

DW Consulting LLP	DW Consulting LLP Marsland House Marsland Road Sale, Cheshire, M33 3AQ	File: Network Blue Roof Oct 2023 Network: Neil Roberts 19/10/2023	Page 1 MSP Greenheys, MANCHESTER																																																																																																																																																																																																																																																																																																								
	Design Settings <table><tr><td>Rainfall Methodology</td><td>FSR</td><td>Maximum Time of Concentration (mins)</td><td>30.00</td></tr><tr><td>Return Period (years)</td><td>2</td><td>Maximum Rainfall (mm/hr)</td><td>200.0</td></tr><tr><td>Additional Flow (%)</td><td>0</td><td>Minimum Velocity (m/s)</td><td>1.00</td></tr><tr><td>FSR Region</td><td>England and Wales</td><td>Connection Type</td><td>Level Soffits</td></tr><tr><td>M5-60 (mm)</td><td>18.000</td><td>Minimum Backdrop Height (m)</td><td>1.000</td></tr><tr><td>Ratio-R</td><td>0.370</td><td>Preferred Cover Depth (m)</td><td>1.200</td></tr><tr><td>CV</td><td>0.750</td><td>Include Intermediate Ground</td><td>✓</td></tr><tr><td>Time of Entry (mins)</td><td>5.00</td><td>Enforce best practice design rules</td><td>x</td></tr></table>			Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00	Return Period (years)	2	Maximum Rainfall (mm/hr)	200.0	Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	FSR Region	England and Wales	Connection Type	Level Soffits	M5-60 (mm)	18.000	Minimum Backdrop Height (m)	1.000	Ratio-R	0.370	Preferred Cover Depth (m)	1.200	CV	0.750	Include Intermediate Ground	✓	Time of Entry (mins)	5.00	Enforce best practice design rules	x																																																																																																																																																																																																																																																																								
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Nodes <table><tr><th>Name</th><th>Area (ha)</th><th>T of E (mins)</th><th>Cover Level (m)</th><th>Diameter (mm)</th><th>Easting (m)</th><th>Northing (m)</th><th>Depth (m)</th></tr><tr><td>SW1</td><td></td><td>5.00</td><td>35.954</td><td>1200</td><td>384357.709</td><td>396302.981</td><td>1.636</td></tr><tr><td>SW2</td><td>0.018</td><td>5.00</td><td>35.150</td><td>1050</td><td>384333.239</td><td>396283.355</td><td>0.996</td></tr><tr><td>SW3</td><td></td><td></td><td>35.150</td><td>1050</td><td>384328.516</td><td>396296.031</td><td>1.207</td></tr><tr><td>PS1</td><td>0.028</td><td>5.00</td><td>35.150</td><td>150</td><td>384319.025</td><td>396284.104</td><td>0.750</td></tr><tr><td>Junction 1</td><td></td><td></td><td>34.900</td><td></td><td>384315.783</td><td>396296.802</td><td>1.042</td></tr><tr><td>SW4</td><td></td><td></td><td>34.900</td><td>1050</td><td>384297.743</td><td>396297.894</td><td>1.162</td></tr><tr><td>PS2</td><td>0.058</td><td>5.00</td><td>35.150</td><td>150</td><td>384296.167</td><td>396295.528</td><td>0.750</td></tr><tr><td>Junction 2</td><td></td><td></td><td>34.900</td><td></td><td>384295.096</td><td>396298.055</td><td>1.180</td></tr><tr><td>PS3</td><td>0.078</td><td>5.00</td><td>35.150</td><td>150</td><td>384284.181</td><td>396295.763</td><td>0.750</td></tr><tr><td>Junction 3</td><td></td><td></td><td>34.900</td><td></td><td>384282.870</td><td>396298.798</td><td>1.262</td></tr><tr><td>PS4</td><td>0.078</td><td>5.00</td><td>35.150</td><td>150</td><td>384269.989</td><td>396296.829</td><td>0.750</td></tr><tr><td>Junction 4</td><td></td><td></td><td>34.900</td><td></td><td>384268.271</td><td>396299.670</td><td>1.359</td></tr><tr><td>SW5</td><td></td><td></td><td>34.900</td><td>1200</td><td>384263.349</td><td>396299.985</td><td>1.392</td></tr><tr><td>SW6</td><td></td><td>5.00</td><td>34.900</td><td>1200</td><td>384261.924</td><td>396303.823</td><td>1.399</td></tr><tr><td>PS5</td><td>0.015</td><td>5.00</td><td>35.150</td><td>150</td><td>384257.695</td><td>396308.758</td><td>0.750</td></tr><tr><td>SW11</td><td></td><td></td><td>35.150</td><td>1050</td><td>384256.687</td><td>396307.503</td><td>1.136</td></tr><tr><td>PS7</td><td>0.021</td><td>5.00</td><td>35.150</td><td>150</td><td>384243.485</td><td>396310.121</td><td>0.750</td></tr><tr><td>Junction 5</td><td></td><td></td><td>34.705</td><td></td><td>384241.251</td><td>396308.379</td><td>0.884</td></tr><tr><td>PS8</td><td>0.013</td><td>5.00</td><td>35.150</td><td>150</td><td>384232.109</td><td>396310.228</td><td>0.750</td></tr><tr><td>Junction 6</td><td></td><td></td><td>35.150</td><td></td><td>384231.910</td><td>396308.909</td><td>1.446</td></tr><tr><td>SW12</td><td></td><td></td><td>35.050</td><td>1050</td><td>384228.999</td><td>396309.074</td><td>1.382</td></tr><tr><td>SW7</td><td>0.019</td><td>5.00</td><td>34.950</td><td>1200</td><td>384227.416</td><td>396305.781</td><td>1.679</td></tr><tr><td>PS10</td><td>0.019</td><td>5.00</td><td>35.150</td><td>150</td><td>384226.947</td><td>396277.617</td><td>0.750</td></tr><tr><td>PS11</td><td>0.024</td><td>5.00</td><td>35.150</td><td>150</td><td>384226.981</td><td>396280.002</td><td>0.750</td></tr><tr><td>SW13</td><td></td><td></td><td>35.000</td><td>1050</td><td>384218.067</td><td>396284.170</td><td>0.750</td></tr><tr><td>PS13</td><td>0.019</td><td>5.00</td><td>35.150</td><td>150</td><td>384230.397</td><td>396290.786</td><td>0.750</td></tr><tr><td>Junction 7</td><td></td><td></td><td>35.000</td><td></td><td>384222.156</td><td>396294.507</td><td>0.889</td></tr><tr><td>SW14</td><td></td><td></td><td>34.850</td><td>1050</td><td>384224.133</td><td>396299.170</td><td>0.802</td></tr><tr><td>SW8</td><td>0.030</td><td>5.00</td><td>34.700</td><td>1200</td><td>384212.945</td><td>396283.614</td><td>1.400</td></tr><tr><td>SW9</td><td></td><td></td><td>34.700</td><td>1200</td><td>384219.860</td><td>396301.271</td><td>1.480</td></tr><tr><td>SW10</td><td></td><td></td><td>34.600</td><td>1500</td><td>384217.329</td><td>396302.763</td><td>1.399</td></tr><tr><td>Culvert 