

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S1	0.000	1350	Type C	133.385	132.035	1.200	408006.116	183226.378
S2	0.138	1350	Type C	132.339	130.884	1.230	407983.601	183238.488
S3	0.000	1350	Type C	131.536	129.991	1.320	407965.740	183248.629
S4	0.013	1350	Type C	130.730	129.066	1.290	407955.846	183232.201
S5	0.000	1350	Type C	130.823	129.026	1.422	407952.672	183220.066
S6	0.060	1350	Type C	130.760	129.009	1.377	407950.097	183215.074
S7	0.097	1350	Type C	134.422	132.690	1.432	408017.559	183283.435
S8	0.039	1200	Type B	135.802	132.521	2.980	408042.831	183251.742
S9	0.111	1200	Type B	134.933	132.291	2.191	408029.344	183238.119
S10	0.078	1200	Unknown	133.853	132.203	1.200	408017.629	183218.774
S11	0.062	1500	Type B	131.884	128.527	2.681	407998.319	183182.676
S12	0.087	1350	Type C	133.933	132.508	1.200	408070.533	183196.264
S13	0.091	1800	Type B	131.248	128.365	2.133	408050.016	183155.965
S14	0.000	1800	Type B	130.639	128.287	1.602	408100.287	183134.801
S15	0.000	1200	Unknown	130.372	128.269	1.354	408105.171	183146.851
S16	0.097	1200	Type B	130.797	128.235	1.812	408128.377	183150.985
S17	0.000	1200	Type B	130.885	128.208	1.927	408146.624	183145.849
S18	0.049	1350	Type C	135.896	134.471	1.200	408059.161	183242.011
S19	0.032	1200	Unknown	135.999	134.319	1.454	408084.076	183235.398
S20	0.014	1350	Type C	134.992	133.533	1.234	408084.384	183207.407
S21	0.247	1350	Type C	134.682	133.073	1.234	408088.150	183196.297
S22	0.058	1200	Type B	133.136	130.990	1.771	408159.214	183164.521
S23	0.000	1200	Type B	132.862	129.860	2.627	408166.955	183156.086
S24	0.000	1350	Type C	131.978	130.628	1.200	408146.977	183100.731
S25	0.051	1200	Type B	132.202	130.502	1.550	408154.926	183117.918
S26	0.167	1200	Unknown	132.546	127.941	3.620	408168.688	183142.682
S27	0.038	1900	Type B	130.942	127.900	2.042	408207.398	183142.336
S28	0.069	1350	Type C	130.905	129.480	1.200	408208.805	183088.878
S29	0.068	1350	Type C	130.480	128.883	1.297	408217.227	183108.358
S30	0.044	1900	Type C	130.026	127.728	1.297	408228.564	183133.538
S31	0.017	1900	Type C	128.917	126.678	1.239	408254.430	183123.000
S32	0.000	1350	Type C	128.421	127.071	1.200	408258.856	183062.172
S33	0.133	1350	Type C	128.100	126.470	1.330	408264.705	183074.910
S34	0.071	1350	Type C	129.000	127.575	1.200	408283.185	183158.050
S35	0.000	1350	Type B	128.600	126.865	1.510	408275.424	183137.300
S36	0.000	2025	Type B	128.325	125.360	1.840	408270.368	183119.516
S37	0.365	2025	Type C	124.600	123.100	0.375	408291.974	183113.634
S38	0.077	1350	Type C	136.014	134.589	1.200	408107.878	183236.061
S39	0.128	1350	Type C	136.017	134.382	1.335	408130.206	183235.012
S40	0.078	1350	Type C	133.863	132.351	1.212	408196.680	183213.976
S41	0.090	1350	Type C	131.387	129.918	1.169	408222.330	183157.599
S42	0.106	1200	Type B	131.632	129.184	2.148	408239.754	183200.398
S43	0.000	1350	Type A	128.752	125.169	3.283	408294.427	183182.285
S44	0.000	1350	Type C	124.600	123.100	1.200	408311.646	183170.815
S45	0.000	2025	Type C	124.600	123.100	0.375	408336.155	183174.092
S46	0.000	1900	Type C	124.523	122.948	0.450	408345.674	183175.126
S47	0.000	2025	Type C	123.500	122.939	-0.564	408354.634	183175.991

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	S1	132.035	S2	130.959	Circ	150	25.566	24	0.600	1.200	1.230
1.001	S2	130.884	S3	129.991	Circ	225	20.539	23	0.600	1.230	1.320
1.002	S3	129.991	S4	129.216	Circ	225	19.178	25	0.600	1.320	1.290
1.003	S4	129.066	S5	129.026	Circ	375	12.543	320	0.600	1.290	1.422
1.004	S5	129.026	S6	129.009	Circ	375	5.617	320	0.600	1.422	1.377
1.005	S6	129.009	S11	128.827	Circ	375	58.095	320	0.600	1.377	2.681
2.000	S7	132.690	S8	132.521	Circ	300	40.536	240	0.600	1.432	2.980
2.001	S8	132.521	S9	132.441	Circ	300	19.170	240	0.600	2.980	2.191
2.002	S9	132.291	S10	132.203	Circ	450	22.616	256	0.600	2.191	1.200
2.003	S10	132.203	S11	128.752	Circ	450	40.938	12	0.600	1.200	2.681

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.006	S11	128.527	S13	128.440	Circ	675	58.189	670	0.600	2.681	2.133
3.000	S12	132.508	S13	128.890	Circ	225	45.220	12	0.600	1.200	2.133
1.007	S13	128.365	S14	128.287	Circ	750	54.544	700	0.600	2.133	1.602
1.008	S14	128.287	S15	128.269	Circ	750	13.002	700	0.600	1.602	1.354
1.009	S15	128.269	S16	128.235	Circ	750	23.571	700	0.600	1.354	1.812
1.010	S16	128.235	S17	128.208	Circ	750	18.956	700	0.600	1.812	1.927
1.011	S17	128.208	S26	128.176	Circ	750	22.291	700	0.600	1.927	3.620
4.000	S18	134.471	S19	134.319	Circ	225	25.778	170	0.600	1.200	1.454
4.001	S19	134.319	S20	133.533	Circ	225	27.993	36	0.600	1.454	1.234
4.002	S20	133.533	S21	133.223	Circ	225	11.731	38	0.600	1.234	1.234
4.003	S21	133.073	S22	130.990	Circ	375	77.844	37	0.600	1.234	1.771
4.004	S22	130.990	S23	129.860	Circ	375	11.449	10	0.600	1.771	2.627
4.005	S23	129.860	S26	128.566	Circ	375	13.515	10	0.600	2.627	3.605
5.000	S24	130.628	S25	130.502	Circ	150	18.936	150	0.600	1.200	1.550
5.001	S25	130.502	S26	128.791	Circ	150	28.332	17	0.600	1.550	3.605
1.012	S26	127.941	S27	127.900	Circ	1000	38.711	940	0.600	3.605	2.042
1.013	S27	127.900	S30	127.728	Circ	1000	22.922	133	0.600	2.042	1.297
6.000	S28	129.480	S29	128.958	Circ	225	21.222	41	0.600	1.200	1.297
6.001	S29	128.883	S30	128.428	Circ	300	27.615	61	0.600	1.297	1.297
1.014	S30	127.728	S31	126.678	Circ	1000	27.930	27	0.600	1.297	1.239
1.015	S31	126.678	S36	125.485	Circ	1000	16.314	14	0.600	1.239	1.840
7.000	S32	127.071	S33	126.620	Circ	150	14.016	31	0.600	1.200	1.330
7.001	S33	126.470	S36	126.185	Circ	300	44.965	158	0.600	1.330	1.840
8.000	S34	127.575	S35	126.865	Circ	225	22.154	31	0.600	1.200	1.510
8.001	S35	126.865	S36	126.260	Circ	225	18.489	31	0.600	1.510	1.840
1.016	S36	125.360	S37	123.100	Circ	1125	22.393	10	0.600	1.840	0.375
1.017	S37	123.400	S45	123.400	Trapez	200x1200	74.881	Flat	0.600	0.000	0.000
9.000	S38	134.589	S39	134.457	Circ	225	22.353	170	0.600	1.200	1.335
9.001	S39	134.382	S40	132.351	Circ	300	69.724	34	0.600	1.335	1.212
9.002	S40	132.351	S42	129.184	Circ	300	45.163	14	0.600	1.212	2.148
10.000	S41	129.918	S42	129.184	Circ	300	46.210	63	0.600	1.169	2.148
9.003	S42	129.184	S43	125.169	Circ	300	57.595	14	0.600	2.148	3.283
9.004	S43	125.169	S44	123.100	Circ	300	20.689	10	0.600	3.283	1.200
9.005	S44	123.400	S45	123.400	Trapez	200x1200	24.727	Flat	0.600	0.000	0.000
1.018	S45	123.100	S46	123.000	Circ	1125	9.576	96	0.600	0.375	0.398
1.019	S46	122.948	S47	122.939	Circ	1125	9.001	1000	0.600	0.450	-0.564

