.11	483.79	547.63			
+	11.000	620.00	.00	.00	5810.50	1360.00	5817.06	5817
.01	5818.83	125.45	10.69	127.18	121.42			
+	11.000	620.00	.00	.00	5810.50	2520.00	5819.00	5819
.00	5821.38	122.72	12.38	263.62	227.48			
+	11.000	620.00	.00	.00	5810.50	3000.00	5819.69	5819
.69	5822.22	118.83	12.77	234.89	275.21			
+	11.000	620.00	.00	.00	5810.50	4600.00	5821.48	5821
.48	5824.60	104.01	14.20	328.13	451.04			
+	12.000	520.00	.00	.00	5816.20	1360.00	5822.71	
.00	5823.61	67.95	7.61	178.77	164.99			
+	12.000	520.00	.00	.00	5816.20	2520.00	5824.79	
.00	5825.77	58.28	7.95	317.09	330.09			
+	12.000	520.00	.00	.00	5816.20	3000.00	5825.43	
.00	5826.45	55.51	8.08	371.27	402.65			
+	12.000	520.00	.00	.00	5816.20	4600.00	5827.20	
.00	5828.31	47.23	8.43	545.43	669.36			
+	13.000	500.00	.00	.00	5822.90	1360.00	5829.36	5829
.36	5830.61	136.75	8.97	151.56	116.30			
+	13.000	500.00	.00	.00	5822.90	2520.00	5830.62	5830
.62	5832.50	132.52	11.01	228.97	218.91			
+	13.000	500.00	.00	.00	5822.90	3000.00	5831.10	5831
.10	5833.17	128.09	11.54	259.89	265.07			
+	13.000	500.00	.00	.00	5822.90	4600.00	5832.50	5832
.50	5835.10	118.61	12.95	355.21	422.38			
+	14.100	70.00	.00	.00	5825.00	1360.00	5831.62	5831
.62	5833.72	144.67	11.63	116.90	113.07			
+	14.100	70.00	.00	.00	5825.00	2520.00	5833.92	5833
.92	5836.64	131.89	13.24	190.27	219.43			
+	14.100	70.00	.00	.00	5825.00	3000.00	5834.63	5834

7	5837.63	131.75	13.90	215.85	261.37			
	14.100	70.00	.00	.00	5825.00	4600.00	5837.76	5837
5	5840.38	73.29	13.26	396.86	537.33			
	14.200	54.00	5837.80	5835.70	5827.00	1360.00	5832.38	5832
5	5834.37	34.83	11.31	120.20	230.43			
8	14.200	54.00	5837.80	5835.70	5827.00	2520.00	5834.50	5834
1	5837.19	32.28	13.16	191.42	443.56			
	14.200	54.00	5837.80	5835.70	5827.00	3000.00	5835.38	5835
38	5838.19	29.56	13.45	223.03	551.76			
	14.200	54.00	5837.80	5835.70	5827.00	4600.00	5838.28	5837
	5840.88	17.47	13.25	448.09	1100.69			
	15.000	80.00	.00	.00	5827.70	1360.00	5834.91	
	5835.03	6.03	2.77	507.39	554.00			
	15.000	80.00	.00	.00	5827.70	2520.00	5837.91	
00	5838.03	3.38	2.80	992.61	1371.10			
	15.000	80.00	.00	.00	5827.70	3000.00	5838.94	
	5839.05	2.88	2.83	1195.68	1768.93			
	15.000	80.00	.00	.00	5827.70	4600.00	5841.54	
00	5841.66	2.19	2.99	1871.38	3107.12			
	16.000	680.00	.00	.00	5833.50	1200.00	5840.83	5840
33	5841.95	112.66	8.89	154.31	113.06			
	16.000	680.00	.00	.00	5833.50	2300.00	5842.41	5842
	5843.56	74.39	9.51	300.90	266.68			
	16.000	680.00	.00	.00	5833.50	2740.00	5842.64	5842
	5844.00	84.84	10.48	329.93	297.47			
	16.000	680.00	.00	.00	5833.50	4300.00	5843.83	5843
33	5845.19	70.97	11.09	535.13	510.43			
	17.000	540.00	.00	.00	5837.60	1200.00	5844.78	
00	5845.44	41.02	6.48	185.07	187.36			
	17.000	540.00	.00	.00	5837.60	2300.00	5846.03	
	5847.39	66.07	9.34	246.33	282.97			
	17.000	540.00	.00	.00	5837.60	2740.00	5846.59	
00	5848.12	68.07	9.94	275.57	332.09			
	17.000	540.00	.00	.00	5837.60	4300.00	5847.47	5847
2	5850.20	105.83	13.27	324.14	417.99			

