

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Adoptable Manhole Type

Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)
374	1200	749	1500
499	1350	900	1800

>900 Link+900 mm

Max Depth (m)	Diameter (mm)	Max Depth (m)	Diameter (mm)
1.500	1050	99.999	1200

Circular Link Type

Shape	Circular	Auto Increment (mm)	75
Barrels	1	Follow Ground	x

Available Diameters (mm)

100 | 150

Cell 800 Link Type

Shape	Closed Rectangular	Auto Increment (mm)	500
Barrels	1	Follow Ground	x
Height (mm)	800		

Available Diameters (mm)

500

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.027	5.00	61.400	600	387790.695	397444.714	0.750
S2	0.027	5.00	61.400	600	387823.632	397441.326	1.175
S3	0.027	5.00	61.400	600	387854.960	397438.103	1.525
S4	0.027	5.00	61.400	600	387851.847	397407.848	1.875
S5	0.010	5.00	61.400	600	387842.181	397403.511	1.780
S6	0.027	5.00	61.400	600	387842.713	397408.716	2.525
S7	0.027	5.00	61.400	600	387790.030	397414.208	1.750
S8	0.010	5.00	61.400	600	387814.381	397406.471	1.600
S9	0.027	5.00	61.400	600	387815.056	397411.574	2.500
S10	0.027	5.00	61.400	600	387816.234	397411.430	2.550
S11	0.000	5.00	61.400	600	387816.577	397416.802	1.600
S12	0.000		61.400	1200	387816.031	397409.458	2.600
S13			61.400	1200	387831.754	397406.922	2.675

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	S1	S2	32.339	0.600	60.650	60.225	0.425	76.1	225	5.36	50.0
1.001	S2	S3	31.494	0.600	60.225	59.875	0.350	90.0	225	5.74	49.8
1.002	S3	S4	30.414	0.600	59.875	59.525	0.350	86.9	225	6.10	47.6
1.003	S4	S6	8.511	0.600	59.525	59.450	0.075	113.5	225	6.22	47.1
2.000	S5	S6	3.233	0.600	59.620	59.525	0.095	34.0	150	5.03	50.0
3.000	S7	S9	24.539	0.600	59.650	59.475	0.175	140.2	225	5.37	50.0
4.000	S8	S9	3.233	0.600	59.800	59.550	0.250	12.9	150	5.02	50.0
3.001	S9	S10	13.523	0.600	58.900	58.850	0.050	270.5	2500	5.47	50.0
1.004	S6	S10	15.570	0.600	58.875	58.850	0.025	622.8	2500	6.39	46.1
1.005	S10	S12	1.983	0.600	58.850	58.800	0.050	39.7	300	6.40	45.9
1.006	S11	S10	2.564	0.600	59.800	59.550	0.250	10.3	300	5.01	45.8
1.006_1	S12	S13	15.926	0.600	58.800	58.725	0.075	212.3	300	6.65	47.9

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	1.500	59.7	3.7	0.525	0.950	0.027	0.0	37	0.834
1.001	1.379	54.8	7.3	0.950	1.300	0.054	0.0	55	0.961
1.002	1.403	55.8	10.5	1.300	1.650	0.081	0.0	65	1.079
1.003	1.226	48.8	13.8	1.650	1.725	0.108	0.0	81	1.056
2.000	1.731	30.6	1.4	1.630	1.725	0.010	0.0	21	0.868
3.000	1.102	43.8	3.7	1.525	1.700	0.027	0.0	44	0.670
4.000	2.816	49.8	1.4	1.450	1.700	0.010	0.0	17	1.236
3.001	2.284	4567.5	8.7	1.700	1.750	0.064	0.0	12	0.280
1.004	1.501	3001.3	18.1	1.725	1.750	0.145	0.0	25	0.294
1.005	2.504	177.0	29.4	2.250	2.300	0.236	0.0	82	1.871
1.006	4.936	348.9	0.0	1.300	1.550	0.000	0.0	0	0.000
1.006_1	1.075	76.0	30.6	2.300	2.375	0.236	0.0	132	1.018

