PRELIMINARY HEC-RAS ANALYSIS

FALLS CREEK @ CONFLUENCE WITH CACHE LA POUDRE RIVER

Return Interval (years)	Duration (hours)	Raninfall Depth (inches)
2	1	0.8
10	1	1.5
25	1	1.8
50	1	2.2
100	1	2.4

Station	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
124		Culvert									
130	2 yr	120	192.2	195.0	193.7	195.1	0.0	2.5	47.6	25.58	0.33
130	10 yr	550	192.2	200.7	195.7	200.7	0.0	1.6	448.3	94.18	0.11
130	25 yr	770	192.2	202.0	196.3	202.0	0.0	1.7	569.4	97.61	0.11
130	50 yr	1100	192.2	202.7	197.3	202.7	0.0	2.2	638.0	99.49	0.14
130	100 yr	1300	192.2	203.0	197.6	203.1	0.0	2.6	673.6	109.75	0.16
214	2 yr	120	196.2	197.4	197.7	198.4	0.1	8.1	14.8	15.11	1.45
214	10 yr	550	196.2	198.9	199.7	201.4	0.1	12.8	43.1	24.25	1.69
214	25 yr	770	196.2	201.8	200.3	202.2	0.0	4.9	193.3	83.42	0.44
214	50 yr	1100	196.2	202.5	201.3	202.9	0.0	5.5	250.7	85.96	0.47
214	100 yr	1300	196.2	202.9	201.6	203.3	0.0	5.9	280.4	87.25	0.48
280	2 yr	120	199.1	200.7	201.0	201.8	0.0	8.2	14.6	12.78	1.35
280	10 yr	550	199.1	202.4	203.2	205.1	0.0	13.1	42.0	19.05	1.55
280	25 yr	770	199.1	202.9	204.0	206.3	0.1	14.7	52.3	20.14	1.61
280	50 yr	1100	199.1	203.6	205.3	207.9	0.1	16.6	66.4	21.54	1.66
280	100 yr	1300	199.1	204.0	205.7	208.7	0.1	17.4	74.7	22.33	1.68
345	2 yr	120	202.1	203.5	204.1	205.4	0.1	11.1	10.8	10.64	1.95
345	10 yr	550	202.1	205.0	206.4	209.6	0.1	17.1	32.1	16.17	2.14
345	25 yr	770	202.1	205.6	207.4	210.9	0.1	18.5	41.5	17.38	2.11
345	50 yr	1100	202.1	206.4	208.3	212.5	0.1	19.8	55.5	19.04	2.05
345	100 yr	1300	202.1	206.8	208.9	213.2	0.1	20.3	64.2	20.06	2
380	2 yr	120	205.4	206.9	207.5	208.7	0.1	10.9	11.1	9.94	1.81
380	10 yr	550	205.4	208.7	210.0	212.7	0.1	16.1	34.2	15.06	1.88
380	25 yr	770	205.4	209.4	210.8	213.9	0.1	17.1	45.1	17.33	1.87
380	50 yr	1100	205.4	210.2	212.2	215.2	0.1	18.0	61.2	20.86	1.85
380	100 yr	1300	205.4	210.7	212.6	215.9	0.1	18.4	70.7	22.27	1.82
435	2 yr	120	209.8	211.9	211.9	212.7	0.0	7.2	16.8	10.68	1.01
435	10 yr	550	209.8	214.6	214.6	216.2	0.0	10.1	54.6	17.74	1.01
435	25 yr	770	209.8	215.8	215.8	217.1	0.0	9.4	99.2	49.95	0.81
435	50 yr	1100	209.8	216.7	216.7	218.0	0.0	10.2	146.7	61.73	0.79
435	100 yr	1300	209.8	217.1	217.1	218.5	0.0	10.5	174.9	67.2	0.79
436		Culvert									
478	2 yr	120	211.8	217.1	213.9	217.1	0.0	1.9	66.3	35.42	0.18
478	10 yr	550	211.8	218.7	216.6	219.0	0.0	5.0	149.6	62.37	0.39
478	25 yr	770	211.8	219.2	217.8	219.7	0.0	6.0	181.6	67.77	0.45
478	50 yr	1100	211.8	217.1	218.7	221.7	0.1	17.3	66.8	36.06	1.62
478	100 yr	1300	211.8	217.5	219.1	222.2	0.0	17.7	84.7	45.75	1.57

