



Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	1.000
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	150.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
SW18			88.700	1200	538463.448	127876.678	1.550
SW2		5.00	88.700	1200	538471.665	127881.605	1.550
SW1	0.039	5.00	89.500	600	538460.422	127900.357	1.200
SW3	0.092	5.00	88.750	1200	538468.254	127887.294	1.650
SW4	0.016	5.00	89.800	1200	538431.073	127880.064	2.460
SW5	0.086	5.00	89.090	1200	538437.529	127868.873	2.290
SW6			89.240	1200	538424.255	127854.511	2.580
SW7	0.057	5.00	90.370	1200	538406.880	127864.586	1.300
SW8			89.600	1200	538412.055	127854.088	2.940
SW9	0.019	5.00	89.640	1200	538389.951	127837.600	2.980
SW10		5.00	90.950	600	538368.532	127858.700	1.450
SW11	0.041	5.00	90.070	600	538377.491	127843.269	1.750
SW12	0.067	5.00	89.500	1200	538385.193	127833.607	3.120
SW13	0.016	5.00	87.900	1200	538390.609	127810.698	1.640
SW14	0.024	5.00	86.850	1200	538410.714	127801.320	1.440
SW43		5.00	85.900	1200	538446.483	127801.438	1.600
SW15	0.044	5.00	86.250	1200	538434.770	127804.174	2.180
SW16			86.000	1200	538433.763	127797.765	2.800
SW17		5.00	85.400	1500	538449.419	127794.102	2.200
HW			84.310	1	538451.846	127781.267	1.190

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.001	SW2	SW3	6.633	0.600	87.150	87.100	0.050	132.7	300	5.08	150.0
2.000	SW1	SW3	15.231	0.600	88.300	87.100	1.200	12.7	225	5.07	150.0
1.002	SW3	SW5	35.824	0.600	87.100	86.880	0.220	162.8	300	5.57	150.0
3.000	SW4	SW5	12.920	0.600	87.340	87.250	0.090	143.6	225	5.20	150.0
1.003	SW5	SW6	19.557	0.600	86.800	86.700	0.100	195.6	300	5.86	150.0
4.000	SW7	SW8	11.704	0.600	89.070	88.100	0.970	12.1	225	5.05	150.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.001	1.363	96.4	0.0	1.250	1.350	0.000	0.0
2.000	3.692	146.8	21.2	0.975	1.425	0.039	0.0
1.002	1.229	86.9	71.1	1.350	1.910	0.131	0.0
3.000	1.089	43.3	8.5	2.235	1.615	0.016	0.0
1.003	1.120	79.2	126.4	1.990	2.240	0.233	0.0
4.000	3.787	150.6	31.0	1.075	1.275	0.057	0.0



