

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	8	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	19.700	Minimum Backdrop Height (m)	0.200
Ratio-R	0.350	Preferred Cover Depth (m)	0.900
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
37	0.000	5.00	21.300	1200	507067.618	105094.935	1.500
36	0.000		21.300	1200	507061.272	105087.207	1.600
35	0.037	5.00	21.600	450	507021.498	105135.498	0.600
34	0.003	5.00	22.100	450	507017.340	105182.030	0.600
33	0.022	5.00	23.000	450	507011.892	105223.146	1.050
32	0.113	5.00	22.834	1200	507012.208	105212.885	1.000
31	0.015	5.00	22.500	1200	507012.208	105189.126	0.934
30	0.022	5.00	22.450	1200	507014.413	105170.320	1.098
29	0.061	5.00	22.350	1200	507014.413	105155.930	1.160
28	0.008	5.00	22.000	1200	507010.285	105133.240	1.070
27	0.000		21.750	1200	507004.325	105126.064	0.925
26	0.066	5.00	21.500	1200	507004.325	105105.538	0.907
25	0.000		21.300	1200	507051.191	105095.167	1.342
24	0.005	5.00	22.000	450	507063.179	105136.295	1.000
23	0.003	5.00	22.800	450	507074.835	105179.393	1.050
22	0.008	5.00	23.000	450	507042.066	105204.036	1.050
21	0.070	5.00	23.250	1200	507044.411	105208.011	1.346
20	0.086	5.00	23.550	450	507085.843	105222.635	1.050
19	0.004	5.00	24.950	450	507118.205	105206.679	1.050
18	0.038	5.00	24.350	450	507148.168	105194.097	1.050
17	0.008	5.00	24.250	450	507160.468	105181.210	1.050
16	0.037	5.00	23.600	450	507174.586	105157.594	1.050
15	0.005	5.00	24.000	450	507195.841	105172.966	1.050
14	0.021	5.00	23.700	450	507230.413	105161.466	1.050
13	0.042	5.00	24.000	450	507223.633	105180.530	1.050
12	0.090	5.00	23.750	1200	507226.259	105167.217	1.246
11	0.026	5.00	23.750	1200	507202.626	105164.313	1.387
10	0.087	5.00	23.650	1200	507174.770	105167.217	1.527
9	0.023	5.00	24.000	1200	507159.368	105173.494	1.945
8	0.077	5.00	24.300	1200	507141.384	105182.749	2.328
7	0.105	5.00	24.750	1350	507102.428	105206.604	3.040
6	0.190	5.00	23.500	1350	507086.186	105210.484	1.842
5	0.062	5.00	23.500	1350	507064.404	105207.495	2.095
4	0.020	5.00	23.500	1350	507065.699	105186.887	2.146
3	0.065	5.00	22.750	1350	507070.829	105170.166	1.439
2	0.158	5.00	22.000	1350	507067.107	105139.084	1.350
1	0.000		21.300	1350	507082.115	105122.997	1.342

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)
1.011	2	1	22.001	0.600	20.650	20.050	0.600	36.7	450	8.79	50.0
11.000	24	2	4.817	0.600	21.000	20.919	0.081	59.5	100	5.08	50.0
1.010	3	2	31.304	0.600	21.311	20.650	0.661	47.4	450	8.68	50.0
10.000	23	3	10.059	0.600	21.750	21.611	0.139	72.4	150	5.14	50.0
1.009	4	3	17.490	0.600	21.354	21.311	0.043	406.7	450	8.51	50.0
1.008	5	4	20.649	0.600	21.405	21.354	0.051	404.9	450	8.22	50.0
9.001	21	5	20.000	0.600	21.904	21.705	0.199	100.5	150	5.41	50.0
1.007	6	5	21.986	0.600	21.658	21.480	0.178	123.5	375	7.87	50.0
8.000	20	6	12.156	0.600	22.500	22.379	0.121	100.5	150	5.20	50.0
1.006	7	6	16.699	0.600	21.710	21.658	0.052	321.1	375	7.65	50.0
7.000	19	7	15.777	0.600	23.900	23.700	0.200	78.9	150	5.23	50.0
1.005	8	7	45.680	0.600	21.972	21.785	0.187	244.3	300	7.37	50.0
6.000	18	8	13.221	0.600	23.300	23.168	0.132	100.2	150	5.22	50.0
1.004	9	8	20.226	0.600	22.055	21.972	0.083	243.7	300	6.61	50.0
1.003	10	9	16.636	0.600	22.123	22.055	0.068	244.7	300	6.27	50.0
5.000	17	9	7.794	0.600	23.200	22.950	0.250	31.2	150	5.07	50.0
1.002	11	10	28.012	0.600	22.363	22.198	0.165	169.8	225	6.00	50.0
4.000	16	10	9.625	0.600	22.550	22.273	0.277	34.7	150	5.09	50.0
3.000	15	11	10.996	0.600	22.950	22.700	0.250	44.0	150	5.12	50.0
1.001	12	11	23.811	0.600	22.504	22.363	0.141	168.9	225	5.53	50.0
2.000	14	12	7.094	0.600	22.650	22.579	0.071	99.9	150	5.12	50.0
1.000	13	12	13.570	0.600	22.950	22.579	0.371	36.6	150	5.14	50.0
9.000	22	21	4.615	0.600	21.950	21.904	0.046	100.3	150	5.08	50.0
12.007	26	25	48.000	0.600	20.593	20.293	0.300	160.0	300	7.09	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.011	3.365	535.2	180.0	0.900	0.800	1.230	0.0	179	3.044
11.000	1.000	7.9	0.7	0.900	0.981	0.005	0.0	21	0.624
1.010	2.960	470.7	156.2	0.989	0.900	1.067	0.0	178	2.671
10.000	1.183	20.9	0.4	0.900	0.989	0.003	0.0	15	0.468
1.009	1.002	159.3	146.2	1.696	0.989	0.999	0.0	341	1.129
1.008	1.004	159.7	143.3	1.645	1.696	0.979	0.0	334	1.129
9.001	1.002	17.7	11.4	1.196	1.645	0.078	0.0	88	1.063
1.007	1.629	179.9	122.8	1.467	1.645	0.839	0.0	228	1.748
8.000	1.002	17.7	12.6	0.900	0.971	0.086	0.0	93	1.086
1.006	1.005	111.0	82.4	2.665	1.467	0.563	0.0	241	1.097
7.000	1.133	20.0	0.6	0.900	0.900	0.004	0.0	18	0.504
1.005	1.001	70.8	66.5	2.028	2.665	0.454	0.0	232	1.133
6.000	1.004	17.7	5.6	0.900	0.982	0.038	0.0	58	0.890
1.004	1.003	70.9	49.6	1.645	2.028	0.339	0.0	185	1.082
1.003	1.000	70.7	45.1	1.227	1.645	0.308	0.0	174	1.059
5.000	1.809	32.0	1.2	0.900	0.900	0.008	0.0	20	0.859
1.002	1.000	39.8	26.9	1.162	1.227	0.184	0.0	136	1.072
4.000	1.713	30.3	5.4	0.900	1.227	0.037	0.0	43	1.303
3.000	1.521	26.9	0.7	0.900	0.900	0.005	0.0	17	0.665
1.001	1.003	39.9	22.4	1.021	1.162	0.153	0.0	121	1.032
2.000	1.005	17.8	3.1	0.900	1.021	0.021	0.0	42	0.752
1.000	1.669	29.5	6.1	0.900	1.021	0.042	0.0	47	1.325
9.000	1.003	17.7	1.2	0.900	1.196	0.008	0.0	26	0.567
12.007	1.240	87.7	50.8	0.607	0.707	0.347	0.0	164	1.283

