

DWG: F:\2018\1001-1500\018-1450\40-Design\AutoCAD\Final_Plans\Sheets\NCVC\PUBLIC_STORM\C_CALCCS_81450.DWG
DATE: Jul 24, 2019 3:07pm
USER: rjeppson

100-YEAR PUBLIC STORM SEWER HYDRAULIC CALCULATIONS

MyReport

Line No.	Line ID	Line Length	Line Size	n-val Pipe	Invert Dn	Invert Up	Line Slope	Gnd/Rim El Dn	Gnd/Rim El Up	HGL Dn	HGL Up	Vel Ave	Defl Ang	J-Loss Coeff	Minor Loss	Energy Loss	Known Q	Flow Rate	
		(ft)	(in)		(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(Deg)		(ft)	(ft)	(cfs)	(cfs)	
1	EX 30-IN. RCP	61.411	30	0.013	1014.45	1015.77	2.15	0.00	1021.42	1015.74	1017.69	10.14	91.614	1.50 z	1.44	0.000	2.71	31.81	
2	P-B2	159.969	30	0.012	1015.97	1016.77	0.50	1021.42	1023.07	1017.87	1018.67	7.26	-89.493	0.52	0.43	0.799	0.56	29.10	
3	P-B3	67.970	30	0.013	1016.97	1017.33	0.53	1023.07	1023.05	1019.10	1019.37	6.53	17.292	0.96	0.66	0.321	0.00	28.54	
4	P-C1	69.240	24	0.012	1017.83	1018.19	0.52	1023.05	1022.50	1020.03	1020.63	7.24	72.806	1.50	1.22	0.596	4.43	22.73	
5	P-C2	49.270	24	0.012	1018.39	1018.64	0.51	1022.50	1022.78	1021.85	1022.06	5.16	0.524	0.50	0.21	0.216	5.73	16.21	
6	C3	158.010	24	0.012	1018.84	1019.63	0.50	1022.78	1024.35	1022.27	1022.56	3.34	-0.523	0.50	0.09	0.289	4.87	10.48	
7	P-C4	113.126	18	0.012	1020.13	1020.70	0.50	1024.35	1025.63	1022.65	1022.92	3.17	0.000	1.50	0.24	0.275	3.74	5.61	
8	P-C5	34.500	15	0.013	1020.95	1021.54	1.71	1025.63	1025.64	1023.16	1023.19	1.52	90.000	1.00	0.04	0.029	1.87	1.87	
9	P-B4	34.680	18	0.012	1018.33	1019.07	2.13	1023.05	1024.18	1020.03	1020.00 j	4.17	-53.320	1.09 z	n/a	0.136	4.28	5.81	
10	P-B5	26.040	18	0.012	1019.57	1021.10	5.88	1024.18	1022.70	1020.00	1021.56	3.48	43.121	1.00 z	0.17	0.000	1.53	1.53	
11	C6	34.500	15	0.013	1018.39	1018.56	0.49	1022.50	1022.49	1021.85	1021.88	1.70	90.004	1.00	0.05	0.036	2.09	2.09	
12	P-A1	300.530	24	0.012	1007.98	1009.48	0.50	1010.98	1013.61	1009.98	1012.85	7.61	2.122	0.15	0.14	2.885	0.00	23.92	
13	P-A2	95.970	24	0.012	1009.68	1010.16	0.50	1013.61	1016.78	1012.98	1013.90	7.61	0.000	0.63	0.57	0.915	8.02	23.92	
14	P-A3	140.170	24	0.012	1010.36	1011.06	0.50	1016.78	1019.05	1014.46	1015.05	5.06	21.462	0.94	0.37	0.590	0.00	15.90	
Project File: PUBLIC STORM 100-YR.stm											Number of lines: 14				Date: 7/24/2019				
NOTES: ** Critical depth																			

