

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	5.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	100.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	14.000	Minimum Backdrop Height (m)	1.000
Ratio-R	0.200	Preferred Cover Depth (m)	1.200
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)
S13	0.071	5.00	114.318	1350	446834.755	298278.424	1.425
S23	0.042	5.00	111.263	1350	446837.439	298336.531	1.425
S14	0.054	5.00	111.761	1350	446822.034	298332.936	2.018
S15	0.052	5.00	111.053	1350	446818.809	298346.748	3.228
S20	0.052	5.00	107.699	1350	446825.050	298364.495	1.210
S16			107.833	1350	446815.203	298362.197	1.386
S21		5.00	108.300	1350	446800.542	298368.733	1.950
S17	0.017	5.00	108.042	2100	446799.642	298358.705	2.562
S18	0.027	5.00	108.250	2100	446784.080	298355.212	2.802
S19			108.445	2100	446776.049	298352.890	3.014
S1	0.062	5.00	113.415	1350	446799.461	298263.724	1.425
S2	0.012	5.00	112.786	1350	446786.890	298267.649	1.425
S3	0.058	5.00	112.260	1350	446780.861	298276.738	1.425
S4	0.152	5.00	111.069	1350	446776.024	298297.814	1.425
S5	0.095	5.00	109.483	2100	446768.970	298328.556	4.028
S6			108.965	2100	446767.238	298340.401	3.534
S7			108.593	2100	446770.377	298347.491	3.178
S8			108.500	2100	446760.944	298353.869	3.108
S9	0.043	5.00	108.313	2100	446750.516	298354.171	2.942
S22		5.00	107.900	1350	446726.309	298336.038	2.550
S10	0.057	5.00	107.587	2100	446716.512	298337.452	2.292
S11			108.200	3000	446699.871	298331.064	2.950
S12			106.700	1500	446689.838	298326.529	1.470

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	S13	S14	55.976	0.600	112.893	109.743	3.150	17.8	225	5.00	34.4
2.000	S23	S14	15.818	0.600	109.838	109.743	0.095	166.5	225	5.00	34.4
1.001	S14	S15	14.184	0.600	109.743	107.825	1.918	7.4	225	5.00	34.4
1.002	S15	S16	15.864	0.600	107.825	106.522	1.303	12.2	225	5.00	34.4

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	3.118	124.0	6.6	1.200	1.793	0.071	0.0	35	1.663
2.000	1.010	40.2	3.9	1.200	1.793	0.042	0.0	47	0.643
1.001	4.841	192.5	15.6	1.793	3.003	0.167	0.0	43	2.924
1.002	3.770	149.9	20.4	3.003	1.086	0.219	0.0	56	2.659

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)
3.000	S20	S16	10.112	0.600	106.489	106.447	0.042	240.8	300	5.00	34.4
1.003	S16	S17	15.948	0.600	106.447	106.380	0.067	238.0	300	5.00	34.4
4.000	S21	S17	10.068	0.600	106.350	106.080	0.270	37.3	600	5.00	34.4
1.004	S17	S18	15.949	0.600	105.480	105.448	0.032	498.4	1200	5.00	34.4
1.005	S18	S19	8.360	0.600	105.448	105.431	0.017	491.8	1200	5.00	34.4
1.006	S19	S7	7.831	0.600	105.431	105.415	0.016	489.4	1200	5.00	34.4
5.000	S1	S2	13.169	0.600	111.990	111.361	0.629	20.9	225	5.00	34.4
5.001	S2	S3	10.907	0.600	111.361	110.835	0.526	20.7	225	5.00	34.4
5.002	S3	S4	21.624	0.600	110.835	109.644	1.191	18.2	225	5.00	34.4
5.003	S4	S5	31.541	0.600	109.644	106.430	3.214	9.8	225	5.00	34.4
5.004	S5	S6	11.971	0.600	105.455	105.431	0.024	498.8	1200	5.00	34.4
5.005	S6	S7	7.754	0.600	105.431	105.415	0.016	484.6	1200	5.00	34.4
1.007	S7	S8	11.387	0.600	105.415	105.392	0.023	495.1	1200	5.00	34.4
1.008	S8	S9	10.432	0.600	105.392	105.371	0.021	496.8	1200	5.00	34.4
1.009	S9	S10	37.892	0.600	105.371	105.295	0.076	498.6	1200	5.00	34.4
6.000	S22	S10	9.899	0.600	105.350	105.295	0.055	180.0	300	5.00	34.4
1.010	S10	S11	17.825	0.600	105.295	105.250	0.045	396.1	1200	5.00	34.4
1.011	S11	S12	11.010	0.600	105.250	105.230	0.020	550.5	600	5.00	34.4

