

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Diameter (m)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S19	0.025	0.450	Type E	121.400	120.250	1.000	539039.063	137833.087
S20	0.008	1.350	Type C	121.400	119.946	1.304	539024.684	137806.350
S21	0.000	1.350	Type C	121.400	119.859	1.391	539028.881	137798.734
S22	0.004	1.350	Type C	121.400	119.800	1.450	539026.824	137793.128
S23	0.015	1.200	Type B	121.400	119.574	1.601	539013.871	137785.431
S14	0.000	0.450	Type E	121.400	120.400	0.850	539023.245	137842.093
S15	0.024	0.450	Type E	121.400	120.335	0.915	539017.169	137839.762
S16	0.000	0.450	Type E	121.400	120.133	1.117	539007.347	137822.097
S32	0.011	0.450	Type E	121.300	120.150	1.000	538980.595	137812.055
S17	0.025	1.200	Type B	121.400	119.331	1.919	538996.210	137802.084
S18	0.000	1.200	Type B	119.379	117.131	2.023	538990.056	137795.458
S1	0.009	0.450	Type E	119.000	117.500	1.350	538981.934	137834.444
S2	0.003	0.450	Type E	118.350	117.430	0.770	538976.236	137828.639
S3	0.000	1.350	Type C	118.847	117.279	1.418	538969.622	137816.467
S4	0.053	1.350	Type C	118.565	117.164	1.251	538962.823	137807.174
S5	0.000	1.500	Type B	119.307	117.034	2.124	538983.510	137789.717
S25	0.006	0.450	Type E	120.150	119.000	1.000	539015.797	137757.364
S26	0.012	1.350	Type C	120.300	118.845	1.305	539010.700	137742.766
S27	0.025	1.200	Type B	120.173	118.300	1.723	538983.613	137750.913
S29	0.006	1.350	Type C	120.150	118.500	1.500	539014.210	137766.646
S31	0.012	0.450	Type E	120.183	118.833	1.200	538998.472	137762.879
S30	0.027	1.200	Type B	120.581	118.361	2.071	539000.865	137770.576
S28	0.000	1.350	Type B	119.876	118.200	1.526	538989.713	137771.042
S6	0.011	1.200	Type B	119.751	116.800	2.801	538988.186	137777.896
S7	0.012	1.350	Type B	118.203	116.352	1.701	538974.386	137775.766
S8	0.013	1.200	Type B	115.574	113.711	1.713	538960.088	137786.769
S9	0.010	1.200	Type B	112.692	110.900	1.642	538947.957	137801.556
S10	0.007	1.350	Type C	110.633	108.800	1.683	538946.347	137815.490
S11	0.012	1.200	Type B	109.134	107.350	1.634	538946.463	137825.120
S12	0.000	1.200	Type B	108.150	106.350	1.650	538941.214	137834.674
S13	0.000	1.200	Type B	107.962	106.300	1.512	538936.739	137841.534

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (m)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)
1.000	S19	120.250	S20	119.946	Circ	0.15mØ	30.358	100.0	0.600	1.000
1.001	S20	119.946	S21	119.859	Circ	0.15mØ	8.697	100.0	0.600	1.304
1.002	S21	119.859	S22	119.800	Circ	0.15mØ	5.971	100.0	0.600	1.391
1.003	S22	119.800	S23	119.649	Circ	0.15mØ	15.067	100.0	0.600	1.450
1.004	S23	119.574	S17	119.331	Circ	0.225mØ	24.274	100.0	0.600	1.601
2.000	S14	120.400	S15	120.335	Circ	0.15mØ	6.509	100.0	0.600	0.850
2.001	S15	120.335	S16	120.133	Circ	0.15mØ	20.211	100.0	0.600	0.915
2.002	S16	120.133	S17	119.331	Circ	0.15mØ	22.903	28.6	0.600	1.117
3.000	S32	120.150	S17	119.406	Circ	0.15mØ	18.527	24.9	0.600	1.000
1.005	S17	119.331	S18	117.131	Circ	0.225mØ	9.043	4.1	0.600	1.844
1.006	S18	117.131	S5	117.034	Circ	0.225mØ	8.706	89.1	0.600	2.023
4.000	S1	117.500	S2	117.430	Circ	0.15mØ	8.134	115.7	0.600	1.350
4.001	S2	117.430	S3	117.279	Circ	0.15mØ	13.853	92.1	0.600	0.770
4.002	S3	117.279	S4	117.164	Circ	0.15mØ	11.515	100.0	0.600	1.418
4.003	S4	117.164	S5	117.034	Circ	0.15mØ	27.068	207.1	0.600	1.251
1.007	S5	117.034	S6	116.800	Circ	0.15mØ	12.713	54.4	0.600	2.124
5.000	S25	119.000	S26	118.845	Circ	0.15mØ	15.463	100.0	0.600	1.000
5.001	S26	118.845	S27	118.300	Circ	0.15mØ	28.286	51.9	0.600	1.305
5.002	S27	118.300	S28	118.200	Circ	0.15mØ	21.033	210.3	0.600	1.723
6.000	S29	118.500	S30	118.361	Circ	0.15mØ	13.911	100.0	0.600	1.500
7.000	S31	118.833	S30	118.361	Circ	0.15mØ	8.061	17.1	0.600	1.200
6.001	S30	118.361	S28	118.200	Circ	0.15mØ	11.163	69.4	0.600	2.070
5.003	S28	118.200	S6	116.800	Circ	0.15mØ	7.021	5.0	0.600	1.526
1.008	S6	116.800	S7	116.352	Circ	0.15mØ	13.964	31.1	0.600	2.801
1.009	S7	116.352	S8	113.711	Circ	0.15mØ	18.041	6.8	0.600	1.701
1.010	S8	113.711	S9	110.900	Circ	0.15mØ	19.126	6.8	0.600	1.713

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (m)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)
1.011	S9	110.900	S10	108.800	Circ	0.15mØ	14.027	6.7	0.600	1.642
1.012	S10	108.800	S11	107.350	Circ	0.15mØ	9.631	6.6	0.600	1.683
1.013	S11	107.350	S12	106.350	Circ	0.15mØ	10.901	10.9	0.600	1.634
1.014	S12	106.350	S13	106.300	Circ	0.15mØ	8.190	163.8	0.600	1.650

