

HEC-RAS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	W.S. Elev (m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Volume (1000 m3)	Hydr Depth C (m)
Reach 2	2554	VG PEAK SUM-100	culvonly	7.3	96.27	0.8	18	123	46	0.9
Reach 2	2554	VG PEAK SUM-100	14jan09-S-F	7.3	96.27	0.8	18	123	59	0.9
Reach 2	2554	25 year	culvonly	5.3	96.18	0.7	10	54	24	0.8
Reach 2	2554	25 year	14jan09-S-F	5.3	96.18	0.7	10	54	28	0.8
Reach 2	2554	5 year	culvonly	3.2	95.98	0.6	5	8	12	0.6
Reach 2	2554	5 year	14jan09-S-F	3.2	95.98	0.6	5	8	13	0.6
Reach 2	2554	2 year	culvonly	1.9	95.78	0.5	4	7	8	0.6
Reach 2	2554	2 year	14jan09-S-F	1.9	95.78	0.5	4	7	8	0.6
Reach 2	2478	VG PEAK SUM-100	culvonly	7.3	96.16	1.0	13	97	45	1.0
Reach 2	2478	VG PEAK SUM-100	14jan09-S-F	7.3	96.16	1.0	13	97	58	1.0
Reach 2	2478	25 year	culvonly	5.3	96.09	0.9	8	56	24	0.9
Reach 2	2478	25 year	14jan09-S-F	5.3	96.09	0.9	8	56	28	0.9
Reach 2	2478	5 year	culvonly	3.2	95.92	0.7	5	9	12	0.8
Reach 2	2478	5 year	14jan09-S-F	3.2	95.92	0.7	5	9	12	0.8
Reach 2	2478	2 year	culvonly	1.9	95.72	0.5	4	6	8	0.6
Reach 2	2478	2 year	14jan09-S-F	1.9	95.72	0.5	4	6	8	0.6
Reach 2	2157	VG PEAK SUM-100	culvonly	7.3	95.47	1.2	20	170	40	0.6
Reach 2	2157	VG PEAK SUM-100	14jan09-S-F	7.3	95.47	1.2	20	170	53	0.6
Reach 2	2157	25 year	culvonly	5.3	95.36	1.4	8	69	21	0.5
Reach 2	2157	25 year	14jan09-S-F	5.3	95.36	1.4	8	69	25	0.5
Reach 2	2157	5 year	culvonly	3.2	95.12	1.7	2	5	11	0.4
Reach 2	2157	5 year	14jan09-S-F	3.2	95.12	1.7	2	5	11	0.4
Reach 2	2157	2 year	culvonly	1.9	94.93	1.8	1	4	7	0.3
Reach 2	2157	2 year	14jan09-S-F	1.9	94.93	1.8	1	4	7	0.3
Reach 2	2076	VG PEAK SUM-100	culvonly	9.5	95.26	1.1	16	112	38	0.9
Reach 2	2076	VG PEAK SUM-100	14jan09-S-F	9.5	95.26	1.1	16	112	51	0.9
Reach 2	2076	25 year	culvonly	6.9	95.17	1.0	8	30	20	0.8
Reach 2	2076	25 year	14jan09-S-F	6.9	95.17	1.0	8	30	24	0.8
Reach 2	2076	5 year	culvonly	4.4	94.97	0.8	5	7	11	0.7
Reach 2	2076	5 year	14jan09-S-F	4.4	94.97	0.8	5	7	11	0.7
Reach 2	2076	2 year	culvonly	2.8	94.74	0.8	4	6	7	0.6
Reach 2	2076	2 year	14jan09-S-F	2.8	94.74	0.8	4	6	7	0.6
Reach 2	1974	VG PEAK SUM-100	culvonly	9.5	95.10	1.0	25	155	36	0.9
Reach 2	1974	VG PEAK SUM-100	14jan09-S-F	9.5	95.10	1.0	25	155	49	0.9
Reach 2	1974	25 year	culvonly	6.9	95.01	0.9	13	106	19	0.8
Reach 2	1974	25 year	14jan09-S-F	6.9	95.01	0.9	13	106	23	0.8
Reach 2	1974	5 year	culvonly	4.4	94.85	0.8	6	8	10	0.7
Reach 2	1974	5 year	14jan09-S-F	4.4	94.84	0.8	6	8	10	0.7
Reach 2	1974	2 year	culvonly	2.8	94.61	0.7	4	6	6	0.6
Reach 2	1974	2 year	14jan09-S-F	2.8	94.61	0.7	4	6	6	0.6
