

STORM SEWER CALCULATIONS

Upstream Station	Downstream Station	Distance (ft)	AREA (ac)	Total Area (ac)	Picked Up (ac)	C	CA	Accumulated CA	Tc (Min)	Design Storm (Years)	I (in/hr)	Q (CFS)	S (ft/ft)	Pipe Size (in)	Velocity (fps)	Head Loss (ft)	Flow Time (Min)	Time of D/Belt (Min)	Velocity (ft/s)	Hydraulic Grade Upstream	Hydraulic Grade Downstream	Proposed Grade
Line D1	8-45.31	47.5	34	0.39	0.5	0.2	0.2	10	100	9.8	2	0.0003	18	1.1	0.02	0.72	10.72	0.02	539.14	539.15	540.52	
	8-45.31	7-85.22	60.09	3175.76	77	1.9	0.85	10.72	100	9.8	11.3	0.0001	21	6.4	0.34	0.21	10.63	0.32	536.51	538.21	540.44	
	7-85.22	6-80.00	105.22	30	0.86	0.5	0.43	11.2	100	9.8	15.5	0.0095	21	6.4	0.34	0.27	11.2	0.3	536.51	538.21	540.6	
	6-80.00	5-00.00	180	0	0	0.5	0	11.2	100	9.8	15.5	0.0095	21	6.4	0.34	0.27	11.2	0.3	536.51	538.21	540.6	
	5-00.00	0-00.00	500	0	0	0.5	0	11.2	100	9.8	15.5	0.0095	21	6.4	0.34	0.27	11.2	0.3	536.51	538.21	540.6	
Line D2	5-40.70	28.03	23	2.29	0.5	1.15	1.15	10	100	9.8	11.3	0.0115	18	6.4	0.64	0.07	10.07	0.64	533.99	533.99	537.52	
	5-40.70	5-10.07	30.63	22	2.91	0.5	1.46	10.07	100	9.8	25.6	0.0261	21	10.6	1.74	0.05	10.12	1.1	533.99	533.99	537.52	
	5-10.07	4-50.00	60.07	13	23.96	0.5	11.98	10.12	100	9.8	14.3	0.0099	48	11.4	2.02	0.09	10.21	0.76	531.80	531.80	537.52	
	4-50.00	0-00.00	450	0	0	0.5	0	14.59	100	9.8	14.3	0.0099	48	11.4	2.02	0.09	10.21	0.76	531.80	531.80	537.52	
Line D3	4-47.13	125.87	7-11 16-19	12.52	12.52	0.5	6.26	6.26	10	100	9.8	61.4	0.0055	39	7.4	0.89	0.28	10.25	0.85	533.99	533.99	540
	4-47.13	4-30.00	44.13	14.5	1.8	0.5	0.9	7.16	10.28	100	9.8	70.2	0.0049	42	7.3	0.83	0.1	10.38	0.61	533.99	533.99	540
	4-30.00	2-22.57	207.43	44	20	6.07	3.04	10.2	10.38	100	9.8	100	0.0099	42	10.4	1.66	0.33	10.71	0.85	533.99	533.99	540.54
	2-22.57	0-00.00	222.57	6	3.57	0.5	1.79	11.99	10.11	100	9.8	117.5	0.0067	48	11.4	1.37	0.38	11.1	0.16	533.99	533.99	536
	0-00.00	0-00.00	0	0	0	0.5	0	11.99	11.1	100	9.8	117.5	0.0067	48	11.4	1.37	0.38	11.1	0.16	533.99	533.99	536
Line D4	4-66.87	0-71.70	395.17	5	1.52	0.5	0.76	0.76	10	100	9.8	7.5	0.005	18	4.2	0.27	1.57	11.57	0.27	540.26	540.26	546.04
	0-71.70	0-00.00	71.7	12	3.24	0.5	1.62	2.38	11.57	100	9.8	23.3	0.006	24	7.4	0.85	0.16	11.73	0.58	536.27	536.27	546.19
	0-00.00	0-00.00	0	0	0	0.5	0	2.38	11.73	100	9.8	23.3	0.006	24	10.4	1.68	0	11.73	0.92	536.27	536.27	546.19
Line D5	1-16.15	50.38	35	2.37	2.37	0.5	1.19	1.19	10	100	9.8	11.7	0.0115	21	4.8	0.36	0.21	10.21	0.36	531.65	531.65	532.39
	1-16.15	5-00.35	615.8	26	2.31	0.5	1.19	2.35	10.21	100	9.8	11.7	0.0115	21	4.8	0.36	0.21	10.21	0.36	531.65	531.65	532.39
	5-00.35	4-16.07	34.28	36	2.05	0.5	1.03	3.38	11.62	100	9.8	23.3	0.0104	24	7.3	0.83	1.41	11.62	0.47	531.33	531.33	532.39
	4-16.07	4-17.92	48.12	53	0.97	0.5	0.49	3.87	11.69	100	9.8	37.8	0.015	27	9.5	1.07	0.67	11.69	0.24	524.48	524.48	527.36
	4-17.92	3-87.15	30.8	92	2.41	0.5	1.21	5.08	11.77	100	9.8	49.8	0.0147	30	10.1	1.58	0.05	11.77	0.33	524.48	524.48	527.36
	3-87.15	1-80.00	207.15	56	1.11	0.5	0.56	6.64	11.82	100	9.8	55.3	0.0182	30	11.3	1.98	0.31	12.15	0.4	522.16	522.16	525.32
	1-80.00	0-00.00	180	0	0	0.5	0	5.64	12.13	100	9.8	55.3	0.0182	30	11.3	1.98	0.31	12.15	0.4	522.16	522.16	525.32
