NOT AS BUILT

STORM SEWER DESIGN CALCULATION TABLE (100–yr Return Frequency)

LINE NO.	LINE STA.	STRUC. NUMBERS (from)	STRUC. NUMBERS (to)	LOCAL C	LOCAL A (ac)	LOCAL C X A (ac)	TOTAL C X A (ac)	INLET TIME (min)	TOTAL Tc (min)	100-YR "K" 1.25	100-YR "C" (ave.) 256	100-YR I (in/hr) 19.8	100-YR A (Ac) 331	100-YR Q (cfs) 30	PIPE DIA. (in) [3]	MANN N	PIPE SLOPE (%)	MANN'S FULL CAP (cfs)	MANN'S FULL VEL (fps)	DES VEL (fps)	VEL HEAD (ft)	FLOW DEPTH (in)	PIPE LEN (ft)	FLOW TIME (min)
		-	-																					
6	10+00.00	6-1	-	0.00	0.00	0.00	15.15	0.00	10.18	1.25	0.79	8.54	19.09	161.69	48	0.013	0.00%	0.00						
6	10+81.24	6-2	6-1	0.62	0.39	0.24	15.15	7.23	10.09	1.25	0.79	8.56	19.09	162.06	48	0.013	1.20%	157.35	12.52	14.24	3.15	40.79	81.24	0.10
6	12+53.93	6-3	6-2	0.00	0.00	0.00	4.91	0.00	9.92	1.25	0.74	8.61	6.61	52.80	30	0.013	3.70%	78.90	16.07	17.22	4.61	17.95	172.69	0.17
6	14+01.37	6-4	6-3	0.62	0.35	0.22	4.91	5.88	9.78	1.25	0.74	8.65	6.61	53.05	30	0.013	4.00%	82.03	16.71	17.77	4.90	17.56	147.44	0.14
6	18+01.51	6-5	6-4	0.62	0.36	0.22	4.47	7.09	9.40	1.25	0.76	8.77	5.91	49.03	30	0.013	4.00%	82.03	16.71	17.45	4.73	16.71	400.14	0.38
6	22+00.04	6-6	6-5	0.62	0.36	0.22	3.01	7.08	8.69	1.25	0.76	8.99	3.98	33.82	30	0.013	1.00%	41.02	8.36	9.33	1.35	20.76	398.53	0.71
6	25+96.99	6-7	6-6	0.62	0.42	0.26	1.55	6.84	7.67	1.25	0.75	9.32	2.06	18.09	24	0.013	1.00%	22.62	7.20	8.00	0.99	16.25	396.95	0.83
6	26+55.49	6-8	6-7	0.62	0.44	0.27	1.29	6.84	7.54	1.25	0.79	9.36	1.64	15.13	24	0.013	1.00%	22.62	7.20	7.71	0.92	14.35	58.50	0.13
8	10+59.00	8-1	6-4	0.62	0.35	0.22	0.22	5.86	5.86	1.25	0.62	9.98	0.35	2.71	15	0.013	1.00%	6.46	5.26	5.03	0.39	6.77	59.00	0.20
9	10+00.00	EX9	-	0.00	0.00	0.00	0.40	0.00	7.47	1.25	0.62	9.39	0.64	4.66	66	0.013								
9	13+87.11	9-1	EX9	0.62	0.32	0.20	0.40	6.53	6.68	1.25	0.62	9.67	0.64	4.80	15	0.013	2.50%	10.21	8.32	8.19	1.04	7.23	387.11	0.79
9	14+45.11	9-2	9-1	0.62	0.32	0.20	0.20	6.53	6.53	1.25	0.62	9.72	0.32	2.41	15	0.013	2.00%	9.14	7.44	6.28	0.61	5.26	58.00	0.15
11	10+59.00	11-1	6-5	0.62	0.37	0.23	1.24	7.40	8.56	1.25	0.79	9.03	1.57	13.99	24	0.013	1.00%	22.62	7.20	7.58	0.89	13.65	59.00	0.13
12	10+59.00	12-1	6-6	0.62	0.36	0.22	1.23	7.70	8.56	1.25	0.79	9.03	1.56	13.92	24	0.013	1.00%	22.62	7.20	7.57	0.89	13.61	59.00	0.13

INLET DESIGN TABLE (100–yr Return Frequency)