Reach 2	1922	VG PEAK SUM-100	culvonly	9.5	94.99	1.1	18	146	35	0.8
Reach 2	1922	VG PEAK SUM-100	14jan09-S-F	9.5	94.99	1.1	18	146	48	0.8
Reach 2	1922	25 year	culvonly	6.9	94.92	1.0	10	83	19	0.7
Reach 2	1922	25 year	14jan09-S-F	6.9	94.92	1.0	10	83	23	0.7
Reach 2	1922	5 year	culvonly	4.4	94.79	0.8	6	8	10	0.8
Reach 2	1922	5 year	14jan09-S-F	4.4	94.78	0.8	6	8	10	0.8
Reach 2	1922	2 year	culvonly	2.8	94.55	0.7	4	6	6	0.7
Reach 2	1922	2 year	14jan09-S-F	2.8	94.55	0.7	4	6	6	0.7
Reach 2	1833	VG PEAK SUM-100	culvonly	9.5	94.85	0.9	32	261	33	0.8
Reach 2	1833	VG PEAK SUM-100	14jan09-S-F	9.5	94.85	0.9	31	257	46	0.8
Reach 2	1833	25 year	culvonly	6.9	94.78	0.8	16	177	18	0.7
Reach 2	1833	25 year	14jan09-S-F	6.9	94.78	0.8	16	180	22	0.7
Reach 2	1833	5 year	culvonly	4.4	94.70	0.7	7	22	9	0.6
Reach 2	1833	5 year	14jan09-S-F	4.4	94.69	0.7	7	19	10	0.6
Reach 2	1833	2 year	culvonly	2.8	94.47	0.6	5	7	6	0.6
Reach 2	1833	2 year	14jan09-S-F	2.8	94.47	0.6	5	7	6	0.6
Reach 2	1796	VG PEAK SUM-100	culvonly	9.5	94.81	0.9	35	222	32	0.9
Reach 2	1796	VG PEAK SUM-100	14jan09-S-F	9.5	94.80	0.9	34	214	45	0.9
Reach 2	1796	25 year	culvonly	6.9	94.74	0.8	22	160	17	0.8
Reach 2	1796	25 year	14jan09-S-F	6.9	94.74	0.8	23	161	21	0.8
Reach 2	1796	5 year	culvonly	4.4	94.67	0.6	12	129	9	0.8
Reach 2	1796	5 year	14jan09-S-F	4.4	94.66	0.7	11	128	9	0.8
Reach 2	1796	2 year	culvonly	2.8	94.44	0.6	5	7	5	0.7
Reach 2	1796	2 year	14jan09-S-F	2.8	94.44	0.6	5	7	6	0.7
Reach 2	1735	VG PEAK SUM-100	culvonly	9.5	94.72	0.9	27	268	30	0.8
Reach 2	1735	VG PEAK SUM-100	14jan09-S-F	9.5	94.71	1.0	22	238	43	0.8

HEC-RAS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	W.S. Elev (m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Volume (1000 m3)	Hydr Depth C (m)
Reach 2	1735	25 year	culvonly	6.9	94.67	0.8	15	159	16	0.8
Reach 2	1735	25 year	14jan09-S-F	6.9	94.68	0.8	16	170	20	0.8
Reach 2	1735	5 year	culvonly	4.4	94.63	0.6	10	82	8	0.8
Reach 2	1735	5 year	14jan09-S-F	4.4	94.63	0.6	10	77	9	0.7
Reach 2	1735	2 year	culvonly	2.8	94.41	0.5	6	8	5	0.7
Reach 2	1735	2 year	14jan09-S-F	2.8	94.41	0.5	6	8	5	0.7
Reach 2	1728	VG PEAK SUM-100	culvonly	9.5	94.71	1.0	23	243	30	0.8
Reach 2	1728	VG PEAK SUM-100	14jan09-S-F	9.5	94.69	1.0	19	205	43	0.8
Reach 2	1728	25 year	culvonly	6.9	94.66	0.8	14	133	16	0.8
Reach 2	1728	25 year	14jan09-S-F	6.9	94.67	0.8	15	147	20	0.8
Reach 2	1728	5 year	culvonly	4.4	94.63	0.5	10	79	8	0.8
Reach 2	1728	5 year	14jan09-S-F	4.4	94.62	0.6	10	74	9	0.8
Reach 2	1728	2 year	culvonly	2.8	94.41	0.5	6	8	5	0.7
Reach 2	1728	2 year	14jan09-S-F	2.8	94.41	0.5	6	8	5	0.7
Reach 2	1727			Culvert						
