

PROJECT NAME : 205 BYPASS-Section I  
 JOB NUMBER :  
 PROJECT DESCRIPTION : Storm Drain A - Line A, Line A1, Line A laterals  
 ANALYSIS FREQUENCY : 100 Years  
 MEASUREMENT UNITS: ENGLISH

OUTPUT FOR ANALYSIS FREQUENCY of: 100 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
OSA4	0.35	16.70	20.00	20.00	8.33	0.000	48.706
A-1	0.9	0.87	10.00	10.00	9.80	0.000	7.651
A-6	0.9	0.58	10.00	10.00	9.80	0.000	5.090
A-9	0.9	0.63	10.00	10.00	9.80	0.000	5.558
A-18	0.9	0.71	10.00	10.00	9.80	0.000	6.262
A-21	0.9	0.42	10.00	10.00	9.80	0.000	3.689
A-23	0.9	0.55	10.00	10.00	9.80	0.000	4.860
A-27	0.9	0.41	10.00	10.00	9.80	0.000	3.644
A-32	0.9	0.76	10.00	10.00	9.80	0.000	6.686
A-2	0.9	0.87	10.00	10.00	9.80	0.000	7.652
A-5	0.9	0.55	10.00	10.00	9.80	0.000	4.876
A-7	0.9	0.70	10.00	10.00	9.80	0.000	6.183
A-10	0.9	0.41	10.00	10.00	9.80	0.000	3.601
A-22	0.9	0.48	10.00	10.00	9.80	0.000	4.258
A-24	0.9	0.49	10.00	10.00	9.80	0.000	4.332
A-12	0.9	0.24	10.00	10.00	9.80	0.000	2.134
A-16	0.9	0.29	10.00	10.00	9.80	0.000	2.535
A-13	0.9	0.22	10.00	10.00	9.80	0.000	1.965
A-35	0.9	0.33	10.00	10.00	9.80	0.000	2.887
A-34	0.9	0.33	10.00	10.00	9.80	0.000	2.950
A-33	0.9	0.13	10.00	10.00	9.80	0.000	1.113
A-31	0.9	0.82	10.00	10.00	9.80	0.000	7.231
A-8	0.9	0.64	10.00	10.00	9.80	0.000	5.662
A-37	0.9	0.50	10.00	10.00	9.80	0.000	4.376
A-38	0.9	0.35	10.00	10.00	9.80	0.000	3.048
RSA1	0.35	28.16	20.00	20.00	8.33	0.000	82.100
RSA2	0.35	0.99	20.00	20.00	8.33	0.000	2.886
A-36	0.9	0.18	10.00	10.00	9.80	0.000	1.570

On Grade Inlets Computation Data.

Inlet ID	Inlet Type	Total Q (cfs)	Intercept Capacity (cfs)	Q Bypass Allow (cfs)	Q Bypass Actual (cfs)	To Inlet ID	Required Length (ft)	Actual Length (ft)	Ponded Width (ft)
A-16	Curb	2.535	2.488	0.000	0.047	A-9	11.22	10.00	9.65
A-35	Curb	2.887	2.887	0.000	0.000	A-33	9.53	10.00	12.20
A-34	Curb	4.117	4.105	0.000	0.012	A-33	10.41	10.00	15.35
A-18	Curb	6.262	5.759	0.000	0.504	A-21	19.91	15.00	12.80
A-21	Curb	4.192	4.051	0.000	0.141	A-23	11.79	10.00	14.05
A-23	Curb	5.001	4.636	0.000	0.365	A-27	13.05	10.00	15.00
A-27	Curb	4.009	3.908	0.000	0.101	A-32	11.49	10.00	13.80
A-32	Curb	6.787	5.620	0.000	1.167	A-34	24.04	15.00	11.70
A-2	Curb	7.652	5.316	0.000	2.336	A-5	20.71	10.00	14.65
A-5	Curb	7.212	6.657	0.000	0.555	A-7	19.75	15.00	14.50
A-8	Curb	5.662	4.220	0.000	1.442	A-10	18.79	10.00	12.30
A-10	Curb	5.043	4.665	0.000	0.378	A-22	13.11	10.00	15.05
A-22	Curb	4.637	4.381	0.000	0.256	A-24	12.50	10.00	14.60
A-24	Curb	4.588	4.588	0.000	0.000	A-31	12.42	15.00	14.55
A-12	Curb	2.134	2.134	0.000	0.000	A-9	8.23	10.00	10.70
A-13	Curb	1.965	1.965	0.000	0.000	A-9	7.87	10.00	10.40
A-1	Curb	7.651	5.316	0.000	2.335	A-6	20.71	10.00	14.65
A-6	Curb	7.425	6.800	0.000	0.625	A-9	20.08	15.00	14.65
A-31	Curb	7.231	5.808	0.000	1.423	A-38	25.22	15.00	12.37
A-37	Curb	4.376	3.893	0.000	0.483	A-36	14.17	10.00	13.67
A-38	Curb	4.471	3.943	0.000	0.527	A-36	14.39	10.00	27.25