Outfall Details

Outfall Manhole S13 : Free Discharge

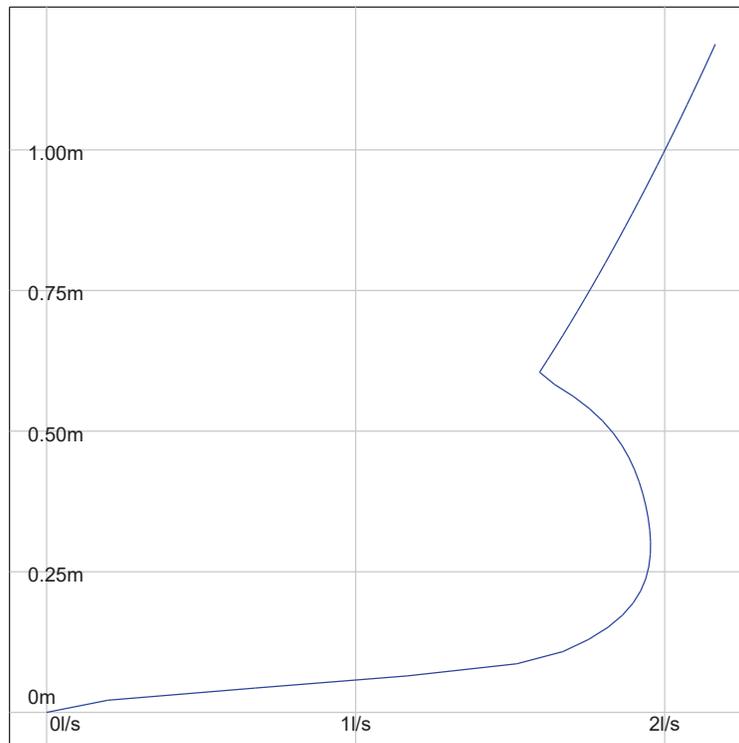
Flow Control Details

Controls within Manhole S5

Hydro-Brake® Optimum Control at Manhole S5

Model Ref	Design Depth (m)	Design Flow (l/s)	Depth Above Invert (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0067-2000-1000-2000	1.000	2.000	0.000	0.296	1.954	0.599	1.588

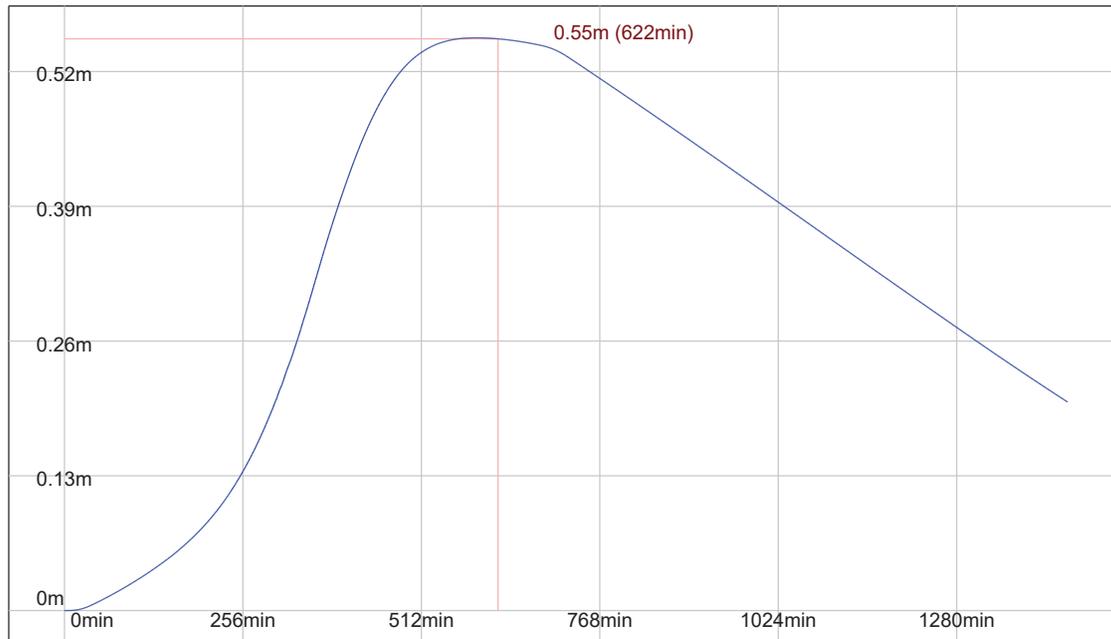
Hydro-Brake® Optimum Control at S5



Tank Structure at Manhole S5

Tank Invert (m)	Tank Height (m)	Void Ratio (%)	Area (m ²)	Effective Area (m ²) Area x Void Ratio	Max Storage (m ³) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
117.034	1.000	95.00	250.024	237.523	237.523	0.00000000	0.00000000	3.00

Tank at S5 (100Yr+45% 720Min Winter)

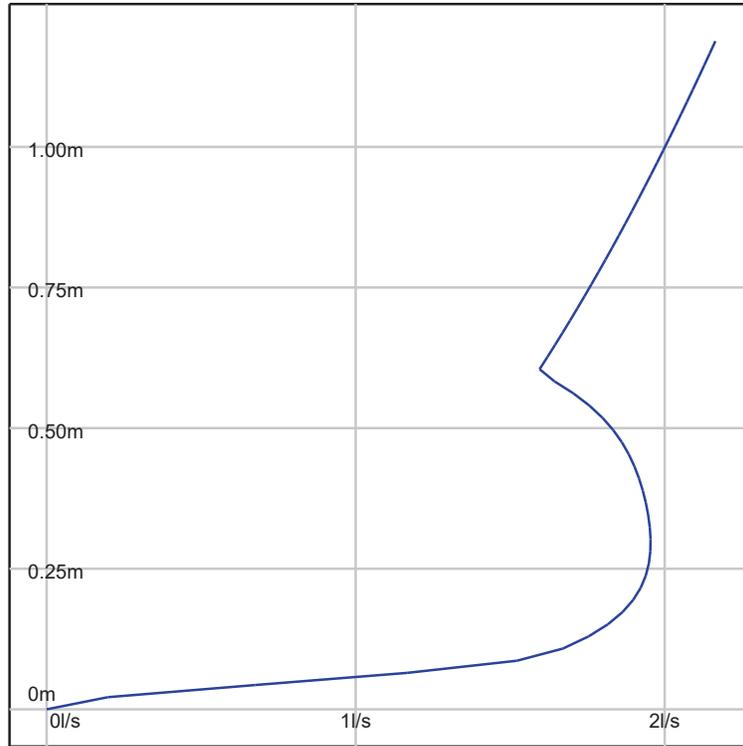


Controls within Manhole S28

Hydro-Brake® Optimum Control at Manhole S28

Model Ref	Design Depth (m)	Design Flow (l/s)	Depth Above Invert (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0067-2000-1000-2000	1.000	2.000	0.000	0.296	1.954	0.599	1.588