Reach 2	1717	VG PEAK SUM-100	culvonly	9.5	94.69	1.0	19	210	30	0.8
Reach 2	1717	VG PEAK SUM-100	14jan09-S-F	9.5	94.69	1.0	19	212	43	0.8
Reach 2	1717	25 year	culvonly	6.9	94.59	0.9	8	47	16	0.7
Reach 2	1717	25 year	14jan09-S-F	6.9	94.59	0.9	8	48	20	0.7
Reach 2	1717	5 year	culvonly	4.4	94.37	0.8	6	8	8	0.7
Reach 2	1717	5 year	14jan09-S-F	4.4	94.37	0.8	6	8	8	0.7
Reach 2	1717	2 year	culvonly	2.8	94.15	0.7	4	7	5	0.6
Reach 2	1717	2 year	14jan09-S-F	2.8	94.15	0.7	4	7	5	0.6
Reach 2	1615	VG PEAK SUM-100	culvonly	9.5	94.60	0.7	44	277	26	1.0
Reach 2	1615	VG PEAK SUM-100	14jan09-S-F	9.5	94.60	0.7	45	277	39	1.0
Reach 2	1615	25 year	culvonly	6.9	94.46	0.8	16	123	14	0.9
Reach 2	1615	25 year	14jan09-S-F	6.9	94.46	0.8	16	124	18	0.9
Reach 2	1615	5 year	culvonly	4.4	94.24	0.8	6	7	7	0.8
Reach 2	1615	5 year	14jan09-S-F	4.4	94.24	0.8	6	7	8	0.8
Reach 2	1615	2 year	culvonly	2.8	94.04	0.6	4	6	5	0.7
Reach 2	1615	2 year	14jan09-S-F	2.8	94.04	0.6	4	6	5	0.7
Reach 2	1555	VG PEAK SUM-100	culvonly	9.5	94.53	0.9	21	94	24	1.0
Reach 2	1555	VG PEAK SUM-100	14jan09-S-F	9.5	94.53	0.9	21	97	38	1.0
Reach 2	1555	25 year	culvonly	6.9	94.40	0.8	12	54	13	0.9
Reach 2	1555	25 year	14jan09-S-F	6.9	94.40	0.8	12	54	18	0.9
Reach 2	1555	5 year	culvonly	4.4	94.19	0.7	6	7	7	0.8
Reach 2	1555	5 year	14jan09-S-F	4.4	94.19	0.7	6	7	8	0.8
Reach 2	1555	2 year	culvonly	2.8	93.99	0.6	5	7	4	0.7
Reach 2	1555	2 year	14jan09-S-F	2.8	93.99	0.6	5	7	4	0.7
Reach 2	1488	VG PEAK SUM-100	culvonly	9.5	94.44	0.9	14	64	23	1.0
Reach 2	1488	VG PEAK SUM-100	14jan09-S-F	9.5	94.45	0.9	15	72	36	1.0
Reach 2	1488	25 year	culvonly	6.9	94.32	0.8	10	28	13	0.9
Reach 2	1488	25 year	14jan09-S-F	6.9	94.32	0.8	10	28	17	0.9
Reach 2	1488	5 year	culvonly	4.4	94.13	0.7	7	8	7	0.8
Reach 2	1488	5 year	14jan09-S-F	4.4	94.13	0.7	7	8	7	0.8
Reach 2	1488	2 year	culvonly	2.8	93.96	0.5	5	7	4	0.8
Reach 2	1488	2 year	14jan09-S-F	2.8	93.96	0.5	5	7	4	0.8
Reach 2	1416	VG PEAK SUM-100	culvonly	9.5	94.37	0.9	36	261	21	1.1
Reach 2	1416	VG PEAK SUM-100	14jan09-S-F	9.5	94.39	0.9	40	293	34	1.2
Reach 2	1416	25 year	culvonly	6.9	94.20	1.1	11	71	12	1.0
Reach 2	1416	25 year	14jan09-S-F	6.9	94.20	1.1	11	72	16	1.0
Reach 2	1416	5 year	culvonly	4.4	94.03	1.0	5	13	6	0.8
Reach 2	1416	5 year	14jan09-S-F	4.4	94.03	1.0	5	13	7	0.8
Reach 2	1416	2 year	culvonly	2.8	93.89	0.7	4	5	4	0.7
Reach 2	1416	2 year	14jan09-S-F	2.8	93.89	0.7	4	5	4	0.7
Reach 2	1400	VG PEAK SUM-100	culvonly	9.5	94.34	0.9	12	18	21	1.0
Reach 2	1400	VG PEAK SUM-100	14jan09-S-F	9.5	94.36	0.9	12	18	34	1.0
Reach 2	1400	25 year	culvonly	6.9	94.19	0.8	10	15	12	0.9