Outfall Details

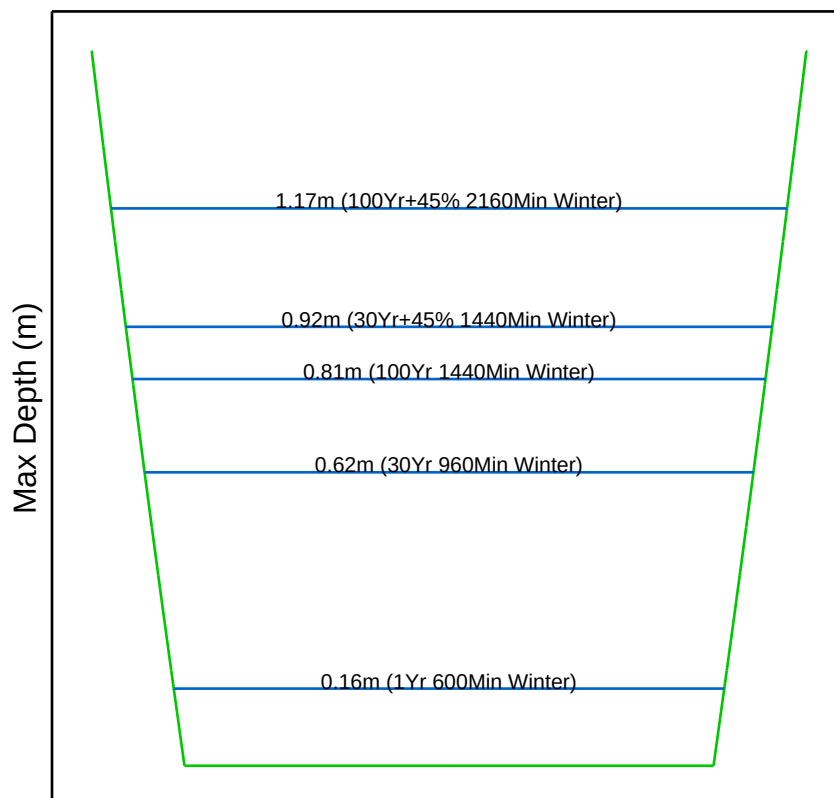
Outfall Manhole S47 : Free Discharge

Flow Control Details

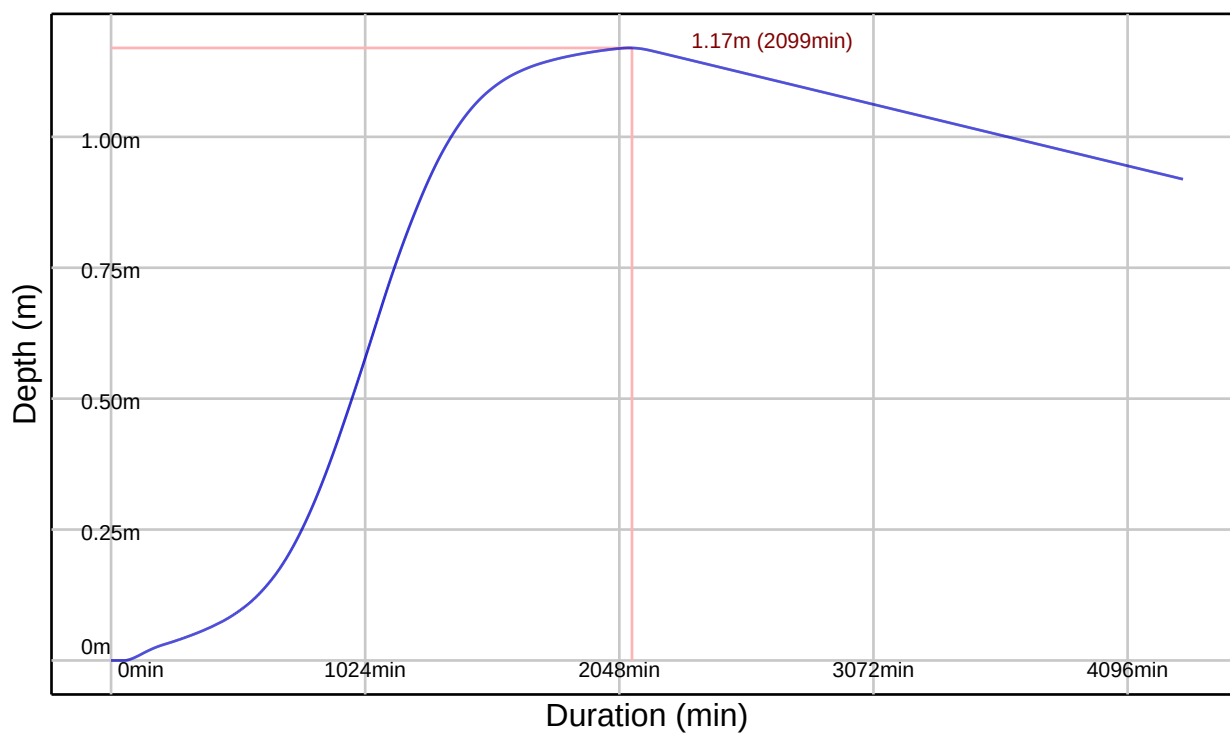
Pond Structure at Manhole S45

Pond Invert (m)	Max Depth (m)	Volume To Water Level (m3)	Water Level (m)	Freeboard (m)	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
123.100	1.500	3165.622	124.300	0.300	0.00000000	0.00000000	2.00

Pond Depth/Area Diagram at S45



Pond 1 at S45 (100Yr+45% 2160Min Winter)

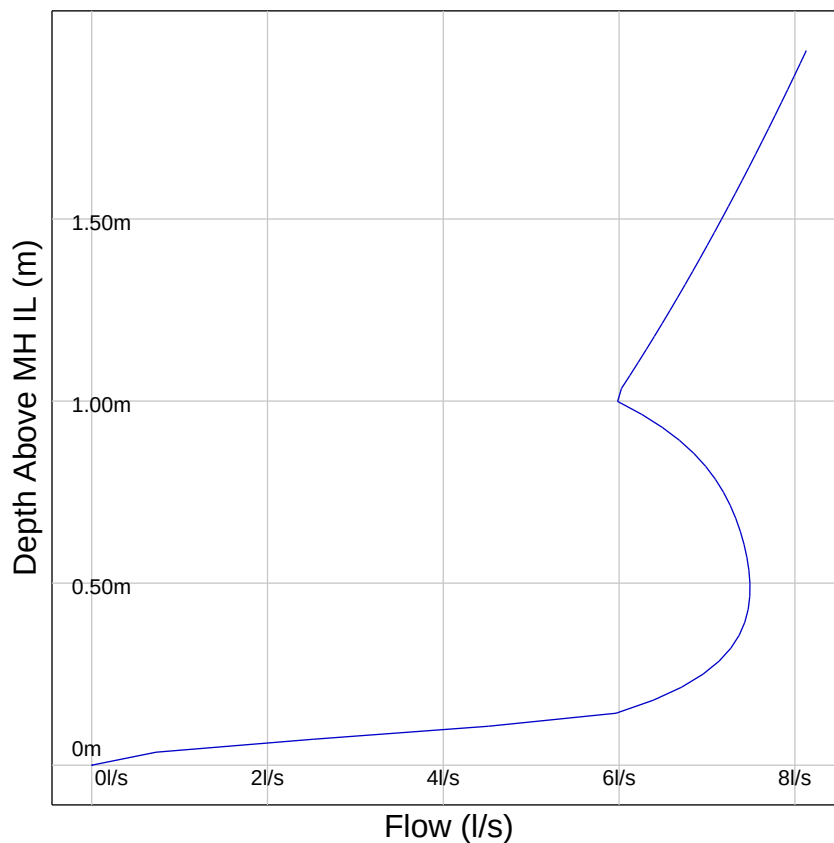


Controls within Manhole S46

Hydro-Brake® Optimum Control

Model Ref	Design Depth (m)	Design Flow (l/s)	Invert Offset (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0118-7500-1652-7500	1.652	7.500	0.000	0.486	7.490	1.003	5.940