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	32.339	76.1	225	Circular	61.400	60.650	0.525	61.400	60.225	0.950
1.001	31.494	90.0	225	Circular	61.400	60.225	0.950	61.400	59.875	1.300
1.002	30.414	86.9	225	Circular	61.400	59.875	1.300	61.400	59.525	1.650
1.003	8.511	113.5	225	Circular	61.400	59.525	1.650	61.400	59.450	1.725
2.000	3.233	34.0	150	Circular	61.400	59.620	1.630	61.400	59.525	1.725
3.000	24.539	140.2	225	Circular	61.400	59.650	1.525	61.400	59.475	1.700
4.000	3.233	12.9	150	Circular	61.400	59.800	1.450	61.400	59.550	1.700
3.001	13.523	270.5	2500	Cell 800	61.400	58.900	1.700	61.400	58.850	1.750

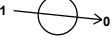
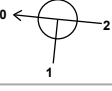
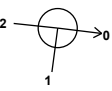
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	600	Manhole	Adoptable	S2	600	Manhole	Adoptable
1.001	S2	600	Manhole	Adoptable	S3	600	Manhole	Adoptable
1.002	S3	600	Manhole	Adoptable	S4	600	Manhole	Adoptable
1.003	S4	600	Manhole	Adoptable	S6	600	Manhole	Adoptable
2.000	S5	600	Manhole	Adoptable	S6	600	Manhole	Adoptable
3.000	S7	600	Manhole	Adoptable	S9	600	Manhole	Adoptable
4.000	S8	600	Manhole	Adoptable	S9	600	Manhole	Adoptable
3.001	S9	600	Manhole	Adoptable	S10	600	Manhole	Adoptable

Pipeline Schedule

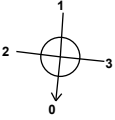
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.004	15.570	622.8	2500	Cell 800	61.400	58.875	1.725	61.400	58.850	1.750
1.005	1.983	39.7	300	Circular	61.400	58.850	2.250	61.400	58.800	2.300
1.006	2.564	10.3	300	Circular	61.400	59.800	1.300	61.400	59.550	1.550
1.006_1	15.926	212.3	300	Circular	61.400	58.800	2.300	61.400	58.725	2.375

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.004	S6	600	Manhole	Adoptable	S10	600	Manhole	Adoptable
1.005	S10	600	Manhole	Adoptable	S12	1200	Manhole	Adoptable
1.006	S11	600	Manhole	Adoptable	S10	600	Manhole	Adoptable
1.006_1	S12	1200	Manhole	Adoptable	S13	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1	387790.695	397444.714	61.400	0.750	600				
						0	1.000	60.650	225
S2	387823.632	397441.326	61.400	1.175	600				
						0	1.000	60.225	225
						1	1.001	60.225	225
S3	387854.960	397438.103	61.400	1.525	600				
						0	1.001	59.875	225
						1	1.002	59.875	225
S4	387851.847	397407.848	61.400	1.875	600				
						0	1.002	59.525	225
						1	1.003	59.525	225
S5	387842.181	397403.511	61.400	1.780	600				
						0	2.000	59.620	150
S6	387842.713	397408.716	61.400	2.525	600				
						1	2.000	59.525	150
						2	1.003	59.450	225
						0	1.004	58.875	2500
S7	387790.030	397414.208	61.400	1.750	600				
						0	3.000	59.650	225
S8	387814.381	397406.471	61.400	1.600	600				
						0	4.000	59.800	150
S9	387815.056	397411.574	61.400	2.500	600				
						1	4.000	59.550	150
						2	3.000	59.475	225
						0	3.001	58.900	2500

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S10	387816.234	397411.430	61.400	2.550	600		1 1.006 2 3.001 3 1.004 0 1.005	59.550 58.850 58.850 58.850	300 2500 2500 300
S11	387816.577	397416.802	61.400	1.600	600		0 1.006	59.800	300
S12	387816.031	397409.458	61.400	2.600	1200		1 1.005 0 1.006_1	58.800 58.800	300 300
S13	387831.754	397406.922	61.400	2.675	1200		1 1.006_1	58.725	300

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	240
Ratio-R	0.400	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
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	0	0	0
100	45	0	0
150	40	0	0

Node S12 Online Orifice Control

Flap Valve	x	Design Depth (m)	1.150	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Flow (l/s)	5.0		
Invert Level (m)	58.800	Diameter (m)	0.047		

Node S11 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	59.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.33	Time to half empty (mins)	138

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	171.0	0.0	0.300	171.0	0.0	0.301	0.0	0.0

Node S8 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	59.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.33	Time to half empty (mins)	138

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	104.0	0.0	0.300	104.0	0.0	0.301	0.0	0.0

Node S5 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	59.620
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	214

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	79.0	0.0	0.300	79.0	0.0	0.301	0.0	0.0