LINE NO.	LINE STA.	STRUC. NO.	OVERLAND LEN (ft)	OVERLAND S (%)	FLOW "C"	OVERLAND TIME (min)	GUTTER LEN (ft)	GUTTER S (%)	GUTTER FLOW VEL (fps)	GUTTER TIME (min)	INLET TIME (min)	100-YR "K" 1.25	100-YR "C" 256.00	100-YR I (in/hr) 19.80	100-YR A (Ac) 331.00	100-YR Q (cfs) 30.00	US BY-PASS (cfs)	TOTAL FLOW (cfs)	STREET SLOPE (%)	STREET XSLOPE (%)	12 CG-1 CAP (cfs)	INLET LEN (ft)	0.83 INLET CAP. (cfs) 0.83	80% CAP. (cfs)	BY-PASS DS (cfs)
		-																							
6	10+00.00	6-1																	1.60%	2.08%	5.40	5			
6	10+81.24	6-2	18	2.0%	0.30	4.85	526	1.7%	3.68	2.38	7.23	1.25	0.62	9.47	0.39	2.86		2.86	1.60%	2.08%	5.40	5	7.73	6.19	
6	12+53.93	6-3																	1.60%	2.08%	5.40	5			
6	14+01.37	6-4	18	2.0%	0.30	4.85	331	3.6%	5.33	1.04	5.88	1.25	0.62	9.97	0.35	2.70		2.70	1.60%	2.08%	5.40	5	7.73	6.19	
6	18+01.51	6-5	18	2.0%	0.30	4.85	430	1.3%	3.20	2.24	7.09	1.25	0.62	9.52	0.36	2.66		2.66	1.60%	2.08%	5.40	5	7.73	6.19	
6	22+00.04	6-6	18	2.0%	0.30	4.85	376	1.0%	2.81	2.23	7.08	1.25	0.62	9.52	0.36	2.66		2.66	1.60%	2.08%	5.40	5	7.73	6.19	
6	25+96.99	6-7	18	2.0%	0.30	4.85	335	1.0%	2.81	1.99	6.84	1.25	0.62	9.61	0.42	3.13		3.13	1.60%	2.08%	5.40	5	7.73	6.19	
6	26+55.49	6-8	18	2.0%	0.30	4.85	335	1.0%	2.81	1.99	6.84	1.25	0.62	9.61	0.44	3.28		3.28	1.60%	2.08%	5.40	5	7.73	6.19	
8	10+59.00	8-1	18	2.0%	0.30	4.85	322	3.6%	5.33	1.01	5.86	1.25	0.62	9.98	0.35	2.71		2.71	5.65%	2.08%	10.33	5	5.60	4.48	
9	10+00.00	EX9																							
9	13+87.11	9-1	18	2.0%	0.30	4.85	400	2.0%	3.97	1.68	6.53	1.25	0.62	9.72	0.32	2.41		2.41	2.00%	2.08%	6.04	5	7.61	6.09	
9	14+45.11	9-2	18	2.0%	0.30	4.85	400	2.0%	3.97	1.68	6.53	1.25	0.62	9.72	0.32	2.41		2.41	2.00%	2.08%	6.04	5	7.61	6.09	
11	10+59.00	11-1	18	2.0%	0.30	4.85	430	1.0%	2.81	2.55	7.40	1.25	0.62	9.41	0.37	2.70		2.70		2.08%	SUMP	5	15.46	12.37	
12	10+59.00	12-1	18	2.0%	0.30	4.85	480	1.0%	2.81	2.85	7.70	1.25	0.62	9.31	0.36	2.60		2.60		2.08%	SUMP	5	15.46	12.37	

BASED ON TRAVEL TIME CALCULATION APWA SECTION 5602.5 B.
GUTTER CAPACITIES BASED ON MAXIMUM ALLOWABLE SPREAD.

DATE	P.E. SIGNATURE	DESCRIPTION
09-07-07	R.J.S.	Prepared for Review.
01-25-08	R.J.S.	⚠1 Revised drainage table values

DRAINAGE TABLES

CENTERPOINT-KCS INTERMODAL CENTER

STATE OF MISSOURI
ROBERT J. SUNTA
E-25751
REGISTERED PROFESSIONAL ENGINEER

Reviewed By:	S.E.C.
Designed By:	R.J.S.
Drafted By:	J.W.W.
Lutjen Project No.: 07165	

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