STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for NETWORK1-05.06.18.SWS

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	25.108	0.251	100.0	0.068	5.00	0.0	0.600	o	225	Pipe/Conduit	
1.001	20.911	0.209	100.0	0.066	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.002	30.098	0.401	75.0	0.029	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.003	12.235	0.245	50.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.004	10.418	0.208	50.0	0.072	0.00	0.0	0.600	o	225	Pipe/Conduit	
2.000	16.749	0.140	119.6	0.084	5.00	0.0	0.600	o	225	Pipe/Conduit	
2.001	18.091	0.154	117.5	0.042	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.000	21.803	0.131	166.9	0.017	5.00	15.0	0.600	o	225	Pipe/Conduit	
2.002	9.488	0.039	245.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
2.003	9.725	0.040	245.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.005	10.657	0.040	265.1	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
1.006	12.479	0.047	264.9	0.014	0.00	0.0	0.600	o	375	Pipe/Conduit	
1.007	53.764	0.303	177.6	0.165	0.00	0.0	0.600	o	375	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	5.00	5.32	83.325	0.068	0.0	0.0	0.0	1.31	52.0	0.9
1.001	5.00	5.59	83.074	0.134	0.0	0.0	0.0	1.31	52.0	1.8
1.002	5.00	5.92	82.865	0.163	0.0	0.0	0.0	1.51	60.1	2.2
1.003	5.00	6.03	82.464	0.163	0.0	0.0	0.0	1.85	73.7	2.2
1.004	5.00	6.12	82.219	0.235	0.0	0.0	0.0	1.85	73.7	3.2
2.000	5.00	5.23	81.273	0.084	0.0	0.0	0.0	1.19	47.5	1.1
2.001	5.00	5.44	81.058	0.126	0.0	0.0	0.0	1.45	102.5	1.7
3.000	5.00	5.36	81.110	0.017	15.0	0.0	0.0	1.01	40.1	15.2
2.002	5.00	5.60	80.904	0.143	15.0	0.0	0.0	1.00	70.7	16.9
2.003	5.00	5.76	80.866	0.143	15.0	0.0	0.0	1.00	70.7	16.9
1.005	5.00	6.28	80.751	0.378	15.0	0.0	0.0	1.11	122.4	20.1
1.006	5.00	6.47	80.711	0.392	15.0	0.0	0.0	1.11	122.4	20.3
1.007	5.00	7.13	80.664	0.557	15.0	0.0	0.0	1.36	149.8	22.5

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STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for NETWORK1-05.06.18.SWS

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
4.000	24.071	0.301	80.0	0.039	5.00	0.0	0.600	o	225	Pipe/Conduit	
4.001	11.195	0.160	70.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
4.002	17.571	0.225	78.1	0.079	0.00	0.0	0.600	o	225	Pipe/Conduit	
4.003	18.912	0.107	176.7	0.063	0.00	0.0	0.600	o	300	Pipe/Conduit	
5.000	19.109	0.314	60.9	0.036	5.00	0.0	0.600	o	225	Pipe/Conduit	
5.001	38.566	0.430	89.7	0.073	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.008	33.285	0.666	50.0	0.090	0.00	0.0	0.600	o	375	Pipe/Conduit	
1.009	26.883	0.448	60.0	0.162	0.00	0.0	0.600	o	450	Pipe/Conduit	
6.000	14.959	0.100	149.6	0.025	5.00	0.0	0.600	o	225	Pipe/Conduit	
6.001	13.567	0.090	150.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
6.002	19.616	0.131	150.0	0.138	0.00	0.0	0.600	o	225	Pipe/Conduit	
6.003	17.816	0.089	200.0	0.017	0.00	0.0	0.600	o	300	Pipe/Conduit	
6.004	14.120	0.071	198.9	0.061	0.00	0.0	0.600	o	300	Pipe/Conduit	
7.000	28.222	0.257	109.8	0.030	5.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
4.000	5.00	5.27	81.304	0.039	0.0	0.0	0.0	1.46	58.2	0.5
4.001	5.00	5.39	81.003	0.039	0.0	0.0	0.0	1.57	62.2	0.5
4.002	5.00	5.59	80.843	0.118	0.0	0.0	0.0	1.48	58.9	1.6
4.003	5.00	5.86	80.543	0.181	0.0	0.0	0.0	1.18	83.4	2.5
5.000	5.00	5.19	81.255	0.036	0.0	0.0	0.0	1.68	66.8	0.5
5.001	5.00	5.65	80.941	0.109	0.0	0.0	0.0	1.38	54.9	1.5
1.008	5.00	7.35	80.361	0.937	15.0	0.0	0.0	2.57	283.7	27.7
1.009	5.00	7.52	79.620	1.099	15.0	0.0	0.0	2.63	418.0	29.9
6.000	5.00	5.23	79.878	0.025	0.0	0.0	0.0	1.07	42.4	0.3
6.001	5.00	5.45	79.778	0.025	0.0	0.0	0.0	1.06	42.3	0.3
6.002	5.00	5.75	79.688	0.163	0.0	0.0	0.0	1.07	42.4	2.2
6.003	5.00	6.02	79.482	0.180	0.0	0.0	0.0	1.11	78.3	2.4
6.004	5.00	6.23	79.393	0.241	0.0	0.0	0.0	1.11	78.6	3.3
7.000	5.00	5.38	79.924	0.030	0.0	0.0	0.0	1.25	49.6	0.4

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STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for NETWORK1-05.06.18.SWS