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 15 minute summer	109.521	30.991	30 year 60 minute winter	77.459	30.811
1 year 15 minute winter	76.857	30.991	30 year 120 minute summer	70.438	18.615
1 year 30 minute summer	71.439	20.215	30 year 120 minute winter	46.797	18.615
1 year 30 minute winter	50.133	20.215	30 year 180 minute summer	53.298	13.715
1 year 60 minute summer	48.435	12.800	30 year 180 minute winter	34.645	13.715
1 year 60 minute winter	32.179	12.800	30 year 240 minute summer	41.604	10.995
1 year 120 minute summer	30.053	7.942	30 year 240 minute winter	27.641	10.995
1 year 120 minute winter	19.966	7.942	30 year 360 minute summer	31.221	8.034
1 year 180 minute summer	23.233	5.979	30 year 360 minute winter	20.295	8.034
1 year 180 minute winter	15.102	5.979	30 year 480 minute summer	24.324	6.428
1 year 240 minute summer	18.475	4.882	30 year 480 minute winter	16.160	6.428
1 year 240 minute winter	12.274	4.882	30 year 600 minute summer	19.756	5.404
1 year 360 minute summer	14.169	3.646	30 year 600 minute winter	13.498	5.404
1 year 360 minute winter	9.210	3.646	30 year 720 minute summer	17.490	4.687
1 year 480 minute summer	11.185	2.956	30 year 720 minute winter	11.754	4.687
1 year 480 minute winter	7.431	2.956	30 year 960 minute summer	14.215	3.743
1 year 600 minute summer	9.182	2.511	30 year 960 minute winter	9.416	3.743
1 year 600 minute winter	6.274	2.511	30 year 1440 minute summer	10.161	2.723
1 year 720 minute summer	8.203	2.199	30 year 1440 minute winter	6.829	2.723
1 year 720 minute winter	5.513	2.199	100 year 15 minute summer	348.738	98.681
1 year 960 minute summer	6.768	1.782	100 year 15 minute winter	244.728	98.681
1 year 960 minute winter	4.483	1.782	100 year 30 minute summer	228.965	64.789
1 year 1440 minute summer	4.949	1.326	100 year 30 minute winter	160.677	64.789
1 year 1440 minute winter	3.326	1.326	100 year 60 minute summer	153.288	40.510
30 year 15 minute summer	268.706	76.035	100 year 60 minute winter	101.841	40.510
30 year 15 minute winter	188.566	76.035	100 year 120 minute summer	92.562	24.461
30 year 30 minute summer	174.929	49.499	100 year 120 minute winter	61.496	24.461
30 year 30 minute winter	122.757	49.499	100 year 180 minute summer	69.806	17.964
30 year 60 minute summer	116.589	30.811	100 year 180 minute winter	45.376	17.964