Reach 2	1400	25 year	14jan09-S-F	6.9	94.20	0.8	10	15	16	0.9
Reach 2	1400	5 year	culvonly	4.4	94.03	0.6	7	11	6	0.7
Reach 2	1400	5 year	14jan09-S-F	4.4	94.03	0.6	7	11	7	0.7
Reach 2	1400	2 year	culvonly	2.8	93.89	0.5	6	9	4	0.6
Reach 2	1400	2 year	14jan09-S-F	2.8	93.89	0.5	6	9	4	0.6
Reach 2	1364	VG PEAK SUM-100	culvonly	9.5	94.29	0.9	11	27	21	0.9
Reach 2	1364	VG PEAK SUM-100	14jan09-S-F	9.5	94.31	0.9	12	30	34	0.9

HEC-RAS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	W.S. Elev (m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Volume (1000 m3)	Hydr Depth C (m)
Reach 2	1364	25 year	culvonly	6.9	94.15	0.8	9	10	12	0.9
Reach 2	1364	25 year	14jan09-S-F	6.9	94.16	0.8	9	11	16	0.9
Reach 2	1364	5 year	culvonly	4.4	94.00	0.6	7	9	6	0.8
Reach 2	1364	5 year	14jan09-S-F	4.4	94.00	0.6	7	9	6	0.8
Reach 2	1364	2 year	culvonly	2.8	93.87	0.5	6	8	3	0.8
Reach 2	1364	2 year	14jan09-S-F	2.8	93.87	0.5	6	8	4	0.8
Reach 2	1340	VG PEAK SUM-100	culvonly	11.4	94.19	1.5	8	25	20	1.6
Reach 2	1340	VG PEAK SUM-100	14jan09-S-F	11.4	94.21	1.5	8	27	33	1.6
Reach 2	1340	25 year	culvonly	8.6	94.09	1.2	7	18	11	1.5
Reach 2	1340	25 year	14jan09-S-F	8.6	94.09	1.2	7	18	15	1.5
Reach 2	1340	5 year	culvonly	5.6	93.97	0.8	7	12	6	1.4
Reach 2	1340	5 year	14jan09-S-F	5.6	93.97	0.8	7	12	6	1.4
Reach 2	1340	2 year	culvonly	3.6	93.85	0.6	6	11	3	1.2
Reach 2	1340	2 year	14jan09-S-F	3.6	93.85	0.6	6	11	3	1.2
Reach 2	1339			Culvert						
Reach 2	1312	VG PEAK SUM-100	culvonly	12.2	94.11	1.5	8	13	20	1.6
Reach 2	1312	VG PEAK SUM-100	14jan09-S-F	12.2	94.13	1.5	8	14	33	1.7
Reach 2	1312	25 year	culvonly	9.2	94.05	1.2	8	12	11	1.6
Reach 2	1312	25 year	14jan09-S-F	9.2	94.05	1.2	8	12	15	1.6
Reach 2	1312	5 year	culvonly	5.9	93.95	0.8	7	11	5	1.5
Reach 2	1312	5 year	14jan09-S-F	5.9	93.95	0.8	7	11	6	1.5
Reach 2	1312	2 year	culvonly	3.9	93.84	0.6	7	10	3	1.4
Reach 2	1312	2 year	14jan09-S-F	3.9	93.84	0.6	7	10	3	1.4
Reach 2	1302	VG PEAK SUM-100	culvonly	12.2	94.11	1.4	20	191	20	0.8
Reach 2	1302	VG PEAK SUM-100	14jan09-S-F	12.2	94.15	1.2	27	216	33	0.9
Reach 2	1302	25 year	culvonly	9.2	94.03	1.3	12	36	11	0.8
Reach 2	1302	25 year	14jan09-S-F	9.2	94.04	1.3	12	36	15	0.8
Reach 2	1302	5 year	culvonly	5.9	93.92	1.0	8	30	5	0.6
Reach 2	1302	5 year	14jan09-S-F	5.9	93.92	1.0	8	30	6	0.6
Reach 2	1302	2 year	culvonly	3.9	93.81	0.9	5	24	3	0.5
Reach 2	1302	2 year	14jan09-S-F	3.9	93.81	0.9	5	24	3	0.5
Reach 2	1268	VG PEAK SUM-100	culvonly	12.2	94.10	0.6	45	225	19	0.6
Reach 2	1268	VG PEAK SUM-100	14jan09-S-F	12.2	94.14	0.5	54	237	31	0.7
Reach 2	1268	25 year	culvonly	9.2	94.01	0.6	26	173	10	0.5