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
7.001	28.869	0.270	106.8	0.058	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.010	47.578	0.521	91.3	0.028	0.00	0.0	0.600	o	525	Pipe/Conduit	
1.011	19.635	0.078	251.7	0.107	0.00	0.0	0.600	o	600	Pipe/Conduit	
8.000	30.184	0.151	200.0	0.182	5.00	0.0	0.600	o	300	Pipe/Conduit	
8.001	14.646	0.073	200.1	0.039	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.012	50.117	0.125	400.9	0.123	0.00	0.0	0.600	o	750	Pipe/Conduit	
9.000	44.939	1.069	42.0	0.095	5.00	0.0	0.600	o	225	Pipe/Conduit	
10.000	27.347	0.164	167.0	0.034	5.00	0.0	0.600	o	225	Pipe/Conduit	
10.001	21.711	0.130	167.0	0.071	0.00	0.0	0.600	o	225	Pipe/Conduit	
9.001	18.238	0.182	100.0	0.019	0.00	0.0	0.600	o	225	Pipe/Conduit	
9.002	29.459	0.295	100.0	0.106	0.00	0.0	0.600	o	300	Pipe/Conduit	
9.003	31.745	0.397	80.0	0.124	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
7.001	5.00	5.76	79.667	0.088	0.0	0.0	0.0	1.26	50.3	1.2
1.010	5.00	7.86	79.097	1.456	15.0	0.0	0.0	2.34	507.6	34.7
1.011	5.00	8.07	78.501	1.563	15.0	0.0	0.0	1.53	432.7	36.2
8.000	5.00	5.45	78.947	0.182	0.0	0.0	0.0	1.11	78.3	2.5
8.001	5.00	5.67	78.796	0.221	0.0	0.0	0.0	1.11	78.3	3.0
1.012	5.00	8.67	78.273	1.907	15.0	0.0	0.0	1.39	614.7	40.8
9.000	5.00	5.37	82.533	0.095	0.0	0.0	0.0	2.02	80.5	1.3
10.000	5.00	5.45	81.758	0.034	0.0	0.0	0.0	1.01	40.1	0.5
10.001	5.00	5.81	81.594	0.105	0.0	0.0	0.0	1.01	40.1	1.4
9.001	5.00	6.04	81.464	0.219	0.0	0.0	0.0	1.31	52.0	3.0
9.002	5.00	6.36	81.207	0.325	0.0	0.0	0.0	1.57	111.1	4.4
9.003	5.00	6.66	80.912	0.449	0.0	0.0	0.0	1.76	124.4	6.1

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Network Design Table for NETWORK1-05.06.18.SWS

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
9.004	23.779	0.297	80.0	0.082	0.00	0.0	0.600	o	300	Pipe/Conduit	
9.005	10.711	0.458	23.4	0.099	0.00	0.0	0.600	o	300	Pipe/Conduit	
11.000	14.148	0.283	50.0	0.062	5.00	0.0	0.600	o	225	Pipe/Conduit	
11.001	49.807	0.651	76.5	0.057	0.00	0.0	0.600	o	225	Pipe/Conduit	
11.002	15.927	0.245	65.0	0.091	0.00	0.0	0.600	o	225	Pipe/Conduit	
11.003	17.713	0.533	33.2	0.051	0.00	0.0	0.600	o	225	Pipe/Conduit	
12.000	10.847	0.065	166.9	0.016	5.00	0.0	0.600	o	225	Pipe/Conduit	
11.004	23.917	0.239	100.0	0.024	0.00	0.0	0.600	o	300	Pipe/Conduit	
11.005	22.408	0.112	200.1	0.073	0.00	0.0	0.600	o	300	Pipe/Conduit	
13.000	12.911	0.172	75.0	0.084	5.00	0.0	0.600	o	225	Pipe/Conduit	
13.001	18.327	0.229	80.0	0.010	0.00	0.0	0.600	o	225	Pipe/Conduit	
13.002	13.234	0.165	80.0	0.013	0.00	0.0	0.600	o	225	Pipe/Conduit	
13.003	12.828	0.160	80.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
13.004	29.291	0.617	47.5	0.067	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
9.004	5.00	6.88	80.515	0.531	0.0	0.0	0.0	1.76	124.4	7.2
9.005	5.00	6.94	80.218	0.630	0.0	0.0	0.0	3.26	230.8	8.5
11.000	5.00	5.13	82.508	0.062	0.0	0.0	0.0	1.85	73.7	0.8
11.001	5.00	5.68	82.225	0.119	0.0	0.0	0.0	1.50	59.5	1.6
11.002	5.00	5.85	81.574	0.210	0.0	0.0	0.0	1.62	64.6	2.8
11.003	5.00	5.97	81.329	0.261	0.0	0.0	0.0	2.28	90.5	3.5
12.000	5.00	5.18	80.862	0.016	0.0	0.0	0.0	1.01	40.1	0.2
11.004	5.00	6.23	80.722	0.301	0.0	0.0	0.0	1.57	111.1	4.1
11.005	5.00	6.57	80.483	0.374	0.0	0.0	0.0	1.11	78.3	5.1
13.000	5.00	5.14	81.790	0.084	0.0	0.0	0.0	1.51	60.1	1.1
13.001	5.00	5.35	81.618	0.094	0.0	0.0	0.0	1.46	58.2	1.3
13.002	5.00	5.50	81.389	0.107	0.0	0.0	0.0	1.46	58.2	1.4
13.003	5.00	5.65	81.223	0.107	0.0	0.0	0.0	1.46	58.2	1.4
13.004	5.00	5.90	81.063	0.174	0.0	0.0	0.0	1.90	75.7	2.4