Hydro-Brake® Optimum Control from S46 to S47



Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_408080_183209_v5_0_1.xml

Summer (Cv: 1.00), Winter (Cv: 1.00)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080

Return Periods (yrs) + Climate Change: (1, +0%), (30, +0%), (30, +45%), (100, +0%), (100, +45%)

Manhole Flood Risk Freeboard: 0.300m

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
1Yr 15Min Winter	14.322	0.00	-0.44	30Yr+45% 720Min Winter	7.409	0.00	-0.08
1Yr 15Min Summer	14.322	0.00	-0.39	30Yr+45% 960Min Summer	5.942	0.00	-0.06
1Yr 30Min Winter	9.104	0.00	-0.24	30Yr+45% 960Min Winter	5.942	0.00	-0.11
1Yr 30Min Summer	9.104	0.00	-0.27	30Yr+45% 1440Min Summer	4.331	0.00	-0.08
1Yr 60Min Summer	5.731	0.00	-0.16	30Yr+45% 1440Min Winter	4.331	0.00	-0.13
1Yr 60Min Winter	5.731	0.00	-0.14	30Yr+45% 2160Min Summer	3.130	0.00	-0.10
1Yr 120Min Winter	4.566	0.00	-0.09	30Yr+45% 2160Min Winter	3.130	0.00	-0.14
1Yr 120Min Summer	4.566	0.00	-0.09	30Yr+45% 2880Min Summer	2.466	0.00	-0.10
1Yr 180Min Winter	3.889	0.00	-0.07	30Yr+45% 2880Min Winter	2.466	0.00	-0.13
1Yr 180Min Summer	3.889	0.00	-0.07	30Yr+45% 4320Min Summer	1.774	0.00	-0.08
1Yr 240Min Summer	3.232	0.00	-0.07	30Yr+45% 4320Min Winter	1.774	0.00	-0.10
1Yr 240Min Winter	3.232	0.00	-0.07	30Yr+45% 5760Min Summer	1.420	0.00	-0.07
1Yr 360Min Summer	2.536	0.00	-0.05	30Yr+45% 5760Min Winter	1.420	0.00	-0.08
1Yr 360Min Winter	2.536	0.00	-0.05	30Yr+45% 7200Min Summer	1.211	0.00	-0.06
1Yr 480Min Winter	2.127	0.00	-0.04	30Yr+45% 7200Min Winter	1.211	0.00	-0.07
1Yr 480Min Summer	2.127	0.00	-0.03	30Yr+45% 8640Min Summer	1.075	0.00	-0.06
1Yr 600Min Summer	1.829	0.00	-0.03	30Yr+45% 8640Min Winter	1.075	0.00	-0.06
1Yr 600Min Winter	1.829	0.00	-0.02	30Yr+45% 10080Min Summer	0.983	0.00	-0.06
1Yr 720Min Summer	1.607	0.00	-0.02	30Yr+45% 10080Min Winter	0.983	0.00	-0.05
1Yr 720Min Winter	1.607	0.00	-0.02	100Yr 15Min Summer	105.596	0.00	-0.36
1Yr 960Min Summer	1.315	0.00	-0.01	100Yr 15Min Winter	105.596	0.00	-0.27
1Yr 960Min Winter	1.315	0.00	-0.01	100Yr 30Min Summer	69.048	0.00	-0.09
1Yr 1440Min Summer	0.984	0.00	-0.01	100Yr 30Min Winter	69.048	0.00	0.01
1Yr 1440Min Winter	0.984	0.00	0.00	100Yr 60Min Summer	42.949	0.00	0.08
1Yr 2160Min Summer	0.735	0.00	0.01	100Yr 60Min Winter	42.949	0.00	0.19
1Yr 2160Min Winter	0.735	0.00	0.02	100Yr 120Min Summer	25.228	0.00	0.14
1Yr 2880Min Summer	0.602	0.00	0.01	100Yr 120Min Winter	25.228	0.00	0.14
1Yr 2880Min Winter	0.602	0.00	0.04	100Yr 180Min Summer	18.488	0.00	0.11
1Yr 4320Min Summer	0.464	0.00	0.02	100Yr 180Min Winter	18.488	0.00	0.11
1Yr 4320Min Winter	0.464	0.00	0.04	100Yr 240Min Summer	14.956	0.00	0.08
1Yr 5760Min Summer	0.394	0.00	0.03	100Yr 240Min Winter	14.956	0.00	0.08
1Yr 5760Min Winter	0.394	0.00	-0.04	100Yr 360Min Summer	11.066	0.00	0.03
1Yr 7200Min Summer	0.352	0.00	0.03	100Yr 360Min Winter	11.066	0.00	0.03
1Yr 7200Min Winter	0.352	0.00	-0.03	100Yr 480Min Summer	8.940	0.00	-0.02
1Yr 8640Min Summer	0.324	0.00	0.03	100Yr 480Min Winter	8.940	0.00	-0.02
1Yr 8640Min Winter	0.324	0.00	-0.03	100Yr 600Min Summer	7.576	0.00	-0.03
1Yr 10080Min Summer	0.304	0.00	0.03	100Yr 600Min Winter	7.576	0.00	-0.04
1Yr 10080Min Winter	0.304	0.00	-0.02	100Yr 720Min Summer	6.606	0.00	-0.04
30Yr 15Min Winter	81.960	0.00	-0.29	100Yr 720Min Winter	6.606	0.00	-0.05
30Yr 15Min Summer	81.960	0.00	-0.33	100Yr 960Min Summer	5.295	0.00	-0.04
30Yr 30Min Summer	53.153	0.00	-0.11	100Yr 960Min Winter	5.295	0.00	-0.07
30Yr 30Min Winter	53.153	0.00	0.16	100Yr 1440Min Summer	3.840	0.00	-0.06
30Yr 60Min Summer	32.833	0.00	0.19	100Yr 1440Min Winter	3.840	0.00	-0.10
30Yr 60Min Winter	32.833	0.00	0.13	100Yr 2160Min Summer	2.749	0.00	-0.07
30Yr 120Min Winter	19.565	0.00	0.13	100Yr 2160Min Winter	2.749	0.00	-0.10
30Yr 120Min Summer	19.565	0.00	0.15	100Yr 2880Min Summer	2.145	0.00	-0.06
30Yr 180Min Summer	14.408	0.00	0.11	100Yr 2880Min Winter	2.145	0.00	-0.09
30Yr 180Min Winter	14.408	0.00	0.12	100Yr 4320Min Summer	1.511	0.00	-0.04
30Yr 240Min Summer	11.630	0.00	0.10	100Yr 4320Min Winter	1.511	0.00	-0.06
30Yr 240Min Winter	11.630	0.00	0.11	100Yr 5760Min Summer	1.188	0.00	-0.03
30Yr 360Min Summer	8.588	0.00	0.08	100Yr 5760Min Winter	1.188	0.00	-0.03
30Yr 360Min Winter	8.588	0.00	0.09	100Yr 7200Min Summer	0.997	0.00	0.03
30Yr 480Min Summer	6.931	0.00	0.06	100Yr 7200Min Winter	0.997	0.00	0.05
30Yr 480Min Winter	6.931	0.00	0.06	100Yr 8640Min Summer	0.875	0.00	0.03