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.005	SW9	SW12	6.212	0.600	86.660	86.610	0.050	124.2	150	5.12	150.0
5.000	SW10	SW11	17.843	0.600	89.500	88.400	1.100	16.2	150	5.12	150.0
5.001	SW11	SW12	12.356	0.600	88.320	88.000	0.320	38.6	225	5.22	150.0
1.006	SW12	SW13	23.541	0.600	86.380	86.260	0.120	196.2	375	5.52	150.0
1.007	SW13	SW14	22.185	0.600	86.260	85.410	0.850	26.1	375	5.62	150.0
1.008	SW14	SW15	24.225	0.600	85.410	84.600	0.810	29.9	375	5.75	150.0
6.000	SW43	SW15	12.029	0.600	84.300	84.220	0.080	150.4	225	5.19	150.0
1.009	SW15	SW16	6.488	0.600	84.070	84.030	0.040	162.2	375	5.82	150.0
1.011	SW17	HW	13.062	0.600	83.200	83.120	0.080	163.3	150	5.28	150.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.005	0.900	15.9	10.1	2.830	2.740	0.019	0.0
5.000	2.513	44.4	0.0	1.300	1.520	0.000	0.0
5.001	2.111	83.9	22.0	1.525	1.275	0.041	0.0
1.006	1.290	142.5	68.3	2.745	1.265	0.126	0.0
1.007	3.558	393.0	77.0	1.265	1.065	0.142	0.0
1.008	3.323	367.0	90.3	1.065	1.275	0.166	0.0
6.000	1.064	42.3	0.0	1.375	1.805	0.000	0.0
1.009	1.420	156.8	114.3	1.805	1.595	0.211	0.0
1.011	0.784	13.8	0.0	2.050	1.040	0.000	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.001	6.633	132.7	300	Circular	88.700	87.150	1.250	88.750	87.100	1.350
2.000	15.231	12.7	225	Circular	89.500	88.300	0.975	88.750	87.100	1.425
1.002	35.824	162.8	300	Circular	88.750	87.100	1.350	89.090	86.880	1.910
3.000	12.920	143.6	225	Circular	89.800	87.340	2.235	89.090	87.250	1.615
1.003	19.557	195.6	300	Circular	89.090	86.800	1.990	89.240	86.700	2.240
4.000	11.704	12.1	225	Circular	90.370	89.070	1.075	89.600	88.100	1.275
1.005	6.212	124.2	150	Circular	89.640	86.660	2.830	89.500	86.610	2.740
5.000	17.843	16.2	150	Circular	90.950	89.500	1.300	90.070	88.400	1.520
5.001	12.356	38.6	225	Circular	90.070	88.320	1.525	89.500	88.000	1.275
1.006	23.541	196.2	375	Circular	89.500	86.380	2.745	87.900	86.260	1.265
1.007	22.185	26.1	375	Circular	87.900	86.260	1.265	86.850	85.410	1.065

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.001	SW2	1200	Manhole	Adoptable	SW3	1200	Manhole	Adoptable
2.000	SW1	600	Manhole	Adoptable	SW3	1200	Manhole	Adoptable
1.002	SW3	1200	Manhole	Adoptable	SW5	1200	Manhole	Adoptable
3.000	SW4	1200	Manhole	Adoptable	SW5	1200	Manhole	Adoptable
1.003	SW5	1200	Manhole	Adoptable	SW6	1200	Manhole	Adoptable
4.000	SW7	1200	Manhole	Adoptable	SW8	1200	Manhole	Adoptable
1.005	SW9	1200	Manhole	Adoptable	SW12	1200	Manhole	Adoptable
5.000	SW10	600	Manhole	Adoptable	SW11	600	Manhole	Adoptable
5.001	SW11	600	Manhole	Adoptable	SW12	1200	Manhole	Adoptable
1.006	SW12	1200	Manhole	Adoptable	SW13	1200	Manhole	Adoptable
1.007	SW13	1200	Manhole	Adoptable	SW14	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.008	24.225	29.9	375	Circular	86.850	85.410	1.065	86.250	84.600	1.275
6.000	12.029	150.4	225	Circular	85.900	84.300	1.375	86.250	84.220	1.805
1.009	6.488	162.2	375	Circular	86.250	84.070	1.805	86.000	84.030	1.595
1.011	13.062	163.3	150	Circular	85.400	83.200	2.050	84.310	83.120	1.040

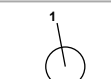
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.008	SW14	1200	Manhole	Adoptable	SW15	1200	Manhole	Adoptable
6.000	SW43	1200	Manhole	Adoptable	SW15	1200	Manhole	Adoptable
1.009	SW15	1200	Manhole	Adoptable	SW16	1200	Manhole	Adoptable
1.011	SW17	1500	Manhole	Adoptable	HW	1	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SW18	538463.448	127876.678	88.700	1.550	1200				
SW2	538471.665	127881.605	88.700	1.550	1200				
						0	1.001	87.150	300
SW1	538460.422	127900.357	89.500	1.200	600				
						0	2.000	88.300	225
SW3	538468.254	127887.294	88.750	1.650	1200				
						1	2.000	87.100	225
						2	1.001	87.100	300
						0	1.002	87.100	300
SW4	538431.073	127880.064	89.800	2.460	1200				
						0	3.000	87.340	225
SW5	538437.529	127868.873	89.090	2.290	1200				
						1	3.000	87.250	225
						2	1.002	86.880	300
						0	1.003	86.800	300
SW6	538424.255	127854.511	89.240	2.580	1200				
						1	1.003	86.700	300
SW7	538406.880	127864.586	90.370	1.300	1200				
						0	4.000	89.070	225
SW8	538412.055	127854.088	89.600	2.940	1200				
						1	4.000	88.100	225



Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SW9	538389.951	127837.600	89.640	2.980	1200	 0	1.005	86.660	150
SW10	538368.532	127858.700	90.950	1.450	600	 0	5.000	89.500	150
SW11	538377.491	127843.269	90.070	1.750	600	 1	5.000	88.400	150
SW12	538385.193	127833.607	89.500	3.120	1200	 1	5.001	88.000	225
						2	1.005	86.610	150
						 0	1.006	86.380	375
SW13	538390.609	127810.698	87.900	1.640	1200	 1	1.006	86.260	375
SW14	538410.714	127801.320	86.850	1.440	1200	 0	1.007	86.260	375
						 1	1.007	85.410	375
SW43	538446.483	127801.438	85.900	1.600	1200	 0	1.008	85.410	375
						 0	6.000	84.300	225
SW15	538434.770	127804.174	86.250	2.180	1200	 1	6.000	84.220	225
						2	1.008	84.600	375
						 0	1.009	84.070	375
SW16	538433.763	127797.765	86.000	2.800	1200	 1	1.009	84.030	375
SW17	538449.419	127794.102	85.400	2.200	1500	 0	1.011	83.200	150
HW	538451.846	127781.267	84.310	1.190	1	 1	1.011	83.120	150

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Starting Level (m)
Rainfall Events	Singular	Skip Steady State	✓	Check Discharge Rate(s) x
Summer CV	1.000	Drain Down Time (mins)	10080	Check Discharge Volume x
Winter CV	1.000	Additional Storage (m³/ha)	0.0	



Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
2	0	0	0
30	0	0	0
30	35	0	0
100	0	0	0
100	45	0	0

Node SW17 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	83.200	Product Number	CTL-SHE-0070-3000-2100-3000
Design Depth (m)	2.100	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	3.0	Min Node Diameter (mm)	1200

Node SW9 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	86.660	Product Number	CTL-SHE-0070-3000-2040-3000
Design Depth (m)	2.040	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	3.0	Min Node Diameter (mm)	1200

Node SW2 Tank Storage Structure

Invert Level (m)	87.150	Time to half empty (mins)	645	Analyse flow through structure	x
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Inlets SW18

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	95.0	0.750	95.0	0.751	0.0

Node SW9 Tank Storage Structure

Invert Level (m)	86.660	Time to half empty (mins)	1080	Analyse flow through structure	x
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Inlets SW6 | SW8

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	120.0	0.750	120.0	1.500	120.0	1.501	0.0

Node SW17 Tank Storage Structure

Invert Level (m)	83.200	Time to half empty (mins)	2460	Analyse flow through structure	x
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Inlets SW16

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	200.0	0.750	200.0	1.500	200.0	1.501	0.0