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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
11.006	10.309	0.071	145.2	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
11.007	20.024	0.100	200.0	0.022	0.00	0.0	0.600	o	375	Pipe/Conduit	
11.008	21.151	0.106	199.9	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
11.009	19.314	0.097	199.9	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
11.010	27.769	0.139	200.1	0.076	0.00	0.0	0.600	o	375	Pipe/Conduit	
11.011	19.661	0.098	200.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
9.006	45.767	0.458	100.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
9.007	28.346	0.284	100.0	0.044	0.00	0.0	0.600	o	450	Pipe/Conduit	
9.008	28.041	0.421	66.6	0.153	0.00	0.0	0.600	o	450	Pipe/Conduit	
1.013	29.117	0.073	398.9	0.073	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.014	22.974	0.057	400.2	0.077	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.015	7.695	0.019	400.8	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.016	24.038	0.060	400.6	0.203	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.017	30.964	0.031	998.8	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.018	22.045	0.022	1002.0	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
11.006	5.00	6.68	80.296	0.548	0.0	0.0	0.0	1.50	165.8	7.4
11.007	5.00	6.94	80.225	0.570	0.0	0.0	0.0	1.28	141.1	7.7
11.008	5.00	7.22	80.125	0.570	0.0	0.0	0.0	1.28	141.1	7.7
11.009	5.00	7.47	80.019	0.570	0.0	0.0	0.0	1.28	141.1	7.7
11.010	5.00	7.83	79.922	0.646	0.0	0.0	0.0	1.28	141.1	8.7
11.011	5.00	8.09	79.784	0.646	0.0	0.0	0.0	1.28	141.1	8.7
9.006	5.00	8.46	79.610	1.276	0.0	0.0	0.0	2.03	323.4	17.3
9.007	5.00	8.70	79.152	1.320	0.0	0.0	0.0	2.03	323.4	17.9
9.008	5.00	8.88	78.869	1.473	0.0	0.0	0.0	2.49	396.7	19.9
1.013	5.00	9.23	78.148	3.453	15.0	0.0	0.0	1.40	616.3	61.8
1.014	5.00	9.51	78.075	3.530	15.0	0.0	0.0	1.39	615.2	62.8
1.015	5.00	9.60	78.017	3.530	15.0	0.0	0.0	1.39	614.8	62.8
1.016	5.00	9.89	77.998	3.733	15.0	0.0	0.0	1.39	614.9	65.5
1.017	5.00	10.47	77.588	3.733	15.0	0.0	0.0	0.88	387.5	65.5
1.018	5.00	10.89	77.557	3.733	15.0	0.0	0.0	0.88	386.8	65.5

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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.019	5.805	0.015	387.0	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.020	8.799	0.022	400.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.019	5.00	10.96	77.535	3.733	15.0	0.0	0.0	1.42	625.8	65.5
1.020	5.00	11.11	77.520	3.733	15.0	0.0	0.0	1.01	160.7	65.5

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Manhole Schedules for NETWORK1-05.06.18.SWS

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
1	84.801	1.476	Open Manhole	1500	1.000	83.325	225				
2	84.553	1.479	Open Manhole	1500	1.001	83.074	225	1.000	83.074	225	
3	84.350	1.485	Open Manhole	1500	1.002	82.865	225	1.001	82.865	225	
4	83.908	1.445	Open Manhole	1500	1.003	82.464	225	1.002	82.464	225	
5	83.653	1.434	Open Manhole	1500	1.004	82.219	225	1.003	82.219	225	
6	82.698	1.425	Open Manhole	1500	2.000	81.273	225				
7	82.976	1.918	Open Manhole	1500	2.001	81.058	300	2.000	81.133	225	
8	83.319	2.209	Open Manhole	1500	3.000	81.110	225				
9	83.222	2.318	Open Manhole	1500	2.002	80.904	300	2.001	80.904	300	
								3.000	80.979	225	
10	83.218	2.352	Open Manhole	1500	2.003	80.866	300	2.002	80.866	300	
11	83.459	2.708	Open Manhole	1500	1.005	80.751	375	1.004	82.010	225	1109
								2.003	80.826	300	
12	83.254	2.543	Open Manhole	1800	1.006	80.711	375	1.005	80.711	375	
13	83.001	2.337	Open Manhole	1800	1.007	80.664	375	1.006	80.664	375	
14	82.729	1.425	Open Manhole	1500	4.000	81.304	225				
15	82.430	1.427	Open Manhole	1500	4.001	81.003	225	4.000	81.003	225	
16	82.268	1.425	Open Manhole	1500	4.002	80.843	225	4.001	80.843	225	
17	82.043	1.500	Open Manhole	1500	4.003	80.543	300	4.002	80.618	225	
18	82.680	1.425	Open Manhole	1500	5.000	81.255	225				
19	82.428	1.487	Open Manhole	1500	5.001	80.941	225	5.000	80.941	225	
20	82.039	1.678	Open Manhole	1800	1.008	80.361	375	1.007	80.361	375	
								4.003	80.436	300	
								5.001	80.511	225	
21	81.286	1.666	Open Manhole	1800	1.009	79.620	450	1.008	79.695	375	
22	81.613	1.735	Open Manhole	1500	6.000	79.878	225				
23	81.419	1.641	Open Manhole	1500	6.001	79.778	225	6.000	79.778	225	
24	81.283	1.596	Open Manhole	1500	6.002	79.688	225	6.001	79.688	225	
25	81.082	1.600	Open Manhole	1500	6.003	79.482	300	6.002	79.557	225	
26	80.898	1.505	Open Manhole	1500	6.004	79.393	300	6.003	79.393	300	
27	81.384	1.460	Open Manhole	1500	7.000	79.924	225				
28	81.069	1.402	Open Manhole	1500	7.001	79.667	225	7.000	79.667	225	
29	80.866	1.769	Open Manhole	2100	1.010	79.097	525	1.009	79.172	450	
								6.004	79.322	300	

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Manhole Schedules for NETWORK1-05.06.18.SWS