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)
12.006	27	26	20.526	0.600	20.825	20.593	0.232	88.5	300	6.44	50.0
12.005	28	27	9.328	0.600	20.930	20.825	0.105	88.8	300	6.24	50.0
14.000	35	28	11.438	0.600	21.000	20.930	0.070	163.4	150	5.24	50.0
12.004	29	28	23.062	0.600	21.190	21.030	0.160	144.1	300	6.15	50.0
12.003	30	29	14.390	0.600	21.352	21.252	0.100	143.9	300	5.85	50.0
13.000	34	30	12.070	0.600	21.500	21.352	0.148	81.6	150	5.18	50.0
12.002	31	30	18.935	0.600	21.566	21.452	0.114	166.1	300	5.67	50.0
12.001	32	31	23.759	0.600	21.834	21.666	0.168	141.4	300	5.41	50.0
12.000	33	32	10.266	0.600	21.950	21.850	0.100	102.7	300	5.11	50.0
15.000	37	36	10.000	0.600	19.800	19.700	0.100	100.0	150	5.17	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
12.006	1.672	118.2	41.1	0.625	0.607	0.281	0.0	122	1.524
12.005	1.669	117.9	41.1	0.770	0.625	0.281	0.0	122	1.524
14.000	0.783	13.8	5.4	0.450	0.920	0.037	0.0	65	0.737
12.004	1.307	92.4	34.5	0.860	0.670	0.236	0.0	127	1.215
12.003	1.308	92.5	25.6	0.798	0.798	0.175	0.0	108	1.123
13.000	1.114	19.7	0.4	0.450	0.948	0.003	0.0	16	0.452
12.002	1.217	86.0	22.0	0.634	0.698	0.150	0.0	103	1.021
12.001	1.320	93.3	19.8	0.700	0.534	0.135	0.0	93	1.054
12.000	1.551	109.7	3.2	0.750	0.684	0.022	0.0	35	0.696
15.000	1.005	17.8	0.0	1.350	1.450	0.000	0.0	0	0.000

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)
1.011	22.001	36.7	450	Circular	22.000	20.650	0.900	21.300	20.050	0.800
11.000	4.817	59.5	100	Circular	22.000	21.000	0.900	22.000	20.919	0.981
1.010	31.304	47.4	450	Circular	22.750	21.311	0.989	22.000	20.650	0.900
10.000	10.059	72.4	150	Circular	22.800	21.750	0.900	22.750	21.611	0.989
1.009	17.490	406.7	450	Circular	23.500	21.354	1.696	22.750	21.311	0.989
1.008	20.649	404.9	450	Circular	23.500	21.405	1.645	23.500	21.354	1.696
9.001	20.000	100.5	150	Circular	23.250	21.904	1.196	23.500	21.705	1.645
1.007	21.986	123.5	375	Circular	23.500	21.658	1.467	23.500	21.480	1.645
8.000	12.156	100.5	150	Circular	23.550	22.500	0.900	23.500	22.379	0.971
1.006	16.699	321.1	375	Circular	24.750	21.710	2.665	23.500	21.658	1.467

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.011	2	1350	Manhole	Adoptable	1	1350	Manhole	Adoptable
11.000	24	450	Manhole	Adoptable	2	1350	Manhole	Adoptable
1.010	3	1350	Manhole	Adoptable	2	1350	Manhole	Adoptable
10.000	23	450	Manhole	Adoptable	3	1350	Manhole	Adoptable
1.009	4	1350	Manhole	Adoptable	3	1350	Manhole	Adoptable
1.008	5	1350	Manhole	Adoptable	4	1350	Manhole	Adoptable
9.001	21	1200	Manhole	Adoptable	5	1350	Manhole	Adoptable
1.007	6	1350	Manhole	Adoptable	5	1350	Manhole	Adoptable
8.000	20	450	Manhole	Adoptable	6	1350	Manhole	Adoptable
1.006	7	1350	Manhole	Adoptable	6	1350	Manhole	Adoptable