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	SW18	32	87.153	0.003	0.3	0.0000	0.0000	OK
30 minute summer	SW2	22	87.153	0.003	0.8	0.2524	0.0000	OK
15 minute summer	SW1	10	88.327	0.027	4.6	0.0077	0.0000	OK
15 minute summer	SW3	10	87.184	0.084	15.5	0.0948	0.0000	OK
15 minute summer	SW4	10	87.372	0.032	1.9	0.0365	0.0000	OK
480 minute summer	SW5	320	86.990	0.190	7.1	0.2147	0.0000	OK
480 minute summer	SW6	320	86.990	0.330	6.9	0.0000	0.0000	OK
15 minute summer	SW7	10	89.103	0.033	6.8	0.0377	0.0000	OK
480 minute summer	SW8	320	86.987	0.327	2.3	0.0000	0.0000	OK
480 minute summer	SW9	320	86.984	0.324	5.0	39.4353	0.0000	SURCHARGED
15 minute summer	SW10	1	89.500	0.000	0.0	0.0000	0.0000	OK
15 minute summer	SW11	10	88.357	0.037	4.8	0.0106	0.0000	OK
15 minute summer	SW12	10	86.460	0.080	13.0	0.0902	0.0000	OK
15 minute summer	SW13	11	86.309	0.049	14.7	0.0558	0.0000	OK
15 minute summer	SW14	11	85.467	0.057	17.6	0.0644	0.0000	OK
15 minute summer	SW43	1	84.300	0.000	0.0	0.0000	0.0000	OK
15 minute summer	SW15	11	84.176	0.105	22.7	0.1193	0.0000	OK
1440 minute summer	SW16	1140	83.473	0.273	4.6	0.0000	0.0000	OK
1440 minute summer	SW17	1140	83.467	0.267	3.3	53.7282	0.0000	SURCHARGED
15 minute summer	HW	1	83.120	0.000	1.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	SW2	1.001	SW3	-0.8	-0.137	-0.008	0.0505	
15 minute summer	SW1	2.000	SW3	4.6	0.622	0.031	0.1233	
15 minute summer	SW3	1.002	SW5	14.4	0.911	0.166	0.5654	
15 minute summer	SW4	3.000	SW5	1.8	0.540	0.043	0.0443	
480 minute summer	SW5	1.003	SW6	6.9	0.421	0.087	1.1412	
15 minute summer	SW7	4.000	SW8	6.8	1.887	0.045	0.0419	
480 minute summer	SW9	1.005	SW12	2.2	0.613	0.136	0.0219	
15 minute summer	SW10	5.000	SW11	0.0	0.000	0.000	0.0000	
15 minute summer	SW11	5.001	SW12	4.8	1.128	0.057	0.0522	
15 minute summer	SW12	1.006	SW13	12.9	1.027	0.091	0.3011	
15 minute summer	SW13	1.007	SW14	14.8	1.556	0.038	0.2108	
15 minute summer	SW14	1.008	SW15	17.6	1.713	0.048	0.2496	
15 minute summer	SW43	6.000	SW15	0.0	0.000	0.000	0.0000	
15 minute summer	SW15	1.009	SW16	22.7	0.961	0.145	0.1535	
1440 minute summer	SW17	Hydro-Brake®	HW	2.1				162.1