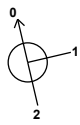
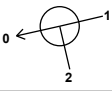
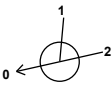
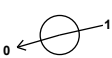
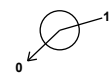
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
3.000	1.009	71.3	4.8	0.910	1.086	0.052	0.0	52	0.580
1.003	1.014	71.7	25.3	1.086	1.362	0.271	0.0	123	0.929
4.000	3.996	1129.8	0.0	1.350	1.362	0.000	0.0	0	0.000
1.004	1.669	1887.1	26.9	1.362	1.602	0.288	0.0	98	0.620
1.005	1.680	1899.9	29.4	1.602	1.814	0.315	0.0	102	0.641
1.006	1.684	1904.5	29.4	1.814	1.978	0.315	0.0	101	0.640
5.000	2.872	114.2	5.8	1.200	1.200	0.062	0.0	34	1.507
5.001	2.886	114.7	6.9	1.200	1.200	0.074	0.0	37	1.609
5.002	3.085	122.7	12.3	1.200	1.200	0.132	0.0	48	1.993
5.003	4.201	167.0	26.5	1.200	2.828	0.284	0.0	60	3.091
5.004	1.668	1886.4	35.3	2.828	2.334	0.379	0.0	111	0.672
5.005	1.692	1914.0	35.3	2.334	1.978	0.379	0.0	110	0.679
1.007	1.674	1893.5	64.7	1.978	1.908	0.694	0.0	149	0.804
1.008	1.671	1890.3	64.7	1.908	1.742	0.694	0.0	149	0.803
1.009	1.668	1886.8	68.7	1.742	1.092	0.737	0.0	153	0.817
6.000	1.169	82.6	0.0	2.250	1.992	0.000	0.0	0	0.000
1.010	1.873	2118.6	74.0	1.092	1.750	0.794	0.0	150	0.907
1.011	1.031	291.4	74.0	2.350	0.870	0.794	0.0	205	0.867

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	55.976	17.8	225	Circular	114.318	112.893	1.200	111.761	109.743	1.793
2.000	15.818	166.5	225	Circular	111.263	109.838	1.200	111.761	109.743	1.793
1.001	14.184	7.4	225	Circular	111.761	109.743	1.793	111.053	107.825	3.003
1.002	15.864	12.2	225	Circular	111.053	107.825	3.003	107.833	106.522	1.086
3.000	10.112	240.8	300	Circular	107.699	106.489	0.910	107.833	106.447	1.086
1.003	15.948	238.0	300	Circular	107.833	106.447	1.086	108.042	106.380	1.362
4.000	10.068	37.3	600	Circular	108.300	106.350	1.350	108.042	106.080	1.362
1.004	15.949	498.4	1200	Circular	108.042	105.480	1.362	108.250	105.448	1.602
1.005	8.360	491.8	1200	Circular	108.250	105.448	1.602	108.445	105.431	1.814
1.006	7.831	489.4	1200	Circular	108.445	105.431	1.814	108.593	105.415	1.978
5.000	13.169	20.9	225	Circular	113.415	111.990	1.200	112.786	111.361	1.200
5.001	10.907	20.7	225	Circular	112.786	111.361	1.200	112.260	110.835	1.200
5.002	21.624	18.2	225	Circular	112.260	110.835	1.200	111.069	109.644	1.200
5.003	31.541	9.8	225	Circular	111.069	109.644	1.200	109.483	106.430	2.828
5.004	11.971	498.8	1200	Circular	109.483	105.455	2.828	108.965	105.431	2.334
5.005	7.754	484.6	1200	Circular	108.965	105.431	2.334	108.593	105.415	1.978
1.007	11.387	495.1	1200	Circular	108.593	105.415	1.978	108.500	105.392	1.908
1.008	10.432	496.8	1200	Circular	108.500	105.392	1.908	108.313	105.371	1.742
1.009	37.892	498.6	1200	Circular	108.313	105.371	1.742	107.587	105.295	1.092
6.000	9.899	180.0	300	Circular	107.900	105.350	2.250	107.587	105.295	1.992
1.010	17.825	396.1	1200	Circular	107.587	105.295	1.092	108.200	105.250	1.750
1.011	11.010	550.5	600	Circular	108.200	105.250	2.350	106.700	105.230	0.870