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
								7.001	79.397	225	
30	80.301	1.800	Open Manhole	2100	1.011	78.501	600	1.010	78.576	525	
31	80.640	1.693	Open Manhole	1500	8.000	78.947	300				
32	80.403	1.607	Open Manhole	1800	8.001	78.796	300	8.000	78.796	300	
33	80.263	1.990	Open Manhole	2100	1.012	78.273	750	1.011	78.423	600	
								8.001	78.723	300	
34	83.961	1.428	Open Manhole	1500	9.000	82.533	225				
35	83.183	1.425	Open Manhole	1500	10.000	81.758	225				
36	83.244	1.650	Open Manhole	1500	10.001	81.594	225	10.000	81.594	225	
37	83.209	1.745	Open Manhole	1500	9.001	81.464	225	9.000	81.464	225	
								10.001	81.464	225	
38	82.841	1.634	Open Manhole	1500	9.002	81.207	300	9.001	81.282	225	
39	82.541	1.629	Open Manhole	1500	9.003	80.912	300	9.002	80.912	300	
40	82.099	1.584	Open Manhole	1500	9.004	80.515	300	9.003	80.515	300	
41	81.777	1.559	Open Manhole	1800	9.005	80.218	300	9.004	80.218	300	
42a	83.933	1.425	Open Manhole	1200	11.000	82.508	225				
42	83.651	1.426	Open Manhole	1500	11.001	82.225	225	11.000	82.225	225	
43	83.024	1.450	Open Manhole	1500	11.002	81.574	225	11.001	81.574	225	
44	82.756	1.427	Open Manhole	1500	11.003	81.329	225	11.002	81.329	225	
45	82.287	1.425	Open Manhole	1500	12.000	80.862	225				
46	82.461	1.739	Open Manhole	1500	11.004	80.722	300	11.003	80.796	225	
								12.000	80.797	225	
47	81.992	1.509	Open Manhole	1500	11.005	80.483	300	11.004	80.483	300	
48	83.215	1.425	Open Manhole	1500	13.000	81.790	225				
49	83.048	1.430	Open Manhole	1500	13.001	81.618	225	13.000	81.618	225	
50	82.826	1.437	Open Manhole	1500	13.002	81.389	225	13.001	81.389	225	
51	82.660	1.437	Open Manhole	1500	13.003	81.223	225	13.002	81.223	225	
52	82.491	1.428	Open Manhole	1500	13.004	81.063	225	13.003	81.063	225	
53	82.123	1.827	Open Manhole	1800	11.006	80.296	375	11.005	80.371	300	
								13.004	80.446	225	
54	81.993	1.768	Open Manhole	1800	11.007	80.225	375	11.006	80.225	375	
55	81.700	1.575	Open Manhole	1800	11.008	80.125	375	11.007	80.125	375	
56	81.650	1.631	Open Manhole	1800	11.009	80.019	375	11.008	80.019	375	
57	81.650	1.728	Open Manhole	1800	11.010	79.922	375	11.009	79.922	375	

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Manhole Schedules for NETWORK1-05.06.18.SWS

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
58	81.700	1.917	Open Manhole	1800	11.011	79.784	375	11.010	79.784	375	
59	81.281	1.671	Open Manhole	1800	9.006	79.610	450	9.005	79.760	300	
								11.011	79.685	375	
60	81.062	1.909	Open Manhole	1800	9.007	79.152	450	9.006	79.152	450	
61	80.715	1.846	Open Manhole	1800	9.008	78.869	450	9.007	78.869	450	
62	80.431	2.283	Open Manhole	2400	1.013	78.148	750	1.012	78.148	750	
								9.008	78.448	450	
63	80.190	2.116	Open Manhole	2400	1.014	78.075	750	1.013	78.075	750	
64	80.069	2.051	Open Manhole	2400	1.015	78.017	750	1.014	78.017	750	
65	80.163	2.165	Open Manhole	2400	1.016	77.998	750	1.015	77.998	750	
66	80.000	2.412	Open Manhole	2400	1.017	77.588	750	1.016	77.938	750	350
67	79.750	2.193	Open Manhole	2400	1.018	77.557	750	1.017	77.557	750	
68	79.750	2.215	Open Manhole	2400	1.019	77.535	750	1.018	77.535	750	
69	79.750	2.230	Open Manhole	2400	1.020	77.520	450	1.019	77.520	750	
70	79.000	1.502	Open Manhole	1200		OUTFALL		1.020	77.498	450	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
1	359947.845	436053.181	359947.845	436053.181	Required	
2	359966.892	436036.822	359966.892	436036.822	Required	
3	359981.375	436021.738	359981.375	436021.738	Required	
4	360004.864	436002.920	360004.864	436002.920	Required	
5	360015.452	435996.788	360015.452	435996.788	Required	
6	360067.539	435978.372	360067.539	435978.372	Required	

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Manhole Schedules for NETWORK1-05.06.18.SWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
7	360052.490	435985.724	360052.490	435985.724	Required	
8	360051.756	436014.135	360051.756	436014.135	Required	
9	360038.316	435996.967	360038.316	435996.967	Required	
10	360030.828	435991.141	360030.828	435991.141	Required	
11	360021.521	435988.320	360021.521	435988.320	Required	
12	360024.541	435978.099	360024.541	435978.099	Required	
13	360023.898	435965.637	360023.898	435965.637	Required	
14	360060.823	435921.853	360060.823	435921.853	Required	
15	360043.354	435905.293	360043.354	435905.293	Required	
16	360032.562	435902.316	360032.562	435902.316	Required	
17	360016.414	435909.243	360016.414	435909.243	Required	
18	359946.915	435940.549	359946.915	435940.549	Required	
19	359965.405	435935.730	359965.405	435935.730	Required	
20	359999.509	435917.723	359999.509	435917.723	Required	

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Manhole Schedules for NETWORK1-05.06.18.SWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
21	359984.154	435888.192	359984.154	435888.192	Required	
22	359900.073	435894.844	359900.073	435894.844	Required	
23	359910.360	435883.983	359910.360	435883.983	Required	
24	359923.016	435879.097	359923.016	435879.097	Required	
25	359942.601	435877.990	359942.601	435877.990	Required	
26	359959.177	435871.458	359959.177	435871.458	Required	
27	360022.333	435838.584	360022.333	435838.584	Required	
28	359997.158	435851.339	359997.158	435851.339	Required	
29	359971.461	435864.495	359971.461	435864.495	Required	
30	359949.349	435822.367	359949.349	435822.367	Required	
31	359969.605	435771.758	359969.605	435771.758	Required	
32	359953.385	435797.213	359953.385	435797.213	Required	
33	359940.794	435804.694	359940.794	435804.694	Required	
34	359886.441	436021.142	359886.441	436021.142	Required	

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Manhole Schedules for NETWORK1-05.06.18.SWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
35	359910.051	435958.256	359910.051	435958.256	Required	
36	359885.734	435970.767	359885.734	435970.767	Required	
37	359866.513	435980.863	359866.513	435980.863	Required	
38	359854.131	435967.472	359854.131	435967.472	Required	
39	359828.397	435953.134	359828.397	435953.134	Required	
40	359843.093	435924.995	359843.093	435924.995	Required	
41	359848.620	435901.868	359848.620	435901.868	Required	
42a	359814.962	436050.500	359814.962	436050.500	Required	
42	359825.896	436041.522	359825.896	436041.522	Required	
43	359803.505	435997.032	359803.505	435997.032	Required	
44	359794.634	435983.805	359794.634	435983.805	Required	
45	359789.608	435962.633	359789.608	435962.633	Required	
46	359782.542	435970.862	359782.542	435970.862	Required	
47	359763.058	435956.991	359763.058	435956.991	Required	