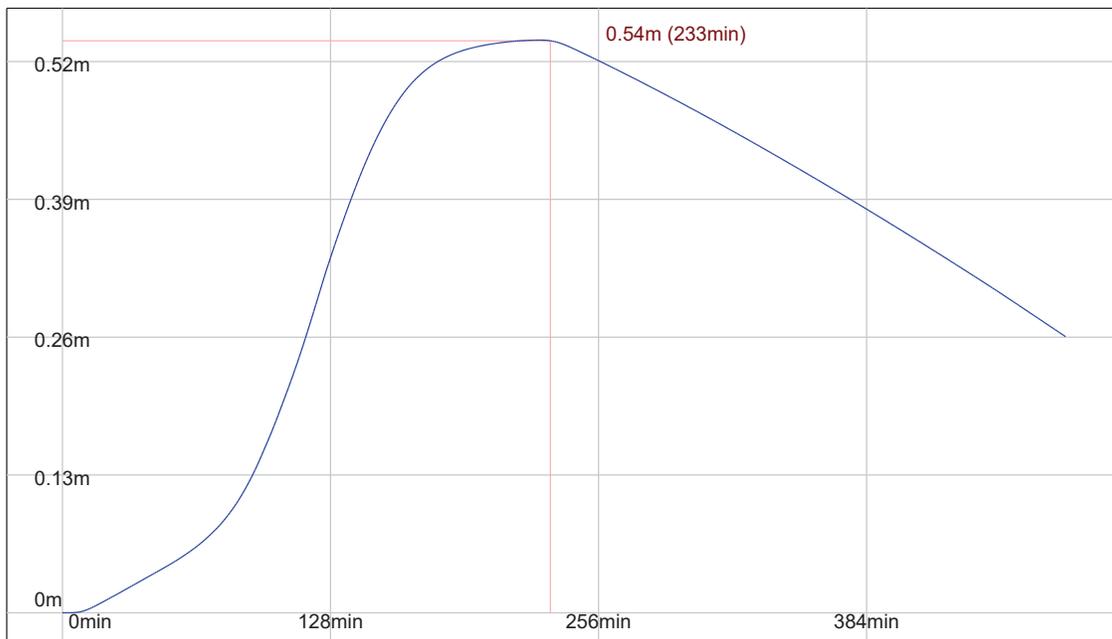
Hydro-Brake® Optimum Control at S28



Tank Structure at Manhole S28

Tank Invert (m)	Tank Height (m)	Void Ratio (%)	Area (m ²)	Effective Area (m ²) Area x Void Ratio	Max Storage (m ³) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
118.200	1.000	95.00	60.002	57.002	57.002	0.00000000	0.00000000	3.00

Tank at S28 (100Yr+45% 240Min Winter)



Controls within Manhole S7

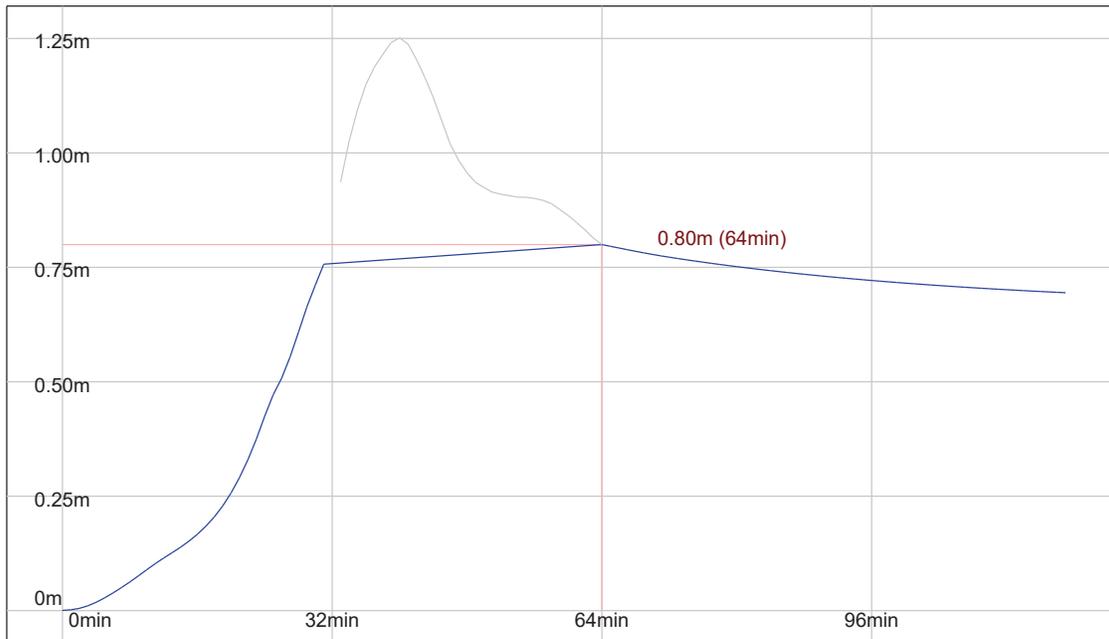
Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.075	0.050	0.600

Tank Structure at Manhole S7

Tank Invert (m)	Tank Height (m)	Void Ratio (%)	Area (m2)	Effective Area (m2) Area x Void Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
116.352	0.800	95.00	6.000	5.700	4.560	0.00000000	0.00000000	2.00

Tank at S7 (100Yr+45% 60Min Winter)



Controls within Manhole S8

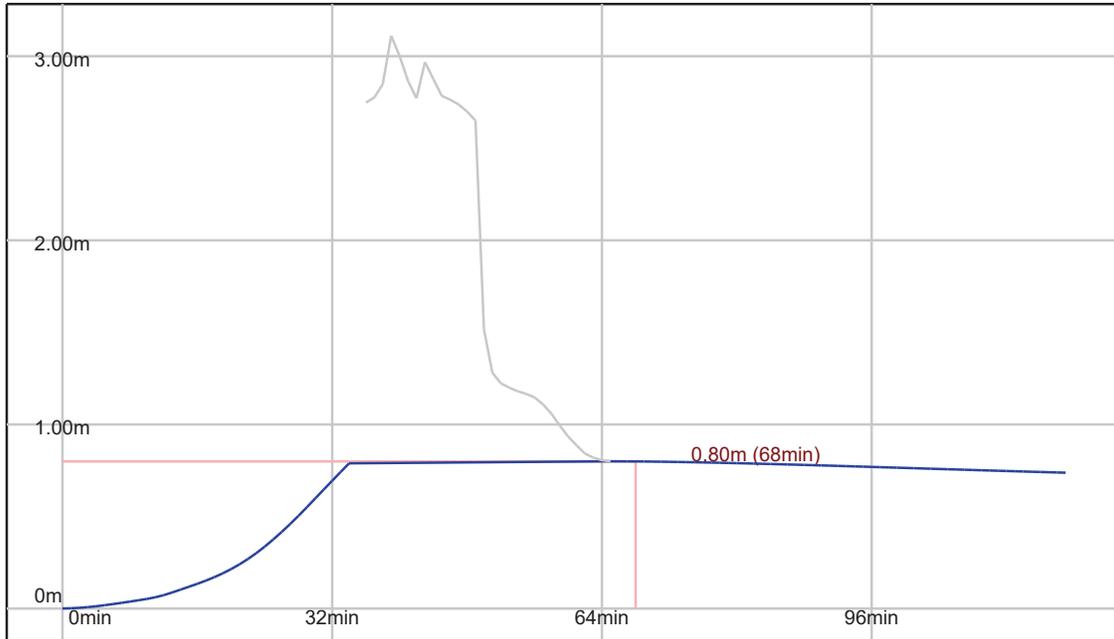
Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.075	0.050	0.600

Tank Structure at Manhole S8

Tank Invert (m)	Tank Height (m)	Void Ratio (%)	Area (m2)	Effective Area (m2) Area x Void Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
113.711	0.800	95.00	6.002	5.702	4.562	0.00000000	0.00000000	2.00