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded Left (ft)	Ponded Right (ft)
A-33	Curb	15.00	n/a	1.125	15.125	0.088	7.85	7.85
A-7	Curb	15.00	n/a	6.737	15.125	0.292	16.20	15.35
OSA4	Curb	20.00	n/a	48.706	45.711	1.391	47.50	47.50
A-9	Curb	15.00	n/a	6.230	15.125	0.277	15.75	14.95
A-36	Curb	15.00	n/a	2.581	6.338	0.154	14.00	14.00

NORMAL TERMINATION OF WINSTORM.

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr. Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
A-18	Curb	0.900	0.71	10.00	9.80	0.000	0.00	6.264
A-21	Curb	0.900	0.42	10.00	9.80	0.000	0.00	3.690
A-23	Curb	0.900	0.55	10.00	9.80	0.000	0.00	4.861
A-27	Curb	0.900	0.41	10.00	9.80	0.000	0.00	3.646
A-32	Curb	0.900	0.76	10.00	9.80	0.000	0.00	6.688
A-2	Curb	0.900	1.74	10.35	9.74	0.000	0.00	15.212
A-5	Curb	0.900	2.86	11.12	9.61	0.000	0.00	24.776
A-7	Curb	0.900	3.57	11.61	9.53	0.000	0.00	30.575
A-8	Curb	0.900	0.64	10.00	9.80	0.000	0.00	5.663
A-10	Curb	0.900	0.41	10.00	9.80	0.000	0.00	3.602
A-22	Curb	0.900	0.48	10.00	9.80	0.000	0.00	4.260
A-24	Curb	0.900	0.49	10.00	9.80	0.000	0.00	4.334
A-12	Curb	0.900	0.46	10.26	9.76	0.000	0.00	4.081
A-13	Curb	0.900	0.22	10.00	9.80	0.000	0.00	1.966
OSA4	Curb	0.350	16.70	20.00	8.33	0.000	0.00	48.717
A-1	Curb	0.900	0.87	10.00	9.80	0.000	0.00	7.654
A-6	Curb	0.900	0.58	10.00	9.80	0.000	0.00	5.092
A-9	Curb	0.900	0.63	10.00	9.80	0.000	0.00	5.560
M1	Junct	0.365	17.16	20.04	8.33	0.000	0.00	52.173
M2	Junct	0.476	21.65	20.44	8.28	0.000	0.00	85.293
M3	CircMh	0.476	21.65	20.44	8.28	0.000	0.00	85.293
M4	Junct	0.501	23.00	21.66	8.14	0.000	0.00	93.719
M5	CircMh	0.515	23.83	22.18	8.08	0.000	0.00	99.044
M6	CircMh	0.531	24.86	22.90	8.00	0.000	0.00	105.493
M7	CircMh	0.544	25.76	23.46	7.94	0.000	0.00	111.153
M8	CircMh	0.544	25.76	23.46	7.94	0.000	0.00	111.153
M9	CircMh	0.554	26.52	24.22	7.86	0.000	0.00	115.362
J-A9	Junct	0.384	17.79	20.16	8.32	0.000	0.00	56.799
Bend1	Junct	0.365	17.16	20.04	8.33	0.000	0.00	52.173
Bend2	Junct	0.476	21.65	20.44	8.28	0.000	0.00	85.293
Bend3	Junct	0.476	21.65	20.44	8.28	0.000	0.00	85.293
Bend4	Junct	0.554	26.52	24.22	7.86	0.000	0.00	115.362
A-16	Curb	0.900	0.29	10.00	9.80	0.000	0.00	2.536
J-A16	Junct	0.392	18.08	20.35	8.29	0.000	0.00	58.788
Bend5	Junct	0.900	0.22	10.00	9.80	0.000	0.00	1.966
OUT	Outlet	0.554	26.52	24.22	7.86	0.000	0.00	115.362