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Manhole Schedules for NETWORK1-05.06.18.SWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
48	359754.952	436026.370	359754.952	436026.370	Required	
49	359748.639	436015.107	359748.639	436015.107	Required	
50	359737.430	436000.607	359737.430	436000.607	Required	
51	359732.009	435988.534	359732.009	435988.534	Required	
52	359731.963	435975.706	359731.963	435975.706	Required	
53	359742.390	435948.334	359742.390	435948.334	Required	
54	359746.326	435938.806	359746.326	435938.806	Required	
55	359757.567	435922.235	359757.567	435922.235	Required	
56	359773.951	435908.859	359773.951	435908.859	Required	
57	359791.337	435900.447	359791.337	435900.447	Required	
58	359818.810	435896.406	359818.810	435896.406	Required	
59	359838.299	435899.000	359838.299	435899.000	Required	
60	359847.459	435854.159	359847.459	435854.159	Required	
61	359869.140	435835.899	359869.140	435835.899	Required	

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Manhole Schedules for NETWORK1-05.06.18.SWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
62	359894.684	435824.331	359894.684	435824.331	Required	
63	359882.868	435797.720	359882.868	435797.720	Required	
64	359873.982	435776.534	359873.982	435776.534	Required	
65	359873.396	435768.861	359873.396	435768.861	Required	
66	359881.917	435746.384	359881.917	435746.384	Required	
67	359903.272	435723.963	359903.272	435723.963	Required	
68	359914.269	435704.857	359914.269	435704.857	Required	
69	359917.409	435699.975	359917.409	435699.975	Required	
70	359922.513	435692.809			No Entry	

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PIPELINE SCHEDULES for NETWORK1-05.06.18.SWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	225	1	84.801	83.325	1.251	Open Manhole	1500
1.001	o	225	2	84.553	83.074	1.254	Open Manhole	1500
1.002	o	225	3	84.350	82.865	1.260	Open Manhole	1500
1.003	o	225	4	83.908	82.464	1.220	Open Manhole	1500
1.004	o	225	5	83.653	82.219	1.209	Open Manhole	1500
2.000	o	225	6	82.698	81.273	1.200	Open Manhole	1500
2.001	o	300	7	82.976	81.058	1.618	Open Manhole	1500
3.000	o	225	8	83.319	81.110	1.984	Open Manhole	1500
2.002	o	300	9	83.222	80.904	2.018	Open Manhole	1500
2.003	o	300	10	83.218	80.866	2.052	Open Manhole	1500
1.005	o	375	11	83.459	80.751	2.333	Open Manhole	1500
1.006	o	375	12	83.254	80.711	2.168	Open Manhole	1800
1.007	o	375	13	83.001	80.664	1.962	Open Manhole	1800

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	25.108	100.0	2	84.553	83.074	1.254	Open Manhole	1500
1.001	20.911	100.0	3	84.350	82.865	1.260	Open Manhole	1500
1.002	30.098	75.0	4	83.908	82.464	1.220	Open Manhole	1500
1.003	12.235	50.0	5	83.653	82.219	1.209	Open Manhole	1500
1.004	10.418	50.0	11	83.459	82.010	1.224	Open Manhole	1500
2.000	16.749	119.6	7	82.976	81.133	1.618	Open Manhole	1500
2.001	18.091	117.5	9	83.222	80.904	2.018	Open Manhole	1500
3.000	21.803	166.9	9	83.222	80.979	2.018	Open Manhole	1500
2.002	9.488	245.2	10	83.218	80.866	2.052	Open Manhole	1500
2.003	9.725	245.0	11	83.459	80.826	2.333	Open Manhole	1500
1.005	10.657	265.1	12	83.254	80.711	2.168	Open Manhole	1800
1.006	12.479	264.9	13	83.001	80.664	1.962	Open Manhole	1800
1.007	53.764	177.6	20	82.039	80.361	1.303	Open Manhole	1800

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PIPELINE SCHEDULES for NETWORK1-05.06.18.SWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
4.000	o	225	14	82.729	81.304	1.200	Open Manhole	1500
4.001	o	225	15	82.430	81.003	1.202	Open Manhole	1500
4.002	o	225	16	82.268	80.843	1.200	Open Manhole	1500
4.003	o	300	17	82.043	80.543	1.200	Open Manhole	1500
5.000	o	225	18	82.680	81.255	1.200	Open Manhole	1500
5.001	o	225	19	82.428	80.941	1.262	Open Manhole	1500
1.008	o	375	20	82.039	80.361	1.303	Open Manhole	1800
1.009	o	450	21	81.286	79.620	1.216	Open Manhole	1800
6.000	o	225	22	81.613	79.878	1.510	Open Manhole	1500
6.001	o	225	23	81.419	79.778	1.416	Open Manhole	1500
6.002	o	225	24	81.283	79.688	1.371	Open Manhole	1500
6.003	o	300	25	81.082	79.482	1.300	Open Manhole	1500
6.004	o	300	26	80.898	79.393	1.205	Open Manhole	1500
7.000	o	225	27	81.384	79.924	1.235	Open Manhole	1500

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
4.000	24.071	80.0	15	82.430	81.003	1.202	Open Manhole	1500
4.001	11.195	70.0	16	82.268	80.843	1.200	Open Manhole	1500
4.002	17.571	78.1	17	82.043	80.618	1.200	Open Manhole	1500
4.003	18.912	176.7	20	82.039	80.436	1.303	Open Manhole	1800
5.000	19.109	60.9	19	82.428	80.941	1.262	Open Manhole	1500
5.001	38.566	89.7	20	82.039	80.511	1.303	Open Manhole	1800
1.008	33.285	50.0	21	81.286	79.695	1.216	Open Manhole	1800
1.009	26.883	60.0	29	80.866	79.172	1.244	Open Manhole	2100
6.000	14.959	149.6	23	81.419	79.778	1.416	Open Manhole	1500
6.001	13.567	150.1	24	81.283	79.688	1.371	Open Manhole	1500
6.002	19.616	150.0	25	81.082	79.557	1.300	Open Manhole	1500
6.003	17.816	200.0	26	80.898	79.393	1.205	Open Manhole	1500
6.004	14.120	198.9	29	80.866	79.322	1.244	Open Manhole	2100
7.000	28.222	109.8	28	81.069	79.667	1.177	Open Manhole	1500

