

Design Settings

Rainfall Methodology	FEH-13	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.500
CV	0.900	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	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.019	5.00	66.123	1200	468535.852	112546.455	1.350
2	0.073	5.00	64.952	1200	468567.233	112556.160	1.400
3	0.017	5.00	63.318	1200	468586.857	112573.493	1.475
4	0.017	5.00	61.450	1200	468610.448	112566.446	1.919
5	0.024	5.00	60.050	1200	468628.837	112570.683	1.648
6	0.024	5.00	59.307	1200	468639.108	112559.517	1.947
7	0.074	5.00	58.863	1200	468652.773	112520.332	1.503
8	0.036	5.00	62.450	1200	468618.505	112499.393	1.350
9	0.000		62.250	1200	468620.951	112503.154	1.315
10	0.020	5.00	61.200	1200	468623.951	112518.828	1.350
11	0.010	5.00	59.367	1200	468643.617	112526.366	1.350
12	0.000		58.850	1200	468647.596	112515.600	1.490
13	0.000		58.700	1200	468651.586	112504.283	1.340
14	0.000		58.550	1200	468651.573	112497.770	1.190
15	0.054	5.00	58.200	1200	468654.233	112490.225	0.840
16	0.000		58.400	1200	468666.468	112479.639	1.136
17	0.000		58.500	1200	468666.773	112476.146	1.257
17_OUT	0.000		58.170	1200	468675.491	112461.679	1.060

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)
1.000	1	2	32.848	0.600	64.773	63.552	1.221	26.9	150	5.28	50.0
1.001	2	3	26.183	0.600	63.552	61.918	1.634	16.0	150	5.45	50.0
1.002	3	4	28.430	0.600	61.843	59.531	2.312	12.3	225	5.58	50.0
1.003	4	5	15.710	0.600	59.531	58.402	1.129	13.9	225	5.65	50.0
1.004	5	6	12.566	0.600	58.402	57.832	0.570	22.0	225	5.73	50.0
1.005	6	7	41.500	0.300	57.360	57.360	0.000	0.0	6650	6.42	50.0
1.006	7	12	7.013	0.600	57.360	57.360	0.000	0.0	225	6.54	49.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.949	34.4	3.1	1.200	1.250	0.019	0.0	30	1.208
1.001	2.529	44.7	15.0	1.250	1.250	0.092	0.0	59	2.277
1.002	3.751	149.2	17.7	1.250	1.694	0.109	0.0	52	2.550
1.003	3.526	140.2	20.5	1.694	1.423	0.126	0.0	58	2.530
1.004	2.798	111.3	24.4	1.423	1.250	0.150	0.0	72	2.260
1.005	1.000	5320.0	28.3	1.147	0.703	0.174	0.0	0	∞
1.006	1.000	39.8	40.0	1.278	1.265	0.248	0.0	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)
2.000	8	9	16.569	0.600	61.100	60.935	0.165	100.4	150	5.28	50.0
2.001	9	10	16.536	0.600	60.935	59.850	1.085	15.2	150	5.38	50.0
2.002	10	11	18.861	0.600	59.850	58.017	1.833	10.3	150	5.48	50.0
2.003	11	12	11.478	0.600	58.017	57.485	0.532	21.6	150	5.57	50.0
1.007	12	13	12.000	0.300	57.360	57.360	0.000	0.0	5700	6.74	48.9
1.008	13	14	6.513	0.600	57.360	57.360	0.000	0.0	300	6.85	48.5
1.009	14	15	8.000	0.300	57.360	57.360	0.000	0.0	5700	6.98	48.0
1.010	15	16	16.179	0.600	57.360	57.264	0.096	168.5	225	7.25	47.2
1.011	16	17	3.506	0.600	57.264	57.243	0.021	167.0	225	7.31	47.0
1.012	17	17_OUT	16.890	0.600	57.243	57.110	0.133	127.0	225	7.55	46.3