Line D7	8-32.55	8-10.58	21.97	37	1.05	0.5	0.53	0.53	10	100	9.8	5.2	0.0024	18	2.9	0.13	0.11	10.13	0.13	536.33	536.33	538.75
	8-10.58	8-00.54	83.04	74	2.27	0.5	2.04	2.57	10.13	100	9.8	25.2	0.0066	27	6.9	0.82	0.03	10.16	0.49	536.33	536.33	538.75
	8-00.54	7-17.33	33.21	39	1.63	0.5	0.82	3.59	10.36	100	9.8	33.2	0.0115	27	8.4	1.1	0.17	10.33	0.48	536.33	536.33	538.75
	7-17.33	4-46.47	270.86	38	1.82	0.5	0.91	4.33	10.33	100	9.8	42.1	0.0106	30	8.6	1.15	0.52	10.85	0.05	534.82	534.82	546.22
	4-46.47	1-70.00	276.47	40	41.43	44	7.1	0.5	3.55	100	9.8	76.9	0.0212	33	13	2.62	0.35	11.7	1.47	524.59	524.59	546.22
	1-70.00	1-38.01	33.99	0	0	0	0	0	0	100	9.8	0	0	0	0	0	0	0	0	531.91	531.91	534.64
	1-38.01	0-96.00	40.01	42	3.66	0.5	1.83	9.68	11.29	100	9.8	76.9	0.0208	4x3	6.8	0.68	0.08	11.29	-0.67	524.59	524.59	546.22
	0-96.00	0-00.00	96	0	0	0.5	0	9.68	11.37	100	9.8	94.9	0.0258	4x3	8.1	1.02	0.08	11.37	0.34	525.43	525.43	527
	0-00.00	0-00.00	0	0	0	0.5	0	9.68	11.37	100	9.8	94.9	0.0258	4x3	8.1	1.02	0.08	11.37	0.34	525.43	525.43	527
Lot 7	0-85.00	0-49.38	35.62	45-46	3.91	0.5	1.96	1.96	10	100	9.8	19.2	0.0147	21	6	0.99	0.07	10.67	0.99	524.03	524.03	526.66
	0-49.38	0-40.00	0.38	47	1.59	0.5	0.8	2.76	10.07	100	9.8	27.1	0.0076	27	6.8	0.72	0.05	10.18	0	523.57	523.57	526.66
	0-40.00	0-00.00	4	0	0	0.5	0	2.76	10.07	100	9.8	27.1	0.0076	27	6.8	0.72	0.05	10.18	0	523.57	523.57	526.66
	0-00.00	0-00.00	0	0	0	0.5	0	2.76	10.07	100	9.8	27.1	0.0076	27	6.8	0.72	0.05	10.18	0	523.57	523.57	526.66
Line D9	1-03.74	0-66.10	37.64	28	6.58	0.5	3.29	3.29	10	100	9.8	32.2	0.0203	24	10.3	1.65	0.08	10.06	1.65	511.73	511.73	515.17
	0-66.10	0-00.00	66.1	21	1.74	0.5	0.87	4.16	10.06	100	9.8	40.8	0.0173	27	10.3	1.65	0.11	10.17	0	511.73	511.73	515.17
	0-00.00	0-00.00	0	0	0	0.5	0	4.16	10.17	100	9.8	40.8	0.0173	27	10.3	1.65	0	10.17	0	511.73	511.73	515.17
Line D10	2-29.78	1-93.69	36.09	57	2.06	0.5	1.03	1.03	10	100	9.8	10.1	0.0041	21	4.2	0.27	0.14	10.14	0.27	510.29	510.29	517.78
	1-93.69	0-00.00	193.69	58	1.97	0.5	0.99	2.02	10.14	100	9.8	19.8	0.0156	21	8.2	1.04	0.39	10.53	0.27	510.29	510.29	517.78
	0-00.00	0-00.00	0	0	0	0.5	0	2.02	10.14	100	9.8	19.8	0.0156	21	8.2	1.04	0.39	10.53	0.27	510.29	510.29	517.78
Line D11	3-84.51	23.05	63	2.3	2.3	0.5	1.15	1.15	10	100	9.8	11.3	0.0051	21	4.7	0.34	0.08	10.08	0.34	499.1	499.1	500.53
	3-84.51	2-54.05	130.46	64	2.66	0.5	1.31	2.46	10.08	100	9.8	11.3	0.0051	21	4.7	0.34	0.08	10.08	0.34	499.1	499.1	500.53
	2-54.05	2-12.40	41.65	65-66	1.14	0.5	0.6	3.06	10.3	100	9.8	24.1	0.0232	21	10	1.55	0.22	10.3	1.21	498.85	498.85	500.53
	2-12.40	0-40.00	172.4	67	2.53	0.5	1.27	3.06	10.37	100	9.8	30	0.0176	24	8.5	1.4	0.3	10.37	0.07	498.85	498.85	500.53
	0-40.00	0-00.00	40	0	0	0.5	0	3.06	10.67	100	9.8	30	0.0176	24	8.5	1.4	0.07	10.74	0	498.85	498.85	500.53
Line D12	4-88.03	4-50.00	38.03	detention	37.35	0.35	15.07	15.07	10	100	9.8	128.1	0.0009	6x5	4.4	0.3	0.14	10.14	0.3	495.58	495.58	497
	4-50.00	3-63.52	86.48	pvt	0	0.5	0	13.07	10.14	100	9.8	128.1	0.0009	6x5	4.4	0.3	0.14	10.14	0.3	495.58	495.58	497
	3-63.52	2-00.00	163.52	d18	5.64	0.5	2.82	15.89	10.28	100	9.8	155.7	0.0118	48	12.4	2.39	0.22	10.28	0.77	495.24	495.24	497
	2-00.00	0-09.16	190.94	pvt	0	0.5	0	15.89	10.5	100												