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
30Yr 600Min Summer	5.865	0.00	0.04	100Yr 8640Min Winter	0.875	0.00	0.05
30Yr 600Min Winter	5.865	0.00	0.04	100Yr 10080Min Summer	0.792	0.00	0.04
30Yr 720Min Summer	5.110	0.00	0.02	100Yr 10080Min Winter	0.792	0.00	0.03
30Yr 720Min Winter	5.110	0.00	0.02	100Yr+45% 15Min Summer	153.114	0.00	-0.50
30Yr 960Min Summer	4.098	0.00	0.00	100Yr+45% 15Min Winter	153.114	0.00	-0.36
30Yr 960Min Winter	4.098	0.00	-0.00	100Yr+45% 30Min Summer	100.119	0.00	-0.16
30Yr 1440Min Summer	2.987	0.00	-0.01	100Yr+45% 30Min Winter	100.119	0.00	0.01
30Yr 1440Min Winter	2.987	0.00	-0.02	100Yr+45% 60Min Summer	62.275	0.00	0.04
30Yr 2160Min Summer	2.158	0.00	-0.01	100Yr+45% 60Min Winter	62.275	0.00	0.11
30Yr 2160Min Winter	2.158	0.00	-0.02	100Yr+45% 120Min Summer	36.581	0.00	0.06
30Yr 2880Min Summer	1.701	0.00	0.02	100Yr+45% 120Min Winter	36.581	0.00	0.10
30Yr 2880Min Winter	1.701	0.00	-0.00	100Yr+45% 180Min Summer	26.807	0.00	0.03
30Yr 4320Min Summer	1.223	0.00	0.08	100Yr+45% 180Min Winter	26.807	0.00	0.03
30Yr 4320Min Winter	1.223	0.00	0.07	100Yr+45% 240Min Summer	21.687	0.00	-0.03
30Yr 5760Min Summer	0.979	0.00	0.05	100Yr+45% 240Min Winter	21.687	0.00	-0.04
30Yr 5760Min Winter	0.979	0.00	0.04	100Yr+45% 360Min Summer	16.045	0.00	-0.07
30Yr 7200Min Summer	0.835	0.00	0.04	100Yr+45% 360Min Winter	16.045	0.00	-0.08
30Yr 7200Min Winter	0.835	0.00	0.02	100Yr+45% 480Min Summer	12.964	0.00	-0.07
30Yr 8640Min Summer	0.742	0.00	0.03	100Yr+45% 480Min Winter	12.964	0.00	-0.11
30Yr 8640Min Winter	0.742	0.00	0.02	100Yr+45% 600Min Summer	10.985	0.00	-0.09
30Yr 10080Min Summer	0.678	0.00	0.03	100Yr+45% 600Min Winter	10.985	0.00	-0.14
30Yr 10080Min Winter	0.678	0.00	0.01	100Yr+45% 720Min Summer	9.579	0.00	-0.10
30Yr+45% 15Min Summer	118.843	0.00	-0.37	100Yr+45% 720Min Winter	9.579	0.00	-0.16
30Yr+45% 15Min Winter	118.843	0.00	-0.31	100Yr+45% 960Min Summer	7.678	0.00	-0.13
30Yr+45% 30Min Summer	77.071	0.00	-0.11	100Yr+45% 960Min Winter	7.678	0.00	-0.19
30Yr+45% 30Min Winter	77.071	0.00	0.01	100Yr+45% 1440Min Summer	5.568	0.00	-0.16
30Yr+45% 60Min Summer	47.608	0.00	0.08	100Yr+45% 1440Min Winter	5.568	0.00	-0.21
30Yr+45% 60Min Winter	47.608	0.00	0.20	100Yr+45% 2160Min Summer	3.986	0.00	-0.16
30Yr+45% 120Min Summer	28.370	0.00	0.14	100Yr+45% 2160Min Winter	3.986	0.00	-0.19
30Yr+45% 120Min Winter	28.370	0.00	0.13	100Yr+45% 2880Min Summer	3.110	0.00	-0.15
30Yr+45% 180Min Summer	20.892	0.00	0.09	100Yr+45% 2880Min Winter	3.110	0.00	-0.17
30Yr+45% 180Min Winter	20.892	0.00	0.09	100Yr+45% 4320Min Summer	2.191	0.00	-0.13
30Yr+45% 240Min Summer	16.863	0.00	0.06	100Yr+45% 4320Min Winter	2.191	0.00	-0.14
30Yr+45% 240Min Winter	16.863	0.00	0.05	100Yr+45% 5760Min Summer	1.722	0.00	-0.10
30Yr+45% 360Min Summer	12.453	0.00	-0.02	100Yr+45% 5760Min Winter	1.722	0.00	-0.10
30Yr+45% 360Min Winter	12.453	0.00	-0.02	100Yr+45% 7200Min Summer	1.446	0.00	-0.07
30Yr+45% 480Min Summer	10.050	0.00	-0.04	100Yr+45% 7200Min Winter	1.446	0.00	-0.07
30Yr+45% 480Min Winter	10.050	0.00	-0.05	100Yr+45% 8640Min Summer	1.269	0.00	-0.07
30Yr+45% 600Min Summer	8.505	0.00	-0.04	100Yr+45% 8640Min Winter	1.269	0.00	-0.07
30Yr+45% 600Min Winter	8.505	0.00	-0.07	100Yr+45% 10080Min Summer	1.149	0.00	-0.06
30Yr+45% 720Min Summer	7.409	0.00	-0.05	100Yr+45% 10080Min Winter	1.149	0.00	-0.06

Simulation Results

Return Period (yrs) + Climate Change (%):

1yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	15 min Winter	0	132.035	0.000	0.000		OK
S2	15 min Summer	8	130.933	0.049	11.642		OK
S3	15 min Summer	8	130.041	0.050	11.585		OK
S4	15 min Summer	9	129.151	0.085	12.386		OK
S5	15 min Summer	9	129.117	0.091	12.478		OK
S6	15 min Summer	10	129.106	0.097	15.690		OK
S7	15 min Summer	8	132.757	0.067	8.250		OK
S8	15 min Summer	9	132.601	0.080	11.221		OK
S9	15 min Summer	9	132.386	0.094	20.230		OK
S10	15 min Summer	9	132.254	0.051	26.642		OK
S11	15 min Summer	10	128.688	0.161	45.633		OK
S12	15 min Summer	8	132.542	0.034	7.354		OK
S13	15 min Summer	10	128.543	0.178	59.084		OK
S14	15 min Summer	11	128.470	0.182	56.408		OK
S15	15 min Summer	11	128.449	0.180	56.914		OK
S16	15 min Summer	11	128.414	0.179	60.683		OK
S17	15 min Summer	12	128.377	0.169	58.522		OK
S18	15 min Summer	8	134.520	0.049	4.147		OK
S19	15 min Summer	9	134.361	0.041	6.658		OK
S20	15 min Summer	9	133.579	0.046	7.841		OK
S21	15 min Summer	8	133.149	0.077	28.619		OK
S22	15 min Summer	9	131.048	0.058	32.961		OK
S23	15 min Summer	9	129.919	0.059	33.140		OK
S24	15 min Winter	0	130.628	0.000	0.000		OK
S25	15 min Summer	8	130.533	0.031	4.307		OK
S26	15 min Summer	10	128.131	0.190	93.056		OK
S27	15 min Summer	11	128.038	0.138	95.085		OK
S28	15 min Summer	8	129.520	0.040	5.828		OK
S29	15 min Summer	8	128.939	0.057	11.498		OK
S30	15 min Summer	11	127.828	0.100	105.506		OK
S31	15 min Summer	11	126.762	0.084	107.003		OK
S32	15 min Winter	0	127.071	0.000	0.000		OK
S33	15 min Summer	9	126.540	0.071	10.841		OK
S34	15 min Summer	8	127.613	0.038	6.050		OK
S35	15 min Summer	8	126.903	0.038	6.010		OK
S36	15 min Summer	11	125.436	0.076	119.163		OK
S37	15 min Summer	11	123.754	0.654	134.359		OK
S38	15 min Summer	8	134.649	0.060	6.484		OK
S39	15 min Summer	8	134.443	0.061	17.191		OK
S40	15 min Summer	9	132.407	0.056	23.251		OK
S41	15 min Summer	8	129.964	0.046	7.644		OK
S42	15 min Summer	9	129.259	0.075	39.465		OK
S43	15 min Summer	9	125.235	0.066	39.720		OK
S44	15 min Summer	9	123.574	0.474	39.753		OK
S45	600 min Winter	491	123.262	0.162	8.955		OK
S46	600 min Winter	525	123.281	0.333	4.040		OK
S47	960 min Summer	666	122.983	0.044	7.077		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	0	S1	S2	0.000	0.000	0.000	0.000	OK
1.001	15 min Summer	8	S2	S3	0.049	1.788	11.585	0.106	OK
1.002	15 min Summer	8	S3	S4	0.049	1.770	11.463	0.109	OK
1.003	15 min Summer	9	S4	S5	0.088	0.651	12.478	0.112	OK
1.004	15 min Summer	9	S5	S6	0.094	0.626	12.433	0.112	OK
1.005	15 min Summer	10	S6	S11	0.094	0.766	16.633	0.150	OK
2.000	15 min Summer	9	S7	S8	0.073	0.619	8.070	0.113	OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
2.001	15 min Summer	9	S8	S9	0.079	0.756	11.248	0.158	OK
2.002	15 min Summer	9	S9	S10	0.073	1.213	20.279	0.101	OK
2.003	15 min Summer	9	S10	S11	0.051	2.679	26.683	0.028	OK
1.006	15 min Summer	10	S11	S13	0.146	0.816	46.644	0.130	OK
3.000	15 min Summer	8	S12	S13	0.033	1.961	7.244	0.049	OK
1.007	15 min Summer	10	S13	S14	0.177	0.743	59.002	0.127	OK
1.008	15 min Summer	11	S14	S15	0.181	0.695	56.914	0.123	OK
1.009	15 min Summer	11	S15	S16	0.180	0.699	56.754	0.123	OK
1.010	15 min Summer	11	S16	S17	0.174	0.774	60.073	0.130	OK
1.011	15 min Summer	12	S17	S26	0.157	0.893	59.967	0.129	OK
4.000	15 min Summer	8	S18	S19	0.045	0.718	4.081	0.103	OK
4.001	15 min Summer	9	S19	S20	0.044	1.246	6.723	0.077	OK
4.002	15 min Summer	9	S20	S21	0.045	1.383	7.894	0.093	OK
4.003	15 min Summer	9	S21	S22	0.067	2.103	28.265	0.086	OK
4.004	15 min Summer	9	S22	S23	0.058	3.029	33.140	0.052	OK
4.005	15 min Summer	9	S23	S26	0.058	3.079	33.210	0.053	OK
5.000	15 min Summer	8	S24	S25	0.016	0.000	0.000	0.000	OK
5.001	15 min Summer	8	S25	S26	0.031	1.594	4.238	0.096	OK
1.012	15 min Summer	11	S26	S27	0.164	1.116	93.561	0.110	OK
1.013	15 min Summer	11	S27	S30	0.119	1.825	96.338	0.042	OK
6.000	15 min Summer	8	S28	S29	0.040	1.215	5.755	0.070	OK
6.001	15 min Summer	8	S29	S30	0.056	1.242	11.318	0.079	OK
1.014	15 min Summer	11	S30	S31	0.092	2.939	106.305	0.021	OK
1.015	15 min Summer	11	S31	S36	0.082	3.505	107.468	0.015	OK
7.000	15 min Winter	0	S32	S33	0.000	0.000	0.000	0.000	OK
7.001	15 min Summer	9	S33	S36	0.070	0.874	11.034	0.125	OK
8.000	15 min Summer	8	S34	S35	0.038	1.354	6.010	0.064	OK
8.001	15 min Summer	9	S35	S36	0.037	1.371	5.928	0.063	OK
1.016	15 min Summer	11	S36	S37	0.365	0.432	119.567	0.011	OK
1.017	15 min Summer	11	S37	S45	0.297	0.894	131.081		OK
9.000	15 min Summer	9	S38	S39	0.060	0.751	6.339	0.160	OK
9.001	15 min Summer	9	S39	S40	0.058	1.756	16.951	0.089	OK
9.002	15 min Summer	9	S40	S42	0.066	2.042	23.425	0.079	OK
10.000	15 min Summer	9	S41	S42	0.061	0.743	7.522	0.054	OK
9.003	15 min Summer	9	S42	S43	0.071	3.119	39.720	0.135	OK
9.004	15 min Summer	9	S43	S44	0.183	1.060	39.753	0.113	OK
9.005	15 min Summer	9	S44	S45	0.149	0.756	39.243		OK
1.018	600 min Winter	521	S45	S46	0.221	0.600	36.996	0.010	OK
1.019	960 min Summer	666	S46	S47	0.049	0.500	7.077	0.006	OK