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
2.000	1.002	17.7	5.9	1.200	1.165	0.036	0.0	59	0.902
2.001	2.593	45.8	5.9	1.165	1.200	0.036	0.0	36	1.786
2.002	3.159	55.8	9.1	1.200	1.200	0.056	0.0	41	2.332
2.003	2.177	38.5	10.7	1.200	1.215	0.066	0.0	54	1.872
1.007	1.000	4560.0	49.9	0.690	0.540	0.314	0.0	0	∞
1.008	1.000	70.7	49.5	1.040	0.890	0.314	0.0	0	∞
1.009	1.000	2280.0	49.0	0.790	0.440	0.314	0.0	0	∞
1.010	1.004	39.9	56.5	0.615	0.911	0.368	0.0	225	1.023
1.011	1.009	40.1	56.2	0.911	1.032	0.368	0.0	225	1.028
1.012	1.159	46.1	55.4	1.032	0.835	0.368	0.0	225	1.180

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)
1.000	32.848	26.9	150	Circular	66.123	64.773	1.200	64.952	63.552	1.250
1.001	26.183	16.0	150	Circular	64.952	63.552	1.250	63.318	61.918	1.250
1.002	28.430	12.3	225	Circular	63.318	61.843	1.250	61.450	59.531	1.694
1.003	15.710	13.9	225	Circular	61.450	59.531	1.694	60.050	58.402	1.423
1.004	12.566	22.0	225	Circular	60.050	58.402	1.423	59.307	57.832	1.250
1.005	41.500	0.0	6650	Crate Storage 1	59.307	57.360	1.147	58.863	57.360	0.703
1.006	7.013	0.0	225	Circular	58.863	57.360	1.278	58.850	57.360	1.265
2.000	16.569	100.4	150	Circular	62.450	61.100	1.200	62.250	60.935	1.165
2.001	16.536	15.2	150	Circular	62.250	60.935	1.165	61.200	59.850	1.200
2.002	18.861	10.3	150	Circular	61.200	59.850	1.200	59.367	58.017	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable
1.001	2	1200	Manhole	Adoptable	3	1200	Manhole	Adoptable
1.002	3	1200	Manhole	Adoptable	4	1200	Manhole	Adoptable
1.003	4	1200	Manhole	Adoptable	5	1200	Manhole	Adoptable
1.004	5	1200	Manhole	Adoptable	6	1200	Manhole	Adoptable
1.005	6	1200	Manhole	Adoptable	7	1200	Manhole	Adoptable
1.006	7	1200	Manhole	Adoptable	12	1200	Manhole	Adoptable
2.000	8	1200	Manhole	Adoptable	9	1200	Manhole	Adoptable
2.001	9	1200	Manhole	Adoptable	10	1200	Manhole	Adoptable
2.002	10	1200	Manhole	Adoptable	11	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)
2.003	11.478	21.6	150	Circular	59.367	58.017	1.200	58.850	57.485	1.215
1.007	12.000	0.0	5700	Crate Storage 2	58.850	57.360	0.690	58.700	57.360	0.540
1.008	6.513	0.0	300	Circular	58.700	57.360	1.040	58.550	57.360	0.890
1.009	8.000	0.0	5700	Crate Storage 3	58.550	57.360	0.790	58.200	57.360	0.440
1.010	16.179	168.5	225	Circular	58.200	57.360	0.615	58.400	57.264	0.911
1.011	3.506	167.0	225	Circular	58.400	57.264	0.911	58.500	57.243	1.032
1.012	16.890	127.0	225	Circular	58.500	57.243	1.032	58.170	57.110	0.835