1</td><td></td><td>5.00</td><td>34.500</td><td></td><td>384202.361</td><td>396320.736</td><td>2.966</td></tr><tr><td>X Junction 2</td><td></td><td></td><td>34.350</td><td></td><td>384194.725</td><td>396303.088</td><td>2.880</td></tr><tr><td>X Junction</td><td></td><td></td><td>34.300</td><td></td><td>384155.865</td><td>396213.264</td><td>3.150</td></tr><tr><td>Culvert 2</td><td></td><td></td><td>34.262</td><td></td><td>384150.159</td><td>396200.071</td><td>3.136</td></tr><tr><td>Culvert 3</td><td></td><td></td><td>34.190</td><td></td><td>384097.721</td><td>396117.622</td><td>3.227</td></tr></table>				Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	SW1		5.00	35.954	1200	384357.709	396302.981	1.636	SW2	0.018	5.00	35.150	1050	384333.239	396283.355	0.996	SW3			35.150	1050	384328.516	396296.031	1.207	PS1	0.028	5.00	35.150	150	384319.025	396284.104	0.750	Junction 1			34.900		384315.783	396296.802	1.042	SW4			34.900	1050	384297.743	396297.894	1.162	PS2	0.058	5.00	35.150	150	384296.167	396295.528	0.750	Junction 2			34.900		384295.096	396298.055	1.180	PS3	0.078	5.00	35.150	150	384284.181	396295.763	0.750	Junction 3			34.900		384282.870	396298.798	1.262	PS4	0.078	5.00	35.150	150	384269.989	396296.829	0.750	Junction 4			34.900		384268.271	396299.670	1.359	SW5			34.900	1200	384263.349	396299.985	1.392	SW6		5.00	34.900	1200	384261.924	396303.823	1.399	PS5	0.015	5.00	35.150	150	384257.695	396308.758	0.750	SW11			35.150	1050	384256.687	396307.503	1.136	PS7	0.021	5.00	35.150	150	384243.485	396310.121	0.750	Junction 5			34.705		384241.251	396308.379	0.884	PS8	0.013	5.00	35.150	150	384232.109	396310.228	0.750	Junction 6			35.150		384231.910	396308.909	1.446	SW12			35.050	1050	384228.999	396309.074	1.382	SW7	0.019	5.00	34.950	1200	384227.416	396305.781	1.679	PS10	0.019	5.00	35.150	150	384226.947	396277.617	0.750	PS11	0.024	5.00	35.150	150	384226.981	396280.002	0.750	SW13			35.000	1050	384218.067	396284.170	0.750	PS13	0.019	5.00	35.150	150	384230.397	396290.786	0.750	Junction 7			35.000		384222.156	396294.507	0.889	SW14			34.850	1050	384224.133	396299.170	0.802	SW8	0.030	5.00	34.700	1200	384212.945	396283.614	1.400	SW9			34.700	1200	384219.860	396301.271	1.480	SW10			34.600	1500	384217.329	396302.763	1.399	Culvert 1		5.00	34.500		384202.361	396320.736	2.966	X Junction 2			34.350		384194.725	396303.088	2.880	X Junction			34.300		384155.865	396213.264	3.150	Culvert 2			34.262		384150.159	396200.071	3.136	Culvert 3			34.190		384097.721	396117.622	3.227
Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)																																																																																																																																																																																																																																																																																																				
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Junction 3			34.900		384282.870	396298.798	1.262																																																																																																																																																																																																																																																																																																				
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PS5	0.015	5.00	35.150	150	384257.695	396308.758	0.750																																																																																																																																																																																																																																																																																																				
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SW13			35.000	1050	384218.067	396284.170	0.750																																																																																																																																																																																																																																																																																																				
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Culvert 1		5.00	34.500		384202.361	396320.736	2.966																																																																																																																																																																																																																																																																																																				
X Junction 2			34.350		384194.725	396303.088	2.880																																																																																																																																																																																																																																																																																																				
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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)
11.001	SW13	Junction 7	11.116	0.600	34.250	34.111	0.139	80.0	150	5.32	59.2
13.000	PS13	Junction 7	9.042	0.600	34.400	34.111	0.289	31.3	150	5.08	60.3
11.002	Junction 7	SW14	5.065	0.600	34.111	34.048	0.063	80.4	150	5.40	58.8
11.003	SW14	SW9	4.762	0.600	34.048	33.295	0.753	6.3	150	5.42	58.7
14.000	SW8	SW9	25.907	0.600	33.300	33.220	0.080	323.8	225	5.60	57.9
11.004	SW9	SW10	2.938	0.600	33.220	33.201	0.019	154.6	225	5.65	57.7
1.008	SW10	X Junction 2	22.606	0.600	33.201	33.050	0.151	149.7	225	7.60	50.4
15.000	Culvert 1	X Junction 2	19.229	0.600	31.534	31.470	0.064	300.5	1805	5.12	60.2
1.009	X Junction 2	X Junction	97.870	0.600	31.470	31.150	0.320	305.8	1805	8.19	48.5
1.010	X Junction	Culvert 2	14.374	0.600	31.150	31.126	0.024	598.9	1805	8.31	48.2
1.011	Culvert 2	Culvert 3	97.711	0.600	31.126	30.963	0.163	599.5	1805	9.15	45.9