Tank at S8 (100Yr+45% 60Min Winter)



Controls within Manhole S9

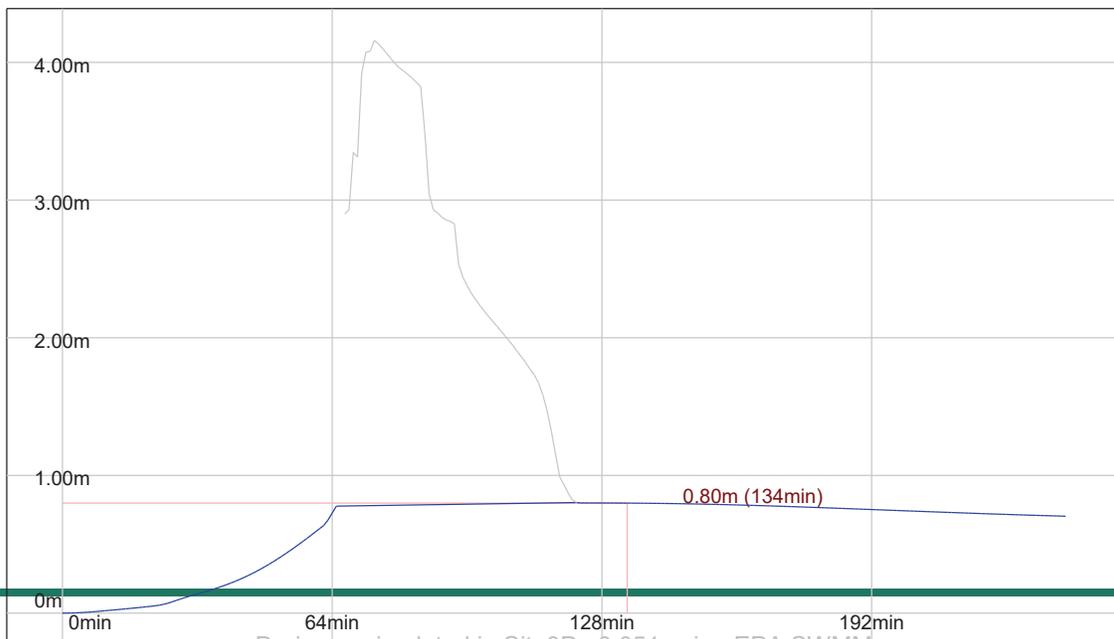
Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.075	0.050	0.600

Tank Structure at Manhole S9

Tank Invert (m)	Tank Height (m)	Void Ratio (%)	Area (m2)	Effective Area (m2) Area x Void Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
110.900	0.800	95.00	6.000	5.700	4.560	0.00000000	0.00000000	2.00

Tank at S9 (100Yr+45% 120Min Winter)



Controls within Manhole S10

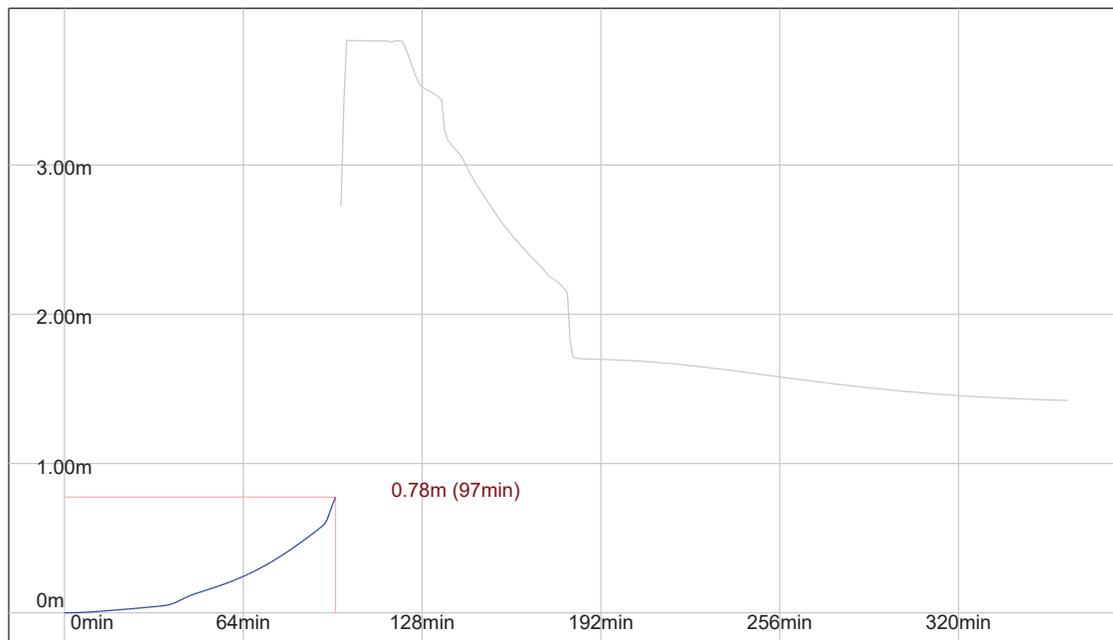
Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.075	0.050	0.600

Tank Structure at Manhole S10

Tank Invert (m)	Tank Height (m)	Void Ratio (%)	Area (m2)	Effective Area (m2) Area x Void Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
108.800	0.800	95.00	6.002	5.702	4.561	0.00000000	0.00000000	2.00

Tank at S10 (100Yr+45% 180Min Winter)



Controls within Manhole S11

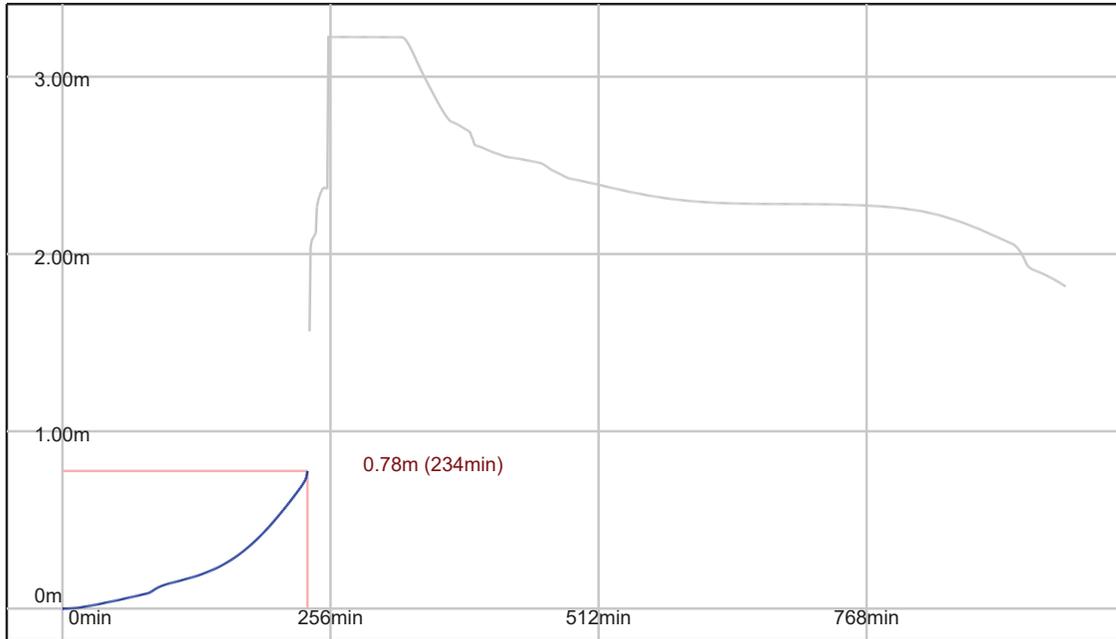
Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.075	0.050	0.600