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S13	1350	Manhole	Adoptable	S14	1350	Manhole	Adoptable
2.000	S23	1350	Manhole	Adoptable	S14	1350	Manhole	Adoptable
1.001	S14	1350	Manhole	Adoptable	S15	1350	Manhole	Adoptable
1.002	S15	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
3.000	S20	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
1.003	S16	1350	Manhole	Adoptable	S17	2100	Manhole	Adoptable
4.000	S21	1350	Manhole	Adoptable	S17	2100	Manhole	Adoptable
1.004	S17	2100	Manhole	Adoptable	S18	2100	Manhole	Adoptable
1.005	S18	2100	Manhole	Adoptable	S19	2100	Manhole	Adoptable
1.006	S19	2100	Manhole	Adoptable	S7	2100	Manhole	Adoptable
5.000	S1	1350	Manhole	Adoptable	S2	1350	Manhole	Adoptable
5.001	S2	1350	Manhole	Adoptable	S3	1350	Manhole	Adoptable
5.002	S3	1350	Manhole	Adoptable	S4	1350	Manhole	Adoptable
5.003	S4	1350	Manhole	Adoptable	S5	2100	Manhole	Adoptable
5.004	S5	2100	Manhole	Adoptable	S6	2100	Manhole	Adoptable
5.005	S6	2100	Manhole	Adoptable	S7	2100	Manhole	Adoptable
1.007	S7	2100	Manhole	Adoptable	S8	2100	Manhole	Adoptable
1.008	S8	2100	Manhole	Adoptable	S9	2100	Manhole	Adoptable
1.009	S9	2100	Manhole	Adoptable	S10	2100	Manhole	Adoptable
6.000	S22	1350	Manhole	Adoptable	S10	2100	Manhole	Adoptable
1.010	S10	2100	Manhole	Adoptable	S11	3000	Manhole	Adoptable
1.011	S11	3000	Manhole	Adoptable	S12	1500	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S13	446834.755	298278.424	114.318	1.425	1350		0	1.000	112.893	225
S23	446837.439	298336.531	111.263	1.425	1350		0	2.000	109.838	225
S14	446822.034	298332.936	111.761	2.018	1350		1	2.000	109.743	225
							2	1.000	109.743	225
							0	1.001	109.743	225
S15	446818.809	298346.748	111.053	3.228	1350		1	1.001	107.825	225
							0	1.002	107.825	225
S20	446825.050	298364.495	107.699	1.210	1350		0	3.000	106.489	300
S16	446815.203	298362.197	107.833	1.386	1350		1	3.000	106.447	300
							2	1.002	106.522	225
							0	1.003	106.447	300
S21	446800.542	298368.733	108.300	1.950	1350		0	4.000	106.350	600
S17	446799.642	298358.705	108.042	2.562	2100		1	4.000	106.080	600
							2	1.003	106.380	300
							0	1.004	105.480	1200
S18	446784.080	298355.212	108.250	2.802	2100		1	1.004	105.448	1200
							0	1.005	105.448	1200
S19	446776.049	298352.890	108.445	3.014	2100		1	1.005	105.431	1200
							0	1.006	105.431	1200
S1	446799.461	298263.724	113.415	1.425	1350		0	5.000	111.990	225
S2	446786.890	298267.649	112.786	1.425	1350		1	5.000	111.361	225
							0	5.001	111.361	225
S3	446780.861	298276.738	112.260	1.425	1350		1	5.001	110.835	225
							0	5.002	110.835	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S4	446776.024	298297.814	111.069	1.425	1350	0 1	1	5.002	109.644	225
S5	446768.970	298328.556	109.483	4.028	2100	0 1	1	5.003	106.430	225
S6	446767.238	298340.401	108.965	3.534	2100	0 1	0	5.004	105.455	1200
S7	446770.377	298347.491	108.593	3.178	2100	0 1 2	1	5.004	105.431	1200
S8	446760.944	298353.869	108.500	3.108	2100	0 1	0	5.005	105.431	1200
S9	446750.516	298354.171	108.313	2.942	2100	0 1 2	1	5.005	105.415	1200
S10	446726.309	298336.038	107.900	2.550	1350	0 1	2	1.006	105.415	1200
S11	446716.512	298337.452	107.587	2.292	2100	0 1	0	1.007	105.415	1200
S12	446760.944	298353.869	108.500	3.108	2100	0 1	1	1.007	105.392	1200
S13	446750.516	298354.171	108.313	2.942	2100	0 1	0	1.008	105.392	1200
S14	446750.516	298354.171	108.313	2.942	2100	0 1	1	1.008	105.371	1200
S15	446750.516	298354.171	108.313	2.942	2100	0 1	0	1.009	105.371	1200
S16	446726.309	298336.038	107.900	2.550	1350	0 1		6.000	105.350	300
S17	446716.512	298337.452	107.587	2.292	2100	0 1 2	1	6.000	105.295	300
S18	446716.512	298337.452	107.587	2.292	2100	0 1 2	2	1.009	105.295	1200
S19	446716.512	298337.452	107.587	2.292	2100	0 1	0	1.010	105.295	1200
S20	446699.871	298331.064	108.200	2.950	3000	0 1	1	1.010	105.250	1200
S21	446699.871	298331.064	108.200	2.950	3000	0 1	0	1.011	105.250	600
S22	446689.838	298326.529	106.700	1.470	1500	0 1	1	1.011	105.230	600