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)
11.001	1.125	19.9	6.9	0.600	0.739	0.043	0.0	61	1.022
13.000	1.806	31.9	3.1	0.600	0.739	0.019	0.0	31	1.145
11.002	1.122	19.8	9.9	0.739	0.652	0.062	0.0	75	1.120
11.003	4.033	71.3	9.9	0.652	1.255	0.062	0.0	38	2.856
14.000	0.721	28.7	4.7	1.175	1.255	0.030	0.0	61	0.532
11.004	1.049	41.7	14.4	1.255	1.174	0.092	0.0	91	0.954
1.008	1.066	42.4	57.3	1.174	1.075	0.420	0.0	225	1.086
15.000	2.765	7074.8	0.0	1.161	1.075	0.000	0.0	0	0.000
1.009	2.740	7011.9	55.2	1.075	1.345	0.420	0.0	110	0.863
1.010	1.955	5001.4	54.8	1.345	1.331	0.420	0.0	129	0.679
1.011	1.954	4999.1	52.2	1.331	1.422	0.420	0.0	126	0.667

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	18.000	Drain Down Time (mins)	240
Ratio-R	0.370	Additional Storage (m³/ha)	0.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

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

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

	DW Consulting LLP	DW Consulting LLP Marsland House Marsland Road Sale, Cheshire, M33 3AQ	File: Network Blue Roof Oct 2023	Page 4 MSP Greenheys, MANCHESTER
			Network: Neil Roberts 19/10/2023	
<u>Node SW10 Online Hydro-Brake® Control</u>				
Flap Valve	x	Objective	(HE) Minimise upstream storage	
Replaces Downstream Link	✓	Sump Available	✓	
Invert Level (m)	33.201	Product Number	CTL-SHE-0085-3300-1115-3300	
Design Depth (m)	1.115	Min Outlet Diameter (m)	0.100	
Design Flow (l/s)	3.3	Min Node Diameter (mm)	1200	
<u>Node PS3 Online Orifice Control</u>				
Flap Valve	x	Design Depth (m)	0.200	Discharge Coefficient 0.600
Replaces Downstream Link	✓	Design Flow (l/s)	0.8	
Invert Level (m)	34.400	Diameter (m)	0.029	
<u>Node PS4 Online Orifice Control</u>				
Flap Valve	x	Design Depth (m)	0.200	Discharge Coefficient 0.600
Replaces Downstream Link	✓	Design Flow (l/s)	0.8	
Invert Level (m)	34.400	Diameter (m)	0.029	
<u>Node PS11 Online Orifice Control</u>				
Flap Valve	x	Design Depth (m)	0.200	Discharge Coefficient 0.600
Replaces Downstream Link	✓	Design Flow (l/s)	0.8	
Invert Level (m)	34.400	Diameter (m)	0.029	
<u>Node PS1 Online Orifice Control</u>				
Flap Valve	x	Design Depth (m)	0.200	Discharge Coefficient 0.600
Replaces Downstream Link	✓	Design Flow (l/s)	0.8	
Invert Level (m)	34.400	Diameter (m)	0.029	
<u>Node SW9 Depth/Area Storage Structure</u>				
Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m) 33.250
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)
0.000	80.0	0.0	0.800	80.0
			0.801	0.0
				0.0
<u>Node SW7 Depth/Area Storage Structure</u>				
Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m) 33.300
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)
0.000	80.0	0.0	0.800	80.0
			0.801	0.0
				0.0
<u>Node PS1 Depth/Area Storage Structure</u>				
Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m) 34.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins) 0
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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	280.0	0.0	0.100	280.0	0.0	0.101	0.0	0.0

Node PS3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	34.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	112

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	780.0	0.0	0.100	780.0	0.0	0.101	0.0	0.0

Node PS4 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	34.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	112

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	780.0	0.0	0.100	780.0	0.0	0.101	0.0	0.0

Node PS11 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	34.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	0

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	240.0	0.0	0.100	240.0	0.0	0.101	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)
2 year 15 minute summer	123.800	35.031
2 year 15 minute winter	86.877	35.031
2 year 30 minute summer	81.148	22.962
2 year 30 minute winter	56.946	22.962
2 year 60 minute summer	54.898	14.508
2 year 60 minute winter	36.473	14.508
2 year 120 minute summer	33.986	8.982
2 year 120 minute winter	22.580	8.982
2 year 180 minute summer	26.230	6.750
2 year 180 minute winter	17.050	6.750
2 year 240 minute summer	20.829	5.504
2 year 240 minute winter	13.838	5.504
2 year 360 minute summer	16.028	4.125
2 year 360 minute winter	10.419	4.125
2 year 480 minute summer	12.679	3.351
2 year 480 minute winter	8.423	3.351

**Rainfall**

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 600 minute summer	10.422	2.851
2 year 600 minute winter	7.121	2.851
2 year 720 minute summer	9.320	2.498
2 year 720 minute winter	6.264	2.498
2 year 960 minute summer	7.700	2.028
2 year 960 minute winter	5.101	2.028
2 year 1440 minute summer	5.639	1.511
2 year 1440 minute winter	3.790	1.511
2 year 2160 minute summer	4.077	1.127
2 year 2160 minute winter	2.809	1.127
2 year 2880 minute summer	3.412	0.915
2 year 2880 minute winter	2.293	0.915
2 year 4320 minute summer	2.606	0.681
2 year 4320 minute winter	1.716	0.681
2 year 5760 minute summer	2.160	0.553
2 year 5760 minute winter	1.398	0.553
2 year 7200 minute summer	1.844	0.470
2 year 7200 minute winter	1.190	0.470
2 year 8640 minute summer	1.616	0.412
2 year 8640 minute winter	1.043	0.412
2 year 10080 minute summer	1.446	0.369
2 year 10080 minute winter	0.933	0.369
30 year 15 minute summer	234.073	66.235
30 year 15 minute winter	164.262	66.235
30 year 30 minute summer	154.492	43.716
30 year 30 minute winter	108.415	43.716
30 year 60 minute summer	104.640	27.653
30 year 60 minute winter	69.521	27.653
30 year 120 minute summer	64.357	17.008
30 year 120 minute winter	42.757	17.008
30 year 180 minute summer	49.238	12.671
30 year 180 minute winter	32.006	12.671
30 year 240 minute summer	38.745	10.239
30 year 240 minute winter	25.741	10.239
30 year 360 minute summer	29.287	7.537
30 year 360 minute winter	19.037	7.537
30 year 480 minute summer	22.948	6.064
30 year 480 minute winter	15.246	6.064
30 year 600 minute summer	18.720	5.120
30 year 600 minute winter	12.791	5.120
30 year 720 minute summer	16.632	4.458
30 year 720 minute winter	11.178	4.458
30 year 960 minute summer	13.594	3.580
30 year 960 minute winter	9.005	3.580
30 year 1440 minute summer	9.793	2.625
30 year 1440 minute winter	6.581	2.625
30 year 2160 minute summer	6.954	1.922
30 year 2160 minute winter	4.791	1.922
30 year 2880 minute summer	5.744	1.539
30 year 2880 minute winter	3.860	1.539
30 year 4320 minute summer	4.302	1.125
30 year 4320 minute winter	2.833	1.125

