

STORM DRAIN CALCULATIONS FOR STORM DRAIN LAT C16

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 C16.1	4+18.06	262.10	5.50	10	5.50	10.0	100	9.80	53.9	42	5.6	0.0029	1.25	0.81	0.4	10.4	596.71	
INLET C16.7	4+18.06	14.43	0.43	10	0.43	10.0	100	9.80	4.2	18	2.4	0.0016	1.25	0.11	0.1	10.1	595.10	
4+18.06	1+67.55	250.51	-	-	5.93	10.4	100	9.72	57.6	42	6.0	0.0033	0.2	0.46	0.7	11.1	594.97	
INLET C16.9	1+67.55	14.43	0.55	10	0.55	10.0	100	9.80	5.4	18	3.1	0.0026	1.25	0.18	0.1	10.1	593.90	
1+67.55	0+67.61	100.06	-	-	6.48	11.1	100	9.59	62.1	42	6.5	0.0038	0.2	0.54	0.3	11.4	593.68	
0+67.61	0+62.61	5.00	-	-	6.48	11.4	100	9.53	61.8	42	6.4	0.0038	0.45	0.29	0.0	11.4	592.76	
0+62.61	7+04.08	54.28	-	-	6.48	11.4	100	9.53	61.8	45	5.6	0.0026	0	0.00	0.2	11.6	592.45	EXISTING STUBOUT

STORM DRAIN CALCULATIONS FOR EXISTING STORM DRAIN LINE D

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 D1	4+30.15	25.40	0.59	10	0.59	10.0	100	9.80	5.8	18	3.3	0.0030	1.25	0.21	0.1	10.1	601.34	
4+30.15	4+20.85	9.3	-	-	0.59	10.1	100	9.78	5.8	24	1.8	0.0007	0.35	0.02	0.1	10.2	600.95	
INLET D2	4+20.85	31.11	0.19	10	0.19	10.0	100	9.80	1.9	18	1.1	0.0003	1.25	0.02	0.1	10.1	601.23	PROPOSED INLET, UPDATED CA FROM PH-III PLANS BY WIER & ASSOCIATES DATED 4/19/09
4+20.85	1+80.15	240.7	-	-	0.78	10.2	100	9.76	7.6	24	2.4	0.0011	0.75	0.05	0.8	11.0	600.92	
INLET D3	1+80.15	31.11	0.48	10	0.48	10.0	100	9.80	4.7	21	2.0	0.0009	1.25	0.07	0.3	10.3	599.76	
1+80.15	1+70.85	9.3	-	-	1.26	11.0	100	9.61	12.1	27	3.0	0.0015	0.75	0.07	0.1	11.1	599.66	
INLET D4	1+70.85	31.11	0.16	10	0.16	10.0	100	9.80	1.6	21	0.7	0.0001	1.25	0.01	0.7	10.7	599.59	PROPOSED INLET, UPDATED CA FROM PH-III PLANS BY WIER & ASSOCIATES DATED 4/19/09
1+70.85	1+53.92	16.93	-	-	1.42	11.1	100	9.59	13.6	27	3.4	0.0019	0.75	0.07	0.1	11.2	599.58	
1+53.92	0+35	118.92	-	-	1.42	11.2	100	9.57	13.6	27	3.4	0.0019	0.35	0.06	0.3	11.5	599.48	STARTING HG USED FROM PH-III PLANS BY WIER & ASSOCIATES DATED 4/19/09

STORM DRAIN CALCULATIONS FOR EXISTING STORM DRAIN LINE E

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 E1	INLET E2	45	0.40	10	0.40	10.0	100	9.80	3.9	21	1.6	0.0006	1.25	0.05	0.5	10.5	598.59	PROPOSED INLET
INLET E2	0+35.33	120.66	0.94	10	1.34	10.5	100	9.70	13.0	21	5.4	0.0067	0.35	0.16	0.4	10.9	598.51	

STORM DRAIN CALCULATIONS FOR EXISTING STORM DRAIN LINE I

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 I1	INLET I2	45	0.25	10	0.25	10.0	100	9.80	2.5	18	1.4	0.0006	1.25	0.04	0.2	10.2	598.37	PROPOSED INLET, UPDATED CA FROM PH-III PLANS BY WIER & ASSOCIATES DATED 4/19/09
INLET I2	0+34.30	80.45	0.67	10	0.92	10.2	100	9.76	9.0	21	3.7	0.0032	0.35	0.08	0.2	10.4	598.21	

STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE M

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 M1	6+73.00	25.98	0.36	10	0.36	10.0	100	9.80	3.5	18	2.0	0.0011	1.25	0.08	0.1	10.1	597.07	
6+73.00	6+63.49	9.51	-	-	0.36	10.1	100	9.78	3.5	24	1.1	0.0002	0.6	0.00	0.0	10.1	596.78	
INLET M2	6+63.49	31.82	0.27	10	0.27	10.0	100	9.80	2.6	18	1.5	0.0006	1.25	0.04	0.1	10.1	597.03	
6+63.49	3+76.79	286.7	-	-	0.63	10.1	100	9.78	6.2	24	2.0	0.0008	0.4	0.05	0.9	11.0	596.77	
INLET M3	3+76.79	23.66	0.68	10	0.68	10.0	100	9.80	6.7	18	3.8	0.0041	1.25	0.28	0.1	10.1	596.39	
INLET M4	3+76.79	23.66	0.68	10	0.68	10.0	100	9.80	6.7	18	3.8	0.0041	1.25	0.28	0.1	10.1	596.39	
3+76.79	1+04.57	272.22	-	-	2.00	11.0	100	9.61	19.2	27	4.8	0.0038	0.5	0.33	1.0	12.0	596.01	