Conveyance Configuration Data

Run#	Node US	Node DS	Flowline US (ft)	Flowline DS (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n-value
1	A-1	A-2	537.74	537.24		Circ	1.00	1.50	100.50	0.50	0.013
2	A-2	A-5	536.74	531.62		Circ	1.00	2.00	395.39	1.30	0.013
3	A-5	A-7	531.12	529.33		Circ	1.00	2.50	232.08	0.77	0.013
4	A-7	M2	529.33	527.20		Circ	1.00	2.50	136.00	1.57	0.013
5	A-13	Bend5	530.57	530.41		Circ	1.00	1.50	14.52	1.09	0.013
7	A-12	M1	529.79	528.68		Circ	1.00	1.50	29.90	3.71	0.013
8	OSA4	M1	528.75	527.68		Circ	1.00	3.50	36.49	2.93	0.013
9	M1	Bend1	527.68	527.59		Circ	1.00	3.50	18.91	0.50	0.013
10	M2	Bend2	526.70	525.51		Circ	1.00	3.50	237.22	0.50	0.013
11	M3	Bend3	520.43	519.85		Circ	1.00	3.50	116.36	0.50	0.013
12	M4	M5	518.45	516.93		Circ	1.00	3.50	304.80	0.50	0.013
13	M5	M6	516.43	514.42		Circ	1.00	4.00	401.00	0.50	0.013
14	M6	M7	514.42	512.92		Circ	1.00	4.00	301.00	0.50	0.013
15	M7	M8	512.92	511.42		Circ	1.00	4.00	300.00	0.50	0.013
16	M8	M9	506.42	497.02		Circ	1.00	4.00	251.41	3.74	0.013
17	M9	Bend4	497.02	495.15		Circ	1.00	4.00	50.05	3.74	0.013
18	A-6	A-5	532.62	531.87		Circ	1.00	1.50	100.50	0.75	0.013
19	A-18	M4	527.98	526.95		Circ	1.00	1.50	10.25	10.11	0.013
20	A-8	M4	527.98	526.95		Circ	1.00	1.50	90.25	1.14	0.013
21	A-21	M5	525.86	524.43		Circ	1.00	1.50	10.25	14.11	0.013
22	A-10	M5	525.86	524.43		Circ	1.00	1.50	90.25	1.58	0.013
23	A-23	M6	523.86	522.42		Circ	1.00	1.50	10.25	14.16	0.013
24	A-22	M6	524.02	522.42		Circ	1.00	1.50	104.05	1.53	0.013
25	A-27	M7	522.36	520.92		Circ	1.00	1.50	10.25	14.16	0.013
26	A-24	M7	522.41	520.92		Circ	1.00	1.50	111.17	1.34	0.013
28	A-32	M9	504.05	503.02		Circ	1.00	1.50	10.25	10.10	0.013
29	J-A9	J-A16	527.39	526.92		Circ	1.00	3.50	94.35	0.50	0.013
30	A-9	J-A9	529.62	528.39		Circ	1.00	1.50	48.08	2.55	0.013
31	Bend1	J-A9	527.59	527.39		Circ	1.00	3.50	38.76	0.50	0.013
32	Bend2	M3	525.51	525.43		Circ	1.00	3.50	15.60	0.54	0.013
33	Bend3	M4	519.85	518.45		Circ	1.00	3.50	280.51	0.50	0.013
34	Bend4	OUT									