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	14.000	Drain Down Time (mins)	240
Ratio-R	0.200	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

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

Node S11 Online Weir Control

Flap Valve	x	Design Depth (m)	2.250	Discharge Coefficient	0.590
Replaces Downstream Link	✓	Design Flow (l/s)	5.6		
Invert Level (m)	107.500	Width (m)	0.001		

Node S11 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	105.250	Product Number	CTL-SHE-0094-5600-2250-5600
Design Depth (m)	2.250	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.6	Min Node Diameter (mm)	1200

Node S21 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	106.350
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	0

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	24.7	0.0	0.600	82.1	0.0	1.200	161.6	0.0	1.800	263.3	0.0
0.100	32.6	0.0	0.700	93.8	0.0	1.300	177.0	0.0	1.900	282.4	0.0
0.200	41.3	0.0	0.800	106.1	0.0	1.400	193.1	0.0	1.950	292.2	0.0
0.300	50.6	0.0	0.900	119.1	0.0	1.500	209.7	0.0			
0.400	60.4	0.0	1.000	132.7	0.0	1.600	227.0	0.0			
0.500	70.9	0.0	1.100	146.8	0.0	1.700	244.8	0.0			

Node S22 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	105.350
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	95.0	0.0	1.200	95.0	0.0	1.201	0.0	0.0

Approval Settings

Node Size	✓	Maximum Cover Depth (m)	3.000
Node Losses	✓	Backdrops	✓
Link Size	✓	Minimum Backdrop Height (m)	
Minimum Diameter (mm)	150	Maximum Backdrop Height (m)	1.500
Link Length	✓	Full Bore Velocity	✓
Maximum Length (m)	100.000	Minimum Full Bore Velocity (m/s)	
Coordinates	✓	Maximum Full Bore Velocity (m/s)	3.000
Accuracy (m)	1.000	Proportional Velocity	✓
Crossings	✓	Return Period (years)	
Cover Depth	✓	Minimum Proportional Velocity (m/s)	0.750
Minimum Cover Depth (m)		Maximum Proportional Velocity (m/s)	3.000

Approval Settings

Surcharged Depth	✓	Time to Half Empty	x
Return Period (years)		Discharge Rates	✓
Maximum Surcharged Depth (m)	0.100	Discharge Volume	✓
Flooding	✓	100 year 360 minute (m ³)	
Return Period (years)	30		