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PIPELINE SCHEDULES for NETWORK1-05.06.18.SWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
7.001	o	225	28	81.069	79.667	1.177	Open Manhole	1500
1.010	o	525	29	80.866	79.097	1.244	Open Manhole	2100
1.011	o	600	30	80.301	78.501	1.200	Open Manhole	2100
8.000	o	300	31	80.640	78.947	1.393	Open Manhole	1500
8.001	o	300	32	80.403	78.796	1.307	Open Manhole	1800
1.012	o	750	33	80.263	78.273	1.240	Open Manhole	2100
9.000	o	225	34	83.961	82.533	1.203	Open Manhole	1500
10.000	o	225	35	83.183	81.758	1.200	Open Manhole	1500
10.001	o	225	36	83.244	81.594	1.425	Open Manhole	1500
9.001	o	225	37	83.209	81.464	1.520	Open Manhole	1500
9.002	o	300	38	82.841	81.207	1.334	Open Manhole	1500
9.003	o	300	39	82.541	80.912	1.329	Open Manhole	1500

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
7.001	28.869	106.8	29	80.866	79.397	1.244	Open Manhole	2100
1.010	47.578	91.3	30	80.301	78.576	1.200	Open Manhole	2100
1.011	19.635	251.7	33	80.263	78.423	1.240	Open Manhole	2100
8.000	30.184	200.0	32	80.403	78.796	1.307	Open Manhole	1800
8.001	14.646	200.1	33	80.263	78.723	1.240	Open Manhole	2100
1.012	50.117	400.9	62	80.431	78.148	1.533	Open Manhole	2400
9.000	44.939	42.0	37	83.209	81.464	1.520	Open Manhole	1500
10.000	27.347	167.0	36	83.244	81.594	1.425	Open Manhole	1500
10.001	21.711	167.0	37	83.209	81.464	1.520	Open Manhole	1500
9.001	18.238	100.0	38	82.841	81.282	1.334	Open Manhole	1500
9.002	29.459	100.0	39	82.541	80.912	1.329	Open Manhole	1500
9.003	31.745	80.0	40	82.099	80.515	1.284	Open Manhole	1500

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PIPELINE SCHEDULES for NETWORK1-05.06.18.SWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
9.004	o	300	40	82.099	80.515	1.284	Open Manhole	1500
9.005	o	300	41	81.777	80.218	1.259	Open Manhole	1800
11.000	o	225	42a	83.933	82.508	1.200	Open Manhole	1200
11.001	o	225	42	83.651	82.225	1.201	Open Manhole	1500
11.002	o	225	43	83.024	81.574	1.225	Open Manhole	1500
11.003	o	225	44	82.756	81.329	1.202	Open Manhole	1500
12.000	o	225	45	82.287	80.862	1.200	Open Manhole	1500
11.004	o	300	46	82.461	80.722	1.439	Open Manhole	1500
11.005	o	300	47	81.992	80.483	1.209	Open Manhole	1500
13.000	o	225	48	83.215	81.790	1.200	Open Manhole	1500
13.001	o	225	49	83.048	81.618	1.205	Open Manhole	1500
13.002	o	225	50	82.826	81.389	1.212	Open Manhole	1500
13.003	o	225	51	82.660	81.223	1.212	Open Manhole	1500
13.004	o	225	52	82.491	81.063	1.203	Open Manhole	1500

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
9.004	23.779	80.0	41	81.777	80.218	1.259	Open Manhole	1800
9.005	10.711	23.4	59	81.281	79.760	1.221	Open Manhole	1800
11.000	14.148	50.0	42	83.651	82.225	1.201	Open Manhole	1500
11.001	49.807	76.5	43	83.024	81.574	1.225	Open Manhole	1500
11.002	15.927	65.0	44	82.756	81.329	1.202	Open Manhole	1500
11.003	17.713	33.2	46	82.461	80.796	1.440	Open Manhole	1500
12.000	10.847	166.9	46	82.461	80.797	1.439	Open Manhole	1500
11.004	23.917	100.0	47	81.992	80.483	1.209	Open Manhole	1500
11.005	22.408	200.1	53	82.123	80.371	1.452	Open Manhole	1800
13.000	12.911	75.0	49	83.048	81.618	1.205	Open Manhole	1500
13.001	18.327	80.0	50	82.826	81.389	1.212	Open Manhole	1500
13.002	13.234	80.0	51	82.660	81.223	1.212	Open Manhole	1500
13.003	12.828	80.0	52	82.491	81.063	1.203	Open Manhole	1500
13.004	29.291	47.5	53	82.123	80.446	1.452	Open Manhole	1800

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PIPELINE SCHEDULES for NETWORK1-05.06.18.SWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
11.006	o	375	53	82.123	80.296	1.452	Open Manhole	1800
11.007	o	375	54	81.993	80.225	1.393	Open Manhole	1800
11.008	o	375	55	81.700	80.125	1.200	Open Manhole	1800
11.009	o	375	56	81.650	80.019	1.256	Open Manhole	1800
11.010	o	375	57	81.650	79.922	1.353	Open Manhole	1800
11.011	o	375	58	81.700	79.784	1.542	Open Manhole	1800
9.006	o	450	59	81.281	79.610	1.221	Open Manhole	1800
9.007	o	450	60	81.062	79.152	1.459	Open Manhole	1800
9.008	o	450	61	80.715	78.869	1.396	Open Manhole	1800
1.013	o	750	62	80.431	78.148	1.533	Open Manhole	2400
1.014	o	750	63	80.190	78.075	1.366	Open Manhole	2400
1.015	o	750	64	80.069	78.017	1.301	Open Manhole	2400
1.016	o	750	65	80.163	77.998	1.415	Open Manhole	2400
1.017	o	750	66	80.000	77.588	1.662	Open Manhole	2400
1.018	o	750	67	79.750	77.557	1.443	Open Manhole	2400