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
2.003	11	1200	Manhole	Adoptable	12	1200	Manhole	Adoptable
1.007	12	1200	Manhole	Adoptable	13	1200	Manhole	Adoptable
1.008	13	1200	Manhole	Adoptable	14	1200	Manhole	Adoptable
1.009	14	1200	Manhole	Adoptable	15	1200	Manhole	Adoptable
1.010	15	1200	Manhole	Adoptable	16	1200	Manhole	Adoptable
1.011	16	1200	Manhole	Adoptable	17	1200	Manhole	Adoptable
1.012	17	1200	Manhole	Adoptable	17_OUT	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	468535.852	112546.455	66.123	1.350	1200					
2	468567.233	112556.160	64.952	1.400	1200		0	1.000	64.773	150
							1	1.000	63.552	150
3	468586.857	112573.493	63.318	1.475	1200		0	1.001	63.552	150
							1	1.001	61.918	150
4	468610.448	112566.446	61.450	1.919	1200		0	1.002	61.843	225
							1	1.002	59.531	225
5	468628.837	112570.683	60.050	1.648	1200		0	1.003	59.531	225
							1	1.003	58.402	225
6	468639.108	112559.517	59.307	1.947	1200		0	1.004	58.402	225
							1	1.004	57.832	225
7	468652.773	112520.332	58.863	1.503	1200		0	1.005	57.360	6650
							1	1.005	57.360	6650
							0	1.006	57.360	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
8	468618.505	112499.393	62.450	1.350	1200		0	2.000	61.100	150
9	468620.951	112503.154	62.250	1.315	1200		1	2.000	60.935	150
10	468623.951	112518.828	61.200	1.350	1200		0	2.001	60.935	150
11	468643.617	112526.366	59.367	1.350	1200		1	2.002	59.850	150
12	468647.596	112515.600	58.850	1.490	1200		0	2.003	58.017	150
13	468651.586	112504.283	58.700	1.340	1200		1	2.003	57.485	150
14	468651.573	112497.770	58.550	1.190	1200		2	1.006	57.360	225
15	468654.233	112490.225	58.200	0.840	1200		0	1.007	57.360	5700
16	468666.468	112479.639	58.400	1.136	1200		1	1.007	57.360	5700
17	468666.773	112476.146	58.500	1.257	1200		0	1.010	57.360	225
17_OUT	468675.491	112461.679	58.170	1.060	1200		1	1.010	57.264	225

Simulation Settings

Rainfall Methodology	FEH-13	Analysis Speed	Detailed	Additional Storage (m³/ha)	20.0
Summer CV	0.900	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	0.950	Drain Down Time (mins)	2000	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
30	40	0	0
100	40	0	0

Node 15 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	57.360	Product Number	CTL-SHE-0070-2000-0800-2000
Design Depth (m)	0.800	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.0	Min Node Diameter (mm)	1200