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AS	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRI
	EB	10*KS	VCH	AREA	.01K			
	18.100	80.00	.00	.00	5840.80	1200.00	5844.79	
00	5846.35	87.68	10.01	119.87	128.15			
	18.100	80.00	.00	.00	5840.80	2300.00	5846.45	5846
	5849.31	101.53	13.57	169.48	228.26			
	18.100	80.00	.00	.00	5840.80	2740.00	5847.18	5847
18	5850.36	96.10	14.32	191.38	279.51			
	18.100	80.00	.00	.00	5840.80	4300.00	5849.39	5849

39	5853.71	87.89	16.69	257.61	458.67		
	18.200	98.00	5854.60	5851.30	5842.90	1200.00	5847.46
00	5848.65	56.60	8.78	136.68	159.50		
	18.200	98.00	5854.60	5851.30	5842.90	2300.00	5849.93
0	5851.78	48.98	10.91	210.91	328.64		
*	18.200	98.00	5854.60	5851.30	5842.90	2740.00	5850.80
00	5852.88	47.10	11.56	237.03	399.23		
	18.200	98.00	5854.60	5851.30	5842.90	4300.00	5855.00
00	5855.30	6.39	5.65	1149.10	1701.52		
	19.000	100.00	.00	.00	5841.80	1200.00	5848.78
0	5849.29	34.82	5.78	207.73	203.37		
*	19.000	100.00	.00	.00	5841.80	2300.00	5852.02
00	5852.46	16.61	5.64	491.12	564.40		
	19.000	100.00	.00	.00	5841.80	2740.00	5853.27
00	5853.60	11.18	5.12	696.62	819.46		
	19.000	100.00	.00	.00	5841.80	4300.00	5855.07
0	5855.38	9.54	5.34	1152.80	1392.52		
*	5775.000	200.00	.00	.00	5843.00	1200.00	5849.28
0	5850.47	72.66	8.72	137.55	140.77		
	5775.000	200.00	.00	.00	5843.00	2300.00	5851.87
00	5853.35	60.90	9.75	235.95	294.73		
*	5775.000	200.00	.00	.00	5843.00	2740.00	5852.89
0	5854.37	53.94	9.76	280.74	373.08		
*	5775.000	200.00	.00	.00	5843.00	4300.00	5853.81
00	5856.54	89.92	13.26	324.32	453.45		

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SUMMARY PRINTOUT TABLE 150

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLC
2.000	1420.00	5775.74	.00	.00	4.24	182.12	
2.000	2590.00	5776.43	.69	.00	.93	214.83	
2.000	3090.00	5778.00	1.57	.00	.00	268.36	
2.000	4800.00	5784.90	6.90	.00	.00	474.74	
3.000	1420.00	5776.28	.00	.54	.00	31.40	40
3.000	2590.00	5778.26	1.98	1.83	.00	31.40	40