Results for 1 year Critical Storm Duration. Lowest mass balance: 65.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S13	10	112.925	0.032	5.6	0.0783	0.0000	OK
15 minute winter	S23	10	109.882	0.044	3.3	0.0897	0.0000	OK
15 minute winter	S14	10	109.782	0.039	13.0	0.0772	0.0000	OK
15 minute winter	S15	10	107.878	0.053	16.9	0.0922	0.0000	OK
15 minute winter	S20	11	106.565	0.076	4.1	0.1740	0.0000	OK
15 minute winter	S16	11	106.563	0.116	20.7	0.1665	0.0000	OK
15 minute summer	S21	1	106.350	0.000	0.0	0.0000	0.0000	OK
600 minute winter	S17	435	105.680	0.200	4.5	0.7183	0.0000	OK
600 minute winter	S18	435	105.680	0.232	4.7	0.8472	0.0000	OK
600 minute winter	S19	435	105.680	0.249	4.4	0.8616	0.0000	OK
15 minute winter	S1	10	112.022	0.032	4.9	0.0733	0.0000	OK
15 minute winter	S2	10	111.395	0.034	5.8	0.0549	0.0000	OK
15 minute winter	S3	10	110.879	0.044	10.4	0.0986	0.0000	OK
15 minute winter	S4	10	109.700	0.056	22.2	0.2000	0.0000	OK
600 minute winter	S5	435	105.680	0.225	6.0	0.8843	0.0000	OK
600 minute winter	S6	435	105.680	0.249	5.7	0.8616	0.0000	OK
600 minute winter	S7	435	105.680	0.265	9.4	0.9170	0.0000	OK
600 minute winter	S8	435	105.680	0.288	8.9	0.9967	0.0000	OK
600 minute winter	S9	435	105.680	0.309	9.2	1.1595	0.0000	OK
600 minute winter	S22	435	105.680	0.330	3.4	30.2289	0.0000	SURCHARGED
600 minute winter	S10	435	105.680	0.385	9.3	1.5239	0.0000	OK
600 minute winter	S11	435	105.680	0.430	5.0	3.0376	0.0000	OK
15 minute summer	S12	1	105.230	0.000	0.0	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 winter	S13	1.000	S14	5.5	1.360	0.044	0.2269	
15 minute winter	S23	2.000	S14	3.2	0.635	0.080	0.0802	
15 minute winter	S14	1.001	S15	12.8	2.209	0.067	0.0827	
15 minute winter	S15	1.002	S16	16.8	2.448	0.112	0.1086	
15 minute winter	S20	3.000	S16	3.9	0.241	0.055	0.1983	
15 minute winter	S16	1.003	S17	20.8	0.859	0.290	0.3859	
15 minute summer	S21	4.000	S17	0.0	0.000	0.000	0.0000	
600 minute winter	S17	1.004	S18	4.3	0.322	0.002	2.1938	
600 minute winter	S18	1.005	S19	4.4	0.294	0.002	1.3406	
600 minute winter	S19	1.006	S7	4.1	0.220	0.002	1.3804	
15 minute winter	S1	5.000	S2	4.8	1.343	0.042	0.0475	
15 minute winter	S2	5.001	S3	5.8	1.257	0.050	0.0504	
15 minute winter	S3	5.002	S4	10.3	1.567	0.084	0.1422	
15 minute winter	S4	5.003	S5	21.9	2.885	0.131	0.2390	
600 minute winter	S5	5.004	S6	5.7	0.333	0.003	1.8805	
600 minute winter	S6	5.005	S7	5.4	0.265	0.003	1.3668	
600 minute winter	S7	1.007	S8	8.9	0.394	0.005	2.2277	
600 minute winter	S8	1.008	S9	8.5	0.397	0.004	2.2753	
600 minute winter	S9	1.009	S10	8.4	0.281	0.004	10.2383	
600 minute winter	S22	6.000	S10	-3.4	0.322	-0.041	0.6971	
600 minute winter	S10	1.010	S11	5.0	0.168	0.002	6.0055	
600 minute winter	S11	Weir	S12	0.0				0.0
600 minute winter	S11	Hydro-Brake®	S12	4.5				175.7