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	113.456	32.104	30 year 360 minute winter	20.869	8.262
2 year 15 minute winter	79.618	32.104	30 year 480 minute summer	25.038	6.617
2 year 30 minute summer	74.604	21.110	30 year 480 minute winter	16.635	6.617
2 year 30 minute winter	52.354	21.110	30 year 600 minute summer	20.372	5.572
2 year 60 minute summer	50.536	13.355	30 year 600 minute winter	13.919	5.572
2 year 60 minute winter	33.575	13.355	30 year 720 minute summer	18.072	4.843
2 year 120 minute summer	33.692	8.904	30 year 720 minute winter	12.145	4.843
2 year 120 minute winter	22.384	8.904	30 year 960 minute summer	14.755	3.885
2 year 180 minute summer	26.853	6.910	30 year 960 minute winter	9.774	3.885
2 year 180 minute winter	17.455	6.910	30 year 1440 minute summer	10.634	2.850
2 year 240 minute summer	21.720	5.740	30 year 1440 minute winter	7.147	2.850
2 year 240 minute winter	14.430	5.740	30 year +40% CC 15 minute summer	382.121	108.127
2 year 360 minute summer	17.054	4.388	30 year +40% CC 15 minute winter	268.155	108.127
2 year 360 minute winter	11.085	4.388	30 year +40% CC 30 minute summer	254.650	72.057
2 year 480 minute summer	13.664	3.611	30 year +40% CC 30 minute winter	178.702	72.057
2 year 480 minute winter	9.078	3.611	30 year +40% CC 60 minute summer	173.703	45.905
2 year 600 minute summer	11.327	3.098	30 year +40% CC 60 minute winter	115.404	45.905
2 year 600 minute winter	7.739	3.098	30 year +40% CC 120 minute summer	102.111	26.985
2 year 720 minute summer	10.189	2.731	30 year +40% CC 120 minute winter	67.840	26.985
2 year 720 minute winter	6.847	2.731	30 year +40% CC 180 minute summer	76.760	19.753
2 year 960 minute summer	8.484	2.234	30 year +40% CC 180 minute winter	49.896	19.753
2 year 960 minute winter	5.620	2.234	30 year +40% CC 240 minute summer	59.875	15.823
2 year 1440 minute summer	6.265	1.679	30 year +40% CC 240 minute winter	39.780	15.823
2 year 1440 minute winter	4.211	1.679	30 year +40% CC 360 minute summer	44.947	11.566
30 year 15 minute summer	272.944	77.234	30 year +40% CC 360 minute winter	29.217	11.566
30 year 15 minute winter	191.539	77.234	30 year +40% CC 480 minute summer	35.054	9.264
30 year 30 minute summer	181.893	51.469	30 year +40% CC 480 minute winter	23.289	9.264
30 year 30 minute winter	127.644	51.469	30 year +40% CC 600 minute summer	28.520	7.801
30 year 60 minute summer	124.073	32.789	30 year +40% CC 600 minute winter	19.487	7.801
30 year 60 minute winter	82.431	32.789	30 year +40% CC 720 minute summer	25.301	6.781
30 year 120 minute summer	72.936	19.275	30 year +40% CC 720 minute winter	17.004	6.781
30 year 120 minute winter	48.457	19.275	30 year +40% CC 960 minute summer	20.656	5.439
30 year 180 minute summer	54.829	14.109	30 year +40% CC 960 minute winter	13.683	5.439
30 year 180 minute winter	35.640	14.109	30 year +40% CC 1440 minute summer	14.887	3.990
30 year 240 minute summer	42.768	11.302	30 year +40% CC 1440 minute winter	10.005	3.990
30 year 240 minute winter	28.414	11.302	100 year +40% CC 15 minute summer	478.572	135.419
30 year 360 minute summer	32.105	8.262	100 year +40% CC 15 minute winter	335.840	135.419

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC 30 minute summer	321.475	90.966	100 year +40% CC 360 minute winter	35.750	14.153
100 year +40% CC 30 minute winter	225.596	90.966	100 year +40% CC 480 minute summer	42.767	11.302
100 year +40% CC 60 minute summer	221.039	58.414	100 year +40% CC 480 minute winter	28.413	11.302
100 year +40% CC 60 minute winter	146.853	58.414	100 year +40% CC 600 minute summer	34.727	9.499
100 year +40% CC 120 minute summer	127.403	33.669	100 year +40% CC 600 minute winter	23.727	9.499
100 year +40% CC 120 minute winter	84.643	33.669	100 year +40% CC 720 minute summer	30.759	8.244
100 year +40% CC 180 minute summer	94.956	24.436	100 year +40% CC 720 minute winter	20.672	8.244
100 year +40% CC 180 minute winter	61.724	24.436	100 year +40% CC 960 minute summer	25.035	6.592
100 year +40% CC 240 minute summer	73.700	19.477	100 year +40% CC 960 minute winter	16.584	6.592
100 year +40% CC 240 minute winter	48.964	19.477	100 year +40% CC 1440 minute summer	17.995	4.823
100 year +40% CC 360 minute summer	54.998	14.153	100 year +40% CC 1440 minute winter	12.094	4.823

