Storm Sewer Design

10 yr. Storm

Project: INTERSTATE COMMERCE I
Job No.: 06F070-001

Formulas Used:
Q_r = ACI
V_p = 1.486 R^(2/3) S^(1/2)/n
Q_p = A_p V_p

Bayer Becker Engineers

Designed By: JLR Date:
Reviewed By: Date:
Revisions: Date:

Revisions: Date:
Revisions: Date:
Revisions: Date:

Constant n value: 0.015

LOCATION			TOPOGRAPHY				TIME					DESIGN										
Street	From Structure	To Structure	Area No.	Area (acres)	"C"	A*C (acres)	Cumm. AC (acres)	T_o-inlet (min.)	T_p-pipe (min.)	T_c-conc. (min.)	Intensity (in./hr.)	Q_r (c.f.s.)	Pipe Size (inches)	"n"	Distance (ft.)	Slope (%)	Velocity (ft./sec)	Q_p (c.f.s.)	Flow Time (min.)	T/Grate	Inlet Invert	Outlet Invert	Inlet Clearance
DOCK DRIVE	1	2	1	0.53	0.72	0.38	0.38	10.00	0.00	10.00	5.15	1.97	12	0.015	170	7.10	10.48	8.23	0.27	651.00	647.07	635.00	2.93
	2	7	2	0.11	0.80	0.09	0.47	10.00	0.27	10.27	5.11	2.40	12	0.015	144	4.00	7.86	6.18	0.31	638.74	631.00	625.24	6.74
	3	5	3	1.58	0.81	1.28	1.28	10.00	0.00	10.00	5.15	6.60	15	0.015	154	4.00	9.12	11.20	0.28	634.66	630.77	624.61	2.64
	4	5	4	0.57	0.95	0.54	0.54	10.00	0.00	10.00	5.15	2.79	12	0.015	66	1.00	3.93	3.09	0.28	630.08	625.52	624.86	3.56
	5	7	5	0.91	0.61	0.55	2.37	10.00	0.28	10.28	5.11	12.12	24	0.015	146	0.70	5.22	16.40	0.47	628.88	623.86	622.84	3.02
	6	7	6	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	67	1.00	3.93	3.09	0.28	630.08	625.91	625.24	3.17
	7	9	7	0.97	0.77	0.75	4.06	10.28	0.47	10.75	5.04	20.45	30	0.015	146	1.00	7.24	35.55	0.34	628.88	622.34	620.88	4.04
	8	9	8	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	66	1.00	3.93	3.09	0.28	630.08	626.02	625.36	3.06
	9	11	9	0.71	0.76	0.54	5.06	10.75	0.34	11.08	4.99	25.25	30	0.015	146	0.70	6.06	29.74	0.40	628.88	620.88	619.86	5.50
	10	11	10	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	67	1.00	3.93	3.09	0.28	630.08	626.02	625.35	3.06
	11	13	11	4.94	0.69	3.40	8.92	11.08	0.40	11.48	4.93	43.99	36	0.015	146	0.80	7.31	51.70	0.33	628.88	619.36	618.19	6.52
	12	13	12	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	67	1.00	3.93	3.09	0.28	630.08	626.02	625.35	3.06
	13	15	13	0.63	0.86	0.54	9.93	11.48	0.33	11.82	4.88	48.50	42	0.015	146	0.70	7.58	72.95	0.32	628.88	617.69	616.67	7.69
	14	15	14	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	72	1.00	3.93	3.09	0.31	630.08	625.91	625.19	3.17
	15	17	15	0.52	0.90	0.47	10.86	11.82	0.32	12.14	4.84	52.56	42	0.015	141	0.70	7.58	72.95	0.31	628.88	616.67	615.68	8.71
	16	17	16	0.41	0.95	0.39	0.39	10.00	0.00	10.00	5.15	2.01	12	0.015	70	1.00	3.93	3.09	0.30	630.08	625.53	624.83	3.55
	17	19	17	1.78	0.87	1.55	12.81	12.14	0.31	12.45	4.80	61.42	42	0.015	178	0.70	7.58	72.95	0.39	628.90	615.68	614.43	9.72
	18	19	18	4.41	0.45	2.00	2.00	10.00	0.00	10.00	5.15	10.28	15	0.015	54	4.40	9.57	11.74	0.09	624.00	619.21	616.83	3.54
	19	20	19	0.21	0.92	0.19	15.00	12.45	0.39	12.84	4.74	71.13	42	0.015	120	0.70	7.58	72.95	0.26	627.72	614.43	613.59	9.79
PORT UNION DRIVE	21	23	20	8.14	0.50	4.11	4.11	10.00	0.00	10.00	5.15	21.17	30	0.015	158	0.50	5.12	25.14	0.51	619.50	615.84	615.05	1.16
	22	23	21	4.41	0.48	2.11	2.11	10.00	0.00	10.00	5.15	10.87	18	0.015	32	3.40	9.50	16.79	0.06	620.20	616.18	615.09	2.52
	23	24	22	0.62	0.84	0.52	6.74	10.00	0.51	10.51	5.07	34.20	36	0.015	289	0.50	5.78	40.87	0.83	620.06	614.55	613.11	2.51
	24	25	23	0.45	0.93	0.42	7.16	10.51	0.83	11.35	4.95	35.43	36	0.015	96	0.50	5.78	40.87	0.28	625.25	613.11	612.63	9.15
COL. 4	26	27	24	0.90	0.95	0.86	0.86	10.00	0.00	10.00	5.15	4.40	15	0.015	72	1.00	4.56	5.60	0.26	633.96	629.27	628.55	3.44
COL. 9	28	29	25	0.82	0.95	0.78	0.78	10.00	0.00	10.00	5.15	4.01	15	0.015	128	1.00	4.56	5.60	0.47	633.96	629.27	627.99	3.44
COL. 14	30	31	26	0.82	0.95	0.78	0.78	10.00	0.00	10.00	5.15	4.01	15	0.015	52	1.00	4.56	5.60	0.19	633.96	629.27	628.75	3.44
COL. 19	32	33	27	0.88	0.95	0.84	0.84	10.00	0.00	10.00	5.15	4.31	15	0.015	52	1.00	4.56	5.60	0.19	633.96	629.27	628.75	3.44