Reach 2	1268	25 year	14jan09-S-F	9.2	94.01	0.6	27	175	14	0.5
Reach 2	1268	5 year	culvonly	5.9	93.88	0.6	12	46	5	0.4
Reach 2	1268	5 year	14jan09-S-F	5.9	93.88	0.6	12	46	5	0.4
Reach 2	1268	2 year	culvonly	3.9	93.75	0.6	7	33	3	0.3
Reach 2	1268	2 year	14jan09-S-F	3.9	93.75	0.6	7	33	3	0.3
Reach 2	1212	VG PEAK SUM-100	culvonly	12.2	94.04	0.9	41	149	16	1.0
Reach 2	1212	VG PEAK SUM-100	14jan09-S-F	12.2	94.10	0.8	52	233	28	1.1
Reach 2	1212	25 year	culvonly	9.2	93.92	0.9	27	110	9	0.9
Reach 2	1212	25 year	14jan09-S-F	9.2	93.93	0.9	28	111	13	0.9
Reach 2	1212	5 year	culvonly	5.9	93.77	0.9	13	66	4	0.8
Reach 2	1212	5 year	14jan09-S-F	5.9	93.77	0.9	13	66	5	0.8
Reach 2	1212	2 year	culvonly	3.9	93.61	0.9	6	24	2	0.6
Reach 2	1212	2 year	14jan09-S-F	3.9	93.61	0.9	6	24	2	0.6
Reach 2	1169	VG PEAK SUM-100	culvonly	12.2	93.95	1.1	22	107	14	0.9
Reach 2	1169	VG PEAK SUM-100	14jan09-S-F	12.2	94.04	0.9	36	186	26	1.0
Reach 2	1169	25 year	culvonly	9.2	93.84	1.0	15	49	8	0.8
Reach 2	1169	25 year	14jan09-S-F	9.2	93.85	1.0	16	49	11	0.8
Reach 2	1169	5 year	culvonly	5.9	93.70	0.9	9	40	4	0.7
Reach 2	1169	5 year	14jan09-S-F	5.9	93.70	0.9	9	40	4	0.7
Reach 2	1169	2 year	culvonly	3.9	93.53	0.8	5	12	2	0.6
Reach 2	1169	2 year	14jan09-S-F	3.9	93.53	0.8	5	12	2	0.6
Reach 2	1091	VG PEAK SUM-100	culvonly	12.2	93.84	0.9	27	76	12	0.9
Reach 2	1091	VG PEAK SUM-100	14jan09-S-F	12.2	93.97	0.8	39	168	23	1.1
Reach 2	1091	25 year	culvonly	9.2	93.71	0.9	18	65	6	0.8
Reach 2	1091	25 year	14jan09-S-F	9.2	93.75	0.9	21	68	10	0.9
Reach 2	1091	5 year	culvonly	5.9	93.57	0.8	10	53	3	0.7
Reach 2	1091	5 year	14jan09-S-F	5.9	93.57	0.8	10	53	3	0.7
Reach 2	1091	2 year	culvonly	3.9	93.40	0.8	5	9	2	0.6
Reach 2	1091	2 year	14jan09-S-F	3.9	93.40	0.7	5	9	2	0.6
Reach 2	1002	VG PEAK SUM-100	culvonly	12.2	93.72	1.0	25	66	10	0.9
Reach 2	1002	VG PEAK SUM-100	14jan09-S-F	12.2	93.92	0.6	48	156	19	1.1

HEC-RAS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	W.S. Elev (m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Volume (1000 m3)	Hydr Depth C (m)
Reach 2	1002	25 year	culvonly	9.2	93.56	1.0	16	56	5	0.8
Reach 2	1002	25 year	14jan09-S-F	9.2	93.65	0.8	21	57	8	0.8
Reach 2	1002	5 year	culvonly	5.9	93.37	1.0	7	29	2	0.6
Reach 2	1002	5 year	14jan09-S-F	5.9	93.39	1.0	7	32	3	0.6
Reach 2	1002	2 year	culvonly	3.9	93.21	0.9	4	8	1	0.5
Reach 2	1002	2 year	14jan09-S-F	3.9	93.21	0.9	4	8	1	0.5
Reach 2	961	VG PEAK SUM-100	culvonly	12.2	93.69	0.6	33	107	9	0.5
Reach 2	961	VG PEAK SUM-100	14jan09-S-F	12.2	93.92	0.3	67	200	16	0.7
Reach 2	961	25 year	culvonly	9.2	93.48	0.8	13	65	4	0.5