Pipeline Schedule

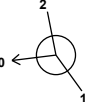
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
7.000	15.777	78.9	150	Circular	24.950	23.900	0.900	24.750	23.700	0.900
1.005	45.680	244.3	300	Circular	24.300	21.972	2.028	24.750	21.785	2.665
6.000	13.221	100.2	150	Circular	24.350	23.300	0.900	24.300	23.168	0.982
1.004	20.226	243.7	300	Circular	24.000	22.055	1.645	24.300	21.972	2.028
1.003	16.636	244.7	300	Circular	23.650	22.123	1.227	24.000	22.055	1.645
5.000	7.794	31.2	150	Circular	24.250	23.200	0.900	24.000	22.950	0.900
1.002	28.012	169.8	225	Circular	23.750	22.363	1.162	23.650	22.198	1.227
4.000	9.625	34.7	150	Circular	23.600	22.550	0.900	23.650	22.273	1.227
3.000	10.996	44.0	150	Circular	24.000	22.950	0.900	23.750	22.700	0.900
1.001	23.811	168.9	225	Circular	23.750	22.504	1.021	23.750	22.363	1.162
2.000	7.094	99.9	150	Circular	23.700	22.650	0.900	23.750	22.579	1.021
1.000	13.570	36.6	150	Circular	24.000	22.950	0.900	23.750	22.579	1.021
9.000	4.615	100.3	150	Circular	23.000	21.950	0.900	23.250	21.904	1.196
12.007	48.000	160.0	300	Circular	21.500	20.593	0.607	21.300	20.293	0.707
12.006	20.526	88.5	300	Circular	21.750	20.825	0.625	21.500	20.593	0.607
12.005	9.328	88.8	300	Circular	22.000	20.930	0.770	21.750	20.825	0.625
14.000	11.438	163.4	150	Circular	21.600	21.000	0.450	22.000	20.930	0.920
12.004	23.062	144.1	300	Circular	22.350	21.190	0.860	22.000	21.030	0.670
12.003	14.390	143.9	300	Circular	22.450	21.352	0.798	22.350	21.252	0.798
13.000	12.070	81.6	150	Circular	22.100	21.500	0.450	22.450	21.352	0.948
12.002	18.935	166.1	300	Circular	22.500	21.566	0.634	22.450	21.452	0.698
12.001	23.759	141.4	300	Circular	22.834	21.834	0.700	22.500	21.666	0.534
12.000	10.266	102.7	300	Circular	23.000	21.950	0.750	22.834	21.850	0.684
15.000	10.000	100.0	150	Circular	21.300	19.800	1.350	21.300	19.700	1.450

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
7.000	19	450	Manhole	Adoptable	7	1350	Manhole	Adoptable
1.005	8	1200	Manhole	Adoptable	7	1350	Manhole	Adoptable
6.000	18	450	Manhole	Adoptable	8	1200	Manhole	Adoptable
1.004	9	1200	Manhole	Adoptable	8	1200	Manhole	Adoptable
1.003	10	1200	Manhole	Adoptable	9	1200	Manhole	Adoptable
5.000	17	450	Manhole	Adoptable	9	1200	Manhole	Adoptable
1.002	11	1200	Manhole	Adoptable	10	1200	Manhole	Adoptable
4.000	16	450	Manhole	Adoptable	10	1200	Manhole	Adoptable
3.000	15	450	Manhole	Adoptable	11	1200	Manhole	Adoptable
1.001	12	1200	Manhole	Adoptable	11	1200	Manhole	Adoptable
2.000	14	450	Manhole	Adoptable	12	1200	Manhole	Adoptable
1.000	13	450	Manhole	Adoptable	12	1200	Manhole	Adoptable
9.000	22	450	Manhole	Adoptable	21	1200	Manhole	Adoptable
12.007	26	1200	Manhole	Adoptable	25	1200	Manhole	Adoptable
12.006	27	1200	Manhole	Adoptable	26	1200	Manhole	Adoptable
12.005	28	1200	Manhole	Adoptable	27	1200	Manhole	Adoptable
14.000	35	450	Manhole	Adoptable	28	1200	Manhole	Adoptable
12.004	29	1200	Manhole	Adoptable	28	1200	Manhole	Adoptable
12.003	30	1200	Manhole	Adoptable	29	1200	Manhole	Adoptable
13.000	34	450	Manhole	Adoptable	30	1200	Manhole	Adoptable
12.002	31	1200	Manhole	Adoptable	30	1200	Manhole	Adoptable
12.001	32	1200	Manhole	Adoptable	31	1200	Manhole	Adoptable
12.000	33	450	Manhole	Adoptable	32	1200	Manhole	Adoptable
15.000	37	1200	Manhole	Adoptable	36	1200	Manhole	Adoptable