Tank Structure at Manhole S11

Tank Invert (m)	Tank Height (m)	Void Ratio (%)	Area (m2)	Effective Area (m2) Area x Void Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
107.350	0.800	95.00	6.000	5.700	4.560	0.00000000	0.00000000	2.00

Tank at S11 (100Yr+45% 480Min Winter)

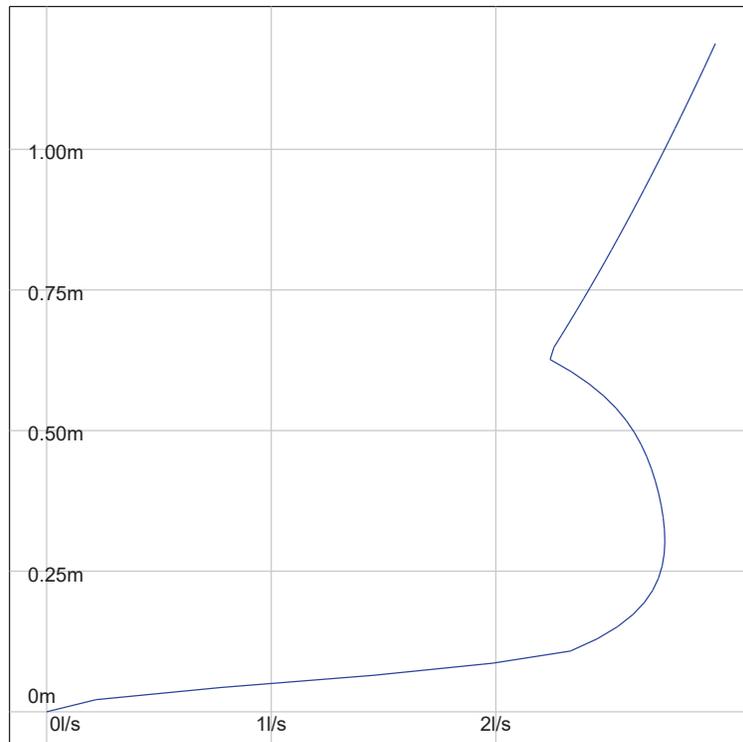


Controls within Manhole S12

Hydro-Brake® Optimum Control at Manhole S12

Model Ref	Design Depth (m)	Design Flow (l/s)	Depth Above Invert (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0079-2750-1000-2750	1.000	2.750	0.000	0.304	2.753	0.628	2.228

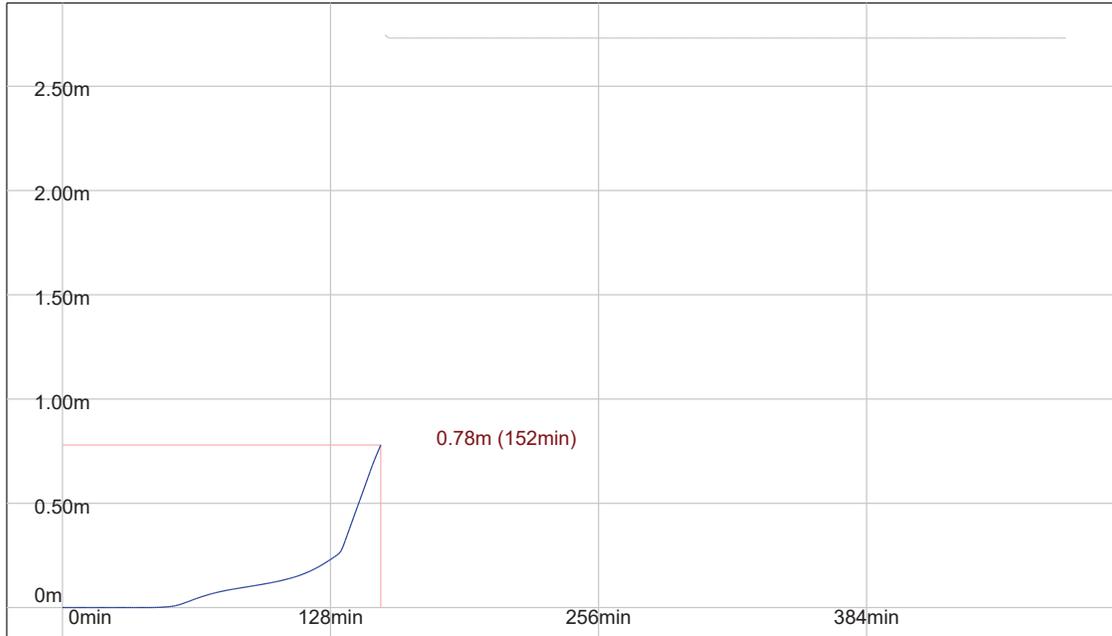
Hydro-Brake® Optimum Control at S12



Tank Structure at Manhole S12

Tank Invert (m)	Tank Height (m)	Void Ratio (%)	Area (m ²)	Effective Area (m ²) Area x Void Ratio	Max Storage (m ³) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
106.350	0.800	95.00	12.500	11.875	9.500	0.00000000	0.00000000	2.00

Tank at S12 (100Yr+45% 240Min Summer)



Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_538957_137770_v5_0_1.xml

Summer (Cv: 0.75), Winter (Cv: 0.84)

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

Return Periods (yrs) + Climate Change: (2, +45%), (30, +45%), (100, +45%)