Return Period (yrs) + Climate Change (%):
30yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	15 min Winter	0	132.035	0.000	0.000		OK
S2	15 min Summer	8	131.013	0.129	66.658		OK
S3	15 min Summer	8	130.124	0.133	66.347		OK
S4	15 min Summer	9	129.322	0.257	70.599		OK
S5	15 min Summer	9	129.297	0.270	70.683		OK
S6	15 min Summer	9	129.280	0.271	98.477		OK
S7	15 min Summer	8	132.866	0.176	47.237		OK
S8	15 min Summer	9	132.743	0.222	64.196		OK
S9	15 min Summer	9	132.527	0.236	116.589		OK
S10	15 min Summer	8	132.323	0.120	154.719		OK
S11	15 min Summer	9	128.969	0.442	281.250		OK
S12	15 min Summer	8	132.590	0.082	42.107		OK
S13	15 min Summer	10	128.871	0.506	336.809		OK
S14	15 min Summer	10	128.803	0.515	345.005		OK
S15	15 min Summer	10	128.768	0.500	346.632		OK
S16	15 min Summer	10	128.717	0.482	384.712		OK
S17	15 min Summer	10	128.649	0.441	385.423		OK
S18	15 min Summer	8	134.596	0.125	23.741		OK
S19	15 min Summer	8	134.423	0.103	39.108		OK
S20	15 min Summer	8	133.653	0.121	45.517		OK
S21	15 min Summer	8	133.267	0.195	165.092		OK
S22	15 min Summer	8	131.139	0.149	191.751		OK
S23	15 min Summer	8	130.010	0.150	190.526		OK
S24	15 min Winter	0	130.628	0.000	0.000		OK
S25	15 min Summer	8	130.582	0.081	24.664		OK
S26	15 min Summer	9	128.423	0.482	646.203		OK
S27	15 min Summer	9	128.267	0.367	660.029		OK
S28	15 min Summer	8	129.581	0.101	33.370		OK
S29	15 min Summer	8	129.027	0.145	66.000		OK
S30	15 min Summer	10	127.997	0.268	742.190		OK
S31	15 min Summer	10	126.912	0.234	753.083		OK
S32	15 min Winter	0	127.071	0.000	0.000		OK
S33	15 min Summer	8	126.659	0.190	64.681		OK
S34	15 min Summer	8	127.670	0.095	34.641		OK
S35	15 min Summer	8	126.959	0.094	34.492		OK
S36	15 min Summer	10	125.555	0.195	842.485		OK
S37	15 min Summer	10	124.170	1.070	984.795		OK
S38	15 min Summer	8	134.760	0.172	37.127		OK
S39	15 min Summer	8	134.538	0.155	98.767		OK
S40	15 min Summer	8	132.490	0.139	135.562		OK
S41	15 min Summer	8	130.030	0.112	43.772		OK
S42	15 min Summer	8	129.387	0.203	229.132		OK
S43	15 min Summer	9	125.353	0.184	227.201		OK
S44	15 min Summer	9	123.770	0.670	228.327		OK
S45	960 min Winter	929	123.716	0.616	7.269		OK
S46	960 min Winter	929	123.716	0.768	7.267		OK
S47	4320 min Winter	4266	122.984	0.045	7.489		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	S1	S2	0.027	0.000	0.000	0.000	OK
1.001	15 min Summer	8	S2	S3	0.131	2.771	66.347	0.609	OK
1.002	15 min Summer	8	S3	S4	0.129	2.794	65.848	0.627	OK
1.003	15 min Summer	9	S4	S5	0.264	0.908	71.017	0.639	OK
1.004	15 min Summer	9	S5	S6	0.271	0.860	70.736	0.637	OK
1.005	15 min Summer	9	S6	S11	0.251	1.259	98.628	0.888	OK
2.000	15 min Summer	8	S7	S8	0.198	0.942	46.715	0.655	OK
2.001	15 min Summer	9	S8	S9	0.210	1.233	65.220	0.915	OK
2.002	15 min Summer	9	S9	S10	0.178	2.001	116.999	0.581	OK
2.003	15 min Summer	9	S10	S11	0.168	3.848	153.832	0.163	OK
1.006	15 min Summer	9	S11	S13	0.434	1.165	277.941	0.774	OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
3.000	15 min Summer	8	S12	S13	0.081	3.232	41.753	0.282	OK
1.007	15 min Summer	10	S13	S14	0.511	1.143	349.941	0.756	OK
1.008	15 min Summer	10	S14	S15	0.507	1.090	346.632	0.748	OK
1.009	15 min Summer	10	S15	S16	0.491	1.133	347.209	0.750	OK
1.010	15 min Summer	10	S16	S17	0.461	1.352	385.423	0.832	OK
1.011	15 min Summer	10	S17	S26	0.410	1.557	385.115	0.831	OK
4.000	15 min Summer	8	S18	S19	0.114	1.163	23.516	0.592	OK
4.001	15 min Summer	8	S19	S20	0.112	1.964	38.846	0.444	OK
4.002	15 min Summer	8	S20	S21	0.116	2.186	45.175	0.533	OK
4.003	15 min Summer	8	S21	S22	0.172	3.320	163.731	0.499	OK
4.004	15 min Summer	8	S22	S23	0.149	4.643	190.526	0.302	OK
4.005	15 min Summer	8	S23	S26	0.143	4.902	189.973	0.305	OK
5.000	15 min Summer	8	S24	S25	0.040	0.000	0.000	0.000	OK
5.001	15 min Summer	8	S25	S26	0.080	2.564	24.431	0.556	OK
1.012	15 min Summer	10	S26	S27	0.425	2.061	646.502	0.762	OK
1.013	15 min Summer	10	S27	S30	0.318	3.121	668.911	0.295	OK
6.000	15 min Summer	8	S28	S29	0.099	1.968	33.117	0.405	OK
6.001	15 min Summer	8	S29	S30	0.141	1.997	65.440	0.459	OK
1.014	15 min Summer	10	S30	S31	0.251	4.826	746.424	0.146	OK
1.015	15 min Summer	10	S31	S36	0.220	5.912	756.320	0.106	OK
7.000	15 min Summer	8	S32	S33	0.020	0.000	0.000	0.000	OK
7.001	15 min Summer	9	S33	S36	0.186	1.384	63.359	0.719	OK
8.000	15 min Summer	8	S34	S35	0.095	2.166	34.492	0.369	OK
8.001	15 min Summer	8	S35	S36	0.092	2.222	34.200	0.362	OK
1.016	15 min Summer	10	S36	S37	0.633	1.465	843.607	0.074	OK
1.017	15 min Summer	10	S37	S45	0.704	1.597	1009.340		OK
9.000	15 min Summer	8	S38	S39	0.166	1.165	36.592	0.922	OK
9.001	15 min Summer	8	S39	S40	0.147	2.840	97.976	0.515	OK
9.002	15 min Summer	8	S40	S42	0.171	3.230	134.372	0.454	OK
10.000	15 min Summer	8	S41	S42	0.158	1.156	43.416	0.310	OK
9.003	15 min Summer	9	S42	S43	0.193	4.730	227.201	0.771	OK
9.004	15 min Summer	9	S43	S44	0.242	3.737	228.327	0.646	OK
9.005	15 min Summer	9	S44	S45	0.344	1.230	230.050		Surcharged
1.018	960 min Winter	929	S45	S46	0.666	0.601	38.455	0.011	OK
1.019	4320 min Winter	4266	S46	S47	0.051	0.500	7.489	0.007	OK