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year 5760 minute summer	3.515	0.900
30 year 5760 minute winter	2.275	0.900
30 year 7200 minute summer	2.965	0.756
30 year 7200 minute winter	1.913	0.756
30 year 8640 minute summer	2.572	0.656
30 year 8640 minute winter	1.660	0.656
30 year 10080 minute summer	2.280	0.582
30 year 10080 minute winter	1.472	0.582
100 year 15 minute summer	302.300	85.541
100 year 15 minute winter	212.141	85.541
100 year 30 minute summer	201.457	57.005
100 year 30 minute winter	141.373	57.005
100 year 60 minute summer	137.337	36.294
100 year 60 minute winter	91.244	36.294
100 year 120 minute summer	84.653	22.371
100 year 120 minute winter	56.242	22.371
100 year 180 minute summer	64.672	16.642
100 year 180 minute winter	42.039	16.642
100 year 240 minute summer	50.757	13.414
100 year 240 minute winter	33.722	13.414
100 year 360 minute summer	38.116	9.808
100 year 360 minute winter	24.776	9.808
100 year 480 minute summer	29.744	7.860
100 year 480 minute winter	19.761	7.860
100 year 600 minute summer	24.183	6.615
100 year 600 minute winter	16.523	6.615
100 year 720 minute summer	21.425	5.742
100 year 720 minute winter	14.399	5.742
100 year 960 minute summer	17.429	4.589
100 year 960 minute winter	11.545	4.589
100 year 1440 minute summer	12.466	3.341
100 year 1440 minute winter	8.378	3.341
100 year 2160 minute summer	8.784	2.428
100 year 2160 minute winter	6.052	2.428
100 year 2880 minute summer	7.213	1.933
100 year 2880 minute winter	4.848	1.933
100 year 4320 minute summer	5.355	1.400
100 year 4320 minute winter	3.527	1.400
100 year 5760 minute summer	4.346	1.112
100 year 5760 minute winter	2.813	1.112
100 year 7200 minute summer	3.646	0.930
100 year 7200 minute winter	2.353	0.930
100 year 8640 minute summer	3.148	0.803
100 year 8640 minute winter	2.032	0.803
100 year 10080 minute summer	2.780	0.709
100 year 10080 minute winter	1.794	0.709
100 year +45% CC 15 minute summer	438.336	124.034
100 year +45% CC 15 minute winter	307.604	124.034
100 year +45% CC 30 minute summer	292.112	82.658
100 year +45% CC 30 minute winter	204.991	82.658
100 year +45% CC 60 minute summer	199.139	52.627
100 year +45% CC 60 minute winter	132.303	52.627

**Rainfall**

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +45% CC 120 minute summer	122.747	32.438
100 year +45% CC 120 minute winter	81.550	32.438
100 year +45% CC 180 minute summer	93.775	24.131
100 year +45% CC 180 minute winter	60.956	24.131
100 year +45% CC 240 minute summer	73.597	19.450
100 year +45% CC 240 minute winter	48.896	19.450
100 year +45% CC 360 minute summer	55.268	14.222
100 year +45% CC 360 minute winter	35.926	14.222
100 year +45% CC 480 minute summer	43.129	11.398
100 year +45% CC 480 minute winter	28.654	11.398
100 year +45% CC 600 minute summer	35.066	9.591
100 year +45% CC 600 minute winter	23.959	9.591
100 year +45% CC 720 minute summer	31.066	8.326
100 year +45% CC 720 minute winter	20.878	8.326
100 year +45% CC 960 minute summer	25.272	6.655
100 year +45% CC 960 minute winter	16.740	6.655
100 year +45% CC 1440 minute summer	18.076	4.844
100 year +45% CC 1440 minute winter	12.148	4.844
100 year +45% CC 2160 minute summer	12.737	3.520
100 year +45% CC 2160 minute winter	8.776	3.520
100 year +45% CC 2880 minute summer	10.459	2.803
100 year +45% CC 2880 minute winter	7.029	2.803
100 year +45% CC 4320 minute summer	7.765	2.030
100 year +45% CC 4320 minute winter	5.114	2.030
100 year +45% CC 5760 minute summer	6.301	1.613
100 year +45% CC 5760 minute winter	4.078	1.613
100 year +45% CC 7200 minute summer	5.286	1.349
100 year +45% CC 7200 minute winter	3.412	1.349
100 year +45% CC 8640 minute summer	4.565	1.165
100 year +45% CC 8640 minute winter	2.946	1.165
100 year +45% CC 10080 minute summer	4.031	1.028
100 year +45% CC 10080 minute winter	2.602	1.028