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
11.006	10.309	145.2	54	81.993	80.225	1.393	Open Manhole	1800
11.007	20.024	200.0	55	81.700	80.125	1.200	Open Manhole	1800
11.008	21.151	199.9	56	81.650	80.019	1.256	Open Manhole	1800
11.009	19.314	199.9	57	81.650	79.922	1.353	Open Manhole	1800
11.010	27.769	200.1	58	81.700	79.784	1.541	Open Manhole	1800
11.011	19.661	200.0	59	81.281	79.685	1.221	Open Manhole	1800
9.006	45.767	100.0	60	81.062	79.152	1.459	Open Manhole	1800
9.007	28.346	100.0	61	80.715	78.869	1.396	Open Manhole	1800
9.008	28.041	66.6	62	80.431	78.448	1.533	Open Manhole	2400
1.013	29.117	398.9	63	80.190	78.075	1.366	Open Manhole	2400
1.014	22.974	400.2	64	80.069	78.017	1.301	Open Manhole	2400
1.015	7.695	400.8	65	80.163	77.998	1.414	Open Manhole	2400
1.016	24.038	400.6	66	80.000	77.938	1.312	Open Manhole	2400
1.017	30.964	998.8	67	79.750	77.557	1.443	Open Manhole	2400
1.018	22.045	1002.0	68	79.750	77.535	1.465	Open Manhole	2400

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PIPELINE SCHEDULES for NETWORK1-05.06.18.SWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.019	o	750	68	79.750	77.535	1.465	Open Manhole	2400
1.020	o	450	69	79.750	77.520	1.780	Open Manhole	2400

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.019	5.805	387.0	69	79.750	77.520	1.480	Open Manhole	2400
1.020	8.799	400.0	70	79.000	77.498	1.052	Open Manhole	1200

Free Flowing Outfall Details for NETWORK1-05.06.18.SWS

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.020	70	79.000	77.498	0.000	1200	0

Simulation Criteria for NETWORK1-05.06.18.SWS

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	1	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.500	Storm Duration (mins)	30
Ratio R	0.334		

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Online Controls for NETWORK1-05.06.18.SWS

Complex Manhole: 69, DS/PN: 1.020, Volume (m³): 11.6

Hydro-Brake® Optimum

Unit Reference	MD-SHE-0349-7300-0750-7300
Design Head (m)	0.750
Design Flow (l/s)	73.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	349
Invert Level (m)	77.520
Minimum Outlet Pipe Diameter (mm)	375
Suggested Manhole Diameter (mm)	1800

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.750	73.0	Kick-Flo®	0.666	68.9
Flush-Flo™	0.466	72.9	Mean Flow over Head Range	-	53.0

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	10.1	1.200	91.7	3.000	143.2	7.000	216.9
0.200	35.3	1.400	98.8	3.500	154.4	7.500	224.4
0.300	64.9	1.600	105.4	4.000	164.9	8.000	229.2
0.400	72.4	1.800	111.6	4.500	174.7	8.500	236.5
0.500	72.8	2.000	117.5	5.000	183.9	9.000	243.5
0.600	71.1	2.200	123.1	5.500	192.7	9.500	250.3
0.800	75.3	2.400	128.4	6.000	201.1		
1.000	83.9	2.600	133.6	6.500	209.2		

Orifice

Diameter (m) 0.250 Discharge Coefficient 0.600 Invert Level (m) 78.420

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Storage Structures for NETWORK1-05.06.18.SWS

Tank or Pond Manhole: 67, DS/PN: 1.018

Invert Level (m) 77.557

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	960.0	1.200	1396.1

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Summary Wizard of 15 minute 100 year Summer I+30% for NETWORK1-05.06.18.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	1	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.334
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.500	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960
Return Period(s) (years)	100
Climate Change (%)	30

PN	US/MH Name	Storm Rank	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	1	2	83.710	0.160	0.000	0.60		28.5	SURCHARGED
1.001	2	2	83.626	0.327	0.000	1.10		51.8	SURCHARGED
1.002	3	2	83.368	0.278	0.000	1.09		61.3	SURCHARGED
1.003	4	2	82.875	0.187	0.000	1.02		64.5	SURCHARGED
1.004	5	2	82.658	0.214	0.000	1.42		87.5	SURCHARGED
2.000	6	4	82.297	0.799	0.000	0.77		32.7	SURCHARGED
2.001	7	4	82.224	0.866	0.000	0.46		40.5	SURCHARGED
3.000	8	4	82.175	0.840	0.000	0.68		25.0	SURCHARGED
2.002	9	4	82.112	0.908	0.000	1.15		62.7	SURCHARGED
2.003	10	4	82.027	0.861	0.000	1.25		68.8	SURCHARGED
1.005	11	4	81.949	0.823	0.000	1.46		133.9	SURCHARGED
1.006	12	4	81.848	0.762	0.000	1.47		139.3	SURCHARGED
1.007	13	4	81.745	0.706	0.000	1.18		164.8	SURCHARGED
4.000	14	4	81.552	0.023	0.000	0.34		18.3	SURCHARGED
4.001	15	4	81.523	0.295	0.000	0.30		15.7	SURCHARGED

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Summary Wizard of 15 minute 100 year Summer I+30% for NETWORK1-05.06.18.SWS