Reach 2	961	25 year	14jan09-S-F	9.2	93.61	0.5	25	97	7	0.4
Reach 2	961	5 year	culvonly	5.9	93.28	0.8	7	16	2	0.5
Reach 2	961	5 year	14jan09-S-F	5.9	93.31	0.8	8	17	2	0.5
Reach 2	961	2 year	culvonly	3.9	93.13	0.7	5	11	1	0.5
Reach 2	961	2 year	14jan09-S-F	3.9	93.14	0.7	5	11	1	0.5
Reach 2	910	VG PEAK SUM-100	culvonly	12.2	93.66	0.6	75	212	5	1.3
Reach 2	910	VG PEAK SUM-100	14jan09-S-F	12.2	93.91	0.3	133	249	9	1.6
Reach 2	910	25 year	culvonly	9.2	93.42	0.8	33	122	2	1.1
Reach 2	910	25 year	14jan09-S-F	9.2	93.59	0.5	60	195	4	1.2
Reach 2	910	5 year	culvonly	5.9	93.21	0.8	15	56	1	0.9
Reach 2	910	5 year	14jan09-S-F	5.9	93.25	0.7	18	62	1	0.9
Reach 2	910	2 year	culvonly	3.9	93.06	0.7	8	39	1	0.7
Reach 2	910	2 year	14jan09-S-F	3.9	93.07	0.7	9	40	1	0.7
Reach 2	840	VG PEAK SUM-100	culvonly	12.2	93.65	0.4	54	132		0.9
Reach 2	840	VG PEAK SUM-100	14jan09-S-F	12.2	93.91	0.2	100	218		1.2
Reach 2	840	25 year	culvonly	9.2	93.39	0.4	31	73		0.7
Reach 2	840	25 year	14jan09-S-F	9.2	93.58	0.3	46	99		0.9
Reach 2	840	5 year	culvonly	5.9	93.16	0.4	16	56		0.4
Reach 2	840	5 year	14jan09-S-F	5.9	93.22	0.4	19	60		0.5
Reach 2	840	2 year	culvonly	3.9	92.98	0.5	8	27		0.3
Reach 2	840	2 year	14jan09-S-F	3.9	93.00	0.4	9	30		0.3
Reach 1	746	VG PEAK SUM-100	culvonly	16.4	93.64	0.8	56	76	27	1.7
Reach 1	746	VG PEAK SUM-100	14jan09-S-F	16.4	93.90	0.6	79	101	29	1.9
Reach 1	746	25 year	culvonly	12.4	93.38	0.9	37	69	20	1.4
Reach 1	746	25 year	14jan09-S-F	12.4	93.57	0.7	51	75	21	1.6
Reach 1	746	5 year	culvonly	8.1	93.13	1.0	21	61	14	1.2
Reach 1	746	5 year	14jan09-S-F	8.1	93.20	0.8	25	64	14	1.2
Reach 1	746	2 year	culvonly	5.4	92.94	1.0	10	48	10	1.0
Reach 1	746	2 year	14jan09-S-F	5.4	92.96	1.0	11	54	11	1.0
Reach 1	705	VG PEAK SUM-100	culvonly	16.4	93.61	0.9	48	62	26	1.7
Reach 1	705	VG PEAK SUM-100	14jan09-S-F	16.4	93.89	0.6	66	67	26	1.9
Reach 1	705	25 year	culvonly	12.4	93.34	1.0	32	57	19	1.4
Reach 1	705	25 year	14jan09-S-F	12.4	93.55	0.7	45	61	19	1.6
Reach 1	705	5 year	culvonly	8.1	93.06	1.1	17	52	13	1.1
Reach 1	705	5 year	14jan09-S-F	8.1	93.16	0.9	22	54	13	1.2
Reach 1	705	2 year	culvonly	5.4	92.84	1.2	7	27	10	0.9
Reach 1	705	2 year	14jan09-S-F	5.4	92.88	1.1	8	34	10	0.9
Reach 1	668	VG PEAK SUM-100	culvonly	16.4	93.50	1.6	21	32	25	1.6
Reach 1	668	VG PEAK SUM-100	14jan09-S-F	16.4	93.84	1.1	33	39	25	1.9
Reach 1	668	25 year	culvonly	12.4	93.14	1.9	11	24	18	1.2
Reach 1	668	25 year	14jan09-S-F	12.4	93.49	1.2	21	31	18	1.6
Reach 1	668	5 year	culvonly	8.1	92.62	2.5	3	6	13	0.7
Reach 1	668	5 year	14jan09-S-F	8.1	93.04	1.4	9	22	13	1.1
Reach 1	668	2 year	culvonly	5.4	92.49	2.1	3	5	10	0.6