10-YEAR PUBLIC STORM SEWER HYDRAULIC CALCULATIONS

MyReport

Line No.	Line ID	Line Length	Line Size	n-val Pipe	Invert Dn	Invert Up	Line Slope	Gnd/Rim El Dn	Gnd/Rim El Up	HGL Dn	HGL Up	Vel Ave	Defl Ang	J-Loss Coeff	Minor Loss	Energy Loss	Known Q	Flow Rate	
		(ft)	(in)		(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft/s)	(Deg)		(ft)	(ft)	(cfs)	(cfs)	
1	EX 30-IN. RCP	81.411	30	0.013	1014.45	1015.77	2.15	0.00	1021.42	1015.39	1017.21	8.43	91.614	1.50 z	0.89	0.000	1.55	18.03	
2	P-B2	159.969	30	0.012	1015.97	1016.77	0.50	1021.42	1023.07	1017.26	1018.14	6.23	-89.493	0.52 z	0.29	0.000	0.32	16.48	
3	P-B3	67.970	30	0.013	1016.97	1017.33	0.53	1023.07	1023.05	1018.28	1018.69	6.07	17.292	0.96 z	n/a	0.000	0.00	16.16	
4	P-C1	69.240	24	0.012	1017.83	1018.19	0.52	1023.05	1022.50	1019.10	1019.48	6.07	72.806	1.50 z	0.84	0.000	2.49	12.85	
5	P-C2	49.270	24	0.012	1018.39	1018.64	0.51	1022.50	1022.78	1019.48	1019.72 j	5.27	0.524	0.50 z	n/a	0.000	3.23	9.17	
6	C3	158.010	24	0.012	1018.84	1019.63	0.50	1022.78	1024.35	1019.72	1020.49 j	4.52	-0.523	0.50 z	n/a	0.000	2.74	5.94	
7	P-C4	113.126	18	0.012	1020.13	1020.70	0.50	1024.35	1025.63	1020.79	1021.38	4.20	0.000	1.50 z	n/a	0.000	2.13	3.20	
8	P-C5	34.500	15	0.013	1020.95	1021.54	1.71	1025.63	1025.64	1021.38	1021.95 j	2.97	90.000	1.00 z	n/a	0.000	1.07	1.07	
9	P-B4	34.680	18	0.012	1018.33	1019.07	2.13	1023.05	1024.18	1018.78	1019.76	5.74	-53.320	1.09 z	n/a	0.000	2.44	3.31	
10	P-B5	26.040	18	0.012	1019.57	1021.10	5.88	1024.18	1022.70	1019.76	1021.45	4.68	43.121	1.00 z	n/a	0.000	0.87	0.87	
11	C6	34.500	15	0.013	1018.39	1018.56	0.49	1022.50	1022.49	1019.48	1019.49	1.14	90.004	1.00	0.02	0.013	1.19	1.19	
12	P-A1	300.530	24	0.012	1007.98	1008.48	0.50	1010.98	1013.61	1009.27	1010.64 j	5.22	2.122	0.15 z	n/a	0.000	0.00	10.48	
13	P-A2	95.970	24	0.012	1009.68	1010.16	0.50	1013.61	1016.78	1010.80	1011.32	5.66	0.000	0.63 z	0.30	0.000	4.57	10.48	
14	P-A3	140.170	24	0.012	1010.36	1011.06	0.50	1016.78	1019.05	1011.32	1011.92 j	4.28	21.462	0.94 z	n/a	0.000	0.00	5.91	
Project File: PUBLIC STORM 10-YR.stm											Number of lines: 14				Date: 7/24/2019				
NOTES: ** Critical depth																			