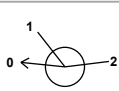
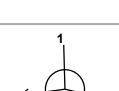
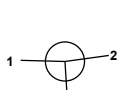
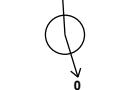
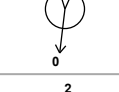
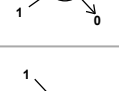
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
37	507067.618	105094.935	21.300	1.500	1200		0	15.000	150
36	507061.272	105087.207	21.300	1.600	1200		1	15.000	150
35	507021.498	105135.498	21.600	0.600	450		0	14.000	150
34	507017.340	105182.030	22.100	0.600	450		0	13.000	150
33	507011.892	105223.146	23.000	1.050	450		0	12.000	300
32	507012.208	105212.885	22.834	1.000	1200		1	12.000	300
31	507012.208	105189.126	22.500	0.934	1200		0	12.001	300
30	507014.413	105170.320	22.450	1.098	1200		1	12.001	300
29	507014.413	105155.930	22.350	1.160	1200		0	12.002	300
28	507010.285	105133.240	22.000	1.070	1200		1	12.002	300
27	507004.325	105126.064	21.750	0.925	1200		0	12.003	300
26	507004.325	105105.538	21.500	0.907	1200		1	12.003	300
25	507051.191	105095.167	21.300	1.342	1200		0	12.004	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
24	507063.179	105136.295	22.000	1.000	450		0	11.000	21.000 100
23	507074.835	105179.393	22.800	1.050	450		0	10.000	21.750 150
22	507042.066	105204.036	23.000	1.050	450		0	9.000	21.950 150
21	507044.411	105208.011	23.250	1.346	1200		1	9.000	21.904 150
20	507085.843	105222.635	23.550	1.050	450		0	9.001	21.904 150
19	507118.205	105206.679	24.950	1.050	450		0	8.000	22.500 150
18	507148.168	105194.097	24.350	1.050	450		0	7.000	23.900 150
17	507160.468	105181.210	24.250	1.050	450		0	6.000	23.300 150
16	507174.586	105157.594	23.600	1.050	450		0	5.000	23.200 150
15	507195.841	105172.966	24.000	1.050	450		0	4.000	22.550 150
14	507230.413	105161.466	23.700	1.050	450		0	3.000	22.950 150
13	507223.633	105180.530	24.000	1.050	450		0	2.000	22.650 150
12	507226.259	105167.217	23.750	1.246	1200		0	1.000	22.950 150
							1	2.000	22.579 150
							2	1.000	22.579 150
							0	1.001	22.504 225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
11	507202.626	105164.313	23.750	1.387	1200		1 3.000 2 1.001	22.700 22.363	150 225
10	507174.770	105167.217	23.650	1.527	1200		0 1.002 1 4.000 2 1.002	22.363 22.273 22.198	225 150 225
9	507159.368	105173.494	24.000	1.945	1200		0 1.003 1 5.000 2 1.003	22.123 22.950 22.055	300 150 300
8	507141.384	105182.749	24.300	2.328	1200		0 1.004 1 6.000 2 1.004	22.055 23.168 21.972	300 150 300
7	507102.428	105206.604	24.750	3.040	1350		0 1.005 1 7.000 2 1.005	21.972 23.700 21.785	300 150 300
6	507086.186	105210.484	23.500	1.842	1350		0 1.006 1 8.000 2 1.006	21.710 22.379 21.658	375 150 375
5	507064.404	105207.495	23.500	2.095	1350		0 1.007 1 9.001 2 1.007	21.658 21.705 21.480	375 150 375
4	507065.699	105186.887	23.500	2.146	1350		0 1.008 1 1.008	21.405 21.354	450 450
3	507070.829	105170.166	22.750	1.439	1350		0 1.009 1 10.000 2 1.009	21.354 21.611 21.311	450 150 450
2	507067.107	105139.084	22.000	1.350	1350		0 1.010 1 11.000 2 1.010	21.311 20.919 20.650	450 100 450
1	507082.115	105122.997	21.300	1.342	1350		0 1.011 1 1.011	20.650 20.050	450 450

Simulation Settings

Rainfall Methodology	FSR
FSR Region	England and Wales
M5-60 (mm)	19.700
Ratio-R	0.350
Summer CV	0.750
Winter CV	0.840

Analysis Speed	Detailed
Skip Steady State	x
Drain Down Time (mins)	240
Additional Storage (m³/ha)	20.0
Check Discharge Rate(s)	x
Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	40	0	0
2	40	0	0
30	40	0	0
100	40	0	0

Node 13 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	22.950	Diameter (m)	0.026		

Node 14 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	22.650	Diameter (m)	0.026		

Node 15 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	22.950	Diameter (m)	0.026		

Node 16 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	22.550	Diameter (m)	0.026		

Node 17 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	23.200	Diameter (m)	0.026		

Node 18 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	23.300	Diameter (m)	0.026		

Node 19 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	23.900	Diameter (m)	0.026		

Node 20 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	22.500	Diameter (m)	0.026		

Node 22 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	21.950	Diameter (m)	0.026		

Node 23 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	21.750	Diameter (m)	0.026		

Node 24 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	21.000	Diameter (m)	0.026		

Node 33 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	21.950	Diameter (m)	0.026		

Node 34 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	21.500	Diameter (m)	0.026		

Node 35 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	21.000	Diameter (m)	0.026		

Node 36 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	19.700	Product Number	CTL-SHE-0146-1000-1000-1000
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	10.0	Min Node Diameter (mm)	1200

Node 1 Online Orifice Control

Flap Valve	x	Invert Level (m)	19.958	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.450		

Node 25 Online Orifice Control

Flap Valve	x	Invert Level (m)	19.958	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.225		

Node 37 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	31.586
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	19.800	Main Channel Slope (1:X)	200.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.025

Inlets

1 | 25

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	652.8	0.0	0.400	766.0	0.0	0.800	888.3	0.0	1.200	1019.6	0.0

Node 13 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	22.950	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	192	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	39.567		

Node 14 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	22.650	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	62	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	19.247		

Node 15 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	22.950	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	9.358		

Node 16 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	22.550	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	60	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	65.070		

Node 17 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	23.200	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	16.781		

Node 18 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	23.300	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	112	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	52.091		

Node 19 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	23.900	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	7.419		

Node 20 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	22.500	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	160.199		

Node 22 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	21.950	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	15.740		

Node 23 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	21.750	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	96.002		

Node 24 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	21.000	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	116.197		

Node 33 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	21.950	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	43.918		

Node 34 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	21.500	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	6.837		

Node 35 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	21.000	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.32	Length (m)	74.987		