3.000	3090.00	5779.52	1.27	1.52	.00	209.66	40
3.000	4800.00	5784.88	5.36	-.02	.00	436.01	40
3.100	1420.00	5777.47	.00	1.19	.00	31.40	115
3.100	2590.00	5781.02	3.55	2.76	.00	228.46	115
3.100	3090.00	5782.13	1.11	2.60	.00	346.00	115
3.100	4800.00	5785.02	2.89	.14	.00	346.04	115
4.000	1420.00	5777.58	.00	.12	.00	51.94	20
4.000	2590.00	5781.01	3.42	-.01	.00	217.04	20
4.000	3090.00	5782.13	1.12	.00	.00	302.77	20
4.000	4800.00	5785.04	2.91	.02	.00	511.77	20
5.000	1420.00	5779.66	.00	2.08	.00	93.94	180
5.000	2590.00	5781.75	2.09	.75	.00	206.40	180
5.000	3090.00	5782.46	.71	.33	.00	218.37	180
5.000	4800.00	5785.08	2.62	.04	.00	289.26	180
5.910	1420.00	5779.60	.00	-.06	.00	30.46	100
5.910	2590.00	5780.97	1.37	-.78	.00	30.60	100
5.910	3090.00	5781.73	.76	-.73	.00	31.80	100
5.910	4800.00	5785.15	3.42	.07	.00	279.38	100
5.920	1420.00	5780.04	.00	.44	.00	30.45	146
5.920	2590.00	5784.88	4.84	3.91	.00	31.80	146
5.920	3090.00	5788.69	3.81	6.96	.00	338.72	146
5.920	4800.00	5790.00	1.30	4.84	.00	601.10	146
7.000	1420.00	5782.42	.00	2.38	.00	196.11	80
7.000	2590.00	5786.55	4.13	1.68	.00	495.86	80
7.000	3090.00	5788.74	2.18	.04	.00	563.86	80

.00	7.000	4800.00	5790.06	1.32	.06	.00	592.12	80
.00	8.000	1420.00	5795.60	.00	13.17	.00	31.73	800
.00	8.000	2590.00	5797.73	2.13	11.17	.00	38.87	800
.00	8.000	3090.00	5798.96	1.23	10.22	.00	72.96	800
.00	8.000	4800.00	5800.73	1.77	10.67	.00	84.81	800

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLC
.00	9.000	1360.00	5802.96	.00	7.37	.00	129.93	990
.00	9.000	2520.00	5804.60	1.64	6.88	.00	185.37	990
.00	9.000	3000.00	5805.03	.43	6.07	.00	195.86	990
.00	9.000	4600.00	5806.50	1.47	5.77	.00	225.98	990
.00	10.000	1360.00	5809.96	.00	7.00	.00	65.34	750
.00	10.000	2520.00	5811.41	1.45	6.81	.00	92.84	750
.00	10.000	3000.00	5811.90	.50	6.87	.00	102.27	750
.00	10.000	4600.00	5813.32	1.42	6.82	.00	138.02	750
.00	11.000	1360.00	5817.06	.00	7.10	.00	34.78	620
.00	11.000	2520.00	5819.00	1.94	7.59	.00	43.90	620
.00	11.000	3000.00	5819.69	.69	7.78	.00	47.13	620
.00	11.000	4600.00	5821.48	1.79	8.16	.00	60.99	620
.00	12.000	1360.00	5822.71	.00	5.65	.00	53.58	520
.00	12.000	2520.00	5824.79	2.08	5.79	.00	79.89	520
.00	12.000	3000.00	5825.43	.65	5.75	.00	88.08	520
.00	12.000	4600.00	5827.20	1.77	5.73	.00	107.69	520

13.000	1360.00	5829.36	.00	6.65	.00	59.10	500
13.000	2520.00	5830.62	1.26	5.83	.00	63.75	500
13.000	3000.00	5831.10	.48	5.66	.00	65.51	500
13.000	4600.00	5832.50	1.40	5.29	.00	70.66	500
14.100	1360.00	5831.62	.00	2.26	.00	28.22	70
14.100	2520.00	5833.92	2.30	3.30	.00	35.05	70
14.100	3000.00	5834.63	.71	3.53	.00	36.51	70
14.100	4600.00	5837.76	3.13	5.27	.00	106.58	70
14.200	1360.00	5832.38	.00	.77	.00	30.77	54
14.200	2520.00	5834.50	2.12	.58	.00	35.53	54
14.200	3000.00	5835.38	.88	.75	.00	36.68	54
14.200	4600.00	5838.28	2.90	.51	.00	128.18	54
15.000	1360.00	5834.91	.00	2.53	.00	135.78	80
15.000	2520.00	5837.91	3.00	3.41	.00	187.23	80
15.000	3000.00	5838.94	1.02	3.56	.00	210.90	80
15.000	4600.00	5841.54	2.61	3.27	.00	335.34	80
16.000	1200.00	5840.83	.00	5.92	.00	74.79	680
16.000	2300.00	5842.41	1.58	4.50	.00	122.82	680
16.000	2740.00	5842.64	.22	3.70	.00	136.17	680
16.000	4300.00	5843.83	1.19	2.29	.00	207.33	680
17.000	1200.00	5844.78	.00	3.95	.00	47.02	540
17.000	2300.00	5846.03	1.25	3.62	.00	51.45	540
17.000	2740.00	5846.59	.56	3.95	.00	53.44	540
17.000	4300.00	5847.47	.88	3.64	.00	56.59	540