Reach 1	668	2 year	14jan09-S-F	5.4	92.72	1.5	4	9	10	0.8
Reach 1	666	VG PEAK SUM-100	culvonly	16.4	93.21	2.4	7	13	24	1.2
Reach 1	666	VG PEAK SUM-100	14jan09-S-F	16.4	93.32	2.9	6	16	24	1.4
Reach 1	666	25 year	culvonly	12.4	92.94	2.4	5	7	18	0.9
Reach 1	666	25 year	14jan09-S-F	12.4	93.02	2.8	4	9	18	1.1
Reach 1	666	5 year	culvonly	8.1	92.60	2.4	3	5	13	0.6
Reach 1	666	5 year	14jan09-S-F	8.1	92.66	2.7	3	6	13	0.7
Reach 1	666	2 year	culvonly	5.4	92.45	2.2	2	5	10	0.5
Reach 1	666	2 year	14jan09-S-F	5.4	92.48	2.4	2	5	10	0.6
Reach 1	656 fortune			Culvert						
Reach 1	647	VG PEAK SUM-100	culvonly	16.4	93.20	2.1	8	11	24	1.4
Reach 1	647	VG PEAK SUM-100	14jan09-S-F	16.4	93.07	3.1	5	11	24	1.3

HEC-RAS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	W.S. Elev (m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Volume (1000 m3)	Hydr Depth C (m)
Reach 1	647	25 year	culvonly	12.4	92.98	1.9	6	10	18	1.2
Reach 1	647	25 year	14jan09-S-F	12.4	92.89	2.7	5	10	18	1.1
Reach 1	647	5 year	culvonly	8.1	92.70	1.6	5	9	13	0.9
Reach 1	647	5 year	14jan09-S-F	8.1	92.64	2.3	4	9	13	0.9
Reach 1	647	2 year	culvonly	5.4	92.54	1.3	4	8	10	0.8
Reach 1	647	2 year	14jan09-S-F	5.4	92.50	1.8	3	8	10	0.8
Reach 1	645	VG PEAK SUM-100	culvonly	16.4	93.23	1.8	12	13	24	1.3
Reach 1	645	VG PEAK SUM-100	14jan09-S-F	16.4	93.23	1.8	12	13	24	1.3
Reach 1	645	25 year	culvonly	12.4	93.00	1.7	9	12	18	1.1
Reach 1	645	25 year	14jan09-S-F	12.4	93.00	1.7	9	12	18	1.1
Reach 1	645	5 year	culvonly	8.1	92.70	1.6	6	10	13	0.8
Reach 1	645	5 year	14jan09-S-F	8.1	92.70	1.6	6	10	13	0.8
Reach 1	645	2 year	culvonly	5.4	92.52	1.4	4	9	10	0.6
Reach 1	645	2 year	14jan09-S-F	5.4	92.52	1.4	4	9	10	0.6
Reach 1	592	VG PEAK SUM-100	culvonly	16.4	93.28	0.9	47	50	23	1.7
Reach 1	592	VG PEAK SUM-100	14jan09-S-F	16.4	93.28	0.9	47	50	23	1.7
Reach 1	592	25 year	culvonly	12.4	93.01	1.0	34	49	17	1.4
Reach 1	592	25 year	14jan09-S-F	12.4	93.01	1.0	34	49	17	1.4
Reach 1	592	5 year	culvonly	8.1	92.65	1.1	19	37	12	1.1
Reach 1	592	5 year	14jan09-S-F	8.1	92.65	1.1	19	37	12	1.1
Reach 1	592	2 year	culvonly	5.4	92.36	1.4	9	27	10	0.8
Reach 1	592	2 year	14jan09-S-F	5.4	92.36	1.4	9	27	10	0.8
Reach 1	521	VG PEAK SUM-100	culvonly	16.4	93.26	0.6	78	123	18	2.0
Reach 1	521	VG PEAK SUM-100	14jan09-S-F	16.4	93.26	0.6	78	123	18	2.0
Reach 1	521	25 year	culvonly	12.4	93.00	0.5	51	81	13	1.7
Reach 1	521	25 year	14jan09-S-F	12.4	93.00	0.5	51	81	13	1.7
Reach 1	521	5 year	culvonly	8.1	92.63	0.5	31	41	10	1.4
Reach 1	521	5 year	14jan09-S-F	8.1	92.63	0.5	31	41	10	1.4
Reach 1	521	2 year	culvonly	5.4	92.35	0.4	21	32	8	1.1