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2	1	0.8
10	1	1.5
25	1	1.8
50	1	2.2
100	1	2.4

Station	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
508	2 yr	120	214.4	216.7	216.5	217.4	0.0	6.4	18.8	11.17	0.87
508	10 yr	550	214.4	219.2	219.2	220.8	0.0	10.0	55.2	17.82	1
508	25 yr	770	214.4	220.4	220.4	221.7	0.0	9.4	100.0	50.17	0.8
508	50 yr	1100	214.4	221.3	221.3	222.6	0.0	10.2	146.6	61.72	0.79
508	100 yr	1300	214.4	221.7	221.7	223.1	0.0	10.5	175.1	67.11	0.78
510		Culvert									
545	2 yr	120	217.0	221.7	220.0	222.3	0.0	6.3	20.7	55.58	0.52
545	10 yr	550	217.0	222.3	222.3	222.7	0.0	7.7	167.1	72.27	0.59
545	25 yr	770	217.0	222.3	222.3	223.0	0.0	10.7	167.1	72.27	0.82
545	50 yr	1100	217.0	222.6	222.6	223.6	0.0	13.5	188.1	74.77	1.01
545	100 yr	1300	217.0	222.9	222.9	224.0	0.0	14.3	209.8	80.83	1.04
606	2 yr	120	217.0	222.4	220.0	222.4	0.0	1.6	171.2	72.76	0.12
606	10 yr	550	217.0	222.4	222.3	222.7	0.0	7.3	176.0	73.33	0.55
606	25 yr	770	217.0	222.7	222.3	223.1	0.0	9.2	193.1	76.15	0.68
606	50 yr	1100	217.0	223.3	222.6	223.8	0.0	10.4	243.6	89	0.73
606	100 yr	1300	217.0	223.6	222.9	224.2	0.0	10.7	275.6	93.71	0.73
610		Culvert									
634	2 yr	120	221.5	228.1	223.3	228.1	0.0	1.1	116.5	54	0.09
634	10 yr	550	221.5	229.4	225.6	229.6	0.0	3.6	212.4	64.76	0.24
634	25 yr	770	221.5	229.9	226.4	230.2	0.0	4.4	246.2	68.28	0.29
634	50 yr	1100	221.5	230.5	227.4	230.9	0.0	5.6	288.0	72.4	0.35
634	100 yr	1300	221.5	230.8	228.5	231.3	0.0	6.1	311.1	74.58	0.38
720	2 yr	120	227.5	229.0	229.3	230.2	0.1	9.0	13.4	22.49	1.52
720	10 yr	550	227.5	229.9	230.7	232.9	0.1	15.5	49.8	48.98	2.07
720	25 yr	770	227.5	230.1	231.1	233.8	0.1	17.5	62.0	50.41	2.22
720	50 yr	1100	227.5	230.5	231.7	234.6	0.1	19.3	80.6	52.51	2.27
720	100 yr	1300	227.5	230.7	232.0	235.1	0.1	20.0	91.3	53.69	2.28
762	2 yr	120	229.0	231.4	231.4	232.1	0.0	6.8	17.8	12.55	1
762	10 yr	550	229.0	233.7	233.7	235.1	0.0	9.3	59.4	23.72	0.99
762	25 yr	770	229.0	234.6	234.6	236.0	0.0	9.9	81.8	38.57	0.95
762	50 yr	1100	229.0	235.7	235.7	237.0	0.0	9.5	150.2	73.4	0.8
762	100 yr	1300	229.0	236.1	236.1	237.4	0.0	9.7	182.5	77.7	0.78
763		Culvert									
798	2 yr	120	230.7	235.6	232.7	235.6	0.0	1.4	84.9	53.87	0.16
798	10 yr	550	230.7	236.9	234.9	237.1	0.0	3.3	180.9	78.69	0.35
798	25 yr	770	230.7	237.4	235.8	237.6	0.0	3.8	222.1	81.72	0.37
798	50 yr	1100	230.7	238.0	236.4	238.3	0.0	4.5	273.5	85.35	0.41
798	100 yr	1300	230.7	238.3	236.7	238.7	0.0	4.8	299.7	87.04	0.43