Return Period (yrs) + Climate Change (%):
30yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	15 min Summer	0	132.035	0.000	0.000		OK
S2	15 min Summer	8	131.053	0.169	96.686		OK
S3	15 min Summer	8	130.164	0.173	96.131		OK
S4	15 min Summer	9	129.469	0.404	102.170		Surcharged
S5	15 min Summer	9	129.430	0.404	101.256		Surcharged
S6	15 min Summer	9	129.407	0.398	140.832		Surcharged
S7	15 min Summer	9	132.959	0.269	65.652		OK
S8	15 min Summer	9	132.835	0.314	92.482		Surcharged
S9	15 min Summer	9	132.584	0.293	167.135		OK
S10	15 min Summer	8	132.347	0.144	224.767		OK
S11	15 min Summer	10	129.124	0.597	369.256		OK
S12	15 min Summer	8	132.609	0.101	61.075		OK
S13	15 min Summer	10	129.029	0.664	482.928		OK
S14	15 min Summer	10	128.941	0.654	491.358		OK
S15	15 min Summer	10	128.899	0.630	493.947		OK
S16	15 min Summer	10	128.835	0.600	549.534		OK
S17	15 min Summer	10	128.749	0.541	550.896		OK
S18	15 min Summer	8	134.630	0.159	34.436		OK
S19	15 min Summer	8	134.450	0.130	56.720		OK
S20	15 min Summer	8	133.688	0.156	66.026		OK
S21	15 min Summer	8	133.320	0.247	239.451		OK
S22	15 min Summer	8	131.177	0.187	278.183		OK
S23	15 min Summer	8	130.048	0.188	276.546		OK
S24	15 min Summer	0	130.628	0.000	0.000		OK
S25	15 min Summer	8	130.605	0.104	35.775		OK
S26	15 min Summer	9	128.533	0.591	954.434		OK
S27	15 min Summer	9	128.356	0.456	980.653		OK
S28	15 min Summer	8	129.606	0.127	48.401		OK
S29	15 min Summer	8	129.066	0.183	95.747		OK
S30	15 min Summer	9	128.063	0.335	1102.382		OK
S31	15 min Summer	9	126.970	0.292	1112.173		OK
S32	15 min Summer	0	127.071	0.000	0.000		OK
S33	15 min Summer	8	126.726	0.257	93.819		OK
S34	15 min Summer	8	127.694	0.119	50.246		OK
S35	15 min Summer	8	126.983	0.118	50.045		OK
S36	15 min Summer	9	125.596	0.236	1249.578		OK
S37	15 min Summer	9	124.294	1.194	1494.458		OK
S38	15 min Summer	9	134.879	0.290	51.600		Surcharged
S39	15 min Summer	8	134.579	0.197	142.240		OK
S40	15 min Summer	8	132.524	0.173	195.385		OK
S41	15 min Summer	8	130.056	0.138	63.490		OK
S42	15 min Summer	10	129.725	0.542	283.503		Surcharged
S43	15 min Winter	9	125.421	0.252	304.428		OK
S44	1440 min Winter	1403	124.021	0.921	0.974		OK
S45	1440 min Winter	1402	124.021	0.921	6.146		OK
S46	1440 min Winter	1404	124.021	1.074	1.441		OK
S47	4320 min Winter	6800	122.984	0.045	7.489		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	S1	S2	0.047	0.000	0.000	0.000	OK
1.001	15 min Summer	8	S2	S3	0.171	2.963	96.131	0.883	OK
1.002	15 min Summer	9	S3	S4	0.198	2.926	95.707	0.912	OK
1.003	15 min Summer	9	S4	S5	0.375	0.965	101.885	0.917	Surcharged
1.004	15 min Summer	9	S5	S6	0.375	0.924	100.608	0.906	Surcharged
1.005	15 min Summer	10	S6	S11	0.336	1.341	138.853	1.250	OK
2.000	15 min Summer	9	S7	S8	0.284	0.996	66.106	0.927	OK
2.001	15 min Summer	9	S8	S9	0.268	1.389	92.653	1.299	OK
2.002	15 min Summer	9	S9	S10	0.218	2.223	169.702	0.843	OK
2.003	15 min Summer	9	S10	S11	0.256	3.955	220.996	0.234	OK
1.006	15 min Summer	10	S11	S13	0.593	1.208	387.148	1.078	OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
3.000	15 min Summer	9	S12	S13	0.115	3.565	60.601	0.410	OK
1.007	15 min Summer	10	S13	S14	0.659	1.243	491.358	1.061	OK
1.008	15 min Summer	10	S14	S15	0.642	1.227	493.947	1.066	OK
1.009	15 min Summer	10	S15	S16	0.615	1.278	495.234	1.069	OK
1.010	15 min Summer	10	S16	S17	0.570	1.529	550.896	1.189	OK
1.011	15 min Summer	10	S17	S26	0.500	1.766	551.878	1.191	OK
4.000	15 min Summer	8	S18	S19	0.144	1.266	34.104	0.859	OK
4.001	15 min Summer	8	S19	S20	0.143	2.115	56.351	0.645	OK
4.002	15 min Summer	8	S20	S21	0.148	2.363	65.514	0.773	OK
4.003	15 min Summer	8	S21	S22	0.217	3.586	237.540	0.724	OK
4.004	15 min Summer	8	S22	S23	0.188	4.998	276.546	0.438	OK
4.005	15 min Summer	8	S23	S26	0.178	5.345	275.790	0.443	OK
5.000	15 min Summer	8	S24	S25	0.052	0.000	0.000	0.000	OK
5.001	15 min Summer	8	S25	S26	0.102	2.773	35.414	0.806	OK
1.012	15 min Summer	9	S26	S27	0.524	2.304	955.326	1.125	OK
1.013	15 min Summer	9	S27	S30	0.395	3.419	979.160	0.431	OK
6.000	15 min Summer	8	S28	S29	0.123	2.150	48.051	0.588	OK
6.001	15 min Summer	8	S29	S30	0.178	2.176	94.940	0.665	OK
1.014	15 min Summer	9	S30	S31	0.314	5.222	1100.575	0.216	OK
1.015	15 min Summer	9	S31	S36	0.271	6.460	1108.992	0.156	OK
7.000	15 min Summer	8	S32	S33	0.053	0.000	0.000	0.000	OK
7.001	15 min Summer	9	S33	S36	0.246	1.480	91.836	1.042	OK
8.000	15 min Summer	8	S34	S35	0.118	2.361	50.045	0.536	OK
8.001	15 min Summer	8	S35	S36	0.115	2.434	49.634	0.526	OK
1.016	15 min Summer	9	S36	S37	0.681	1.985	1248.542	0.110	OK
1.017	15 min Summer	10	S37	S45	0.825	1.771	1497.921		OK
9.000	15 min Summer	9	S38	S39	0.207	1.371	52.554	1.324	OK
9.001	15 min Summer	8	S39	S40	0.185	3.084	140.868	0.740	OK
9.002	15 min Summer	8	S40	S42	0.237	3.360	193.577	0.655	OK
10.000	15 min Summer	8	S41	S42	0.219	1.232	63.047	0.450	OK
9.003	15 min Summer	10	S42	S43	0.271	4.766	297.704	1.010	OK
9.004	15 min Winter	9	S43	S44	0.276	4.492	305.484	0.865	OK
9.005	1440 min Winter	1402	S44	S45	0.621	0.526	14.109		Surcharged
1.018	1440 min Winter	1404	S45	S46	0.972	0.603	37.249	0.010	OK
1.019	30 min Summer	25	S46	S47	0.051	0.487	7.487	0.007	OK