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	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLC
18.100	18.100	1200.00	5844.79	.00	.01	.00	30.00	80
18.100	18.100	2300.00	5846.45	1.65	.42	.00	30.00	80
18.100	18.100	2740.00	5847.18	.73	.59	.00	30.00	80
18.100	18.100	4300.00	5849.39	2.21	1.92	.00	30.00	80
18.200	18.200	1200.00	5847.46	.00	2.66	.00	30.00	98
18.200	18.200	2300.00	5849.93	2.47	3.48	.00	30.00	98
18.200	18.200	2740.00	5850.80	.87	3.62	.00	30.00	98
18.200	18.200	4300.00	5855.00	4.19	5.61	.00	300.80	98
19.000	19.000	1200.00	5848.78	.00	1.32	.00	45.61	100
19.000	19.000	2300.00	5852.02	3.24	2.09	.00	141.49	100
19.000	19.000	2740.00	5853.27	1.25	2.47	.00	186.67	100
19.000	19.000	4300.00	5855.07	1.80	.07	.00	347.25	100
5775.000	5775.000	1200.00	5849.28	.00	.51	.00	33.86	200
5775.000	5775.000	2300.00	5851.87	2.59	-.15	.00	42.38	200
5775.000	5775.000	2740.00	5852.89	1.02	-.38	.00	45.73	200
5775.000	5775.000	4300.00	5853.81	.92	-1.26	.00	48.78	200

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SUMMARY OF ERRORS AND SPECIAL NOTES

APPENDIX E

**FISHERS CANYON BASIN HYDRAULICS
IMPROVED CHANNEL HYDRAULICS**

The following pages show the normal depth calculations for the proposed channel sections for the main stream and the tributary channel. A roughness factor of .035 was used. Froude numbers are within standard criteria. The low flow rock section conveys flows of 3% to 4% of the 100-year flow rate. Drop structures are to be designed according to the typical section shown in the report. Detailed hydraulic analyses should be completed at the time of final design.

Cross section data for project: Fisher's Canyon Setup by: MSD Date: 01-29-1992

Point No.	Station	Elevation
1	0	10
2	22.5	2.5
3	28.75	0
4	36.75	0
5	43	2.5
6	65.5	10

Fisher's Canyon
Main Stream

Calculation results for project: Fisher's Canyon Setup by: MSD Date: 01-29-1992

Task: Unknown depth

y, ft	Q, cfs	S, ft/ft	n	V, fps	Fr	Sp E, ft
5.1	2600.	0.0050	0.035	8.5	0.67	10.26
9.4	2500.	0.0050	0.035	8.7	0.67	10.61
9.6	2900.	0.0050	0.035	8.8	0.67	10.77
2.0	100.	0.0050	0.035	3.8	0.55	2.23
8.7	2900.	0.0050	0.035	10.5	0.64	10.36
1.8	100.	0.0080	0.035	4.5	0.62	2.11
9.1	3200.	0.0080	0.035	10.7	0.63	10.83

Cross section data for project: FISHERS CANYON Setup by: BAB Date: 12-10-1991

Point No.	Station	Elevation
-----	-----	-----
1	100	100
2	120	95
3	124	95
4	144	100

