STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE A

FROM	TO	LENGTH (FT)	CxA	INLET TIME (min.)	TOTAL INTERCEPTED CxA	TIME AT UPSTREAM OF REACH (min)	DESIGN STORM FREQUENCY (yrs)	RAINFALL INTENSITY (in/hr)	INTERCEPTED FLOW (cfs)	STORM DRAIN DIAMETER (in)	VELOCITY (ft/s)	SLOPE OF FRICTION GRADIENT (ft/ft)	STRUCTURE LOSS COEFFICIENT	STRUCTURE LOSS AT UPSTREAM OF REACH	FLOW TIME IN DRAIN (min)	TIME AT DOWNSTREAM OF REACH (min)	H.G. AT UPSTREAM OF REACH (ft)	REMARKS
INLET A1	17+12.81	35.8	0.24	10	0.24	10	100	9.8	2.4	18	1.4	0.0005	1.25	0.04	0.1	10.1	608.12	
17+12.81	17+00.81	12	-	-	0.24	10.1	100	9.78	2.3	18	1.3	0.0005	0.5	0.01	0	10.1	605.02	
INLET A2	17+00.81	36.75	0.26	10	0.26	10	100	9.8	2.5	18	1.4	0.0006	1.25	0.04	0.1	10.1	607.98	
17+00.81	14+14.48	286.33	-	-	0.5	10.1	100	9.78	4.9	18	2.8	0.0022	0.5	0.11	0.7	10.8	604.98	
14+14.48	14+09.48	5	-	-	0.5	10.8	100	9.64	4.8	24	1.5	0.0005	0.5	0	0.1	10.9	601.33	
INLET A3	14+09.48	36.3	0.3	10	0.3	10	100	9.8	2.9	18	1.6	0.0008	1.25	0.05	0.1	10.1	601.56	
14+09.48	13+99.85	9.63	-	-	0.8	10.9	100	9.62	7.7	24	2.5	0.0012	0.5	0.08	0.1	11	601.33	
INLET A4	13+99.85	36.39	0.31	10	0.31	10	100	9.8	3	18	1.7	0.0008	1.25	0.06	0.1	10.1	601.39	
13+99.85	13+89.53	10.32	-	-	1.11	11	100	9.61	10.7	24	3.4	0.0022	0.5	0.13	0	11	601.24	
13+89.53	12+50	139.53	-	-	1.11	11	100	9.61	10.7	24	3.4	0.0022	0.5	0.09	0.3	11.3	601.07	
12+50	11+11.04	138.96	-	-	1.11	11.3	100	9.55	10.6	24	3.4	0.0022	0.25	0.04	0.7	12	599.32	
INLET A5	11+11.04	36.37	0.53	10	0.53	10	100	9.8	5.2	18	2.9	0.0025	1.25	0.17	0.2	10.2	599.23	
11+11.04	11+01.04	10	-	-	1.64	12	100	9.43	15.5	33	2.6	0.0009	0.5	0.02	0.1	12.1	598.97	
INLET A6	11+01.04	36.37	0.58	10	0.58	10	100	9.8	5.7	18	3.2	0.0029	1.25	0.2	0.2	10.2	599.25	
11+01.04	8+59.98	241.06	-	-	2.22	12.1	100	9.42	20.9	33	3.5	0.0016	0.5	0.14	0.8	12.9	598.94	
INLET A7	8+59.98	36.16	0.57	10	0.57	10	100	9.8	5.6	24	1.8	0.0006	1.25	0.06	0.3	10.3	598.47	
8+59.98	8+51.35	8.63	-	-	2.79	12.9	100	9.29	25.9	36	3.7	0.0015	0.5	0.12	0	12.9	598.39	
INLET A8	0+23.05	14.27	0.6	10	0.6	10	100	9.8	5.9	24	1.9	0.0007	1.25	0.07	0.1	10.1	598.36	
0+23.05	8+51.35	23.05	-	-	0.6	10.1	100	9.78	5.9	24	1.9	0.0007	0	0	0.2	10.3	598.28	
8+51.35	4+00.84	450.51	-	-	3.39	12.9	100	9.29	31.5	36	4.5	0.0022	0.5	0.21	1	13.9	598.26	
4+00.84	3+95.72	5.12	-	-	3.39	13.9	100	9.15	31	36	4.4	0.0022	0	0	0	13.9	596.18	
INLET A9	3+95.72	36.03	0.31	10	0.31	10	100	9.8	3	18	1.7	0.0008	1.25	0.06	0.4	10.4	596.26	
3+95.72	3+84.43	11.29	-	-	3.7	13.9	100	9.15	33.9	36	4.8	0.0026	0.5	0.21	0	13.9	596.17	
INLET A10	3+84.43	36.27	0.3	10	0.3	10	100	9.8	2.9	18	1.6	0.0008	1.25	0.05	0.4	10.4	596.01	
3+84.43	2+45.79	138.64	-	-	4	13.9	100	9.15	36.6	36	5.2	0.003	0.5	0.24	0.4	14.3	595.93	
2+45.79	2+36.79	9	-	-	4	14.3	100	9.09	36.4	4x3	3	0.0009	0.5	0.07	0.1	14.4	595.27	
INLET A11	2+36.79	36.37	0.55	10	0.55	10	100	9.8	5.4	24	1.7	0.0006	1.25	0.06	0.4	10.4	595.27	
2+36.79	2+28.79	8	-	-	4.55	14.4	100	9.08	41.3	4x3	3.4	0.0011	0.5	0.11	0	14.4	595.19	
INLET A12	2+28.79	36.37	0.56	10	0.56	10	100	9.8	5.5	24	1.8	0.0006	1.25	0.06	0.3	10.3	595.15	
2+28.79	1+88.57	40.22	-	-	5.11	14.4	100	9.08	46.4	4x3	3.9	0.0014	0.5	0.15	0.1	14.5	595.07	
1+88.57	1+03.24	85.33	-	-	5.11	14.5	100	9.06	46.3	4x3	3.9	0.0014	0.5	0.12	0.2	14.7	594.82	

STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE B

FROM	TO	LENGTH (FT)	CxA	INLET TIME (min.)	TOTAL INTERCEPTED CxA	TIME AT UPSTREAM OF REACH (min)	DESIGN STORM FREQUENCY (yrs)	RAINFALL INTENSITY (in/hr)	INTERCEPTED FLOW (cfs)	STORM DRAIN DIAMETER (in)	VELOCITY (ft/s)	SLOPE OF FRICTION GRADIENT (ft/ft)	STRUCTURE LOSS COEFFICIENT	STRUCTURE LOSS AT UPSTREAM OF REACH	FLOW TIME IN DRAIN (min)	TIME AT DOWNSTREAM OF REACH (min)	H.G. AT UPSTREAM OF REACH (ft)	REMARKS
INLET B1	6+30.19	36.37	0.31	10	0.31	10	100	9.8	3	18	1.7	0.0008	1.25	0.06	0.4	10.4	607.08	
6+30.19	6+16.88	13.31	-	-	0.31	10.4	100	9.72	3	24	1	0.0002	0.35	0	0	10.4	606.99	
INLET B2	6+16.88	44.55	0.31	10	0.31	10	100	9.8	3	18	1.7	0.0008	1.25	0.06	0.4	10.4	606.93	
6+16.88	3+48.19	268.69	-	-	0.62	10.4	100	9.72	6	24	1.9	0.0007	0.75	0.04	0.6	11	606.83	
INLET B3	3+48.19	36.37	0.49	10	0.49	10	100	9.8	4.8	18	2.7	0.0021	1.25	0.14	0.1	10.1	603.25	
3+48.19	3+34.88	13.31	-	-	1.11	11	100	9.61	10.7	24	3.4	0.0022	0.75	0.14	0.1	11.1	603.01	
INLET B4	3+34.88	44.55	0.49	10	0.49	10	100	9.8	4.8	18	2.7	0.0021	1.25	0.14	0.1	10.1	603.25	
3+34.88	0+71.20	263.68	-	-	1.6	11.1	100	9.59	15.3	24	4.9	0.0046	0.75	0.24	0.5	11.6	602.84	
INLET B5	0+71.20	36.37	0.4	10	0.4	10	100	9.8	3.9	18	2.2	0.0014	1.25	0.09	0.3	10.3	600.48	
0+71.20	0+52.39	18.81	-	-	2	11.6	100	9.5	19	24	6.1	0.0071	0.75	0.3	0.1	11.7	600.34	
INLET B6	0+52.39	45.25	0.4	10	0.4	10	100	9.8	3.9	18	2.2	0.0014	1.25	0.09	0.3	10.3	600.06	
0+52.39	1+49.97	52.39	-	-	2.4	11.7	100	9.48	22.8	24	7.3	0.0102	0.75	0.41	0.1	11.8	599.91	

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ROCKWALL TECHNOLOGY PARK PHASE III

STORM DRAIN HYDRAULIC CALCULATIONS

STATE OF TEXAS
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