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2	1	0.8
10	1	1.5
25	1	1.8
50	1	2.2
100	1	2.4

Station	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
900	2 yr	120	235.1	236.2	236.5	237.3	0.1	8.3	14.5	18.81	1.66
900	10 yr	550	235.1	237.2	238.3	240.6	0.1	14.8	37.3	26.56	2.2
900	25 yr	770	235.1	237.5	238.9	241.8	0.1	16.6	46.4	29.1	2.32
900	50 yr	1100	235.1	238.0	239.4	243.2	0.1	18.3	61.7	43.19	2.31
900	100 yr	1300	235.1	238.3	239.7	243.6	0.1	18.7	74.8	55.1	2.24
1015	2 yr	120	240.0	241.4	242.4	244.8	0.2	14.6	8.2	6.42	2.28
1015	10 yr	550	240.0	244.7	246.5	248.5	0.1	15.6	35.3	10.4	1.49
1015	25 yr	770	240.0	246.2	247.3	249.3	0.0	14.3	61.0	31.96	1.23
1015	50 yr	1100	240.0	247.2	248.2	250.1	0.0	14.7	93.1	34.42	1.17
1015	100 yr	1300	240.0	247.6	248.5	250.5	0.0	15.0	115.9	59.88	1.15
1025	2 yr	120	242.3	244.3	244.7	245.8	0.1	10.0	12.1	9	1.52
1025	10 yr	550	242.3	246.4	247.4	249.1	0.0	13.9	49.4	32.55	1.45
1025	25 yr	770	242.3	247.0	248.0	249.7	0.0	14.4	69.6	34.09	1.39
1025	50 yr	1100	242.3	247.7	248.6	250.4	0.0	15.1	104.5	60.14	1.33
1025	100 yr	1300	242.3	248.0	248.9	250.8	0.0	15.6	122.7	60.76	1.33
1052	2 yr	120	243.8	246.0	246.0	246.9	0.0	7.8	15.3	8.14	1.01
1052	10 yr	550	243.8	249.1	249.1	249.9	0.0	8.5	101.4	59.61	0.71
1052	25 yr	770	243.8	249.5	249.5	250.5	0.0	9.5	127.7	60.33	0.76
1052	50 yr	1100	243.8	250.1	250.1	251.2	0.0	10.8	160.0	61.2	0.82
1052	100 yr	1300	243.8	250.3	250.3	251.6	0.0	11.5	176.9	61.64	0.85
1053		Culvert									
1074	2 yr	120	243.8	248.2	246.2	248.3	0.0	3.3	45.5	40.14	0.32
1074	10 yr	550	243.8	247.9	249.1	252.1	0.1	16.7	38.8	27.84	1.66
1074	25 yr	770	243.8	248.4	249.5	252.8	0.1	18.1	60.5	58.77	1.68
1074	50 yr	1100	243.8	248.9	250.1	253.6	0.1	19.9	85.8	59.92	1.75
1074	100 yr	1300	243.8	249.1	250.3	253.9	0.1	20.8	99.0	60.51	1.78
1171	2 yr	120	249.9	253.5	253.5	254.8	0.0	9.0	13.4	5.38	1.01
1171	10 yr	550	249.9	256.9	256.9	257.8	0.0	9.3	82.5	39.29	0.77
1171	25 yr	770	249.9	257.4	257.4	258.5	0.0	10.3	104.5	46.94	0.81
1171	50 yr	1100	249.9	258.1	258.1	259.3	0.0	11.0	142.0	59.97	0.81
1171	100 yr	1300	249.9	258.5	258.5	259.7	0.0	11.1	167.8	64.4	0.79
1171.5		Culvert									
1195	2 yr	120	251.1	256.9	254.6	256.9	0.0	2.2	76.6	39.28	0.2
1195	10 yr	550	251.1	256.0	257.0	259.9	0.1	17.9	44.1	35.91	1.76
1195	25 yr	770	251.1	256.4	257.5	260.6	0.1	19.4	57.6	37.34	1.83
1195	50 yr	1100	251.1	256.8	258.2	261.4	0.1	20.8	75.4	39.16	1.89
1195	100 yr	1300	251.1	257.1	258.6	261.9	0.1	21.7	84.9	41.19	1.91