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	64.804	0.031	3.2	0.0433	0.0000	OK
15 minute summer	2	10	63.614	0.062	15.3	0.1343	0.0000	OK
15 minute summer	3	10	61.895	0.052	17.9	0.0712	0.0000	OK
15 minute summer	4	11	59.589	0.058	20.5	0.0757	0.0000	OK
15 minute summer	5	11	58.478	0.076	24.4	0.1084	0.0000	OK
720 minute winter	6	525	57.535	0.175	3.0	0.2417	0.0000	OK
720 minute winter	7	525	57.535	0.175	2.8	0.3711	0.0000	OK
15 minute summer	8	10	61.165	0.065	6.0	0.1085	0.0000	OK
15 minute summer	9	10	60.971	0.036	5.9	0.0411	0.0000	OK
15 minute summer	10	10	59.891	0.041	9.2	0.0585	0.0000	OK
15 minute summer	11	11	58.074	0.057	10.8	0.0731	0.0000	OK
720 minute winter	12	525	57.535	0.175	2.3	0.1983	0.0000	OK
720 minute winter	13	525	57.535	0.175	1.9	0.1983	0.0000	OK
720 minute winter	14	525	57.535	0.175	1.7	0.1982	0.0000	OK
720 minute winter	15	525	57.535	0.175	2.2	0.4235	0.0000	OK
720 minute winter	16	525	57.300	0.036	2.0	0.0403	0.0000	OK
720 minute winter	17	525	57.275	0.032	2.0	0.0363	0.0000	OK
720 minute winter	17_OUT	525	57.142	0.032	2.0	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)
15 minute summer	1	1.000	2	3.1	0.682	0.091	0.1547	
15 minute summer	2	1.001	3	15.1	2.244	0.337	0.1756	
15 minute summer	3	1.002	4	17.7	2.364	0.119	0.2136	
15 minute summer	4	1.003	5	20.5	2.067	0.146	0.1562	
15 minute summer	5	1.004	6	24.4	2.160	0.219	0.1421	
720 minute winter	6	1.005	7	1.5	0.007	0.000	48.4044	
720 minute winter	7	1.006	12	1.4	0.090	0.036	0.2329	
15 minute summer	8	2.000	9	5.9	1.128	0.334	0.0880	
15 minute summer	9	2.001	10	5.9	1.634	0.128	0.0593	
15 minute summer	10	2.002	11	9.1	1.823	0.163	0.0948	
15 minute summer	11	2.003	12	10.8	1.809	0.280	0.0683	
720 minute winter	12	1.007	13	1.9	0.004	0.000	11.9905	
720 minute winter	13	1.008	14	1.7	0.099	0.024	0.2783	
720 minute winter	14	1.009	15	1.8	0.003	0.001	7.9909	
720 minute winter	15	Hydro-Brake®	16	2.0				
720 minute winter	16	1.011	17	2.0	0.527	0.049	0.0131	
720 minute winter	17	1.012	17_OUT	2.0	0.576	0.043	0.0577	112.1