Results for 2 year Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	SW18	29	87.156	0.006	0.6	0.0000	0.0000	OK
30 minute summer	SW2	23	87.157	0.007	1.8	0.6256	0.0000	OK
15 minute summer	SW1	10	88.334	0.034	7.2	0.0096	0.0000	OK
15 minute summer	SW3	10	87.205	0.105	24.1	0.1192	0.0000	OK
15 minute summer	SW4	10	87.380	0.040	2.9	0.0451	0.0000	OK
360 minute summer	SW5	264	87.105	0.305	11.4	0.3452	0.0000	SURCHARGED
360 minute summer	SW6	264	87.105	0.445	10.6	0.0000	0.0000	OK
15 minute summer	SW7	10	89.112	0.042	10.5	0.0470	0.0000	OK
360 minute summer	SW8	272	87.102	0.442	4.0	0.0000	0.0000	OK
360 minute summer	SW9	272	87.100	0.440	7.3	53.3304	0.0000	SURCHARGED
15 minute summer	SW10	1	89.500	0.000	0.0	0.0000	0.0000	OK
15 minute summer	SW11	10	88.367	0.047	7.4	0.0132	0.0000	OK
15 minute summer	SW12	10	86.480	0.100	20.4	0.1128	0.0000	OK
15 minute summer	SW13	11	86.321	0.061	23.0	0.0693	0.0000	OK
15 minute summer	SW14	11	85.481	0.071	27.4	0.0806	0.0000	OK
15 minute summer	SW43	1	84.300	0.000	0.0	0.0000	0.0000	OK
15 minute summer	SW15	11	84.205	0.135	35.4	0.1521	0.0000	OK
1440 minute winter	SW16	1290	83.562	0.362	4.4	0.0000	0.0000	OK
1440 minute winter	SW17	1290	83.557	0.357	3.3	71.5020	0.0000	SURCHARGED
15 minute summer	HW	1	83.120	0.000	1.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	SW2	1.001	SW3	-1.8	-0.225	-0.018	0.0684	
15 minute summer	SW1	2.000	SW3	7.2	0.692	0.049	0.1673	
15 minute summer	SW3	1.002	SW5	21.8	1.021	0.251	0.7704	
15 minute summer	SW4	3.000	SW5	2.8	0.608	0.065	0.0598	
360 minute summer	SW5	1.003	SW6	10.6	0.455	0.134	1.3772	
15 minute summer	SW7	4.000	SW8	10.4	2.133	0.069	0.0573	
360 minute summer	SW9	1.005	SW12	2.2	0.613	0.136	0.0220	
15 minute summer	SW10	5.000	SW11	0.0	0.000	0.000	0.0000	
15 minute summer	SW11	5.001	SW12	7.4	1.275	0.088	0.0713	
15 minute summer	SW12	1.006	SW13	20.2	1.171	0.142	0.4129	
15 minute summer	SW13	1.007	SW14	23.1	1.768	0.059	0.2911	
15 minute summer	SW14	1.008	SW15	27.6	1.943	0.075	0.3438	
15 minute summer	SW43	6.000	SW15	0.0	0.000	0.000	0.0000	
15 minute summer	SW15	1.009	SW16	35.5	1.081	0.226	0.2131	
1440 minute winter	SW17	Hydro-Brake®	HW	2.1				200.4



Results for 30 year Critical Storm Duration. Lowest mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	SW18	472	87.483	0.333	4.4	0.0000	0.0000	OK
480 minute winter	SW2	464	87.483	0.333	8.9	31.5686	0.0000	SURCHARGED
15 minute summer	SW1	10	88.354	0.054	18.7	0.0153	0.0000	OK
480 minute winter	SW3	464	87.483	0.383	9.2	0.4335	0.0000	SURCHARGED
480 minute winter	SW4	464	87.483	0.143	0.8	0.1621	0.0000	OK
480 minute winter	SW5	464	87.483	0.683	11.1	0.7728	0.0000	SURCHARGED
480 minute winter	SW6	464	87.483	0.823	10.5	0.0000	0.0000	OK
15 minute summer	SW7	10	89.139	0.069	27.4	0.0781	0.0000	OK
480 minute winter	SW8	464	87.480	0.820	4.1	0.0000	0.0000	OK
480 minute winter	SW9	464	87.477	0.817	7.3	98.9123	0.0000	SURCHARGED
15 minute summer	SW10	1	89.500	0.000	0.0	0.0000	0.0000	OK
15 minute summer	SW11	10	88.398	0.078	19.4	0.0221	0.0000	OK
15 minute summer	SW12	10	86.544	0.164	53.2	0.1853	0.0000	OK
15 minute summer	SW13	10	86.361	0.101	60.4	0.1138	0.0000	OK
15 minute summer	SW14	10	85.528	0.118	71.8	0.1335	0.0000	OK
15 minute summer	SW43	11	84.308	0.008	0.2	0.0087	0.0000	OK
15 minute summer	SW15	10	84.305	0.235	92.4	0.2658	0.0000	OK
2880 minute winter	SW16	2820	84.084	0.884	4.7	0.0000	0.0000	OK
2880 minute winter	SW17	2820	84.078	0.878	3.4	175.2574	0.0000	SURCHARGED
15 minute summer	HW	1	83.120	0.000	2.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	SW2	1.001	SW3	-8.9	-0.444	-0.093	0.4671	
15 minute summer	SW1	2.000	SW3	18.6	0.953	0.127	0.3015	
480 minute winter	SW3	1.002	SW5	6.2	0.642	0.071	2.5227	
480 minute winter	SW4	3.000	SW5	0.8	0.422	0.018	0.4293	
480 minute winter	SW5	1.003	SW6	10.5	0.486	0.133	1.3772	
15 minute summer	SW7	4.000	SW8	27.3	2.767	0.181	0.1154	
480 minute winter	SW9	1.005	SW12	2.2	0.613	0.136	0.0220	
15 minute summer	SW10	5.000	SW11	0.0	0.000	0.000	0.0000	
15 minute summer	SW11	5.001	SW12	19.3	1.649	0.230	0.1446	
15 minute summer	SW12	1.006	SW13	52.7	1.521	0.370	0.8239	
15 minute summer	SW13	1.007	SW14	60.1	2.252	0.153	0.5925	
15 minute summer	SW14	1.008	SW15	71.2	2.516	0.194	0.6878	
15 minute summer	SW43	6.000	SW15	-0.2	-0.032	-0.004	0.0842	
15 minute summer	SW15	1.009	SW16	91.9	1.379	0.586	0.4324	
2880 minute winter	SW17	Hydro-Brake®	HW	2.1				454.2



Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 99.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	SW18	585	87.749	0.599	4.7	0.0000	0.0000	OK
600 minute winter	SW2	585	87.750	0.600	9.6	56.8736	0.0000	SURCHARGED
15 minute summer	SW1	10	88.363	0.063	25.2	0.0178	0.0000	OK
600 minute winter	SW3	585	87.750	0.650	9.9	0.7354	0.0000	SURCHARGED
600 minute winter	SW4	585	87.750	0.410	0.9	0.4640	0.0000	SURCHARGED
600 minute winter	SW5	585	87.750	0.950	10.5	1.0747	0.0000	SURCHARGED
600 minute winter	SW6	585	87.750	1.090	9.9	0.0000	0.0000	OK
15 minute summer	SW7	10	89.152	0.082	36.9	0.0924	0.0000	OK
600 minute winter	SW8	585	87.747	1.087	3.7	0.0000	0.0000	OK
600 minute winter	SW9	585	87.743	1.083	6.9	131.0422	0.0000	SURCHARGED
15 minute summer	SW10	1	89.500	0.000	0.0	0.0000	0.0000	OK
15 minute summer	SW11	10	88.413	0.093	26.1	0.0262	0.0000	OK
15 minute summer	SW12	10	86.572	0.192	71.1	0.2175	0.0000	OK
15 minute summer	SW13	10	86.378	0.118	80.9	0.1334	0.0000	OK
15 minute summer	SW14	10	85.549	0.139	96.2	0.1575	0.0000	OK
7200 minute winter	SW43	5460	84.374	0.074	0.0	0.0835	0.0000	OK
7200 minute winter	SW15	5460	84.374	0.304	4.0	0.3436	0.0000	OK
7200 minute winter	SW16	5460	84.374	1.174	4.0	0.0000	0.0000	OK
7200 minute winter	SW17	5460	84.367	1.167	3.0	232.8408	0.0000	SURCHARGED
15 minute summer	HW	1	83.120	0.000	2.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	SW2	1.001	SW3	-9.6	-0.411	-0.099	0.4671	
15 minute summer	SW1	2.000	SW3	25.1	0.932	0.171	0.3717	
600 minute winter	SW3	1.002	SW5	5.9	0.583	0.068	2.5227	
600 minute winter	SW4	3.000	SW5	0.9	0.436	0.021	0.5138	
600 minute winter	SW5	1.003	SW6	9.9	0.511	0.125	1.3772	
15 minute summer	SW7	4.000	SW8	36.7	2.983	0.244	0.1442	
600 minute winter	SW9	1.005	SW12	2.2	0.617	0.139	0.0223	
15 minute summer	SW10	5.000	SW11	0.0	0.000	0.000	0.0064	
15 minute summer	SW11	5.001	SW12	25.9	1.776	0.309	0.1805	
15 minute summer	SW12	1.006	SW13	70.6	1.642	0.496	1.0185	
15 minute summer	SW13	1.007	SW14	80.4	2.409	0.205	0.7416	
15 minute summer	SW14	1.008	SW15	95.6	2.710	0.261	0.8567	
7200 minute winter	SW43	6.000	SW15	0.0	0.002	0.000	0.2420	
7200 minute winter	SW15	1.009	SW16	4.0	0.594	0.025	0.6538	
7200 minute winter	SW17	Hydro-Brake®	HW	2.3				811.9