Return Period (yrs) + Climate Change (%):
100yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	15 min Summer	0	132.035	0.000	0.000		OK
S2	15 min Summer	8	131.038	0.154	85.893		OK
S3	15 min Summer	8	130.149	0.158	85.428		OK
S4	15 min Summer	9	129.392	0.326	90.879		OK
S5	15 min Summer	9	129.363	0.337	90.685		OK
S6	15 min Summer	9	129.344	0.336	126.280		OK
S7	15 min Summer	8	132.906	0.216	60.868		OK
S8	15 min Summer	9	132.794	0.273	82.589		OK
S9	15 min Summer	9	132.566	0.274	149.772		OK
S10	15 min Summer	8	132.339	0.136	199.264		OK
S11	15 min Summer	9	129.065	0.538	360.178		OK
S12	15 min Summer	8	132.603	0.094	54.257		OK
S13	15 min Summer	10	128.972	0.607	430.397		OK
S14	15 min Summer	10	128.895	0.607	440.739		OK
S15	15 min Summer	10	128.855	0.587	444.805		OK
S16	15 min Summer	10	128.796	0.561	494.995		OK
S17	15 min Summer	10	128.717	0.509	496.576		OK
S18	15 min Summer	8	134.617	0.146	30.592		OK
S19	15 min Summer	8	134.440	0.121	50.397		OK
S20	15 min Summer	8	133.676	0.143	58.665		OK
S21	15 min Summer	8	133.301	0.228	212.754		OK
S22	15 min Summer	8	131.164	0.174	247.123		OK
S23	15 min Summer	8	130.035	0.175	245.625		OK
S24	15 min Summer	0	130.628	0.000	0.000		OK
S25	15 min Summer	8	130.597	0.095	31.782		OK
S26	15 min Summer	9	128.496	0.554	846.120		OK
S27	15 min Summer	9	128.325	0.425	867.176		OK
S28	15 min Summer	8	129.597	0.117	42.999		OK
S29	15 min Summer	8	129.052	0.169	85.058		OK
S30	15 min Summer	9	128.041	0.312	972.560		OK
S31	15 min Summer	9	126.949	0.271	980.000		OK
S32	15 min Summer	0	127.071	0.000	0.000		OK
S33	15 min Summer	8	126.699	0.229	83.346		OK
S34	15 min Summer	8	127.686	0.111	44.637		OK
S35	15 min Summer	8	126.975	0.110	44.457		OK
S36	15 min Summer	9	125.582	0.222	1101.060		OK
S37	15 min Summer	10	124.250	1.150	1267.055		OK
S38	15 min Summer	9	134.825	0.237	45.843		Surcharged
S39	15 min Summer	8	134.563	0.181	125.867		OK
S40	15 min Summer	8	132.512	0.161	173.389		OK
S41	15 min Summer	8	130.047	0.129	56.403		OK
S42	15 min Summer	8	129.433	0.249	294.392		OK
S43	15 min Summer	9	125.407	0.238	292.503		OK
S44	1440 min Winter	1393	123.912	0.812	1.075		OK
S45	1440 min Winter	1393	123.912	0.812	6.551		OK
S46	1440 min Winter	1393	123.909	0.962	11.731		OK
S47	7200 min Winter	6785	122.984	0.045	7.489		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	S1	S2	0.039	0.000	0.000	0.000	OK
1.001	15 min Summer	8	S2	S3	0.156	2.912	85.428	0.784	OK
1.002	15 min Summer	9	S3	S4	0.165	2.881	85.233	0.812	OK
1.003	15 min Summer	9	S4	S5	0.332	0.947	90.736	0.817	OK
1.004	15 min Summer	9	S5	S6	0.336	0.903	90.544	0.815	OK
1.005	15 min Summer	9	S6	S11	0.298	1.338	125.485	1.130	OK
2.000	15 min Summer	9	S7	S8	0.243	0.981	59.752	0.838	OK
2.001	15 min Summer	9	S8	S9	0.249	1.334	83.600	1.172	OK
2.002	15 min Summer	8	S9	S10	0.205	2.128	150.346	0.747	OK
2.003	15 min Summer	9	S10	S11	0.224	4.032	197.921	0.210	OK
1.006	15 min Summer	9	S11	S13	0.533	1.193	356.737	0.994	OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
3.000	15 min Summer	8	S12	S13	0.093	3.457	53.832	0.364	OK
1.007	15 min Summer	10	S13	S14	0.607	1.210	444.579	0.960	OK
1.008	15 min Summer	10	S14	S15	0.597	1.180	444.805	0.960	OK
1.009	15 min Summer	10	S15	S16	0.574	1.232	446.714	0.964	OK
1.010	15 min Summer	10	S16	S17	0.535	1.473	496.576	1.072	OK
1.011	15 min Summer	10	S17	S26	0.471	1.700	497.187	1.073	OK
4.000	15 min Summer	8	S18	S19	0.133	1.234	30.306	0.763	OK
4.001	15 min Summer	8	S19	S20	0.132	2.069	50.070	0.573	OK
4.002	15 min Summer	8	S20	S21	0.137	2.309	58.233	0.687	OK
4.003	15 min Summer	8	S21	S22	0.201	3.505	211.016	0.643	OK
4.004	15 min Summer	8	S22	S23	0.174	4.887	245.625	0.389	OK
4.005	15 min Summer	8	S23	S26	0.166	5.204	244.954	0.394	OK
5.000	15 min Summer	8	S24	S25	0.048	0.000	0.000	0.000	OK
5.001	15 min Summer	8	S25	S26	0.094	2.711	31.477	0.717	OK
1.012	15 min Summer	9	S26	S27	0.490	2.228	844.674	0.995	OK
1.013	15 min Summer	9	S27	S30	0.369	3.327	863.093	0.380	OK
6.000	15 min Summer	8	S28	S29	0.115	2.092	42.686	0.522	OK
6.001	15 min Summer	8	S29	S30	0.165	2.120	84.347	0.591	OK
1.014	15 min Summer	9	S30	S31	0.292	5.100	969.696	0.190	OK
1.015	15 min Summer	9	S31	S36	0.253	6.283	976.089	0.137	OK
7.000	15 min Summer	8	S32	S33	0.040	0.000	0.000	0.000	OK
7.001	15 min Summer	9	S33	S36	0.224	1.447	81.652	0.927	OK
8.000	15 min Summer	8	S34	S35	0.110	2.300	44.457	0.476	OK
8.001	15 min Summer	8	S35	S36	0.107	2.367	44.089	0.467	OK
1.016	15 min Summer	9	S36	S37	0.674	1.771	1099.769	0.097	OK
1.017	15 min Summer	10	S37	S45	0.786	1.712	1325.023		OK
9.000	15 min Summer	9	S38	S39	0.203	1.237	46.642	1.175	OK
9.001	15 min Summer	8	S39	S40	0.171	3.007	124.957	0.657	OK
9.002	15 min Summer	8	S40	S42	0.205	3.343	172.252	0.582	OK
10.000	15 min Summer	8	S41	S42	0.189	1.213	55.979	0.399	OK
9.003	15 min Summer	9	S42	S43	0.244	4.775	292.503	0.992	OK
9.004	15 min Summer	9	S43	S44	0.269	4.395	293.654	0.831	OK
9.005	1440 min Winter	1393	S44	S45	0.512	0.512	12.571		Surcharged
1.018	1440 min Winter	1393	S45	S46	0.860	0.602	37.408	0.010	OK
1.019	30 min Summer	32	S46	S47	0.051	0.489	7.488	0.007	OK