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	64.821	0.048	7.6	0.0674	0.0000	OK
15 minute summer	2	10	63.661	0.109	36.8	0.2365	0.0000	OK
15 minute summer	3	10	61.926	0.083	43.0	0.1134	0.0000	OK
15 minute summer	4	10	59.623	0.092	49.6	0.1207	0.0000	OK
15 minute summer	5	10	58.532	0.130	59.0	0.1847	0.0000	OK
480 minute winter	6	464	57.721	0.361	7.6	0.4980	0.0000	OK
480 minute winter	7	464	57.721	0.361	5.9	0.7647	0.0000	SURCHARGED
15 minute summer	8	10	61.212	0.112	14.4	0.1863	0.0000	OK
15 minute summer	9	10	60.993	0.058	14.2	0.0656	0.0000	OK
15 minute summer	10	10	59.916	0.066	22.2	0.0936	0.0000	OK
15 minute summer	11	10	58.116	0.099	26.1	0.1268	0.0000	OK
480 minute winter	12	464	57.721	0.361	3.9	0.4087	0.0000	OK
480 minute winter	13	464	57.721	0.361	2.6	0.4087	0.0000	SURCHARGED
480 minute winter	14	464	57.721	0.361	1.8	0.4086	0.0000	OK
480 minute winter	15	464	57.721	0.361	2.9	0.8733	0.0000	SURCHARGED
240 minute winter	16	592	57.300	0.036	2.0	0.0407	0.0000	OK
60 minute winter	17	173	57.275	0.032	2.0	0.0366	0.0000	OK
60 minute summer	17_OUT	125	57.142	0.032	2.0	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)
15 minute summer	1	1.000	2	7.5	0.815	0.219	0.3038	
15 minute summer	2	1.001	3	36.2	2.733	0.811	0.3471	
15 minute summer	3	1.002	4	42.9	2.990	0.287	0.4077	
15 minute summer	4	1.003	5	49.4	2.529	0.352	0.3067	
15 minute summer	5	1.004	6	58.7	2.656	0.528	0.2777	
480 minute winter	6	1.005	7	2.7	0.014	0.001	99.7523	
480 minute winter	7	1.006	12	1.4	0.090	0.035	0.2789	
15 minute summer	8	2.000	9	14.2	1.384	0.804	0.1688	
15 minute summer	9	2.001	10	14.2	2.071	0.309	0.1131	
15 minute summer	10	2.002	11	22.1	2.227	0.395	0.1863	
15 minute summer	11	2.003	12	25.8	2.211	0.672	0.1341	
480 minute winter	12	1.007	13	2.6	0.008	0.001	24.7172	
480 minute winter	13	1.008	14	1.8	0.099	0.025	0.4586	
480 minute winter	14	1.009	15	1.9	-0.007	0.001	16.4780	
480 minute winter	15	Hydro-Brake®	16	2.0				
240 minute winter	16	1.011	17	2.0	0.529	0.050	0.0133	
60 minute winter	17	1.012	17_OUT	2.0	0.579	0.043	0.0584	109.7

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	64.830	0.057	10.7	0.0807	0.0000	OK
15 minute summer	2	12	63.931	0.379	51.6	0.8239	0.0000	SURCHARGED
15 minute summer	3	9	61.938	0.095	54.5	0.1298	0.0000	OK
15 minute summer	4	9	59.637	0.106	63.5	0.1392	0.0000	OK
15 minute summer	5	11	58.557	0.155	75.2	0.2204	0.0000	OK
720 minute winter	6	705	57.939	0.579	8.0	0.7973	0.0000	OK
720 minute winter	7	705	57.939	0.579	6.2	1.2243	0.0000	SURCHARGED
15 minute summer	8	11	61.305	0.205	20.2	0.3414	0.0000	SURCHARGED
15 minute summer	9	11	61.004	0.069	19.3	0.0784	0.0000	OK
15 minute summer	10	11	59.928	0.078	30.0	0.1118	0.0000	OK
15 minute summer	11	11	58.151	0.134	35.4	0.1713	0.0000	OK
720 minute winter	12	705	57.939	0.579	4.0	0.6543	0.0000	OK
720 minute winter	13	705	57.939	0.579	2.7	0.6543	0.0000	SURCHARGED
720 minute winter	14	705	57.939	0.579	1.9	0.6543	0.0000	SURCHARGED
720 minute winter	15	705	57.939	0.579	2.9	1.3983	0.0000	FLOOD RISK
30 minute summer	16	201	57.300	0.036	2.0	0.0407	0.0000	OK
30 minute winter	17	256	57.275	0.032	2.0	0.0366	0.0000	OK
60 minute summer	17_OUT	487	57.142	0.032	2.0	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)
15 minute summer	1	1.000	2	10.6	0.837	0.308	0.3904	
15 minute summer	2	1.001	3	45.4	2.697	1.017	0.4609	
15 minute summer	3	1.002	4	54.4	3.156	0.365	0.4900	
15 minute summer	4	1.003	5	62.3	2.626	0.445	0.3729	
15 minute summer	5	1.004	6	74.7	2.775	0.672	0.3381	
720 minute winter	6	1.005	7	2.9	0.012	0.001	159.7045	
720 minute winter	7	1.006	12	1.5	0.090	0.038	0.2789	
15 minute summer	8	2.000	9	19.3	1.380	1.091	0.2117	
15 minute summer	9	2.001	10	19.3	2.243	0.421	0.1427	
15 minute summer	10	2.002	11	30.0	2.314	0.538	0.2443	
15 minute summer	11	2.003	12	35.4	2.294	0.920	0.1772	
720 minute winter	12	1.007	13	2.7	0.006	0.001	39.5756	
720 minute winter	13	1.008	14	1.9	0.099	0.027	0.4586	
720 minute winter	14	1.009	15	1.9	-0.004	0.001	18.2509	
720 minute winter	15	Hydro-Brake®	16	2.0				
30 minute summer	16	1.011	17	2.0	0.529	0.050	0.0133	
30 minute winter	17	1.012	17_OUT	2.0	0.579	0.043	0.0584	120.5