Results for 1 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	37	336	20.211	0.411	29.5	0.4649	0.0000	SURCHARGED
360 minute winter	36	336	20.171	0.471	10.0	0.5330	0.0000	OK
180 minute winter	35	136	21.162	0.162	1.8	4.4228	0.0000	SURCHARGED
30 minute winter	34	24	21.532	0.032	0.4	0.1744	0.0000	OK
60 minute winter	33	51	22.065	0.115	2.2	2.1840	0.0000	OK
15 minute winter	32	10	21.934	0.100	21.3	0.3386	0.0000	OK
15 minute winter	31	11	21.678	0.112	23.4	0.1630	0.0000	OK
15 minute winter	30	11	21.472	0.120	27.5	0.1839	0.0000	OK
15 minute winter	29	11	21.332	0.142	38.4	0.3108	0.0000	OK
15 minute winter	28	11	21.066	0.136	40.1	0.1740	0.0000	OK
15 minute winter	27	11	20.953	0.128	40.1	0.1444	0.0000	OK
15 minute winter	26	12	20.761	0.168	51.4	0.4334	0.0000	OK
15 minute winter	25	12	20.298	0.340	50.3	0.3846	0.0000	OK
60 minute winter	24	42	21.048	0.048	0.5	0.2989	0.0000	OK
30 minute winter	23	24	21.783	0.033	0.4	0.1706	0.0000	OK
30 minute winter	22	26	22.012	0.062	1.2	0.6295	0.0000	OK
15 minute winter	21	11	22.001	0.097	13.0	0.2107	0.0000	OK
240 minute winter	20	188	22.862	0.362	3.6	12.4608	0.0000	SURCHARGED
30 minute winter	19	24	23.938	0.038	0.6	0.2449	0.0000	OK
120 minute winter	18	96	23.466	0.166	2.5	4.5752	0.0000	SURCHARGED
60 minute winter	17	44	23.260	0.060	0.8	0.5947	0.0000	OK
180 minute winter	16	136	22.712	0.162	1.8	4.3505	0.0000	SURCHARGED
60 minute winter	15	43	22.994	0.044	0.5	0.3215	0.0000	OK
120 minute winter	14	90	22.763	0.113	1.4	2.0704	0.0000	OK
180 minute winter	13	136	23.127	0.177	2.1	5.1756	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	37	15.000	36	10.0	0.622	0.565	0.1760	307.5
360 minute winter	36	Hydro-Brake®		10.0				
180 minute winter	35	14.000	28	0.5	0.383	0.038	0.0515	
30 minute winter	34	13.000	30	0.2	0.146	0.010	0.0832	
60 minute winter	33	12.000	32	0.4	0.381	0.004	0.0540	
15 minute winter	32	12.001	31	20.7	1.049	0.222	0.4704	
15 minute winter	31	12.002	30	23.6	1.018	0.274	0.4385	
15 minute winter	30	12.003	29	27.7	1.106	0.299	0.3601	
15 minute winter	29	12.004	28	38.5	1.218	0.416	0.7284	
15 minute winter	28	12.005	27	40.1	1.346	0.340	0.2777	
15 minute winter	27	12.006	26	39.9	1.161	0.337	0.7049	
15 minute winter	26	12.007	25	50.3	1.276	0.574	1.8940	
15 minute winter	25	Flow through pond	37	215.4	0.249	0.003	100.7832	
60 minute winter	24	11.000	2	0.3	0.457	0.033	0.0028	
30 minute winter	23	10.000	3	0.2	0.372	0.009	0.0054	
30 minute winter	22	9.000	21	0.4	0.362	0.023	0.0325	
15 minute winter	21	9.001	5	12.5	1.063	0.703	0.2344	
240 minute winter	20	8.000	6	0.8	0.509	0.046	0.0196	
30 minute winter	19	7.000	7	0.2	0.375	0.011	0.0094	
120 minute winter	18	6.000	8	0.5	0.451	0.031	0.0159	
60 minute winter	17	5.000	9	0.3	0.567	0.010	0.0042	
180 minute winter	16	4.000	10	0.5	0.652	0.018	0.0080	
60 minute winter	15	3.000	11	0.2	0.474	0.009	0.0058	
120 minute winter	14	2.000	12	0.4	0.421	0.025	0.0074	
180 minute winter	13	1.000	12	0.6	0.651	0.019	0.0119	

Results for 1 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	12	10	22.611	0.107	17.4	0.2744	0.0000	OK
15 minute winter	11	11	22.486	0.123	22.0	0.1858	0.0000	OK
15 minute winter	10	11	22.297	0.174	37.5	0.3948	0.0000	OK
15 minute winter	9	11	22.239	0.184	41.8	0.2518	0.0000	OK
15 minute winter	8	11	22.176	0.204	55.5	0.3661	0.0000	OK
15 minute winter	7	11	21.955	0.245	72.2	0.5205	0.0000	OK
15 minute winter	6	11	21.889	0.231	105.5	0.8086	0.0000	OK
15 minute winter	5	11	21.720	0.315	128.2	0.6378	0.0000	OK
15 minute winter	4	11	21.624	0.270	131.0	0.4367	0.0000	OK
15 minute winter	3	11	21.489	0.178	141.7	0.4153	0.0000	OK
15 minute winter	2	11	20.832	0.182	168.8	0.6874	0.0000	OK
15 minute winter	1	12	20.358	0.400	168.0	0.5730	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 winter	12	1.001	11	17.0	0.849	0.427	0.4805	
15 minute winter	11	1.002	10	21.8	1.009	0.549	0.6063	
15 minute winter	10	1.003	9	37.6	0.861	0.531	0.7295	
15 minute winter	9	1.004	8	41.6	0.867	0.588	0.9756	
15 minute winter	8	1.005	7	54.1	1.138	0.764	2.1738	
15 minute winter	7	1.006	6	71.8	0.999	0.646	1.2334	
15 minute winter	6	1.007	5	105.0	1.455	0.584	1.6043	
15 minute winter	5	1.008	4	127.5	1.169	0.798	2.2496	
15 minute winter	4	1.009	3	130.2	1.664	0.817	1.3772	
15 minute winter	3	1.010	2	141.0	2.410	0.300	1.8532	
15 minute winter	2	1.011	1	168.0	2.082	0.314	1.9345	
15 minute winter	1	Flow through pond	37	215.4	0.249	0.003	100.7832	

Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	37	352	20.312	0.512	34.1	0.5785	0.0000	SURCHARGED
360 minute winter	36	352	20.275	0.575	10.0	0.6503	0.0000	OK
180 minute winter	35	140	21.188	0.188	2.3	5.9093	0.0000	SURCHARGED
30 minute winter	34	24	21.538	0.038	0.6	0.2350	0.0000	OK
120 minute winter	33	92	22.084	0.134	1.8	2.9485	0.0000	OK
15 minute winter	32	10	21.949	0.115	27.5	0.3906	0.0000	OK
15 minute winter	31	11	21.696	0.130	30.3	0.1886	0.0000	OK
15 minute winter	30	11	21.492	0.140	35.6	0.2138	0.0000	OK
15 minute winter	29	11	21.357	0.167	49.7	0.3645	0.0000	OK
15 minute winter	28	11	21.090	0.160	51.9	0.2054	0.0000	OK
15 minute winter	27	11	20.977	0.152	51.9	0.1716	0.0000	OK
15 minute winter	26	12	20.792	0.199	66.6	0.5151	0.0000	OK
15 minute winter	25	12	20.452	0.494	65.2	0.5592	0.0000	OK
30 minute winter	24	25	21.057	0.057	0.9	0.4278	0.0000	OK
30 minute winter	23	24	21.788	0.038	0.6	0.2312	0.0000	OK
30 minute winter	22	27	22.023	0.073	1.5	0.8851	0.0000	OK
15 minute winter	21	11	22.023	0.119	16.8	0.2577	0.0000	OK
240 minute winter	20	192	22.915	0.415	4.4	16.2816	0.0000	SURCHARGED
30 minute winter	19	24	23.945	0.045	0.8	0.3296	0.0000	OK
120 minute winter	18	108	23.491	0.191	3.1	6.0290	0.0000	SURCHARGED
60 minute winter	17	46	23.270	0.070	1.0	0.8163	0.0000	OK
180 minute winter	16	140	22.738	0.188	2.3	5.8299	0.0000	SURCHARGED
30 minute winter	15	25	23.002	0.052	0.9	0.4453	0.0000	OK
120 minute winter	14	92	22.787	0.137	1.7	2.8088	0.0000	OK
180 minute winter	13	140	23.153	0.203	2.6	6.7943	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	37	15.000	36	10.0	0.621	0.564	0.1760	307.0
360 minute winter	36	Hydro-Brake®		10.0				
180 minute winter	35	14.000	28	0.6	0.397	0.042	0.0588	
30 minute winter	34	13.000	30	0.2	0.179	0.011	0.0958	
120 minute winter	33	12.000	32	0.5	0.388	0.004	0.0457	
15 minute winter	32	12.001	31	26.7	1.123	0.287	0.5692	
15 minute winter	31	12.002	30	30.5	1.087	0.354	0.5308	
15 minute winter	30	12.003	29	35.9	1.180	0.388	0.4374	
15 minute winter	29	12.004	28	49.9	1.296	0.540	0.8877	
15 minute winter	28	12.005	27	51.9	1.403	0.440	0.3452	
15 minute winter	27	12.006	26	51.7	1.209	0.437	0.8754	
15 minute winter	26	12.007	25	65.2	1.349	0.743	2.3188	
15 minute winter	25	Flow through pond	37	278.7	0.233	0.003	131.9704	
30 minute winter	24	11.000	2	0.3	0.473	0.038	0.0030	
30 minute winter	23	10.000	3	0.2	0.386	0.011	0.0058	
30 minute winter	22	9.000	21	0.5	0.377	0.027	0.0426	
15 minute winter	21	9.001	5	16.0	1.106	0.904	0.2894	
240 minute winter	20	8.000	6	0.9	0.520	0.050	0.0207	
30 minute winter	19	7.000	7	0.3	0.390	0.013	0.0102	
120 minute winter	18	6.000	8	0.6	0.461	0.033	0.0168	
60 minute winter	17	5.000	9	0.3	0.585	0.011	0.0045	
180 minute winter	16	4.000	10	0.6	0.667	0.019	0.0085	
30 minute winter	15	3.000	11	0.3	0.491	0.010	0.0063	
120 minute winter	14	2.000	12	0.5	0.434	0.027	0.0080	
180 minute winter	13	1.000	12	0.6	0.665	0.021	0.0125	

Results for 2 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	12	10	22.629	0.125	22.4	0.3208	0.0000	OK
15 minute winter	11	11	22.509	0.146	28.4	0.2200	0.0000	OK
15 minute winter	10	11	22.337	0.214	48.3	0.4848	0.0000	OK
15 minute winter	9	11	22.285	0.230	53.6	0.3149	0.0000	OK
15 minute winter	8	11	22.228	0.256	70.8	0.4590	0.0000	OK
15 minute winter	7	11	22.011	0.301	93.4	0.6377	0.0000	OK
15 minute winter	6	11	21.943	0.285	136.4	0.9945	0.0000	OK
15 minute winter	5	11	21.782	0.377	165.8	0.7622	0.0000	OK
15 minute winter	4	11	21.668	0.314	169.2	0.5077	0.0000	OK
15 minute winter	3	11	21.518	0.207	182.9	0.4823	0.0000	OK
15 minute winter	2	11	20.868	0.218	217.6	0.8235	0.0000	OK
15 minute winter	1	12	20.443	0.486	214.9	0.6948	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 winter	12	1.001	11	21.9	0.893	0.550	0.5872	
15 minute winter	11	1.002	10	28.2	1.065	0.708	0.7412	
15 minute winter	10	1.003	9	48.1	0.884	0.680	0.9292	
15 minute winter	9	1.004	8	53.0	0.886	0.748	1.2350	
15 minute winter	8	1.005	7	69.4	1.190	0.981	2.7610	
15 minute winter	7	1.006	6	92.8	1.034	0.836	1.5400	
15 minute winter	6	1.007	5	135.8	1.477	0.755	2.0316	
15 minute winter	5	1.008	4	164.7	1.262	1.031	2.6821	
15 minute winter	4	1.009	3	168.0	1.784	1.055	1.6527	
15 minute winter	3	1.010	2	181.5	2.494	0.386	2.3039	
15 minute winter	2	1.011	1	214.9	2.097	0.401	2.4447	
15 minute winter	1	Flow through pond	37	278.7	0.233	0.003	131.9704	