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
2Yr+45% 15Min Winter	45.820	0.00	0.41	30Yr+45% 600Min Summer	9.375	0.00	-0.28
2Yr+45% 15Min Summer	45.820	0.00	0.25	30Yr+45% 600Min Winter	9.375	0.00	-0.21
2Yr+45% 30Min Winter	30.160	0.00	0.99	30Yr+45% 720Min Summer	8.143	0.00	-0.27
2Yr+45% 30Min Summer	30.160	0.00	0.56	30Yr+45% 720Min Winter	8.143	0.00	-0.32
2Yr+45% 60Min Winter	19.056	0.00	1.35	30Yr+45% 960Min Summer	6.530	0.00	-0.24
2Yr+45% 60Min Summer	19.056	0.00	0.94	30Yr+45% 960Min Winter	6.530	0.00	-0.25
2Yr+45% 120Min Summer	13.443	0.00	0.57	30Yr+45% 1440Min Summer	4.777	0.00	-0.21
2Yr+45% 120Min Winter	13.443	0.00	1.06	30Yr+45% 1440Min Winter	4.777	0.00	-0.15
2Yr+45% 180Min Summer	10.782	0.00	0.26	30Yr+45% 2160Min Summer	3.508	0.00	-0.15
2Yr+45% 180Min Winter	10.782	0.00	0.68	30Yr+45% 2160Min Winter	3.508	0.00	-0.08
2Yr+45% 240Min Summer	8.907	0.00	0.12	30Yr+45% 2880Min Summer	2.827	0.00	-0.11
2Yr+45% 240Min Winter	8.907	0.00	0.32	30Yr+45% 2880Min Winter	2.827	0.00	-0.07
2Yr+45% 360Min Summer	6.832	0.00	0.00	30Yr+45% 4320Min Summer	2.098	0.00	-0.06
2Yr+45% 360Min Winter	6.832	0.00	-0.03	30Yr+45% 4320Min Winter	2.098	0.00	-0.03
2Yr+45% 480Min Summer	5.628	0.00	0.00	30Yr+45% 5760Min Summer	1.706	0.00	-0.03
2Yr+45% 480Min Winter	5.628	0.00	-0.16	30Yr+45% 5760Min Winter	1.706	0.00	0.00
2Yr+45% 600Min Summer	4.792	0.00	0.00	100Yr+45% 15Min Summer	152.789	0.00	2.32
2Yr+45% 600Min Winter	4.792	0.00	-0.15	100Yr+45% 15Min Winter	152.789	0.00	2.65
2Yr+45% 720Min Winter	4.184	0.00	-0.10	100Yr+45% 30Min Summer	102.545	-0.25	2.48
2Yr+45% 720Min Summer	4.184	0.00	0.00	100Yr+45% 30Min Winter	102.545	-0.25	2.49
2Yr+45% 960Min Summer	3.387	0.00	0.00	100Yr+45% 60Min Summer	65.855	-0.23	2.57
2Yr+45% 960Min Winter	3.387	0.00	0.00	100Yr+45% 60Min Winter	65.855	-0.23	2.30
2Yr+45% 1440Min Summer	2.509	0.00	0.00	100Yr+45% 120Min Summer	39.229	-0.18	1.77
2Yr+45% 1440Min Winter	2.509	0.00	0.00	100Yr+45% 120Min Winter	39.229	-0.18	1.58
2Yr+45% 2160Min Summer	1.874	0.00	0.00	100Yr+45% 180Min Summer	28.797	-0.15	1.33
2Yr+45% 2160Min Winter	1.874	0.00	0.00	100Yr+45% 180Min Winter	28.797	-0.15	1.24
2Yr+45% 2880Min Summer	1.540	0.00	0.00	100Yr+45% 240Min Summer	23.340	-0.12	1.07
2Yr+45% 2880Min Winter	1.540	0.00	0.00	100Yr+45% 240Min Winter	23.340	-0.12	1.01
2Yr+45% 4320Min Summer	1.188	0.00	0.00	100Yr+45% 360Min Summer	17.241	0.00	0.59
2Yr+45% 4320Min Winter	1.188	0.00	0.00	100Yr+45% 360Min Winter	17.241	0.00	0.74
2Yr+45% 5760Min Winter	1.001	0.00	0.00	100Yr+45% 480Min Summer	13.904	0.00	0.08
2Yr+45% 5760Min Summer	1.001	0.00	0.00	100Yr+45% 480Min Winter	13.904	0.00	0.31
30Yr+45% 15Min Summer	120.790	0.00	1.94	100Yr+45% 600Min Summer	11.785	0.00	-0.21
30Yr+45% 15Min Winter	120.790	0.00	2.36	100Yr+45% 600Min Winter	11.785	0.00	-0.07
30Yr+45% 30Min Summer	80.511	0.00	2.34	100Yr+45% 720Min Summer	10.303	0.00	-0.35
30Yr+45% 30Min Winter	80.511	0.00	2.40	100Yr+45% 720Min Winter	10.303	0.00	-0.13
30Yr+45% 60Min Summer	51.230	-0.24	2.29	100Yr+45% 960Min Summer	8.358	0.00	-0.33
30Yr+45% 60Min Winter	51.230	-0.24	2.26	100Yr+45% 960Min Winter	8.358	0.00	-0.26
30Yr+45% 120Min Summer	31.153	-0.19	2.04	100Yr+45% 1440Min Summer	6.205	0.00	-0.24
30Yr+45% 120Min Winter	31.153	-0.19	1.84	100Yr+45% 1440Min Winter	6.205	0.00	-0.16
30Yr+45% 180Min Winter	23.129	-0.15	1.48	100Yr+45% 2160Min Summer	4.590	0.00	-0.18
30Yr+45% 180Min Summer	23.129	0.00	1.54	100Yr+45% 2160Min Winter	4.590	0.00	-0.10
30Yr+45% 240Min Summer	18.746	0.00	1.19	100Yr+45% 2880Min Summer	3.693	0.00	-0.11
30Yr+45% 240Min Winter	18.746	0.00	1.10	100Yr+45% 2880Min Winter	3.693	0.00	-0.08
30Yr+45% 360Min Summer	13.839	0.00	0.45	100Yr+45% 4320Min Summer	2.712	0.00	-0.06
30Yr+45% 360Min Winter	13.839	0.00	0.42	100Yr+45% 4320Min Winter	2.712	0.00	-0.03
30Yr+45% 480Min Summer	11.125	0.00	-0.06	100Yr+45% 5760Min Winter	2.174	0.00	-0.02
30Yr+45% 480Min Winter	11.125	0.00	-0.11	100Yr+45% 5760Min Summer	2.174	0.00	-0.05