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2	1	0.8
10	1	1.5
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Station	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1304	2 yr	120	260.3	262.8	262.8	263.7	0.0	7.4	16.2	9.7	1.01
1304	10 yr	550	260.3	266.1	266.1	267.1	0.0	8.6	78.5	48.92	0.78
1304	25 yr	770	260.3	266.7	266.7	267.9	0.0	9.2	113.2	55.07	0.77
1304	50 yr	1100	260.3	267.4	267.4	268.7	0.0	10.3	153.2	59.79	0.8
1304	100 yr	1300	260.3	267.8	267.8	269.2	0.0	10.9	172.7	61.4	0.82
1304.1		Culvert									
1314	2 yr	120	261.4	266.0	263.8	266.1	0.0	2.3	65.2	48.33	0.23
1314	10 yr	550	261.4	267.5	266.5	267.8	0.0	5.5	145.2	60.09	0.46
1314	25 yr	770	261.4	265.8	267.0	269.9	0.1	16.6	53.6	45.12	1.74
1314	50 yr	1100	261.4	266.2	267.7	271.3	0.1	19.0	74.7	50.37	1.86
1314	100 yr	1300	261.4	266.4	268.0	272.0	0.1	20.2	86.6	52.8	1.91
1400	2 yr	120	267.0	268.7	269.2	270.2	0.1	10.0	12.0	10.33	1.63
1400	10 yr	550	267.0	270.5	271.7	273.9	0.1	14.8	37.3	17.24	1.77
1400	25 yr	770	267.0	271.1	272.5	275.1	0.1	16.1	47.9	19.43	1.8
1400	50 yr	1100	267.0	271.7	273.3	276.7	0.1	18.0	64.8	35.24	1.85
1400	100 yr	1300	267.0	272.0	273.7	277.5	0.1	19.2	75.1	38.86	1.9
1550	2 yr	120	277.4	278.6	279.1	280.1	0.1	9.7	12.3	12.46	1.72
1550	10 yr	550	277.4	280.2	281.3	283.6	0.1	14.7	37.4	18.54	1.82
1550	25 yr	770	277.4	280.8	282.1	284.8	0.1	16.1	47.9	20.55	1.86
1550	50 yr	1100	277.4	281.4	283.2	286.4	0.1	17.9	61.5	22.85	1.9
1550	100 yr	1300	277.4	281.7	283.6	287.3	0.1	18.9	69.4	26.44	1.92
1630	2 yr	120	283.8	284.9	285.2	286.0	0.1	8.2	14.6	16.34	1.54
1630	10 yr	550	283.8	286.3	287.1	289.0	0.1	13.2	41.5	22.27	1.71
1630	25 yr	770	283.8	286.7	287.9	290.1	0.1	14.8	52.0	23.39	1.75
1630	50 yr	1100	283.8	287.3	288.8	291.7	0.1	16.9	66.2	29.27	1.8
1630	100 yr	1300	283.8	287.6	289.2	292.5	0.1	18.0	74.9	34.09	1.83