Return Period (yrs) + Climate Change (%):
100yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S1	15 min Summer	0	132.035	0.000	0.000		OK
S2	15 min Summer	9	131.493	0.609	119.354		Surcharged
S3	15 min Summer	10	130.614	0.624	106.300		Surcharged
S4	15 min Summer	10	129.799	0.733	114.615		Surcharged
S5	15 min Summer	10	129.748	0.721	114.031		Surcharged
S6	15 min Summer	10	129.718	0.709	156.746		Surcharged
S7	15 min Summer	9	133.188	0.498	84.579		Surcharged
S8	15 min Summer	9	132.947	0.426	119.417		Surcharged
S9	15 min Summer	9	132.634	0.343	215.722		OK
S10	15 min Summer	8	132.368	0.165	295.075		OK
S11	15 min Summer	10	129.353	0.826	457.827		Surcharged
S12	15 min Summer	8	132.623	0.114	78.671		OK
S13	15 min Summer	10	129.203	0.837	599.728		Surcharged
S14	15 min Summer	10	129.063	0.776	608.596		Surcharged
S15	15 min Summer	10	129.009	0.741	611.049		OK
S16	15 min Summer	10	128.931	0.696	681.900		OK
S17	15 min Summer	10	128.825	0.617	683.100		OK
S18	15 min Summer	8	134.667	0.196	44.357		OK
S19	15 min Summer	8	134.475	0.156	72.898		OK
S20	15 min Summer	9	133.728	0.196	83.634		OK
S21	15 min Summer	8	133.375	0.303	308.041		OK
S22	15 min Summer	8	131.212	0.222	357.307		OK
S23	15 min Summer	8	130.082	0.222	355.246		OK
S24	15 min Summer	9	130.631	0.004	0.000		OK
S25	15 min Summer	8	130.633	0.131	46.082		OK
S26	15 min Summer	9	128.612	0.671	1200.144		OK
S27	15 min Summer	9	128.421	0.521	1236.104		OK
S28	15 min Summer	8	129.630	0.150	62.346		OK
S29	15 min Summer	8	129.103	0.220	123.515		OK
S30	15 min Summer	9	128.113	0.385	1401.751		OK
S31	15 min Summer	9	127.015	0.337	1419.131		OK
S32	15 min Summer	0	127.071	0.000	0.000		OK
S33	15 min Summer	9	126.921	0.452	115.815		Surcharged
S34	15 min Summer	8	127.715	0.140	64.723		OK
S35	15 min Summer	8	127.004	0.139	64.464		OK
S36	15 min Summer	9	125.654	0.294	1596.991		OK
S37	15 min Summer	9	124.387	1.287	1910.377		OK
S38	15 min Summer	9	135.039	0.451	66.478		Surcharged
S39	15 min Summer	8	134.622	0.239	182.803		OK
S40	15 min Summer	9	132.595	0.245	248.290		OK
S41	15 min Summer	10	130.872	0.955	65.142		Surcharged
S42	15 min Summer	10	130.760	1.576	353.812		Surcharged
S43	15 min Summer	11	125.734	0.565	326.858		Surcharged
S44	2160 min Winter	2089	124.270	1.170	1.096		OK
S45	2160 min Winter	2088	124.270	1.170	6.643		Surcharged
S46	2160 min Winter	2087	124.270	1.322	11.930		Flood Risk
S47	5760 min Winter	9763	122.984	0.045	7.489		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	S1	S2	0.075	0.000	0.000	0.000	OK
1.001	15 min Winter	8	S2	S3	0.225	2.965	105.752	0.971	OK
1.002	30 min Summer	16	S3	S4	0.225	2.866	103.277	0.984	OK
1.003	15 min Winter	11	S4	S5	0.375	0.997	110.148	0.992	Surcharged
1.004	15 min Winter	11	S5	S6	0.375	1.055	116.554	1.049	Surcharged
1.005	15 min Winter	11	S6	S11	0.375	1.470	160.162	1.442	Surcharged
2.000	15 min Winter	9	S7	S8	0.300	1.114	78.745	1.104	Surcharged
2.001	15 min Summer	9	S8	S9	0.282	1.737	119.767	1.679	OK
2.002	15 min Summer	9	S9	S10	0.253	2.449	224.146	1.114	OK
2.003	15 min Summer	8	S10	S11	0.307	3.996	283.100	0.300	OK
1.006	15 min Winter	10	S11	S13	0.675	1.232	440.785	1.228	Surcharged

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
3.000	15 min Summer	8	S12	S13	0.170	3.725	78.380	0.530	OK
1.007	15 min Summer	10	S13	S14	0.750	1.378	608.596	1.314	Surcharged
1.008	15 min Summer	10	S14	S15	0.745	1.385	611.049	1.319	OK
1.009	15 min Summer	10	S15	S16	0.718	1.406	611.954	1.321	OK
1.010	15 min Summer	10	S16	S17	0.656	1.666	683.100	1.475	OK
1.011	15 min Summer	10	S17	S26	0.565	1.918	684.251	1.477	OK
4.000	15 min Summer	8	S18	S19	0.176	1.323	43.766	1.103	OK
4.001	15 min Summer	8	S19	S20	0.176	2.177	72.469	0.829	OK
4.002	15 min Summer	9	S20	S21	0.183	2.437	84.470	0.996	OK
4.003	15 min Summer	8	S21	S22	0.262	3.719	304.954	0.930	OK
4.004	15 min Summer	8	S22	S23	0.222	5.223	355.246	0.562	OK
4.005	15 min Summer	9	S23	S26	0.208	5.639	354.495	0.570	OK
5.000	15 min Summer	9	S24	S25	0.066	0.028	0.016	0.001	OK
5.001	15 min Summer	8	S25	S26	0.141	2.845	46.171	1.051	OK
1.012	15 min Summer	9	S26	S27	0.596	2.469	1203.475	1.418	OK
1.013	15 min Summer	9	S27	S30	0.453	3.616	1242.859	0.547	OK
6.000	15 min Summer	8	S28	S29	0.148	2.241	62.077	0.759	OK
6.001	15 min Summer	8	S29	S30	0.213	2.285	122.197	0.856	OK
1.014	15 min Summer	9	S30	S31	0.361	5.490	1404.190	0.275	OK
1.015	15 min Summer	9	S31	S36	0.310	6.844	1418.574	0.199	OK
7.000	15 min Summer	7	S32	S33	0.075	0.000	0.000	0.000	OK
7.001	15 min Summer	9	S33	S36	0.280	1.684	115.617	1.312	OK
8.000	15 min Summer	8	S34	S35	0.140	2.486	64.464	0.690	OK
8.001	15 min Summer	8	S35	S36	0.135	2.573	63.942	0.677	OK
1.016	15 min Summer	9	S36	S37	0.709	2.413	1593.560	0.140	OK
1.017	15 min Summer	10	S37	S45	0.914	1.890	1903.380		OK
9.000	15 min Summer	9	S38	S39	0.216	1.723	67.613	1.703	OK
9.001	15 min Summer	9	S39	S40	0.238	3.145	181.450	0.954	OK
9.002	15 min Summer	9	S40	S42	0.272	3.727	244.513	0.827	OK
10.000	30 min Summer	17	S41	S42	0.300	1.244	70.255	0.501	Surcharged
9.003	15 min Winter	11	S42	S43	0.300	4.780	323.889	1.099	Surcharged
9.004	15 min Winter	11	S43	S44	0.300	4.583	316.884	0.897	Surcharged
9.005	2160 min Winter	2088	S44	S45	0.870	0.477	12.911		Surcharged
1.018	960 min Winter	907	S45	S46	1.125	0.612	38.681	0.011	Surcharged
1.019	15 min Winter	14	S46	S47	0.051	0.464	7.481	0.007	OK