Results for 2 year Critical Storm Duration. Lowest mass balance: 65.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S13	10	112.929	0.036	7.2	0.0885	0.0000	OK
15 minute winter	S23	10	109.889	0.051	4.3	0.1025	0.0000	OK
15 minute winter	S14	10	109.787	0.044	16.8	0.0874	0.0000	OK
15 minute winter	S15	10	107.885	0.060	21.8	0.1055	0.0000	OK
15 minute winter	S20	11	106.583	0.094	5.3	0.2159	0.0000	OK
15 minute winter	S16	11	106.582	0.135	26.5	0.1928	0.0000	OK
15 minute summer	S21	1	106.350	0.000	0.0	0.0000	0.0000	OK
600 minute winter	S17	450	105.777	0.297	5.4	1.0690	0.0000	OK
600 minute winter	S18	450	105.777	0.329	5.5	1.2038	0.0000	OK
600 minute winter	S19	450	105.777	0.346	5.0	1.1995	0.0000	OK
15 minute winter	S1	10	112.026	0.036	6.3	0.0831	0.0000	OK
15 minute winter	S2	10	111.400	0.039	7.4	0.0617	0.0000	OK
15 minute winter	S3	10	110.885	0.050	13.3	0.1113	0.0000	OK
15 minute winter	S4	10	109.708	0.064	28.5	0.2276	0.0000	OK
600 minute winter	S5	450	105.777	0.322	7.1	1.2682	0.0000	OK
600 minute winter	S6	450	105.777	0.346	6.7	1.1995	0.0000	OK
600 minute winter	S7	450	105.777	0.362	10.8	1.2549	0.0000	OK
600 minute winter	S8	450	105.777	0.385	10.2	1.3346	0.0000	OK
600 minute winter	S9	450	105.777	0.406	10.4	1.5260	0.0000	OK
600 minute winter	S22	450	105.777	0.427	3.9	39.1729	0.0000	SURCHARGED
600 minute winter	S10	450	105.777	0.482	10.4	1.9103	0.0000	OK
600 minute winter	S11	450	105.777	0.527	5.2	3.7273	0.0000	OK
15 minute summer	S12	1	105.230	0.000	0.0	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 winter	S13	1.000	S14	7.1	1.465	0.057	0.2712	
15 minute winter	S23	2.000	S14	4.2	0.687	0.104	0.0966	
15 minute winter	S14	1.001	S15	16.5	2.382	0.086	0.0996	
15 minute winter	S15	1.002	S16	21.6	2.621	0.144	0.1331	
15 minute winter	S20	3.000	S16	5.0	0.247	0.070	0.2506	
15 minute winter	S16	1.003	S17	26.8	0.918	0.374	0.4664	
15 minute summer	S21	4.000	S17	0.0	0.000	0.000	0.0000	
600 minute winter	S17	1.004	S18	5.0	0.323	0.003	3.7308	
600 minute winter	S18	1.005	S19	5.0	0.299	0.003	2.1725	
600 minute winter	S19	1.006	S7	4.5	0.224	0.002	2.1749	
15 minute winter	S1	5.000	S2	6.2	1.448	0.055	0.0567	
15 minute winter	S2	5.001	S3	7.4	1.346	0.064	0.0599	
15 minute winter	S3	5.002	S4	13.1	1.675	0.107	0.1699	
15 minute winter	S4	5.003	S5	28.1	3.093	0.168	0.2861	
600 minute winter	S5	5.004	S6	6.7	0.335	0.004	3.0661	
600 minute winter	S6	5.005	S7	6.3	0.264	0.003	2.1535	
600 minute winter	S7	1.007	S8	10.2	0.399	0.005	3.4075	
600 minute winter	S8	1.008	S9	9.6	0.403	0.005	3.3785	
600 minute winter	S9	1.009	S10	9.3	0.294	0.005	14.3827	
600 minute winter	S22	6.000	S10	-3.9	-0.195	-0.047	0.6971	
600 minute winter	S10	1.010	S11	5.2	0.166	0.002	8.0219	
600 minute winter	S11	Weir	S12	0.0				0.0
600 minute winter	S11	Hydro-Brake®	S12	4.5				194.3