Simulation Results

Return Period Yrs: 2.0

Climate Change %: 45

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S19	15 min Winter	8	120.304	0.054	5.095		OK
S20	15 min Winter	8	120.010	0.063	6.706		OK
S21	15 min Winter	9	119.923	0.063	6.535		OK
S22	15 min Winter	9	119.867	0.067	7.379		OK
S23	15 min Winter	9	119.645	0.071	10.400		OK
S14	-	0	120.400	0.000	0.000		OK
S15	15 min Winter	8	120.391	0.056	4.949		OK
S16	15 min Winter	8	120.171	0.038	4.887		OK
S32	15 min Winter	8	120.176	0.026	2.316		OK
S17	15 min Winter	9	119.375	0.044	22.171		OK
S18	15 min Winter	9	117.230	0.099	22.237		OK
S1	15 min Winter	8	117.533	0.033	1.836		OK
S2	15 min Winter	8	117.466	0.036	2.428		OK
S3	15 min Winter	9	117.316	0.037	2.356		OK
S4	15 min Winter	9	117.289	0.125	12.585		OK
S5	480 min Winter	354	117.191	0.191	4.846		Surcharged
S25	15 min Winter	8	119.027	0.027	1.307		OK
S26	15 min Winter	8	118.884	0.039	3.740		OK
S27	15 min Winter	8	118.392	0.092	8.722		OK
S29	15 min Winter	8	118.525	0.025	1.158		OK
S31	15 min Winter	8	118.857	0.024	2.520		OK
S30	15 min Winter	8	118.403	0.043	3.628		OK
S28	180 min Winter	128	118.351	0.151	1.780		Surcharged
S6	360 min Winter	257	117.027	0.227	3.597		Surcharged
S7	360 min Winter	257	117.021	0.621	3.769		Surcharged
S8	480 min Winter	345	114.413	0.653	3.878		Surcharged
S9	480 min Winter	367	111.615	0.665	3.923		Surcharged
S10	480 min Winter	453	110.086	1.246	3.572		Flood Risk
S11	480 min Winter	454	109.614	2.214	3.614		Flood Risk
S12	480 min Winter	449	109.131	2.731	2.978		Flood Risk
S13	360 min Winter	347	106.339	0.039	2.978		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	8	S19	S20	0.059	0.784	5.022	0.283	OK
1.001	15 min Winter	8	S20	S21	0.063	0.935	6.590	0.372	OK
1.002	15 min Winter	9	S21	S22	0.065	0.898	6.617	0.373	OK
1.003	15 min Winter	9	S22	S23	0.067	0.969	7.445	0.420	OK
1.004	15 min Winter	9	S23	S17	0.058	1.297	10.423	0.201	OK
2.000	15 min Winter	8	S14	S15	0.028	0.000	0.000	0.000	OK
2.001	15 min Winter	8	S15	S16	0.047	1.029	4.887	0.276	OK
2.002	15 min Winter	9	S16	S17	0.041	1.228	4.823	0.144	OK
3.000	15 min Winter	8	S32	S17	0.026	1.139	2.286	0.064	OK
1.005	15 min Winter	9	S17	S18	0.071	2.053	22.237	0.086	OK
1.006	480 min Winter	356	S18	S5	0.117	0.712	6.390	0.116	OK
4.000	15 min Winter	8	S1	S2	0.035	0.582	1.816	0.110	OK
4.001	15 min Winter	9	S2	S3	0.036	0.725	2.400	0.130	OK
4.002	15 min Winter	9	S3	S4	0.081	0.247	2.389	0.135	OK
4.003	15 min Winter	9	S4	S5	0.115	0.875	12.684	1.036	OK
1.007	480 min Winter	353	S5	S6	0.089	0.757	1.757	0.073	OK
5.000	15 min Winter	8	S25	S26	0.033	0.448	1.290	0.073	OK
5.001	15 min Winter	9	S26	S27	0.065	0.493	3.627	0.147	OK
5.002	180 min Winter	127	S27	S28	0.101	0.551	2.718	0.224	OK
6.000	15 min Winter	8	S29	S30	0.034	0.382	1.122	0.063	OK
7.000	15 min Winter	8	S31	S30	0.033	0.851	2.506	0.058	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
6.001	180 min Winter	122	S30	S28	0.085	0.568	1.240	0.058	OK
5.003	180 min Winter	128	S28	S6	0.083	0.898	1.771	0.022	OK
1.008	360 min Winter	245	S6	S7	0.150	0.294	3.611	0.113	Surcharged
1.009	360 min Winter	258	S7	S8	0.087	0.355	3.768	0.055	OK
1.010	480 min Winter	345	S8	S9	0.087	0.365	3.881	0.056	OK
1.011	480 min Winter	367	S9	S10	0.087	0.369	3.922	0.057	OK
1.012	480 min Winter	423	S10	S11	0.150	0.369	3.923	0.056	Surcharged
1.013	480 min Winter	404	S11	S12	0.150	1.162	3.946	0.073	Surcharged
1.014	360 min Winter	347	S12	S13	0.039	0.808	2.978	0.216	OK

Return Period Yrs: 30.0

Climate Change %: 45

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S19	15 min Winter	8	120.346	0.096	13.442		OK
S20	15 min Winter	9	120.066	0.120	16.973		OK
S21	15 min Winter	9	119.984	0.125	17.280		OK
S22	15 min Winter	9	119.934	0.134	19.349		OK
S23	15 min Winter	9	119.692	0.118	27.024		OK
S14	15 min Winter	8	120.431	0.031	0.092		OK
S15	15 min Winter	8	120.432	0.097	13.055		OK
S16	15 min Winter	8	120.197	0.064	12.873		OK
S32	15 min Winter	8	120.192	0.042	6.109		OK
S17	15 min Winter	9	119.403	0.072	58.032		OK
S18	480 min Winter	404	117.420	0.288	1.234		Surcharged
S1	15 min Winter	10	117.722	0.222	3.781		Surcharged
S2	15 min Winter	10	117.717	0.288	4.569		Surcharged
S3	15 min Winter	10	117.705	0.426	4.409		Surcharged
S4	15 min Winter	10	117.701	0.537	25.921		Surcharged
S5	480 min Winter	404	117.420	0.420	1.939		Surcharged
S25	15 min Winter	8	119.044	0.044	3.447		OK
S26	15 min Winter	8	118.910	0.065	9.878		OK
S27	15 min Winter	9	118.622	0.322	22.152		Surcharged
S29	180 min Winter	157	118.597	0.097	0.117		OK
S31	15 min Winter	8	118.872	0.040	6.646		OK
S30	180 min Winter	157	118.597	0.236	1.040		Surcharged
S28	180 min Winter	157	118.597	0.397	1.939		Surcharged
S6	60 min Winter	41	117.301	0.501	3.567		Surcharged
S7	60 min Winter	40	117.297	0.897	4.664		Flood Risk
S8	60 min Winter	41	115.457	1.697	6.575		Flood Risk
S9	360 min Winter	224	113.305	2.355	5.828		Flood Risk
S10	360 min Winter	224	112.043	3.203	6.196		Flood Risk
S11	360 min Winter	223	110.623	3.223	6.369		Flood Risk
S12	2880 min Summer	1508	109.136	2.736	3.013		Flood Risk
S13	1440 min Summer	771	106.339	0.039	2.982		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	8	S19	S20	0.107	0.984	13.283	0.749	OK
1.001	15 min Winter	9	S20	S21	0.122	1.140	17.280	0.975	OK
1.002	15 min Winter	9	S21	S22	0.129	1.087	17.342	0.978	OK
1.003	15 min Winter	9	S22	S23	0.131	1.178	19.240	1.085	OK
1.004	15 min Winter	9	S23	S17	0.095	1.704	27.037	0.521	OK
2.000	15 min Winter	10	S14	S15	0.064	0.036	0.182	0.010	OK
2.001	15 min Winter	8	S15	S16	0.080	1.335	12.873	0.726	OK
2.002	15 min Winter	8	S16	S17	0.068	1.646	12.744	0.382	OK
3.000	15 min Winter	8	S32	S17	0.042	1.512	6.048	0.169	OK
1.005	15 min Winter	9	S17	S18	0.134	2.454	58.155	0.225	OK
1.006	240 min Winter	160	S18	S5	0.225	0.953	23.198	0.421	OK
4.000	15 min Winter	9	S1	S2	0.150	0.738	4.417	0.268	Surcharged
4.001	30 min Summer	20	S2	S3	0.150	0.797	4.976	0.269	Surcharged
4.002	15 min Winter	14	S3	S4	0.150	0.531	8.921	0.503	Surcharged
4.003	60 min Summer	36	S4	S5	0.150	1.162	19.878	1.623	Surcharged
1.007	360 min Winter	361	S5	S6	0.150	0.828	1.981	0.082	Surcharged
5.000	15 min Winter	8	S25	S26	0.055	0.587	3.417	0.193	OK
5.001	15 min Winter	8	S26	S27	0.107	0.715	9.686	0.392	OK
5.002	30 min Summer	17	S27	S28	0.150	1.064	18.317	1.508	Surcharged
6.000	180 min Winter	157	S29	S30	0.123	0.317	0.764	0.043	OK
7.000	60 min Winter	41	S31	S30	0.085	0.949	3.573	0.083	OK
6.001	120 min Summer	83	S30	S28	0.150	0.793	4.470	0.210	Surcharged
5.003	240 min Summer	219	S28	S6	0.083	0.856	1.954	0.024	OK
1.008	15 min Winter	10	S6	S7	0.150	0.676	7.347	0.230	Surcharged
1.009	60 min Winter	41	S7	S8	0.088	0.431	4.660	0.068	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
1.010	60 min Winter	41	S8	S9	0.091	0.592	6.614	0.096	OK
1.011	240 min Winter	146	S9	S10	0.150	0.602	6.726	0.097	Surcharged
1.012	180 min Winter	112	S10	S11	0.150	0.657	7.412	0.107	Surcharged
1.013	180 min Winter	136	S11	S12	0.150	1.093	7.712	0.142	Surcharged
1.014	180 min Winter	136	S12	S13	0.039	0.808	2.981	0.216	OK