Results for 2 year Critical Storm Duration. Lowest mass balance: 96.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW1	1	34.318	0.000	0.0	0.0000	0.0000	OK
15 minute winter	SW2	10	34.196	0.042	2.9	0.0360	0.0000	OK
15 minute winter	SW3	11	33.982	0.039	2.8	0.0341	0.0000	OK
30 minute winter	PS1	30	34.506	0.106	3.5	1.7528	0.0000	OK
15 minute winter	Junction 1	11	33.901	0.043	3.3	0.0000	0.0000	OK
15 minute winter	SW4	11	33.803	0.065	3.3	0.0559	0.0000	OK
15 minute winter	PS2	10	34.436	0.036	9.2	0.0006	0.0000	OK
15 minute winter	Junction 2	11	33.802	0.082	12.1	0.0000	0.0000	OK
120 minute winter	PS3	118	34.510	0.110	4.1	8.1041	0.0000	OK
15 minute winter	Junction 3	11	33.723	0.085	12.7	0.0000	0.0000	OK
120 minute winter	PS4	118	34.510	0.110	4.1	8.1041	0.0000	OK
15 minute winter	Junction 4	11	33.632	0.091	13.3	0.0000	0.0000	OK
15 minute winter	SW5	11	33.593	0.085	13.3	0.0961	0.0000	OK
15 minute summer	SW6	1	33.501	0.000	0.0	0.0000	0.0000	OK
15 minute winter	PS5	10	34.417	0.017	2.4	0.0003	0.0000	OK
15 minute winter	SW11	10	34.049	0.035	2.4	0.0303	0.0000	OK
15 minute winter	PS7	10	34.421	0.021	3.3	0.0004	0.0000	OK
15 minute winter	Junction 5	10	33.875	0.054	5.7	0.0000	0.0000	OK
15 minute winter	PS8	10	34.413	0.013	2.1	0.0002	0.0000	OK
15 minute winter	Junction 6	10	33.772	0.068	7.7	0.0000	0.0000	OK
15 minute winter	SW12	11	33.711	0.043	7.6	0.0369	0.0000	OK
240 minute winter	SW7	196	33.433	0.162	2.8	10.3308	0.0000	OK
15 minute winter	PS10	10	34.439	0.039	3.0	0.0007	0.0000	OK
30 minute winter	PS11	29	34.505	0.105	3.0	1.3847	0.0000	OK
15 minute winter	SW13	10	34.292	0.042	3.5	0.0367	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	SW1	1.000	SW3	0.0	0.000	0.000	0.0000	
15 minute winter	SW2	2.000	SW3	2.8	0.726	0.159	0.0527	
15 minute winter	SW3	1.001	Junction 1	2.8	0.576	0.066	0.0628	
30 minute winter	PS1	Orifice	Junction 1	0.5				
15 minute winter	Junction 1	1.002	SW4	3.3	0.475	0.079	0.1317	
15 minute winter	SW4	1.003	Junction 2	3.5	0.388	0.081	0.0298	
15 minute winter	PS2	4.000	Junction 2	9.2	3.010	0.109	0.0084	
15 minute winter	Junction 2	1.004	Junction 3	12.2	0.915	0.288	0.1634	
120 minute winter	PS3	Orifice	Junction 3	0.5				
15 minute winter	Junction 3	1.005	Junction 4	12.8	0.895	0.303	0.2093	
120 minute winter	PS4	Orifice	Junction 4	0.5				
15 minute winter	Junction 4	1.006	SW5	13.3	0.926	0.313	0.0708	
15 minute winter	SW5	1.007	SW10	13.0	0.724	0.308	0.8751	
15 minute summer	SW6	7.000	SW7	0.0	0.000	0.000	0.2065	
15 minute winter	PS5	8.000	SW11	2.4	1.236	0.027	0.0034	
15 minute winter	SW11	8.001	Junction 5	2.4	0.539	0.119	0.0685	
15 minute winter	PS7	9.000	Junction 5	3.3	1.233	0.041	0.0102	
15 minute winter	Junction 5	8.002	Junction 6	5.6	0.825	0.281	0.0635	
15 minute winter	PS8	10.000	Junction 6	2.1	0.615	0.016	0.0057	
15 minute winter	Junction 6	8.003	SW12	7.6	1.289	0.386	0.0174	
15 minute winter	SW12	8.004	SW7	7.6	1.992	0.144	0.0140	
240 minute winter	SW7	7.001	SW10	1.0	0.200	0.024	0.3705	
15 minute winter	PS10	11.000	SW13	3.0	0.770	0.144	0.0427	
30 minute winter	PS11	Orifice	SW13	0.5				
15 minute winter	SW13	11.001	Junction 7	3.5	0.624	0.174	0.0622	