Fishers Canyon Tributary

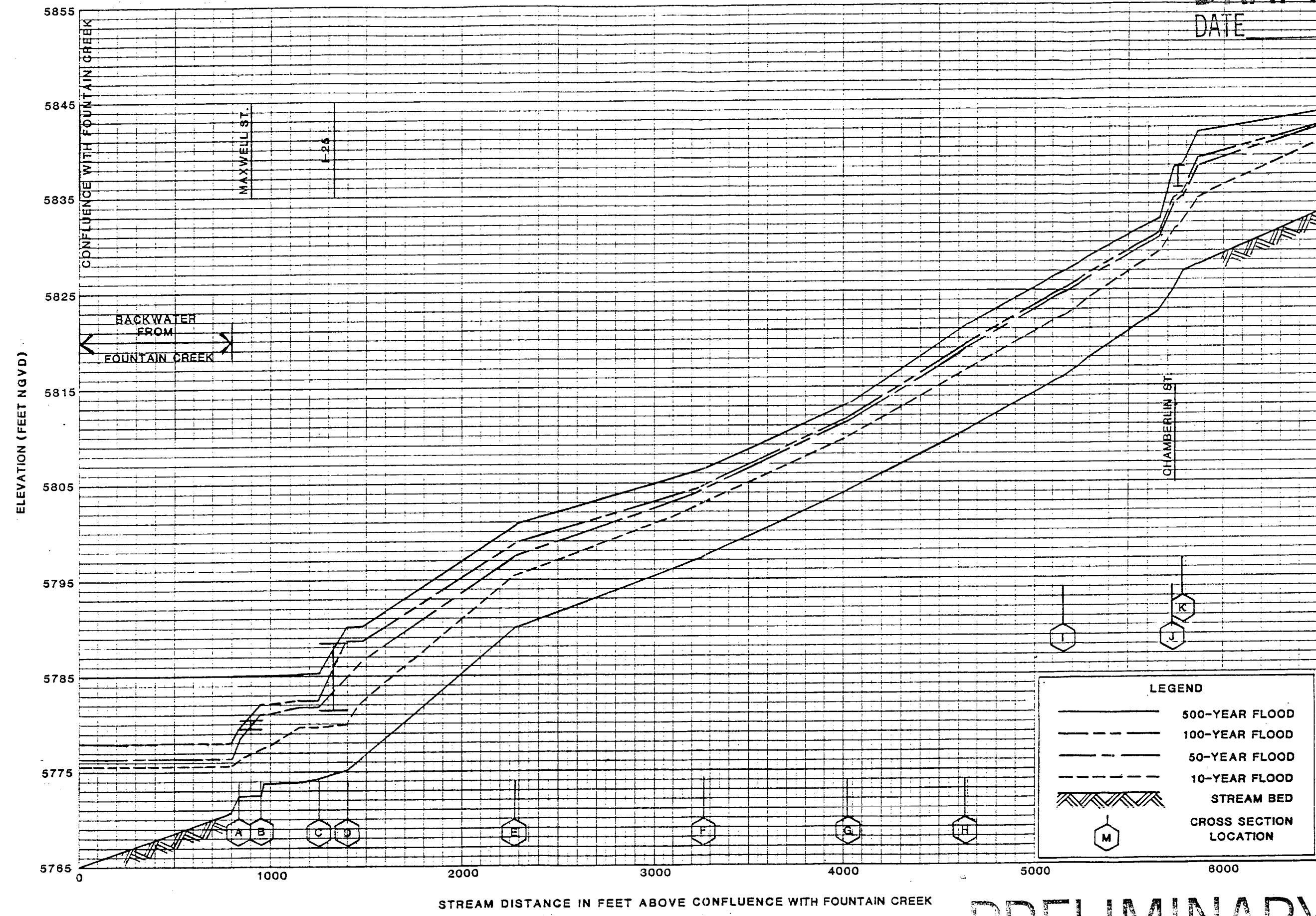
Calculation results for project: FISHERS CANYON Setup by: BAB Date: 12-10-1991

Task: Unknown section

Y.ft	Q.cfs	S.ft/ft	n	V.fps	Fr	Sp E.ft
-----	-----	-----	-----	-----	-----	-----
3.0	120.	0.0120	0.035	5.1	0.83	2.38
3.9	290.	0.0120	0.035	6.4	0.88	3.54

DRAFT COPY

DATE 9-21-90



FLOOD PROFILES

FISHERS CANYON

FEDERAL EMERGENCY MANAGEMENT AGENCY
EL PASO COUNTY, COLORADO
(UNINCORPORATED AREA)