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	37	360	20.716	0.916	53.5	1.0360	0.0000	SURCHARGED
360 minute winter	36	360	20.675	0.975	10.0	1.1023	0.0000	OK
180 minute winter	35	164	21.279	0.279	4.2	12.8207	0.0000	SURCHARGED
15 minute winter	34	15	21.575	0.075	1.6	0.6515	0.0000	OK
120 minute winter	33	100	22.152	0.202	3.4	6.6216	0.0000	OK
15 minute winter	32	10	22.002	0.168	51.9	0.5695	0.0000	OK
15 minute winter	31	11	21.758	0.192	57.1	0.2790	0.0000	OK
15 minute winter	30	12	21.714	0.362	66.6	0.5547	0.0000	SURCHARGED
15 minute winter	29	12	21.666	0.476	91.4	1.0387	0.0000	SURCHARGED
15 minute winter	28	12	21.526	0.596	91.3	0.7631	0.0000	SURCHARGED
15 minute winter	27	12	21.451	0.626	76.4	0.7079	0.0000	FLOOD RISK
15 minute winter	26	12	21.323	0.730	102.6	1.8866	0.0000	FLOOD RISK
15 minute winter	25	13	20.910	0.952	96.5	1.0768	0.0000	OK
15 minute winter	24	16	21.088	0.088	2.7	0.9864	0.0000	OK
30 minute winter	23	26	21.807	0.057	1.1	0.5112	0.0000	OK
30 minute winter	22	29	22.076	0.126	3.6	2.2173	0.0000	OK
15 minute winter	21	12	22.543	0.639	31.9	1.3881	0.0000	SURCHARGED
240 minute winter	20	232	23.109	0.609	8.0	34.4684	0.0000	SURCHARGED
60 minute winter	19	44	23.979	0.079	1.0	0.7427	0.0000	OK
180 minute winter	18	168	23.585	0.285	4.3	13.1678	0.0000	SURCHARGED
60 minute winter	17	49	23.308	0.108	1.9	1.8170	0.0000	OK
180 minute winter	16	164	22.829	0.279	4.2	12.6903	0.0000	SURCHARGED
15 minute winter	15	16	23.040	0.090	2.6	1.0190	0.0000	OK
120 minute winter	14	96	22.893	0.243	3.2	6.1212	0.0000	SURCHARGED
180 minute winter	13	168	23.278	0.328	4.8	14.8148	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	37	15.000	36	10.0	0.621	0.566	0.1760	321.0
360 minute winter	36	Hydro-Brake®		10.0				
180 minute winter	35	14.000	28	0.7	0.422	0.052	0.0941	
15 minute winter	34	13.000	30	-4.0	0.276	-0.202	0.2125	
120 minute winter	33	12.000	32	0.6	0.416	0.006	0.0783	
15 minute winter	32	12.001	31	50.4	1.311	0.540	0.9176	
15 minute winter	31	12.002	30	57.2	1.257	0.665	1.0590	
15 minute winter	30	12.003	29	63.6	1.282	0.688	1.0133	
15 minute winter	29	12.004	28	87.7	1.396	0.949	1.6240	
15 minute winter	28	12.005	27	76.4	1.510	0.648	0.6569	
15 minute winter	27	12.006	26	75.8	1.269	0.642	1.4454	
15 minute winter	26	12.007	25	96.5	1.370	1.100	3.3801	
15 minute winter	25	Flow through pond	37	413.0	0.255	0.005	253.7701	
15 minute winter	24	11.000	2	-2.3	0.528	-0.297	0.0377	
30 minute winter	23	10.000	3	0.3	0.422	0.014	0.0071	
30 minute winter	22	9.000	21	-2.0	0.416	-0.111	0.0812	
15 minute winter	21	9.001	5	25.3	1.435	1.427	0.3521	
240 minute winter	20	8.000	6	1.1	0.550	0.061	0.0238	
60 minute winter	19	7.000	7	0.4	0.435	0.018	0.0131	
180 minute winter	18	6.000	8	0.7	0.491	0.041	0.0195	
60 minute winter	17	5.000	9	0.4	0.633	0.014	0.0054	
180 minute winter	16	4.000	10	0.7	0.710	0.024	0.0098	
15 minute winter	15	3.000	11	-5.4	0.559	-0.202	0.1936	
120 minute winter	14	2.000	12	0.7	0.476	0.037	0.0101	
180 minute winter	13	1.000	12	0.8	0.717	0.027	0.0149	