Reach 1	521	2 year	14jan09-S-F	5.4	92.35	0.4	21	32	8	1.1
Reach 1	277	VG PEAK SUM-100	culvonly	16.4	92.96	2.0	13	24	6	1.6
Reach 1	277	VG PEAK SUM-100	14jan09-S-F	16.4	92.96	2.0	13	24	6	1.6
Reach 1	277	25 year	culvonly	12.4	92.75	1.8	10	10	6	1.4
Reach 1	277	25 year	14jan09-S-F	12.4	92.75	1.8	10	10	6	1.4
Reach 1	277	5 year	culvonly	8.1	92.40	1.6	6	8	5	1.1
Reach 1	277	5 year	14jan09-S-F	8.1	92.40	1.6	6	8	5	1.1
Reach 1	277	2 year	culvonly	5.4	92.12	1.4	4	7	5	0.8
Reach 1	277	2 year	14jan09-S-F	5.4	92.12	1.4	4	7	5	0.8
Reach 1	275	VG PEAK SUM-100	culvonly	16.4	92.87	2.3	7	5	6	1.8
Reach 1	275	VG PEAK SUM-100	14jan09-S-F	16.4	92.87	2.3	7	5	6	1.8
Reach 1	275	25 year	culvonly	12.4	92.68	1.9	6	5	6	1.6
Reach 1	275	25 year	14jan09-S-F	12.4	92.68	1.9	6	5	6	1.6
Reach 1	275	5 year	culvonly	8.1	92.40	1.5	5	5	5	1.3
Reach 1	275	5 year	14jan09-S-F	8.1	92.40	1.5	5	5	5	1.3
Reach 1	275	2 year	culvonly	5.4	92.13	1.3	4	5	5	1.1
Reach 1	275	2 year	14jan09-S-F	5.4	92.13	1.3	4	5	5	1.1
Reach 1	269	fowler		Culvert						
Reach 1	263	VG PEAK SUM-100	culvonly	16.4	92.58	2.7	6	7	6	1.5
Reach 1	263	VG PEAK SUM-100	14jan09-S-F	16.4	92.58	2.7	6	7	6	1.5
Reach 1	263	25 year	culvonly	12.4	92.53	2.1	6	6	6	1.5
Reach 1	263	25 year	14jan09-S-F	12.4	92.53	2.1	6	6	6	1.5
Reach 1	263	5 year	culvonly	8.1	92.31	1.6	5	6	5	1.2
Reach 1	263	5 year	14jan09-S-F	8.1	92.31	1.6	5	6	5	1.2
Reach 1	263	2 year	culvonly	5.4	92.07	1.3	4	6	5	1.0
Reach 1	263	2 year	14jan09-S-F	5.4	92.07	1.3	4	6	5	1.0
Reach 1	226	VG PEAK SUM-100	culvonly	16.4	92.40	2.8	10	21	6	1.3
Reach 1	226	VG PEAK SUM-100	14jan09-S-F	16.4	92.40	2.8	10	21	6	1.3
Reach 1	226	25 year	culvonly	12.4	92.19	2.8	6	14	5	1.1
Reach 1	226	25 year	14jan09-S-F	12.4	92.19	2.8	6	14	5	1.1
Reach 1	226	5 year	culvonly	8.1	91.88	2.7	3	6	5	0.8
Reach 1	226	5 year	14jan09-S-F	8.1	91.88	2.7	3	6	5	0.8
Reach 1	226	2 year	culvonly	5.4	91.68	2.4	2	4	5	0.6
Reach 1	226	2 year	14jan09-S-F	5.4	91.68	2.4	2	4	5	0.6
Reach 1	0	VG PEAK SUM-100	culvonly	16.4	91.34	0.8	40	138		0.3
Reach 1	0	VG PEAK SUM-100	14jan09-S-F	16.4	91.34	0.8	40	138		0.3

HEC-RAS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	W.S. Elev (m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Volume (1000 m3)	Hydr Depth C (m)
Reach 1	0	25 year	culvonly	12.4	91.35	0.6	41	139		0.4
Reach 1	0	25 year	14jan09-S-F	12.4	91.35	0.6	41	139		0.4
Reach 1	0	5 year	culvonly	8.1	91.36	0.4	41	140		0.4
Reach 1	0	5 year	14jan09-S-F	8.1	91.36	0.4	41	140		0.4
Reach 1	0	2 year	culvonly	5.4	91.36	0.2	42	140		0.4
Reach 1	0	2 year	14jan09-S-F	5.4	91.36	0.2	42	140		0.4