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year 240 minute summer	54.269	14.342	100 year +45% CC 600 minute winter	25.195	10.086
100 year 240 minute winter	36.055	14.342	100 year +45% CC 720 minute summer	32.556	8.725
100 year 360 minute summer	40.484	10.418	100 year +45% CC 720 minute winter	21.879	8.725
100 year 360 minute winter	26.315	10.418	100 year +45% CC 960 minute summer	26.340	6.936
100 year 480 minute summer	31.414	8.302	100 year +45% CC 960 minute winter	17.448	6.936
100 year 480 minute winter	20.871	8.302	100 year +45% CC 1440 minute summer	18.700	5.012
100 year 600 minute summer	25.431	6.956	100 year +45% CC 1440 minute winter	12.567	5.012
100 year 600 minute winter	17.376	6.956	150 year +40% CC 15 minute summer	533.037	150.831
100 year 720 minute summer	22.452	6.017	150 year +40% CC 15 minute winter	374.061	150.831
100 year 720 minute winter	15.089	6.017	150 year +40% CC 30 minute summer	350.969	99.312
100 year 960 minute summer	18.166	4.784	150 year +40% CC 30 minute winter	246.294	99.312
100 year 960 minute winter	12.033	4.784	150 year +40% CC 60 minute summer	235.322	62.189
100 year 1440 minute summer	12.896	3.456	150 year +40% CC 60 minute winter	156.342	62.189
100 year 1440 minute winter	8.667	3.456	150 year +40% CC 120 minute summer	142.072	37.546
100 year +45% CC 15 minute summer	505.670	143.087	150 year +40% CC 120 minute winter	94.389	37.546
100 year +45% CC 15 minute winter	354.856	143.087	150 year +40% CC 180 minute summer	107.025	27.541
100 year +45% CC 30 minute summer	332.000	93.944	150 year +40% CC 180 minute winter	69.569	27.541
100 year +45% CC 30 minute winter	232.982	93.944	150 year +40% CC 240 minute summer	83.090	21.958
100 year +45% CC 60 minute summer	222.268	58.739	150 year +40% CC 240 minute winter	55.203	21.958
100 year +45% CC 60 minute winter	147.669	58.739	150 year +40% CC 360 minute summer	61.859	15.918
100 year +45% CC 120 minute summer	134.215	35.469	150 year +40% CC 360 minute winter	40.210	15.918
100 year +45% CC 120 minute winter	89.169	35.469	150 year +40% CC 480 minute summer	47.936	12.668
100 year +45% CC 180 minute summer	101.219	26.047	150 year +40% CC 480 minute winter	31.847	12.668
100 year +45% CC 180 minute winter	65.795	26.047	150 year +40% CC 600 minute summer	38.764	10.603
100 year +45% CC 240 minute summer	78.690	20.795	150 year +40% CC 600 minute winter	26.486	10.603
100 year +45% CC 240 minute winter	52.280	20.795	150 year +40% CC 720 minute summer	34.192	9.164
100 year +45% CC 360 minute summer	58.701	15.106	150 year +40% CC 720 minute winter	22.979	9.164
100 year +45% CC 360 minute winter	38.157	15.106	150 year +40% CC 960 minute summer	27.622	7.274
100 year +45% CC 480 minute summer	45.550	12.038	150 year +40% CC 960 minute winter	18.297	7.274
100 year +45% CC 480 minute winter	30.262	12.038	150 year +40% CC 1440 minute summer	19.564	5.243
100 year +45% CC 600 minute summer	36.875	10.086	150 year +40% CC 1440 minute winter	13.149	5.243

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	60.688	0.038	3.8	0.0381	0.0000	OK
15 minute winter	S2	11	60.280	0.055	7.5	0.0411	0.0000	OK
15 minute winter	S3	11	59.942	0.067	11.1	0.0429	0.0000	OK
15 minute winter	S4	11	59.617	0.092	14.6	0.0523	0.0000	OK
30 minute winter	S5	21	59.637	0.017	1.1	0.3997	0.0000	OK
120 minute winter	S6	96	59.119	0.244	6.4	0.1213	0.0000	OK
15 minute winter	S7	10	59.695	0.045	3.8	0.0264	0.0000	OK
30 minute winter	S8	22	59.813	0.013	1.1	0.4358	0.0000	OK
120 minute winter	S9	98	59.119	0.219	2.8	0.1093	0.0000	OK
120 minute winter	S10	98	59.119	0.269	9.6	0.1331	0.0000	OK
15 minute summer	S11	1	59.800	0.000	0.0	0.0000	0.0000	OK
120 minute winter	S12	98	59.119	0.319	7.0	0.3607	0.0000	SURCHARGED
15 minute summer	S13	1	58.725	0.000	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 winter	S1	1.000	S2	3.7	0.631	0.063	0.1929	
15 minute winter	S2	1.001	S3	7.4	0.844	0.134	0.2764	
15 minute winter	S3	1.002	S4	11.0	0.880	0.198	0.3825	
15 minute winter	S4	1.003	S6	14.7	1.023	0.300	0.1219	
30 minute winter	S5	2.000	S6	0.7	0.701	0.023	0.0033	
120 minute winter	S6	1.004	S10	5.0	0.058	0.002	9.9849	
15 minute winter	S7	3.000	S9	3.7	0.671	0.084	0.1347	
30 minute winter	S8	4.000	S9	0.7	0.965	0.013	0.0022	
120 minute winter	S9	3.001	S10	1.4	0.040	0.000	8.2481	
120 minute winter	S10	1.005	S12	7.0	0.429	0.039	0.1358	
15 minute summer	S11	1.006	S10	0.0	0.000	0.000	0.0000	
120 minute winter	S12	Orifice	S13	2.5				30.9