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	64.838	0.065	13.4	0.0913	0.0000	OK
15 minute summer	2	12	64.545	0.993	64.7	2.1598	0.0000	SURCHARGED
15 minute summer	3	11	61.945	0.102	62.1	0.1393	0.0000	OK
15 minute summer	4	11	59.647	0.116	73.4	0.1522	0.0000	OK
15 minute summer	5	11	58.582	0.180	89.3	0.2564	0.0000	OK
960 minute winter	6	930	58.100	0.740	7.6	1.0198	0.0000	OK
960 minute winter	7	930	58.100	0.740	5.9	1.5660	0.0000	SURCHARGED
15 minute summer	8	11	61.454	0.354	25.3	0.5891	0.0000	SURCHARGED
15 minute summer	9	11	61.014	0.079	24.0	0.0893	0.0000	OK
15 minute summer	10	11	59.940	0.090	37.3	0.1280	0.0000	OK
15 minute summer	11	11	58.433	0.416	44.0	0.5318	0.0000	SURCHARGED
960 minute winter	12	930	58.100	0.740	3.8	0.8369	0.0000	OK
960 minute winter	13	930	58.100	0.740	2.6	0.8369	0.0000	SURCHARGED
960 minute winter	14	930	58.100	0.740	1.9	0.8369	0.0000	SURCHARGED
960 minute winter	15	930	58.100	0.740	2.8	1.7885	0.0000	FLOOD RISK
60 minute winter	16	965	57.300	0.036	2.0	0.0407	0.0000	OK
240 minute summer	17	1520	57.275	0.032	2.0	0.0366	0.0000	OK
240 minute summer	17_OUT	1520	57.142	0.032	2.0	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)
15 minute summer	1	1.000	2	13.3	0.918	0.386	0.4085	
15 minute summer	2	1.001	3	51.8	2.941	1.158	0.4608	
15 minute summer	3	1.002	4	62.0	3.256	0.415	0.5439	
15 minute summer	4	1.003	5	73.2	2.682	0.522	0.4306	
15 minute summer	5	1.004	6	89.2	2.845	0.802	0.3927	
960 minute winter	6	1.005	7	2.7	0.013	0.001	204.2633	
960 minute winter	7	1.006	12	1.5	0.083	0.038	0.2789	
15 minute summer	8	2.000	9	24.0	1.562	1.352	0.2236	
15 minute summer	9	2.001	10	23.9	2.365	0.521	0.1685	
15 minute summer	10	2.002	11	37.3	2.340	0.668	0.2697	
15 minute summer	11	2.003	12	42.0	2.388	1.093	0.2021	
960 minute winter	12	1.007	13	2.6	0.008	0.001	50.6185	
960 minute winter	13	1.008	14	1.9	0.096	0.027	0.4586	
960 minute winter	14	1.009	15	1.9	-0.004	0.001	18.2509	
960 minute winter	15	Hydro-Brake®	16	2.0				
60 minute winter	16	1.011	17	2.0	0.529	0.050	0.0133	
240 minute summer	17	1.012	17_OUT	2.0	0.579	0.043	0.0584	236.8