STORM DRAIN CALCULATIONS FOR EXISTING STORM DRAIN LINE P

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 P1	4+65.42	26.35	0.34	10	0.34	10.0	100	9.80	3.3	18	1.9	0.0010	1.25	0.07	0.2	10.2	599.14	PROPOSED INLET
4+65.42	4+57.92	7.5	-	-	0.34	10.2	100	9.76	3.3	27	0.8	0.0001	0.75	0.00	0.2	10.4	599.04	
INLET P2	4+57.92	31.11	0.92	10	0.92	10.0	100	9.80	9.0	21	3.7	0.0032	1.25	0.27	0.1	10.1	599.41	
4+57.92	1+13.35	457.92	-	-	1.26	10.4	100	9.72	12.2	27	3.1	0.0016	0.75	0.14	2.5	12.9	599.04	

STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE T

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 FUT1	2+61.86	25.98	0.38	10	0.38	10.0	100	9.80	3.7	18	2.1	0.0012	1.25	0.09	0.0	10.0	604.32	
2+61.86	2+52.35	9.51	-	-	0.38	10.0	100	9.80	3.7	24	1.2	0.0003	0.6	0.00	0.0	10.0	602.76	
INLET FUT2	2+52.35	31.32	0.36	10	0.36	10.0	100	9.80	3.5	18	2.0	0.0011	1.25	0.08	0.1	10.1	604.31	
2+52.35	0+53.85	198.5	-	-	0.74	10.1	100	9.78	7.2	24	2.3	0.0010	0.4	0.07	0.5	10.6	602.71	
FIFUT5	INLET FUT3	25	1.17	10	1.17	10.0	100	9.80	11.5	24	3.7	0.0026	1.25	0.26	0.1	10.1	602.07	
INLET FUT3	0+53.85	25.98	0.22	10	1.40	10.1	100	9.78	13.6	24	4.3	0.0036	0.5	0.18	0.1	10.2	601.74	
0+53.85	0+44.34	9.51	-	-	2.13	10.6	100	9.68	20.6	27	5.2	0.0044	0.6	0.37	0.0	10.6	601.47	
INLET FUT4	0+44.34	31.82	0.21	10	0.21	10.0	100	9.80	2.0	18	1.1	0.0004	1.25	0.02	0.1	10.1	602.23	
0+44.34	JBOX	44.34	-	-	2.34	10.6	100	9.68	22.7	27	5.7	0.0054	0.2	0.42	0.1	10.7	601.06	
INLET T1	9+31.07	11.55	0.15	10	0.15	10.0	100	9.80	1.5	18	0.8	0.0002	1.25	0.01	0.0	10.0	601.77	
9+31.07	9+17.21	13.86	-	-	0.15	10.0	100	9.80	1.5	24	0.5	0.0000	0.6	0.00	0.1	10.1	600.99	
INLET T2	9+17.21	40.41	0.15	10	0.15	10.0	100	9.80	1.5	18	0.8	0.0002	1.25	0.01	0.1	10.1	601.77	
9+17.21	JBOX W	29.71	-	-	0.31	10.1	100	9.78	3.0	24	1.0	0.0002	0.6	0.01	0.1	10.2	600.86	
JBOX	6+08.53	276.97	-	-	2.65	10.7	100	9.66	25.6	30	5.2	0.0039	0.5	0.41	0.6	11.3	600.40	
INLET T3	6+08.53	25.98	0.39	10	0.39	10.0	100	9.80	3.8	18	2.2	0.0013	1.25	0.09	0.0	10.0	598.60	
6+08.53	5+99.02	9.51	-	-	3.03	11.3	100	9.55	29.0	33	4.9	0.0030	0.5	0.16	0.0	11.3	598.31	
INLET T4	5+99.02	31.82	0.40	10	0.40	10.0	100	9.80	3.9	18	2.2	0.0014	1.25	0.09	0.1	10.1	598.60	
5+99.02	3+72.85	226.17	-	-	3.43	11.3	100	9.55	32.7	33	5.5	0.0038	0.5	0.28	0.4	11.7	598.12	
3+72.85	2+82.11	90.74	-	-	3.43	11.7	100	9.48	32.5	33	5.5	0.0038	0	0.00	0.3	12.0	596.67	
INLET T5	2+82.11	25.98	0.71	10	0.71	10.0	100	9.80	7.0	21	2.9	0.0020	1.25	0.16	0.1	10.1	596.54	
2+82.11	2+72.60	9.51	-	-	4.14	12.0	100	9.43	39.0	39	4.7	0.0022	0.5	0.11	0.0	12.0	596.33	
INLET T6	2																	