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	12	13	23.316	0.812	41.1	2.0918	0.0000	SURCHARGED
15 minute winter	11	12	23.243	0.880	38.8	1.3252	0.0000	SURCHARGED
15 minute winter	10	12	23.119	0.996	65.2	2.2599	0.0000	SURCHARGED
15 minute winter	9	12	23.047	0.992	74.8	1.3562	0.0000	SURCHARGED
15 minute winter	8	12	22.938	0.966	97.0	1.7314	0.0000	SURCHARGED
15 minute winter	7	11	22.534	0.824	136.4	1.7485	0.0000	SURCHARGED
15 minute winter	6	11	22.418	0.760	216.8	2.6554	0.0000	SURCHARGED
15 minute winter	5	11	22.067	0.662	263.4	1.3396	0.0000	SURCHARGED
15 minute winter	4	12	21.859	0.505	270.5	0.8166	0.0000	SURCHARGED
15 minute winter	3	12	21.618	0.307	297.0	0.7178	0.0000	OK
15 minute winter	2	12	21.268	0.618	358.9	2.3306	0.0000	SURCHARGED
15 minute winter	1	12	20.878	0.920	352.2	1.3163	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 winter	12	1.001	11	32.3	0.942	0.810	0.9470	
15 minute winter	11	1.002	10	44.1	1.108	1.108	1.1141	
15 minute winter	10	1.003	9	70.2	0.997	0.993	1.1715	
15 minute winter	9	1.004	8	80.2	1.139	1.132	1.4243	
15 minute winter	8	1.005	7	102.0	1.448	1.441	3.2168	
15 minute winter	7	1.006	6	137.4	1.245	1.237	1.8419	
15 minute winter	6	1.007	5	212.8	1.930	1.183	2.4250	
15 minute winter	5	1.008	4	261.9	1.653	1.640	3.2717	
15 minute winter	4	1.009	3	268.9	1.944	1.688	2.3946	
15 minute winter	3	1.010	2	293.4	2.615	0.623	4.2858	
15 minute winter	2	1.011	1	352.2	2.223	0.658	3.4859	
15 minute winter	1	Flow through pond	37	413.0	0.255	0.005	253.7701	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	37	360	20.942	1.142	64.5	1.2918	0.0000	SURCHARGED
360 minute winter	36	360	20.892	1.192	10.9	1.3484	0.0000	OK
180 minute winter	35	176	21.330	0.330	5.5	17.8948	0.0000	FLOOD RISK
30 minute winter	34	25	21.623	0.123	2.1	1.1865	0.0000	OK
120 minute winter	33	114	22.190	0.240	4.4	9.2901	0.0000	OK
15 minute winter	32	12	22.196	0.362	66.7	1.2271	0.0000	SURCHARGED
15 minute winter	31	12	22.137	0.571	73.8	0.8290	0.0000	SURCHARGED
15 minute winter	30	12	22.068	0.716	74.7	1.0972	0.0000	SURCHARGED
15 minute winter	29	12	21.996	0.806	103.8	1.7589	0.0000	SURCHARGED
15 minute winter	28	12	21.798	0.868	99.0	1.1116	0.0000	FLOOD RISK
15 minute winter	27	12	21.688	0.863	91.4	0.9765	0.0000	FLOOD RISK
15 minute winter	26	11	21.500	0.907	123.5	2.3455	3.1425	FLOOD
30 minute winter	25	22	21.084	1.126	99.7	1.2740	0.0000	OK
30 minute winter	24	29	21.118	0.118	3.0	1.7671	0.0000	SURCHARGED
15 minute winter	23	16	21.822	0.072	2.3	0.8037	0.0000	OK
30 minute winter	22	30	22.115	0.165	4.8	3.2148	0.0000	SURCHARGED
15 minute winter	21	12	23.147	1.243	41.3	2.6976	0.0000	FLOOD RISK
360 minute winter	20	344	23.216	0.716	7.7	47.3913	0.0000	SURCHARGED
60 minute winter	19	46	24.004	0.104	1.3	1.0414	0.0000	OK
180 minute winter	18	172	23.647	0.347	5.7	18.3367	0.0000	SURCHARGED
60 minute winter	17	56	23.336	0.136	2.6	2.5601	0.0000	OK
180 minute winter	16	176	22.880	0.330	5.5	17.7025	0.0000	SURCHARGED
30 minute winter	15	27	23.096	0.146	3.1	1.8679	0.0000	OK
120 minute winter	14	108	22.968	0.318	4.2	8.4875	0.0000	SURCHARGED
180 minute winter	13	176	23.363	0.413	6.3	20.3060	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	37	15.000	36	10.9	0.619	0.612	0.1760	346.9
360 minute winter	36	Hydro-Brake®		10.9				
180 minute winter	35	14.000	28	0.8	0.423	0.057	0.1203	
30 minute winter	34	13.000	30	4.9	0.364	0.249	0.2125	
120 minute winter	33	12.000	32	0.7	0.427	0.006	0.0983	
15 minute winter	32	12.001	31	64.9	1.366	0.696	1.6731	
15 minute winter	31	12.002	30	62.5	1.268	0.727	1.3334	
15 minute winter	30	12.003	29	69.9	1.269	0.756	1.0133	
15 minute winter	29	12.004	28	94.6	1.392	1.023	1.6240	
15 minute winter	28	12.005	27	91.4	1.495	0.775	0.6569	
15 minute winter	27	12.006	26	91.1	1.294	0.771	1.4454	
15 minute winter	26	12.007	25	102.7	1.459	1.172	3.3801	
30 minute winter	25	Flow through pond	37	364.2	0.222	0.004	442.3934	
30 minute winter	24	11.000	2	-3.7	0.572	-0.476	0.0377	
15 minute winter	23	10.000	3	3.4	0.477	0.164	0.1771	
30 minute winter	22	9.000	21	-3.6	0.436	-0.203	0.0812	
15 minute winter	21	9.001	5	30.2	1.717	1.706	0.3521	
360 minute winter	20	8.000	6	1.2	0.564	0.066	0.0253	
60 minute winter	19	7.000	7	0.4	0.455	0.021	0.0146	
180 minute winter	18	6.000	8	0.8	0.507	0.045	0.0210	
60 minute winter	17	5.000	9	0.5	0.659	0.015	0.0058	
180 minute winter	16	4.000	10	0.8	0.729	0.026	0.0104	
30 minute winter	15	3.000	11	-7.5	0.592	-0.277	0.1936	
120 minute winter	14	2.000	12	0.8	0.496	0.043	0.0177	
180 minute winter	13	1.000	12	0.9	0.743	0.030	0.0178	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	12	12	23.750	1.246	53.1	3.2097	2.1323	FLOOD
15 minute winter	11	12	23.724	1.361	44.2	2.0495	0.0000	FLOOD RISK
15 minute winter	10	12	23.650	1.527	74.9	3.4663	1.0023	FLOOD
15 minute winter	9	12	23.610	1.555	80.9	2.1255	0.0000	SURCHARGED
15 minute winter	8	12	23.538	1.566	104.3	2.8058	0.0000	SURCHARGED
15 minute winter	7	12	23.133	1.423	153.0	3.0190	0.0000	SURCHARGED
15 minute winter	6	12	22.997	1.339	257.5	4.6779	0.0000	SURCHARGED
15 minute winter	5	12	22.571	1.166	298.8	2.3581	0.0000	SURCHARGED
15 minute winter	4	12	22.313	0.959	303.0	1.5514	0.0000	SURCHARGED
15 minute winter	3	12	22.065	0.754	332.9	1.7608	0.0000	SURCHARGED
15 minute winter	2	12	21.618	0.968	411.1	3.6503	0.0000	SURCHARGED
15 minute winter	1	12	21.101	1.143	405.0	1.6361	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 winter	12	1.001	11	34.0	0.939	0.852	0.9470	
15 minute winter	11	1.002	10	49.2	1.237	1.236	1.1141	
15 minute winter	10	1.003	9	78.0	1.108	1.103	1.1715	
15 minute winter	9	1.004	8	89.5	1.271	1.263	1.4243	
15 minute winter	8	1.005	7	114.3	1.623	1.615	3.2168	
15 minute winter	7	1.006	6	147.8	1.340	1.331	1.8419	
15 minute winter	6	1.007	5	236.5	2.145	1.315	2.4250	
15 minute winter	5	1.008	4	291.9	1.842	1.828	3.2717	
15 minute winter	4	1.009	3	301.5	1.937	1.893	2.7712	
15 minute winter	3	1.010	2	331.7	2.696	0.705	4.9599	
15 minute winter	2	1.011	1	405.0	2.556	0.757	3.4859	
15 minute winter	1	Flow through pond	37	446.1	0.305	0.005	320.7855	