Results for 30 year Critical Storm Duration. Lowest mass balance: 96.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW1	1	34.318	0.000	0.0	0.0000	0.0000	OK
15 minute winter	SW2	10	34.213	0.058	5.4	0.0507	0.0000	OK
15 minute winter	SW3	10	33.997	0.054	5.3	0.0471	0.0000	OK
60 minute winter	PS1	59	34.516	0.116	4.4	4.5893	0.0000	OK
15 minute winter	Junction 1	11	33.914	0.056	5.8	0.0000	0.0000	OK
15 minute winter	SW4	10	33.837	0.099	5.8	0.0861	0.0000	OK
15 minute winter	PS2	10	34.451	0.051	17.5	0.0009	0.0000	OK
15 minute winter	Junction 2	10	33.837	0.117	22.8	0.0000	0.0000	OK
240 minute winter	PS3	232	34.524	0.124	4.7	19.1496	0.0000	OK
15 minute winter	Junction 3	11	33.758	0.120	23.2	0.0000	0.0000	OK
240 minute winter	PS4	232	34.524	0.124	4.7	19.1496	0.0000	OK
15 minute winter	Junction 4	11	33.669	0.128	23.9	0.0000	0.0000	OK
240 minute winter	SW5	236	33.628	0.120	6.2	0.1357	0.0000	OK
240 minute winter	SW6	240	33.627	0.126	0.3	0.1421	0.0000	OK
15 minute winter	PS5	10	34.423	0.023	4.5	0.0004	0.0000	OK
15 minute winter	SW11	10	34.062	0.048	4.5	0.0417	0.0000	OK
15 minute winter	PS7	10	34.428	0.028	6.3	0.0005	0.0000	OK
15 minute winter	Junction 5	10	33.900	0.079	10.7	0.0000	0.0000	OK
15 minute winter	PS8	10	34.417	0.017	3.9	0.0003	0.0000	OK
15 minute winter	Junction 6	10	33.803	0.099	14.5	0.0000	0.0000	OK
15 minute winter	SW12	10	33.730	0.062	14.4	0.0535	0.0000	OK
240 minute winter	SW7	240	33.627	0.356	5.6	25.2687	0.0000	SURCHARGED
15 minute winter	PS10	10	34.456	0.056	5.7	0.0010	0.0000	OK
60 minute winter	PS11	58	34.515	0.115	3.8	3.7009	0.0000	OK
15 minute winter	SW13	10	34.307	0.057	6.2	0.0493	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	SW1	1.000	SW3	0.0	0.000	0.000	0.0000	
15 minute winter	SW2	2.000	SW3	5.3	0.860	0.298	0.0835	
15 minute winter	SW3	1.001	Junction 1	5.2	0.706	0.124	0.0958	
60 minute winter	PS1	Orifice	Junction 1	0.6				
15 minute winter	Junction 1	1.002	SW4	5.8	0.493	0.138	0.2219	
15 minute winter	SW4	1.003	Junction 2	6.0	0.399	0.140	0.0500	
15 minute winter	PS2	4.000	Junction 2	17.5	3.558	0.207	0.0135	
15 minute winter	Junction 2	1.004	Junction 3	22.7	1.077	0.534	0.2581	
240 minute winter	PS3	Orifice	Junction 3	0.6				
15 minute winter	Junction 3	1.005	Junction 4	23.4	1.042	0.553	0.3276	
240 minute winter	PS4	Orifice	Junction 4	0.6				
15 minute winter	Junction 4	1.006	SW5	23.9	1.075	0.564	0.1102	
240 minute winter	SW5	1.007	SW10	6.2	0.406	0.146	1.4130	
240 minute winter	SW6	7.000	SW7	-0.3	-0.010	-0.007	1.0811	
15 minute winter	PS5	8.000	SW11	4.5	1.409	0.051	0.0053	
15 minute winter	SW11	8.001	Junction 5	4.4	0.627	0.224	0.1103	
15 minute winter	PS7	9.000	Junction 5	6.3	1.285	0.078	0.0165	
15 minute winter	Junction 5	8.002	Junction 6	10.6	0.978	0.534	0.1014	
15 minute winter	PS8	10.000	Junction 6	3.9	1.432	0.030	0.0089	
15 minute winter	Junction 6	8.003	SW12	14.4	1.503	0.729	0.0279	
15 minute winter	SW12	8.004	SW7	14.3	2.310	0.270	0.0227	
240 minute winter	SW7	7.001	SW10	-1.6	0.266	-0.037	0.4187	
15 minute winter	PS10	11.000	SW13	5.7	0.934	0.273	0.0668	
60 minute winter	PS11	Orifice	SW13	0.6				
15 minute winter	SW13	11.001	Junction 7	6.1	0.719	0.307	0.0946	

**Results for 30 year Critical Storm Duration. Lowest mass balance: 96.74%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	PS13	10	34.443	0.043	5.7	0.0008	0.0000	OK
15 minute winter	Junction 7	10	34.200	0.089	11.8	0.0000	0.0000	OK
15 minute winter	SW14	10	34.093	0.045	11.6	0.0388	0.0000	OK
240 minute winter	SW8	236	33.627	0.327	1.8	0.3694	0.0000	SURCHARGED
240 minute winter	SW9	240	33.627	0.407	5.4	29.1268	0.0000	SURCHARGED
240 minute winter	SW10	240	33.627	0.426	6.2	0.7522	0.0000	SURCHARGED
15 minute summer	Culvert 1	1	31.534	0.000	0.0	0.0000	0.0000	OK
60 minute winter	X Junction 2	83	31.501	0.031	3.3	0.0000	0.0000	OK
60 minute winter	X Junction	84	31.186	0.036	3.3	0.0000	0.0000	OK
60 minute winter	Culvert 2	88	31.167	0.041	3.3	0.0000	0.0000	OK
60 minute winter	Culvert 3	90	30.973	0.010	3.3	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	PS13	13.000	Junction 7	5.7	0.791	0.178	0.0679	
15 minute winter	Junction 7	11.002	SW14	11.6	1.565	0.587	0.0387	
15 minute winter	SW14	11.003	SW9	11.7	2.797	0.164	0.0428	
240 minute winter	SW8	14.000	SW9	1.6	0.216	0.055	1.0303	
240 minute winter	SW9	11.004	SW10	1.2	0.198	0.029	0.1168	
240 minute winter	SW10	Hydro-Brake®	X Junction 2	3.3				
15 minute summer	Culvert 1	15.000	X Junction 2	0.0	0.000	0.000	0.0838	
60 minute winter	X Junction 2	1.009	X Junction	3.3	0.330	0.000	0.9836	
60 minute winter	X Junction	1.010	Culvert 2	3.3	0.270	0.001	0.1766	
60 minute winter	Culvert 2	1.011	Culvert 3	3.3	0.494	0.001	0.7500	54.9