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	60.709	0.059	9.3	0.0595	0.0000	OK
15 minute winter	S2	10	60.314	0.089	18.5	0.0662	0.0000	OK
15 minute winter	S3	11	59.986	0.111	27.4	0.0709	0.0000	OK
15 minute winter	S4	11	59.688	0.163	36.1	0.0929	0.0000	OK
15 minute winter	S5	12	59.651	0.031	3.5	0.7427	0.0000	OK
180 minute winter	S6	148	59.570	0.695	11.8	0.3453	0.0000	OK
15 minute winter	S7	10	59.721	0.071	9.3	0.0422	0.0000	OK
15 minute winter	S8	13	59.823	0.023	3.5	0.8048	0.0000	OK
180 minute winter	S9	148	59.570	0.670	5.2	0.3343	0.0000	OK
180 minute winter	S10	148	59.570	0.720	11.4	0.3563	0.0000	SURCHARGED
15 minute summer	S11	1	59.800	0.000	0.0	0.0000	0.0000	OK
180 minute winter	S12	148	59.570	0.770	6.8	0.8706	0.0000	SURCHARGED
15 minute summer	S13	1	58.725	0.000	3.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1	1.000	S2	9.2	0.804	0.154	0.3716	
15 minute winter	S2	1.001	S3	18.1	1.062	0.330	0.5374	
15 minute winter	S3	1.002	S4	27.3	1.078	0.489	0.7653	
15 minute winter	S4	1.003	S6	36.3	1.264	0.745	0.2441	
15 minute winter	S5	2.000	S6	2.4	0.982	0.079	0.0080	
180 minute winter	S6	1.004	S10	7.5	0.064	0.003	27.5382	
15 minute winter	S7	3.000	S9	9.1	0.862	0.207	0.2589	
15 minute winter	S8	4.000	S9	2.3	1.372	0.046	0.0053	
180 minute winter	S9	3.001	S10	2.4	0.040	0.001	23.4959	
180 minute winter	S10	1.005	S12	6.8	0.424	0.038	0.1396	
15 minute summer	S11	1.006	S10	0.0	0.000	0.000	0.0000	
180 minute winter	S12	Orifice	S13	4.0				71.2

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	60.718	0.068	12.1	0.0681	0.0000	OK
15 minute winter	S2	10	60.329	0.104	24.0	0.0773	0.0000	OK
15 minute winter	S3	10	60.004	0.129	35.6	0.0823	0.0000	OK
120 minute winter	S4	118	59.847	0.322	15.2	0.1838	0.0000	SURCHARGED
120 minute winter	S5	118	59.847	0.227	10.8	5.4649	0.0000	SURCHARGED
120 minute winter	S6	118	59.847	0.972	20.4	0.4830	0.0000	SURCHARGED
120 minute winter	S7	118	59.847	0.197	3.8	0.1162	0.0000	OK
120 minute winter	S8	118	59.847	0.047	2.2	1.6247	0.0000	OK
120 minute winter	S9	118	59.847	0.947	9.0	0.4724	0.0000	SURCHARGED
120 minute winter	S10	118	59.847	0.997	21.3	0.4934	0.0000	SURCHARGED
120 minute winter	S11	118	59.847	0.047	4.9	2.6538	0.0000	OK
120 minute winter	S12	118	59.847	1.047	7.4	1.1837	0.0000	SURCHARGED
15 minute summer	S13	1	58.725	0.000	3.5	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	S1	1.000	S2	11.9	0.857	0.200	0.4536	
15 minute winter	S2	1.001	S3	23.5	1.138	0.429	0.6543	
15 minute winter	S3	1.002	S4	35.3	1.132	0.633	0.9431	
120 minute winter	S4	1.003	S6	15.2	1.033	0.312	0.3385	
120 minute winter	S5	2.000	S6	-10.1	0.843	-0.330	0.0569	
120 minute winter	S6	1.004	S10	13.6	0.081	0.005	31.1585	
120 minute winter	S7	3.000	S9	3.8	0.676	0.087	0.9398	
120 minute winter	S8	4.000	S9	2.4	1.189	0.049	0.0360	
120 minute winter	S9	3.001	S10	4.8	0.067	0.001	27.0620	
120 minute winter	S10	1.005	S12	7.4	0.421	0.042	0.1396	
120 minute winter	S11	1.006	S10	-4.9	-0.145	-0.014	0.0991	
120 minute winter	S12	Orifice	S13	4.7				74.1