Results for 100 year Critical Storm Duration. Lowest mass balance: 99.79%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	SW18	585	87.662	0.512	4.1	0.0000	0.0000	OK
600 minute winter	SW2	570	87.662	0.512	8.2	48.5281	0.0000	SURCHARGED
15 minute summer	SW1	10	88.361	0.061	23.6	0.0172	0.0000	OK
600 minute winter	SW3	570	87.662	0.562	8.7	0.6358	0.0000	SURCHARGED
600 minute winter	SW4	570	87.662	0.322	0.8	0.3643	0.0000	SURCHARGED
600 minute winter	SW5	570	87.662	0.862	9.7	0.9751	0.0000	SURCHARGED
600 minute winter	SW6	570	87.662	1.002	9.1	0.0000	0.0000	OK
15 minute summer	SW7	10	89.149	0.079	34.5	0.0889	0.0000	OK
600 minute winter	SW8	570	87.659	0.999	3.8	0.0000	0.0000	OK
600 minute winter	SW9	570	87.655	0.995	6.8	120.4310	0.0000	SURCHARGED
15 minute summer	SW10	1	89.500	0.000	0.0	0.0000	0.0000	OK
15 minute summer	SW11	10	88.409	0.089	24.5	0.0253	0.0000	OK
15 minute summer	SW12	10	86.566	0.186	66.7	0.2099	0.0000	OK
15 minute summer	SW13	10	86.374	0.114	75.9	0.1288	0.0000	OK
15 minute summer	SW14	10	85.544	0.134	90.2	0.1517	0.0000	OK
15 minute summer	SW43	10	84.348	0.048	1.0	0.0540	0.0000	OK
15 minute summer	SW15	11	84.345	0.275	116.4	0.3110	0.0000	OK
5760 minute winter	SW16	4680	84.308	1.108	4.3	0.0000	0.0000	OK
5760 minute winter	SW17	4680	84.302	1.102	3.2	219.8767	0.0000	SURCHARGED
15 minute summer	HW	1	83.120	0.000	2.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	SW2	1.001	SW3	-8.2	-0.429	-0.085	0.4671	
15 minute summer	SW1	2.000	SW3	23.5	0.978	0.160	0.3685	
600 minute winter	SW3	1.002	SW5	5.4	0.599	0.062	2.5227	
600 minute winter	SW4	3.000	SW5	0.8	0.422	0.018	0.5138	
600 minute winter	SW5	1.003	SW6	9.1	0.492	0.115	1.3772	
15 minute summer	SW7	4.000	SW8	34.4	2.934	0.228	0.1371	
600 minute winter	SW9	1.005	SW12	2.2	0.613	0.136	0.0220	
15 minute summer	SW10	5.000	SW11	0.0	0.000	0.000	0.0040	
15 minute summer	SW11	5.001	SW12	24.3	1.748	0.290	0.1720	
15 minute summer	SW12	1.006	SW13	66.2	1.614	0.465	0.9719	
15 minute summer	SW13	1.007	SW14	75.4	2.375	0.192	0.7055	
15 minute summer	SW14	1.008	SW15	89.6	2.666	0.244	0.8159	
15 minute summer	SW43	6.000	SW15	1.2	0.233	0.028	0.1712	
15 minute summer	SW15	1.009	SW16	116.0	1.453	0.740	0.5167	
5760 minute winter	SW17	Hydro-Brake®	HW	2.2				714.1



Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	SW18	690	88.695	1.545	4.1	0.0000	0.0000	OK
720 minute winter	SW2	690	88.695	1.545	8.1	74.7775	0.0000	FLOOD RISK
720 minute winter	SW1	690	88.695	0.395	2.6	0.1118	0.0000	SURCHARGED
720 minute winter	SW3	690	88.695	1.595	8.8	1.8038	0.0000	FLOOD RISK
720 minute winter	SW4	690	88.695	1.355	1.1	1.5323	0.0000	SURCHARGED
720 minute winter	SW5	690	88.695	1.895	9.3	2.1430	0.0000	SURCHARGED
720 minute winter	SW6	690	88.695	2.035	8.9	0.0000	0.0000	OK
15 minute summer	SW7	10	89.168	0.098	50.1	0.1106	0.0000	OK
720 minute winter	SW8	690	88.690	2.030	3.9	0.0000	0.0000	OK
720 minute winter	SW9	690	88.686	2.026	6.3	184.4216	0.0000	SURCHARGED
15 minute summer	SW10	1	89.500	0.000	0.0	0.0000	0.0000	OK
15 minute summer	SW11	10	88.432	0.112	35.5	0.0316	0.0000	OK
15 minute summer	SW12	10	86.609	0.229	95.8	0.2585	0.0000	OK
15 minute summer	SW13	10	86.400	0.140	109.1	0.1580	0.0000	OK
15 minute summer	SW14	10	85.576	0.166	129.9	0.1879	0.0000	OK
2880 minute winter	SW43	2760	85.310	1.010	0.1	1.1422	0.0000	SURCHARGED
2880 minute winter	SW15	2760	85.310	1.240	6.8	1.4024	0.0000	SURCHARGED
2880 minute winter	SW16	2760	85.310	2.110	6.8	0.0000	0.0000	OK
2880 minute winter	SW17	2760	85.301	2.101	4.4	304.0061	0.0000	FLOOD RISK
15 minute summer	HW	1	83.120	0.000	2.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	SW2	1.001	SW3	-8.1	-0.446	-0.085	0.4671	
720 minute winter	SW1	2.000	SW3	2.6	0.441	0.018	0.6058	
720 minute winter	SW3	1.002	SW5	5.3	0.565	0.061	2.5227	
720 minute winter	SW4	3.000	SW5	1.0	0.421	0.023	0.5138	
720 minute winter	SW5	1.003	SW6	8.9	0.528	0.112	1.3772	
15 minute summer	SW7	4.000	SW8	49.9	3.213	0.331	0.1818	
720 minute winter	SW9	1.005	SW12	3.0	0.667	0.186	0.0276	
15 minute summer	SW10	5.000	SW11	0.0	0.000	0.000	0.0241	
15 minute summer	SW11	5.001	SW12	35.2	1.910	0.420	0.2281	
15 minute summer	SW12	1.006	SW13	95.1	1.769	0.668	1.2675	
15 minute summer	SW13	1.007	SW14	108.5	2.572	0.276	0.9368	
15 minute summer	SW14	1.008	SW15	129.1	2.914	0.352	1.0750	
2880 minute winter	SW43	6.000	SW15	-0.1	-0.003	-0.001	0.4784	
2880 minute winter	SW15	1.009	SW16	6.8	0.692	0.043	0.7156	
2880 minute winter	SW17	Hydro-Brake®	HW	3.0				871.8