PN	US/MH Name	Storm Rank	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
4.002	16	4	81.505	0.437	0.000	0.95		49.8	SURCHARGED
4.003	17	4	81.408	0.565	0.000	0.99		71.7	SURCHARGED
5.000	18	4	81.497	0.017	0.000	0.28		17.0	SURCHARGED
5.001	19	4	81.473	0.307	0.000	0.91		47.2	SURCHARGED
1.008	20	4	81.315	0.579	0.000	1.08		273.1	SURCHARGED
1.009	21	4	80.640	0.570	0.000	0.91		322.1	SURCHARGED
6.000	22	4	80.638	0.535	0.000	0.19		7.1	SURCHARGED
6.001	23	4	80.631	0.628	0.000	0.31		11.4	SURCHARGED
6.002	24	4	80.626	0.714	0.000	1.59		60.8	SURCHARGED
6.003	25	4	80.507	0.725	0.000	0.89		59.9	SURCHARGED
6.004	26	4	80.423	0.730	0.000	1.20		78.4	SURCHARGED
7.000	27	4	80.417	0.268	0.000	0.30		13.9	SURCHARGED
7.001	28	4	80.398	0.506	0.000	0.80		37.3	SURCHARGED
1.010	29	4	80.347	0.726	0.000	0.86		386.4	SURCHARGED
1.011	30	4	79.994	0.893	0.000	1.23		400.3	SURCHARGED
8.000	31	4	80.021	0.774	0.000	0.95		67.5	SURCHARGED
8.001	32	4	79.912	0.816	0.000	1.07		70.1	SURCHARGED
1.012	33	4	79.836	0.813	0.000	0.94		489.3	SURCHARGED
9.000	34	2	82.906	0.148	0.000	0.57		43.7	SURCHARGED
10.000	35	3	82.812	0.829	0.000	0.35		13.2	SURCHARGED
10.001	36	3	82.781	0.962	0.000	0.84		30.7	SURCHARGED
9.001	37	3	82.695	1.006	0.000	1.43		66.9	SURCHARGED
9.002	38	4	82.386	0.879	0.000	0.91		92.1	SURCHARGED
9.003	39	4	82.139	0.927	0.000	1.20		136.1	SURCHARGED
9.004	40	4	81.679	0.864	0.000	1.48		162.9	SURCHARGED
9.005	41	4	81.200	0.682	0.000	1.08		183.9	SURCHARGED
11.000	42a	2	82.954	0.221	0.000	0.42		27.2	SURCHARGED
11.001	42	2	82.915	0.465	0.000	0.80		45.4	SURCHARGED
11.002	43	3	82.617	0.818	0.000	1.21		69.3	SURCHARGED
11.003	44	4	82.291	0.737	0.000	1.03		83.1	SURCHARGED
12.000	45	4	81.879	0.792	0.000	0.23		7.7	SURCHARGED
11.004	46	4	81.873	0.851	0.000	0.88		87.2	SURCHARGED
11.005	47	4	81.738	0.955	0.000	1.59		110.0	FLOOD RISK
13.000	48	4	81.988	-0.027	0.000	0.77		39.7	OK
13.001	49	4	81.940	0.097	0.000	0.84		43.7	SURCHARGED
13.002	50	4	81.863	0.249	0.000	0.86		43.5	SURCHARGED
13.003	51	4	81.793	0.345	0.000	0.74		37.1	SURCHARGED
13.004	52	4	81.718	0.430	0.000	0.90		63.6	SURCHARGED
11.006	53	4	81.558	0.887	0.000	1.47		158.0	SURCHARGED
11.007	54	4	81.457	0.857	0.000	1.34		158.1	SURCHARGED
11.008	55	4	81.340	0.840	0.000	1.21		144.0	SURCHARGED
11.009	56	4	81.220	0.826	0.000	1.11		130.7	SURCHARGED
11.010	57	4	81.111	0.814	0.000	1.14		141.2	SURCHARGED
11.011	58	4	80.947	0.788	0.000	1.24		145.9	SURCHARGED

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Summary Wizard of 15 minute 100 year Summer I+30% for NETWORK1-05.06.18.SWS

PN	US/MH Name	Storm Rank	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
9.006	59	4	80.823	0.763	0.000	0.97		282.9	SURCHARGED
9.007	60	4	80.399	0.797	0.000	1.05		290.4	SURCHARGED
9.008	61	4	80.092	0.773	0.000	0.92		310.1	SURCHARGED
1.013	62	4	79.736	0.838	0.000	1.69		801.6	SURCHARGED
1.014	63	4	79.478	0.654	0.000	1.80		807.7	SURCHARGED
1.015	64	4	79.210	0.442	0.000	2.78		810.1	SURCHARGED
1.016	65	4	78.940	0.192	0.000	1.84		835.3	SURCHARGED
1.017	66	22	78.553	0.215	0.000	3.49		829.8	SURCHARGED
1.018	67	22	78.188	-0.119	0.000	0.51		94.8	OK
1.019	68	22	78.188	-0.097	0.000	0.24		82.0	OK
1.020	69	22	78.180	0.210	0.000	0.78		72.9	SURCHARGED

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Summary Wizard of 30 minute 100 year Summer I+30% for NETWORK1-05.06.18.SWS

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000
Hot Start Level (mm) 0 Inlet Coeffiecient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.334
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 18.500 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status OFF
DVD Status ON
Inertia Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960
Return Period(s) (years) 100
Climate Change (%) 30

PN	US/MH Name	Storm Rank	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	1	3	83.603	0.053	0.000	0.59		28.3	SURCHARGED
1.001	2	3	83.523	0.224	0.000	1.05		49.8	SURCHARGED
1.002	3	3	83.290	0.200	0.000	1.06		59.3	SURCHARGED
1.003	4	3	82.833	0.144	0.000	0.98		61.7	SURCHARGED
1.004	5	3	82.630	0.186	0.000	1.37		84.9	SURCHARGED
2.000	6	3	82.311	0.813	0.000	0.73		30.8	SURCHARGED
2.001	7	3	82.247	0.889	0.000	0.41		36.5	SURCHARGED
3.000	8	3	82.203	0.868	0.000	0.67		24.6	SURCHARGED
2.002	9	3	82.147	0.943	0.000	1.15		63.0	SURCHARGED
2.003	10	3	82.068	0.902	0.000	1.25		68.5	SURCHARGED
1.005	11	3	81.990	0.864	0.000	1.42		129.4	SURCHARGED
1.006	12	3	81.895	0.809	0.000	1.44		136.5	SURCHARGED
1.007	13	3	81.798	0.759	0.000	1.18		163.9	SURCHARGED
4.000	14	3	81.595	0.066	0.000	0.32		17.3	SURCHARGED
4.001	15	3	81.571	0.343	0.000	0.30		15.8	SURCHARGED

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