Results for 30 year Critical Storm Duration. Lowest mass balance: 65.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S13	10	112.942	0.049	13.2	0.1193	0.0000	OK
15 minute winter	S23	10	109.907	0.069	7.8	0.1400	0.0000	OK
15 minute winter	S14	10	109.803	0.060	30.8	0.1187	0.0000	OK
15 minute winter	S15	10	107.904	0.079	40.2	0.1387	0.0000	OK
15 minute winter	S20	11	106.644	0.155	9.7	0.3543	0.0000	OK
15 minute winter	S16	11	106.642	0.195	49.1	0.2792	0.0000	OK
15 minute summer	S21	1	106.350	0.000	0.0	0.0000	0.0000	OK
960 minute winter	S17	765	106.329	0.849	7.1	3.0541	0.0000	OK
960 minute winter	S18	765	106.328	0.880	9.7	3.2182	0.0000	OK
960 minute winter	S19	765	106.331	0.900	11.1	3.1191	0.0000	OK
15 minute winter	S1	10	112.039	0.049	11.6	0.1135	0.0000	OK
15 minute winter	S2	10	111.413	0.052	13.7	0.0838	0.0000	OK
15 minute winter	S3	10	110.903	0.068	24.4	0.1517	0.0000	OK
15 minute winter	S4	10	109.733	0.089	52.5	0.3175	0.0000	OK
960 minute winter	S5	765	106.328	0.873	9.4	3.4352	0.0000	OK
960 minute winter	S6	765	106.331	0.900	10.1	3.1161	0.0000	OK
960 minute winter	S7	780	106.320	0.905	25.5	3.1363	0.0000	OK
960 minute winter	S8	765	106.325	0.932	12.5	3.2300	0.0000	OK
960 minute winter	S9	765	106.323	0.951	14.2	3.5738	0.0000	OK
960 minute winter	S22	765	106.323	0.973	5.4	89.2016	0.0000	SURCHARGED
960 minute winter	S10	765	106.323	1.028	14.0	4.0719	0.0000	OK
960 minute winter	S11	765	106.323	1.073	6.9	7.5845	0.0000	SURCHARGED
15 minute summer	S12	1	105.230	0.000	0.0	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 winter	S13	1.000	S14	13.0	1.751	0.105	0.4178	
15 minute winter	S23	2.000	S14	7.7	0.814	0.191	0.1495	
15 minute winter	S14	1.001	S15	30.5	2.921	0.159	0.1488	
15 minute winter	S15	1.002	S16	40.0	2.687	0.267	0.2680	
15 minute winter	S20	3.000	S16	9.4	0.293	0.132	0.4303	
15 minute winter	S16	1.003	S17	49.2	1.089	0.686	0.7201	
15 minute summer	S21	4.000	S17	0.0	0.000	0.000	0.0000	
960 minute winter	S17	1.004	S18	9.4	0.311	0.005	13.8676	
960 minute winter	S18	1.005	S19	11.1	0.294	0.006	7.4945	
960 minute winter	S19	1.006	S7	12.5	0.221	0.007	7.1270	
15 minute winter	S1	5.000	S2	11.5	1.716	0.101	0.0884	
15 minute winter	S2	5.001	S3	13.6	1.605	0.119	0.0928	
15 minute winter	S3	5.002	S4	24.2	1.974	0.197	0.2662	
15 minute winter	S4	5.003	S5	51.9	3.647	0.311	0.4488	
960 minute winter	S5	5.004	S6	10.1	0.321	0.005	10.6798	
960 minute winter	S6	5.005	S7	13.0	0.251	0.007	7.0519	
960 minute winter	S7	1.007	S8	12.5	0.385	0.007	10.5533	
960 minute winter	S8	1.008	S9	13.7	0.373	0.007	9.9049	
960 minute winter	S9	1.009	S10	12.8	0.300	0.007	37.6440	
960 minute winter	S22	6.000	S10	-5.4	-0.106	-0.065	0.6971	
960 minute winter	S10	1.010	S11	6.9	0.170	0.003	18.6394	
960 minute winter	S11	Weir	S12	0.0				0.0
960 minute winter	S11	Hydro-Brake®	S12	4.5				264.2

