

SYSTEM 1

Conduits and Channels

ID	Existing			Recommendation			Total Cost
	Size	Grade (%)	Q _{cap} (cfs)	Size	Grade (%)	Q _{10yr} (cfs)	
S1-1	24"	-0.54	17	5 - 60"	-0.54	549	\$376,000
S1-2	30"	-0.50	16	5 - 60"	-0.50	549	\$954,000
S1-3	36"	-0.49	25	5 - 60"	-0.49	549	\$43,000
S1-4	5' flat bottom	0.12	7	20' flat bottom	0.12	328	\$21,000
S1-5	60"	0.03	26	2 - 9'x5'	0.03	323	\$83,000
S1-6	5' flat bottom	0.28	11	20' flat bottom	0.28	323	\$1,000
S1-7	5' flat bottom	0.10	25	22' flat bottom	0.17	319	\$9,000
S1-8	5' flat bottom	0.09	6	22' flat bottom	0.09	315	\$1,000
S1-9	60"	0.02	19	2 - 8'x5'	0.02	315	\$74,000
S1-10	5' flat bottom	0.06	5	22' flat bottom	0.06	315	\$1,000
S1-11	5' flat bottom	0.01	2	22' flat bottom	0.01	315	\$35,000
S1-12	60"	0.93	136	2 - 6'x5'	0.93	317	\$9,000
S1-13	5' flat bottom	0.04	4	22' flat bottom	0.04	267	\$69,000
S1-14	5' flat bottom	0.04	4	20' flat bottom	0.04	233	\$21,000
S1-15	5' flat bottom	0.04	4	15' flat bottom	0.04	89	\$48,000
S1-16	5' flat bottom	0.04	4	10' flat bottom	0.04	43	\$11,000
S1-17	5' flat bottom	0.04	4	10' flat bottom	0.04	30	\$15,000
S1-18	5'x5'	0.49	232	5'x5'	0.49	1	\$0
S1-19	6' flat bottom	0.37	14	The diversion at US-24 will eliminate these components from the internal drainage system			\$0
S1-20	6' flat bottom	0.38	14				\$0
S1-21	4'x6'	0.67	254				\$0
Subtotal Cost =							\$1,771,000
S1L1-1	30"	0.80	37	60"	0.50	142	\$13,000
S1L1-2	30"	0.07	6	60"	0.47	142	\$6,000
S1L1-3	30"	0.06	6	60"	0.50	142	\$12,000
S1L1-4	36"	0.73	57	60"	0.50	142	\$51,000
S1L1-5	36"	0.70	30	60"	0.50	143	\$87,000
S1L1-6	36"	0.47	60	60"	0.50	85	\$55,000
S1L1-7	36"	0.31	37	60"	0.50	83	\$36,000
S1L1-8	36"	0.73	223	60"	0.50	80	\$22,000
S1L1-9	30"	0.31	23	60"	0.50	76	\$51,000
Subtotal Cost =							\$333,000
S1L2-1	4' flat bottom	0.49	13	10' flat bottom	0.31	36	\$1,000
S1L2-2	30"	0.08	6	36"	0.21	37	\$4,000
S1L2-3	30"	0.20	18	36"	0.26	37	\$16,000
S1L2-4	30"	0.30	22	36"	0.34	37	\$42,000
S1L2-5	30"	0.19	18	36"	0.24	37	\$11,000
S1L2-6	30"	0.32	23	36"	0.37	38	\$10,000
S1L2-7	30"	0.22	19	36"	0.53	38	\$13,000
S1L2-8	24"	0.43	15	36"	0.43	38	\$6,000
S1L2-9	24"	0.35	13	36"	0.36	38	\$18,000
S1L2-10	24"	0.37	14	36"	0.42	38	\$11,000
S1L2-11	24"	0.65	18	36"	0.65	30	\$7,000
S1L2-12	24"	0.32	13	36"	0.42	30	\$9,000