Return Period Yrs: 100.0

Climate Change %: 45

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S19	15 min Winter	9	120.370	0.120	15.983		OK
S20	15 min Winter	10	120.167	0.221	18.562		Surcharged
S21	15 min Winter	10	120.066	0.207	19.483		Surcharged
S22	15 min Winter	10	119.996	0.196	21.692		Surcharged
S23	15 min Winter	9	119.701	0.127	30.937		OK
S14	15 min Winter	8	120.449	0.049	0.132		OK
S15	15 min Winter	8	120.449	0.114	16.519		OK
S16	15 min Winter	8	120.206	0.073	16.234		OK
S32	15 min Winter	8	120.197	0.047	7.728		OK
S17	15 min Winter	8	119.410	0.079	70.661		OK
S18	720 min Winter	591	117.553	0.421	1.227		Surcharged
S1	15 min Winter	11	117.954	0.454	3.681		Surcharged
S2	15 min Winter	11	117.950	0.520	5.204		Surcharged
S3	15 min Winter	11	117.935	0.656	5.554		Surcharged
S4	15 min Winter	10	117.919	0.755	31.530		Surcharged
S5	720 min Winter	591	117.553	0.553	1.929		Surcharged
S25	15 min Winter	8	119.050	0.050	4.361		OK
S26	15 min Winter	9	118.926	0.081	11.816		OK
S27	15 min Winter	10	118.788	0.488	24.050		Surcharged
S29	240 min Winter	228	118.741	0.241	0.091		Surcharged
S31	15 min Winter	8	118.877	0.045	8.410		OK
S30	240 min Winter	228	118.741	0.380	1.074		Surcharged
S28	240 min Winter	228	118.740	0.540	1.784		Surcharged
S6	60 min Winter	40	117.655	0.855	4.264		Surcharged
S7	60 min Winter	40	117.651	1.251	4.878		Flood Risk
S8	60 min Winter	39	116.870	3.110	7.649		Flood Risk
S9	120 min Winter	74	115.110	4.160	8.106		Flood Risk
S10	180 min Winter	101	112.677	3.837	7.675		Flood Risk
S11	480 min Winter	254	110.631	3.231	6.405		Flood Risk
S12	240 min Summer	154	109.147	2.747	2.992		Flood Risk
S13	480 min Winter	254	106.339	0.039	2.982		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	9	S19	S20	0.135	1.019	16.731	0.944	OK
1.001	15 min Winter	9	S20	S21	0.150	1.158	20.168	1.138	Surcharged
1.002	30 min Summer	17	S21	S22	0.150	1.092	18.197	1.026	Surcharged
1.003	15 min Winter	10	S22	S23	0.141	1.255	21.672	1.222	OK
1.004	15 min Winter	9	S23	S17	0.103	1.763	30.855	0.594	OK
2.000	15 min Winter	11	S14	S15	0.081	0.051	0.275	0.016	OK
2.001	15 min Winter	8	S15	S16	0.093	1.402	16.234	0.916	OK
2.002	15 min Winter	8	S16	S17	0.076	1.786	16.100	0.482	OK
3.000	15 min Winter	8	S32	S17	0.047	1.616	7.657	0.214	OK
1.005	15 min Winter	8	S17	S18	0.152	2.466	70.443	0.273	OK
1.006	120 min Summer	86	S18	S5	0.225	1.322	32.578	0.592	OK
4.000	30 min Summer	16	S1	S2	0.150	0.732	4.596	0.279	Surcharged
4.001	15 min Winter	13	S2	S3	0.150	0.791	6.919	0.374	Surcharged
4.002	15 min Winter	14	S3	S4	0.150	0.627	11.085	0.625	Surcharged
4.003	30 min Winter	19	S4	S5	0.150	1.604	28.326	2.313	Surcharged
1.007	180 min Winter	182	S5	S6	0.150	0.441	2.035	0.084	Surcharged
5.000	15 min Winter	9	S25	S26	0.065	0.620	4.326	0.244	OK
5.001	15 min Winter	9	S26	S27	0.116	0.840	11.937	0.483	OK
5.002	15 min Winter	9	S27	S28	0.150	1.441	25.472	2.096	Surcharged
6.000	120 min Winter	81	S29	S30	0.150	0.372	1.288	0.073	Surcharged
7.000	60 min Winter	34	S31	S30	0.091	1.013	4.593	0.106	OK
6.001	30 min Winter	21	S30	S28	0.150	1.107	9.868	0.463	Surcharged
5.003	360 min Winter	533	S28	S6	0.083	0.870	1.954	0.024	OK
1.008	15 min Winter	9	S6	S7	0.150	0.700	8.115	0.254	Surcharged
1.009	120 min Winter	85	S7	S8	0.150	0.455	5.486	0.080	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
1.010	120 min Winter	69	S8	S9	0.150	0.683	7.752	0.113	Surcharged
1.011	120 min Winter	71	S9	S10	0.150	0.811	9.402	0.136	Surcharged
1.012	60 min Winter	49	S10	S11	0.150	0.672	7.935	0.114	Surcharged
1.013	120 min Winter	91	S11	S12	0.150	1.235	9.216	0.170	Surcharged
1.014	480 min Winter	254	S12	S13	0.039	0.808	2.982	0.216	OK