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 65.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S13	10	112.959	0.066	23.5	0.1597	0.0000	OK
15 minute winter	S23	10	109.933	0.095	13.9	0.1917	0.0000	OK
15 minute winter	S14	10	109.825	0.082	54.7	0.1617	0.0000	OK
15 minute winter	S15	10	107.934	0.109	71.4	0.1904	0.0000	OK
15 minute winter	S20	11	106.766	0.277	17.2	0.6352	0.0000	OK
15 minute winter	S16	11	106.763	0.316	86.2	0.4520	0.0000	SURCHARGED
240 minute winter	S21	152	106.638	0.288	20.1	10.9676	0.0000	OK
240 minute winter	S17	156	106.634	1.153	61.5	4.1479	0.0000	OK
360 minute winter	S18	208	106.635	1.187	31.4	4.3402	0.0000	OK
240 minute winter	S19	152	106.659	1.228	87.4	4.2552	0.0000	SURCHARGED
15 minute winter	S1	10	112.057	0.067	20.5	0.1531	0.0000	OK
15 minute winter	S2	10	111.433	0.072	24.4	0.1150	0.0000	OK
15 minute winter	S3	10	110.927	0.092	43.4	0.2059	0.0000	OK
15 minute winter	S4	10	109.770	0.126	93.3	0.4480	0.0000	OK
360 minute summer	S5	216	106.641	1.186	43.0	4.6652	0.0000	OK
240 minute winter	S6	152	106.655	1.224	119.1	4.2396	0.0000	SURCHARGED
180 minute winter	S7	128	106.716	1.300	142.9	4.5048	0.0000	SURCHARGED
360 minute summer	S8	216	106.639	1.247	50.3	4.3209	0.0000	SURCHARGED
360 minute summer	S9	216	106.642	1.271	50.2	4.7730	0.0000	SURCHARGED
360 minute summer	S22	216	106.773	1.423	27.7	110.3816	0.0000	SURCHARGED
360 minute summer	S10	216	106.642	1.347	47.1	5.3338	0.0000	SURCHARGED
360 minute summer	S11	216	106.631	1.381	14.2	9.7622	0.0000	SURCHARGED
15 minute summer	S12	1	105.230	0.000	0.0	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 winter	S13	1.000	S14	23.2	2.047	0.187	0.6367	
15 minute winter	S23	2.000	S14	13.7	0.946	0.341	0.2294	
15 minute winter	S14	1.001	S15	54.2	3.388	0.282	0.2274	
15 minute winter	S15	1.002	S16	71.1	2.696	0.474	0.4658	
15 minute winter	S20	3.000	S16	16.8	0.319	0.235	0.7000	
15 minute winter	S16	1.003	S17	87.1	1.294	1.215	1.0240	
240 minute winter	S21	4.000	S17	46.0	0.285	0.041	2.0354	
240 minute winter	S17	1.004	S18	100.4	0.352	0.053	17.8040	
360 minute winter	S18	1.005	S19	61.3	0.304	0.032	9.3362	
240 minute winter	S19	1.006	S7	63.3	0.236	0.033	8.7774	
15 minute winter	S1	5.000	S2	20.4	1.969	0.178	0.1363	
15 minute winter	S2	5.001	S3	24.2	1.859	0.211	0.1423	
15 minute winter	S3	5.002	S4	43.1	2.272	0.351	0.4106	
15 minute winter	S4	5.003	S5	92.2	4.194	0.552	0.6937	
360 minute summer	S5	5.004	S6	64.0	0.335	0.034	13.4631	
240 minute winter	S6	5.005	S7	34.2	0.329	0.018	8.6902	
180 minute winter	S7	1.007	S8	-108.7	0.471	-0.057	12.7753	
360 minute summer	S8	1.008	S9	45.3	0.408	0.024	11.7538	
360 minute summer	S9	1.009	S10	40.6	0.394	0.022	42.6933	
360 minute summer	S22	6.000	S10	-27.7	-0.394	-0.336	0.6971	
360 minute summer	S10	1.010	S11	12.8	0.357	0.006	20.0836	
360 minute summer	S11	Weir	S12	0.0				0.0
360 minute summer	S11	Hydro-Brake®	S12	4.5				146.1