100-YEAR PUBLIC STORM SEWER INLET CALCULATIONS

Inlet Report

Line No	Inlet ID	Q = CIA	Q carry	Q capt	Q Byp	Junc Type	Curb Inlet		Grate Inlet			Gutter								Inlet			Byp Line No
		(cfs)	(cfs)	(cfs)	(cfs)		Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)		
1	B1	2.71*	0.00	2.70	0.01	Curb	0.5	7.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.22	9.55	0.82	0.78	9.5	13		
2	B2	0.56*	0.00	0.56	0.00	Curb	0.5	4.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.13	5.11	0.79	0.00	9.5	1		
3	B3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off		
4	C1	4.43*	1.35	5.78	0.00	Curb	0.5	6.40	0.00	0.00	Sag	1.33	0.039	0.020	0.013	0.46	21.67	1.25	21.67	9.5	Off		
5	C2	5.73*	0.49	5.30	0.92	Curb	0.5	8.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.29	13.13	0.94	6.24	9.5	4		
6	C3	4.87*	0.32	4.71	0.49	Curb	0.5	8.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.27	12.26	0.91	4.82	9.5	5		
7	C4	3.74*	0.00	3.42	0.32	Curb	0.5	7.00	0.00	0.00	0.013	1.33	0.039	0.020	0.013	0.23	10.28	0.89	3.83	9.5	6		
8	C5	1.87*	0.00	1.59	0.28	Curb	0.5	4.00	0.00	0.00	0.013	1.33	0.039	0.020	0.013	0.18	7.86	0.89	3.59	9.5	11		
9	B4	4.28*	0.00	3.85	0.43	Curb	0.5	7.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.25	11.38	0.91	4.57	9.5	4		
10	B5	1.53*	0.00	1.53	0.00	Hdwl	0.0	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off		
11	C6	2.09*	0.28	2.37	0.00	Curb	0.5	5.60	0.00	0.00	Sag	1.33	0.039	0.020	0.013	0.28	12.76	1.07	12.76	9.5	Off		
12	A1	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off		
13	A2	8.02*	0.01	5.64	2.39	Curb	0.5	7.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.31	14.47	1.00	9.10	9.5	Off		
14	A3	0.00	15.90	0.00	15.90	MH	0.0	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off		
Project File: PUBLIC STORM 100-YR.stm													Number of lines: 14					Run Date: 7/24/2019					
NOTES: Inlet N-Values = 0.016; Known Qs only; * Indicates Known Q added. All curb inlets are throat.																							

10-YEAR PUBLIC STORM SEWER INLET CALCULATIONS

Inlet Report

Line No	Inlet ID	Q = CIA	Q carry	Q capt	Q Byp	Junc Type	Curb Inlet		Grate Inlet			Gutter								Inlet			Byp Line No
		(cfs)	(cfs)	(cfs)	(cfs)		Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)		
1	B1	1.55*	0.00	1.55	0.00	Curb	0.5	7.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.18	7.68	0.79	0.00	9.5	13	
2	B2	0.32*	0.00	0.32	0.00	Curb	0.5	4.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.11	4.03	0.79	0.00	9.5	1	
3	B3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off	
4	C1	2.49*	0.00	2.49	0.00	Curb	0.5	6.40	0.00	0.00	0.00	Sag	1.33	0.039	0.020	0.013	0.27	12.37	1.06	12.37	9.5	Off	
5	C2	3.23*	0.00	3.23	0.00	Curb	0.5	8.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.23	10.22	0.81	0.49	9.5	4	
6	C3	2.74*	0.00	2.74	0.00	Curb	0.5	8.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.22	9.59	0.79	0.00	9.5	5	
7	C4	2.13*	0.00	2.13	0.00	Curb	0.5	7.00	0.00	0.00	0.00	0.013	1.33	0.039	0.020	0.013	0.19	8.27	0.79	0.00	9.5	6	
8	C5	1.07*	0.00	1.06	0.01	Curb	0.5	4.00	0.00	0.00	0.00	0.013	1.33	0.039	0.020	0.013	0.15	6.30	0.82	0.81	9.5	11	
9	B4	2.44*	0.00	2.44	0.00	Curb	0.5	7.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.21	9.17	0.79	0.00	9.5	4	
10	B5	0.87*	0.00	0.87	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off	
11	C6	1.19*	0.01	1.20	0.00	Curb	0.5	5.60	0.00	0.00	0.00	Sag	1.33	0.039	0.020	0.013	0.19	8.11	0.98	8.11	9.5	Off	
12	A1	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off	
13	A2	4.57*	0.00	4.02	0.55	Curb	0.5	7.00	0.00	0.00	0.00	0.010	1.33	0.039	0.020	0.013	0.26	11.67	0.92	5.06	9.5	Off	
14	A3	0.00	0.00	5.91	0.00	5.91	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off
Project File: PUBLIC STORM 10-YR.stm														Number of lines: 14					Run Date: 7/24/2019				
NOTES: Inlet N-Values = 0.016; Known Qs only; * Indicates Known Q added. All curb inlets are throat.																							