Results for 100 year Critical Storm Duration. Lowest mass balance: 96.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW1	1	34.318	0.000	0.0	0.0000	0.0000	OK
15 minute winter	SW2	10	34.222	0.068	7.0	0.0588	0.0000	OK
15 minute winter	SW3	10	34.005	0.062	6.9	0.0539	0.0000	OK
120 minute winter	PS1	114	34.524	0.124	3.6	6.7558	0.0000	OK
15 minute winter	Junction 1	11	33.921	0.063	7.3	0.0000	0.0000	OK
15 minute winter	SW4	10	33.858	0.120	7.4	0.1037	0.0000	OK
15 minute winter	PS2	10	34.457	0.057	22.6	0.0010	0.0000	OK
15 minute winter	Junction 2	10	33.857	0.137	29.3	0.0000	0.0000	OK
240 minute winter	PS3	236	34.535	0.135	6.1	27.4826	0.0000	OK
480 minute winter	Junction 3	472	33.783	0.145	4.6	0.0000	0.0000	OK
240 minute winter	PS4	236	34.535	0.135	6.1	27.4826	0.0000	OK
480 minute winter	Junction 4	472	33.783	0.242	5.2	0.0000	0.0000	SURCHARGED
480 minute winter	SW5	472	33.783	0.275	5.2	0.3105	0.0000	SURCHARGED
480 minute winter	SW6	472	33.782	0.281	0.3	0.3179	0.0000	SURCHARGED
15 minute winter	PS5	10	34.426	0.026	5.8	0.0005	0.0000	OK
15 minute winter	SW11	10	34.069	0.055	5.8	0.0477	0.0000	OK
15 minute winter	PS7	10	34.432	0.032	8.2	0.0006	0.0000	OK
15 minute winter	Junction 5	10	33.915	0.094	13.9	0.0000	0.0000	OK
15 minute winter	PS8	10	34.420	0.020	5.1	0.0004	0.0000	OK
15 minute winter	Junction 6	10	33.821	0.117	18.8	0.0000	0.0000	OK
480 minute winter	SW12	472	33.782	0.114	2.3	0.0986	0.0000	OK
480 minute winter	SW7	472	33.782	0.511	4.4	37.2356	0.0000	SURCHARGED
15 minute winter	PS10	10	34.465	0.065	7.4	0.0012	0.0000	OK
120 minute winter	PS11	110	34.522	0.122	3.1	5.3940	0.0000	OK
15 minute winter	SW13	10	34.315	0.065	7.9	0.0563	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	SW1	1.000	SW3	0.0	0.000	0.000	0.0000	
15 minute winter	SW2	2.000	SW3	6.9	0.919	0.387	0.1014	
15 minute winter	SW3	1.001	Junction 1	6.8	0.763	0.161	0.1145	
120 minute winter	PS1	Orifice	Junction 1	0.6				
15 minute winter	Junction 1	1.002	SW4	7.4	0.504	0.175	0.2757	
15 minute winter	SW4	1.003	Junction 2	7.6	0.408	0.178	0.0620	
15 minute winter	PS2	4.000	Junction 2	22.6	3.678	0.268	0.0179	
15 minute winter	Junction 2	1.004	Junction 3	29.1	1.140	0.685	0.3133	
240 minute winter	PS3	Orifice	Junction 3	0.6				
480 minute winter	Junction 3	1.005	Junction 4	4.6	0.658	0.109	0.4882	
240 minute winter	PS4	Orifice	Junction 4	0.6				
480 minute winter	Junction 4	1.006	SW5	5.2	0.711	0.122	0.1962	
480 minute winter	SW5	1.007	SW10	5.2	0.418	0.122	1.8336	
480 minute winter	SW6	7.000	SW7	-0.3	-0.010	-0.006	1.3746	
15 minute winter	PS5	8.000	SW11	5.8	1.509	0.066	0.0064	
15 minute winter	SW11	8.001	Junction 5	5.7	0.654	0.288	0.1354	
15 minute winter	PS7	9.000	Junction 5	8.2	1.346	0.101	0.0204	
15 minute winter	Junction 5	8.002	Junction 6	13.7	1.035	0.689	0.1234	
15 minute winter	PS8	10.000	Junction 6	5.1	1.387	0.039	0.0107	
15 minute winter	Junction 6	8.003	SW12	18.6	1.589	0.943	0.0338	
480 minute winter	SW12	8.004	SW7	2.4	1.199	0.045	0.0584	
480 minute winter	SW7	7.001	SW10	-1.2	0.115	-0.028	0.4187	
15 minute winter	PS10	11.000	SW13	7.3	1.003	0.354	0.0807	
120 minute winter	PS11	Orifice	SW13	0.6				
15 minute winter	SW13	11.001	Junction 7	7.8	0.762	0.392	0.1131	

Results for 100 year Critical Storm Duration. Lowest mass balance: 96.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	PS13	10	34.449	0.049	7.4	0.0009	0.0000	OK
15 minute winter	Junction 7	11	34.215	0.104	15.1	0.0000	0.0000	OK
15 minute winter	SW14	10	34.098	0.050	14.9	0.0437	0.0000	OK
480 minute winter	SW8	472	33.782	0.482	1.4	0.5450	0.0000	SURCHARGED
480 minute winter	SW9	472	33.782	0.562	4.1	41.0945	0.0000	SURCHARGED
480 minute winter	SW10	472	33.782	0.581	5.2	1.0263	0.0000	SURCHARGED
15 minute summer	Culvert 1	1	31.534	0.000	0.0	0.0000	0.0000	OK
30 minute winter	X Junction 2	102	31.501	0.031	3.3	0.0000	0.0000	OK
30 minute winter	X Junction	104	31.186	0.036	3.3	0.0000	0.0000	OK
30 minute winter	Culvert 2	108	31.167	0.041	3.3	0.0000	0.0000	OK
30 minute winter	Culvert 3	109	30.973	0.010	3.3	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	PS13	13.000	Junction 7	7.4	0.840	0.231	0.0815	
15 minute winter	Junction 7	11.002	SW14	14.9	1.676	0.753	0.0461	
15 minute winter	SW14	11.003	SW9	15.1	2.889	0.212	0.0494	
480 minute winter	SW8	14.000	SW9	1.3	0.164	0.047	1.0303	
480 minute winter	SW9	11.004	SW10	1.0	-0.091	0.023	0.1168	
480 minute winter	SW10	Hydro-Brake®	X Junction 2	3.3				
15 minute summer	Culvert 1	15.000	X Junction 2	0.0	0.000	0.000	0.0850	
30 minute winter	X Junction 2	1.009	X Junction	3.3	0.349	0.000	0.9836	
30 minute winter	X Junction	1.010	Culvert 2	3.3	0.273	0.001	0.1766	
30 minute winter	Culvert 2	1.011	Culvert 3	3.3	0.494	0.001	0.7500	50.3