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S1L2-13	18"	0.53	8	36"	0.53	30	\$20,000
S1L2-14	18"	0.14	4	36"	0.00	30	\$6,000
S1L2-15	15"	0.46	4	36"	0.57	7	\$24,000
S1L2-16	15"	0.52	5	36"	0.48	6	\$20,000
S1L2-17	15"	0.47	2	36"	0.53	6	\$21,000
S1L2-18	3' ellipse	0.25	8	3' ellipse	0.25	6	\$0
S1L2T1-1	24"	1.87	31	36"	0.25	14	\$1,000
S1L2T1-2	24"	0.28	12	24"	0.28	15	\$0
S1L2T2-1	15"	3.28	12	15"	---	---	---
Subtotal Cost =							\$240,000
S1L3-1	4' flat bottom	8.41	52	6' flat bottom	0.55	59	\$1,000
S1L3-2	15"	2.11	5	36"	1.00	60	\$10,000
S1L3-3	15"	0.15	1	36"	1.00	60	\$10,000
S1L3-4	4' flat bottom	1.33	21	6' flat bottom	0.55	58	\$8,000
S1L3-5	15"	3.75	7	36"	1.01	58	\$4,000
S1L3-6	2.5' ellipse	1.53	16	36"	1.00	33	\$7,000
S1L3-7	15"	0.45	2	36"	1.00	32	\$58,000
S1L3-8	15"	0.54	3	36"	1.00	32	\$55,000
S1L3-9	15"	0.67	5	30"	1.00	14	\$26,000
S1L3T1-1	15"	4.54	7	36"	0.98	26	\$8,000
Subtotal Cost =							\$187,000
S1L4-1	4' flat bottom	13.71	66	4' flat bottom	0.39	7	\$1,000
S1L4-2	15"	3.58	7	15"	0.99	7	\$1,000
S1L4-3	15"	1.55	4	15"	1.00	8	\$5,000
Subtotal Cost =							\$7,000
S1L5-1	4' flat bottom	6.29	45	15' flat bottom	0.25	118	\$1,000
S1L5-2	36"	1.49	81	2 - 8'x4'	1.01	121	\$69,000
S1L5-3	4' flat bottom	1.15	19	15' flat bottom	0.30	121	\$2,000
S1L5-4	30"	1.25	46	2 - 8'x4'	1.00	124	\$78,000
S1L5-5	4' flat bottom	0.09	5	15' flat bottom	0.30	90	\$27,000
S1L5-6	4' flat bottom	0.09	5	6' flat bottom	0.29	5	\$5,000
S1L5-7	18"	1.57	7	24"	0.99	3	\$3,000
S1L5T1-1	4' flat bottom	0.23	9	15' flat bottom	0.30	88	\$9,000
S1L5T1-2	24"	0.84	21	30"	0.50	89	\$37,000
S1L5T2-1	15"	0.35	2	18"	1.00	3	\$3,000
S1L5T2-2	15"	0.77	3	18"	0.95	3	\$1,000
Subtotal Cost =							\$235,000
S1L6-1	30"	1.89	56	30"	1.89	12	\$0
Subtotal Cost =							\$0
S1L7-1	4' flat bottom	0.82	16	4' flat bottom	0.46	101	\$17,000
S1L7-2	18"	2.74	17	36"	0.49	101	\$3,000
S1L7-3	15"	2.00	9	36"	0.50	61	\$13,000
S1L7T1-1	15"	0.73	6	30"	0.50	40	\$21,000
S1L7T1-2	15"	1.44	8	30"	0.51	40	\$3,000

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S1L7T1-3	15"	0.89	6	30"	0.52	40	\$2,000
						Subtotal Cost =	\$59,000
S1L8-1	4' flat bottom	0.19	8	---	---	---	---
S1L8-2	60"	0.32	237	---	---	---	---
						Subtotal Cost =	\$0
S1L9-1	4' flat bottom	5.99	41	The diversion at US-24 will eliminate these components from the internal drainage system			\$0
S1L9-2	36"	3.98	133				\$0
S1L9-3	5' flat bottom	0.84	19				\$0
S1L9-4	36"	0.61	52				\$0
						Subtotal Cost =	\$0
Pump Stations							
ID	Existing		Recommendation		Total Estimated Cost		
	Wet-well (ft ³)	Pump (gpm)	Wet-well (ft ³)	Pump (gpm)			
2nd Street	5,832	48,000	32,940	246,392	\$7,392,000		
					Subtotal Cost =	\$7,392,000	

Notes:

1. Dashed entries refer to pieces of the system that are included in GIS mapping, but did not meet the study criteria for having individual analysis in the hydrologic model. Therefore, no recommendation could be given.
2. All proposed pump station wet-wells are 20-ft deep
3. All pump station costs are highly variable and depend on the level of redundancy desired with regard to backup pumps, pump supplies, outlet works, etc.
4. Assume total cost of pump station to be \$30/gpm

Total Cost of System =	\$10,224,000
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