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S1	152	60.802	0.152	4.1	0.1527	0.0000	OK
180 minute winter	S2	152	60.801	0.576	8.2	0.4277	0.0000	SURCHARGED
180 minute winter	S3	152	60.801	0.926	12.3	0.5901	0.0000	SURCHARGED
180 minute winter	S4	152	60.801	1.276	16.4	0.7285	0.0000	SURCHARGED
180 minute winter	S5	152	60.801	1.181	21.7	7.5883	0.0000	SURCHARGED
180 minute winter	S6	152	60.800	1.925	20.5	0.9565	0.0000	SURCHARGED
180 minute winter	S7	152	60.800	1.150	5.1	0.6799	0.0000	SURCHARGED
180 minute winter	S8	152	60.801	1.001	8.7	10.7214	0.0000	SURCHARGED
180 minute winter	S9	152	60.802	1.902	9.8	0.9492	0.0000	SURCHARGED
180 minute winter	S10	152	60.800	1.950	22.4	0.9653	0.0000	SURCHARGED
180 minute winter	S11	152	60.800	1.000	17.3	17.2402	0.0000	SURCHARGED
180 minute winter	S12	152	60.800	2.000	9.3	2.2620	0.0000	SURCHARGED
15 minute summer	S13	1	58.725	0.000	4.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1	1.000	S2	4.1	0.642	0.069	1.1052	
180 minute winter	S2	1.001	S3	8.2	0.866	0.150	1.2526	
180 minute winter	S3	1.002	S4	12.3	0.888	0.220	1.2096	
180 minute winter	S4	1.003	S6	16.1	1.020	0.331	0.3385	
180 minute winter	S5	2.000	S6	-20.2	-1.157	-0.660	0.0569	
180 minute winter	S6	1.004	S10	16.6	0.069	0.006	31.1585	
180 minute winter	S7	3.000	S9	4.1	0.668	0.093	0.9759	
180 minute winter	S8	4.000	S9	-7.9	1.191	-0.159	0.0569	
180 minute winter	S9	3.001	S10	-6.6	0.038	-0.001	27.0620	
180 minute winter	S10	1.005	S12	9.3	0.340	0.053	0.1396	
180 minute winter	S11	1.006	S10	-17.3	-0.381	-0.050	0.1806	
180 minute winter	S12	Orifice	S13	6.5				108.8

Results for 150 year +40% CC Critical Storm Duration. Lowest mass balance: 99.32%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	116	61.246	0.596	5.9	0.5974	0.0000	FLOOD RISK
120 minute winter	S2	116	61.246	1.021	12.7	0.7573	0.0000	FLOOD RISK
120 minute winter	S3	116	61.246	1.371	17.7	0.8732	0.0000	FLOOD RISK
120 minute winter	S4	116	61.244	1.719	23.6	0.9818	0.0000	FLOOD RISK
120 minute winter	S5	116	61.245	1.625	27.6	7.7636	0.0000	FLOOD RISK
120 minute winter	S6	116	61.247	2.372	30.3	1.1787	0.0000	FLOOD RISK
120 minute winter	S7	116	61.244	1.594	5.9	0.9422	0.0000	FLOOD RISK
120 minute winter	S8	116	61.245	1.445	11.5	10.9026	0.0000	FLOOD RISK
120 minute winter	S9	116	61.245	2.345	16.8	1.1700	0.0000	FLOOD RISK
120 minute winter	S10	118	61.242	2.392	31.3	1.1843	0.0000	FLOOD RISK
120 minute winter	S11	116	61.243	1.443	25.0	17.3657	0.0000	FLOOD RISK
120 minute winter	S12	116	61.243	2.443	8.1	2.7627	0.0000	FLOOD RISK
15 minute summer	S13	1	58.725	0.000	4.2	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)
120 minute winter	S1	1.000	S2	5.9	0.713	0.099	1.2862	
120 minute winter	S2	1.001	S3	11.8	0.959	0.215	1.2526	
120 minute winter	S3	1.002	S4	17.7	0.966	0.317	1.2096	
120 minute winter	S4	1.003	S6	22.9	1.123	0.471	0.3385	
120 minute winter	S5	2.000	S6	-25.4	-1.586	-0.830	0.0569	
120 minute winter	S6	1.004	S10	25.3	0.088	0.008	31.1585	
120 minute winter	S7	3.000	S9	10.9	0.747	0.248	0.9759	
120 minute winter	S8	4.000	S9	-9.6	1.286	-0.193	0.0569	
120 minute winter	S9	3.001	S10	10.6	0.075	0.002	27.0620	
120 minute winter	S10	1.005	S12	8.1	0.449	0.046	0.1396	
120 minute winter	S11	1.006	S10	-25.0	-0.484	-0.072	0.1806	
120 minute winter	S12	Orifice	S13	7.2				99.1