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 96.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	SW1	720	34.319	0.001	0.0	0.0015	0.0000	OK
720 minute winter	SW2	705	34.311	0.157	0.9	0.1358	0.0000	SURCHARGED
720 minute winter	SW3	705	34.309	0.366	0.9	0.3171	0.0000	SURCHARGED
120 minute winter	PS1	118	34.540	0.140	5.3	11.2704	0.0000	OK
720 minute winter	Junction 1	705	34.310	0.452	2.0	0.0000	0.0000	SURCHARGED
720 minute winter	SW4	705	34.315	0.577	1.9	0.4995	0.0000	SURCHARGED
15 minute winter	PS2	10	34.470	0.070	32.7	0.0013	0.0000	OK
720 minute winter	Junction 2	705	34.307	0.587	4.3	0.0000	0.0000	SURCHARGED
360 minute winter	PS3	352	34.555	0.155	6.5	43.6395	0.0000	SURCHARGED
720 minute winter	Junction 3	705	34.312	0.674	4.8	0.0000	0.0000	SURCHARGED
360 minute winter	PS4	352	34.555	0.155	6.5	43.6395	0.0000	SURCHARGED
720 minute winter	Junction 4	705	34.314	0.773	5.4	0.0000	0.0000	SURCHARGED
720 minute winter	SW5	705	34.315	0.807	5.2	0.9123	0.0000	SURCHARGED
720 minute winter	SW6	705	34.312	0.811	0.3	0.9171	0.0000	SURCHARGED
15 minute winter	PS5	10	34.432	0.032	8.5	0.0006	0.0000	OK
720 minute winter	SW11	705	34.315	0.301	0.7	0.2604	0.0000	SURCHARGED
15 minute winter	PS7	10	34.439	0.039	11.9	0.0007	0.0000	OK
720 minute winter	Junction 5	705	34.314	0.493	1.7	0.0000	0.0000	SURCHARGED
15 minute winter	PS8	10	34.423	0.023	7.3	0.0004	0.0000	OK
720 minute winter	Junction 6	705	34.314	0.610	2.3	0.0000	0.0000	SURCHARGED
720 minute winter	SW12	705	34.314	0.646	5.6	0.5590	0.0000	SURCHARGED
720 minute winter	SW7	705	34.314	1.043	6.4	62.0551	0.0000	SURCHARGED
15 minute winter	PS10	10	34.481	0.081	10.7	0.0015	0.0000	OK
120 minute winter	PS11	116	34.537	0.137	4.5	9.1171	0.0000	OK
15 minute winter	SW13	10	34.330	0.080	11.2	0.0690	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	SW1	1.000	SW3	0.0	0.000	0.000	0.2645	
720 minute winter	SW2	2.000	SW3	0.9	0.526	0.051	0.2381	
720 minute winter	SW3	1.001	Junction 1	1.5	0.364	0.035	0.5073	
120 minute winter	PS1	Orifice	Junction 1	0.6				
720 minute winter	Junction 1	1.002	SW4	1.9	0.464	0.046	0.7188	
720 minute winter	SW4	1.003	Junction 2	2.2	0.312	0.051	0.1055	
15 minute winter	PS2	4.000	Junction 2	32.7	3.609	0.388	0.0292	
720 minute winter	Junction 2	1.004	Junction 3	4.3	0.659	0.100	0.4872	
360 minute winter	PS3	Orifice	Junction 3	0.7				
720 minute winter	Junction 3	1.005	Junction 4	4.8	0.648	0.115	0.5816	
360 minute winter	PS4	Orifice	Junction 4	0.7				
720 minute winter	Junction 4	1.006	SW5	5.2	0.702	0.123	0.1962	
720 minute winter	SW5	1.007	SW10	4.9	0.284	0.117	1.8336	
720 minute winter	SW6	7.000	SW7	0.4	0.010	0.009	1.3746	
15 minute winter	PS5	8.000	SW11	8.5	1.646	0.097	0.0085	
720 minute winter	SW11	8.001	Junction 5	0.7	0.385	0.035	0.2722	
15 minute winter	PS7	9.000	Junction 5	11.9	1.283	0.147	0.0300	
720 minute winter	Junction 5	8.002	Junction 6	1.7	0.588	0.086	0.1647	
15 minute winter	PS8	10.000	Junction 6	7.3	1.099	0.056	0.0129	
720 minute winter	Junction 6	8.003	SW12	5.2	0.959	0.263	0.0513	
720 minute winter	SW12	8.004	SW7	4.3	1.103	0.081	0.0643	
720 minute winter	SW7	7.001	SW10	2.4	0.102	0.056	0.4187	
15 minute winter	PS10	11.000	SW13	10.6	1.102	0.512	0.1063	
120 minute winter	PS11	Orifice	SW13	0.6				
15 minute winter	SW13	11.001	Junction 7	11.0	0.808	0.555	0.1468	

**Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 96.74%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	PS13	10	34.460	0.060	10.7	0.0011	0.0000	OK
720 minute winter	Junction 7	705	34.312	0.201	2.4	0.0000	0.0000	SURCHARGED
720 minute winter	SW14	705	34.312	0.264	2.4	0.2288	0.0000	SURCHARGED
720 minute winter	SW8	705	34.312	1.012	1.5	1.1451	0.0000	SURCHARGED
720 minute winter	SW9	705	34.313	1.093	4.1	62.1117	0.0000	SURCHARGED
720 minute winter	SW10	705	34.313	1.112	4.9	1.9644	0.0000	FLOOD RISK
15 minute summer	Culvert 1	1	31.534	0.000	0.0	0.0000	0.0000	OK
15 minute summer	X Junction 2	74	31.501	0.031	3.3	0.0000	0.0000	OK
15 minute summer	X Junction	75	31.186	0.036	3.3	0.0000	0.0000	OK
15 minute summer	Culvert 2	79	31.167	0.041	3.3	0.0000	0.0000	OK
15 minute summer	Culvert 3	81	30.973	0.010	3.3	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	PS13	13.000	Junction 7	10.6	0.892	0.334	0.1060	
720 minute winter	Junction 7	11.002	SW14	2.4	1.015	0.119	0.0892	
720 minute winter	SW14	11.003	SW9	2.4	1.212	0.033	0.0838	
720 minute winter	SW8	14.000	SW9	1.4	0.074	0.050	1.0303	
720 minute winter	SW9	11.004	SW10	2.0	-0.077	0.047	0.1168	
720 minute winter	SW10	Hydro-Brake®	X Junction 2	3.3				
15 minute summer	Culvert 1	15.000	X Junction 2	0.0	0.000	0.000	0.0857	
15 minute summer	X Junction 2	1.009	X Junction	3.3	0.378	0.000	0.9836	
15 minute summer	X Junction	1.010	Culvert 2	3.3	0.286	0.001	0.1766	
15 minute summer	Culvert 2	1.011	Culvert 3	3.3	0.494	0.001	0.7500	47.8