PRELIMINARY

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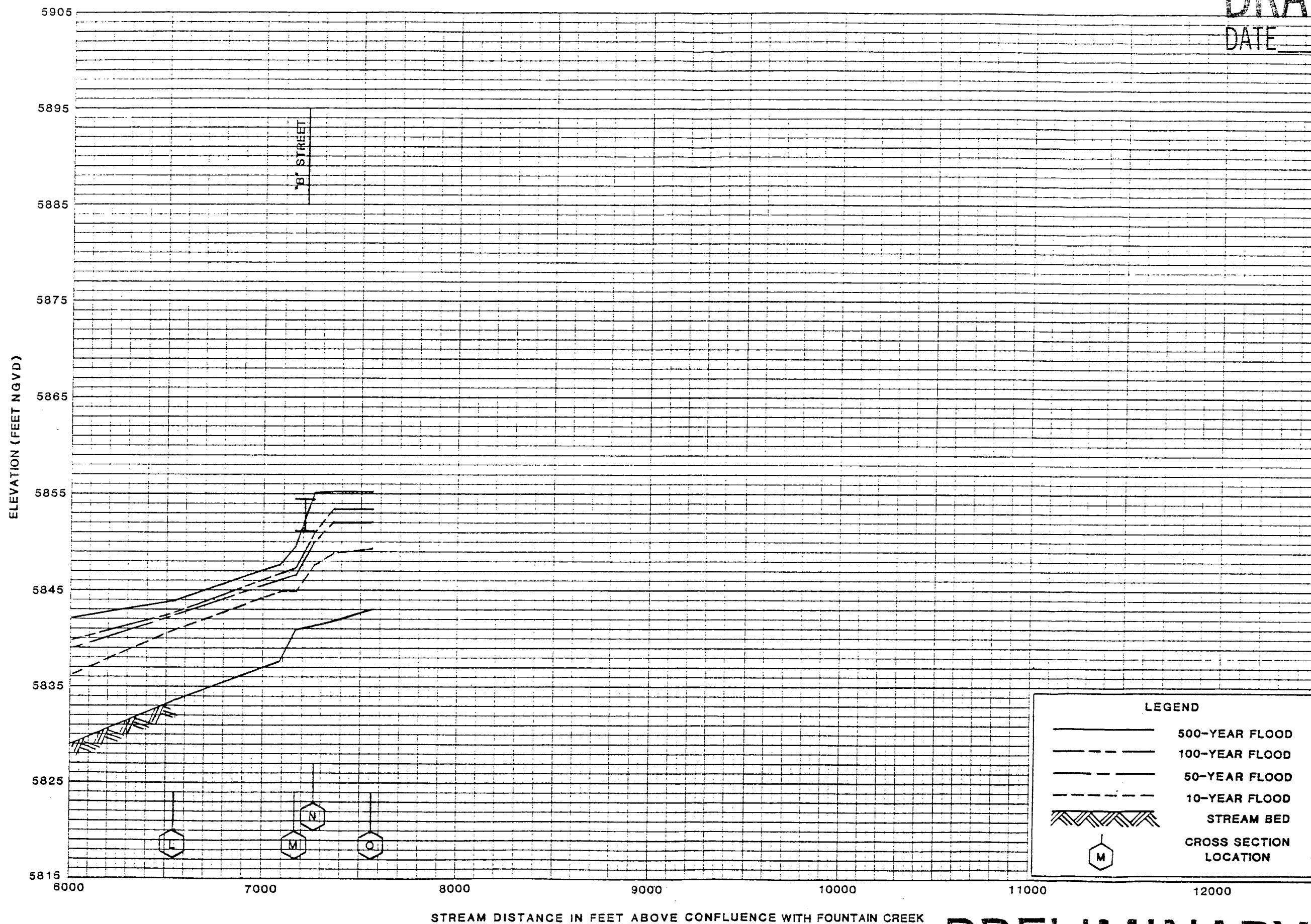
DATE 9-21-80

FLOOD PROFILES

FISHERS CANYON

FEDERAL EMERGENCY MANAGEMENT AGENCY

EL PASO COUNTY, COLORADO
(UNINCORPORATED AREA)



PRELIMINARY