

Peter Brett Associates LLP						Page 1				
Caversham Bridge House Waterman Place Reading RG1 8DN			Woodcroft Farm Network 100							
Date 2013.04.04			Designed by CMB							
File 2013.04.04 - Network Modelling Rev...			Checked by							
Micro Drainage			Network 2013.1.1							
Existing Network Details for Network 100										
	PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	n	HYD SECT	DIA (mm)
	100.000	27.372	0.115	238.0	0.059	4.00	0.600		o	300
	101.000	22.983	0.097	236.9	0.054	4.00	0.600		o	300
	100.001	40.897	0.172	237.8	0.090	0.00	0.600		o	300
	100.002	19.577	0.082	238.7	0.042	0.00	0.600		o	300
	102.000	27.446	0.165	166.3	0.042	4.00	0.600		o	225
	100.003	9.636	0.649	14.8	0.000	0.00	0.600		o	300
	103.000	17.830	0.075	238.0	0.022	4.00	0.600		o	300
	103.001	37.069	0.156	238.0	0.082	0.00	0.600		o	300
	100.004	52.655	1.086	48.5	0.089	0.00	0.600		o	300
	100.005	23.620	0.487	48.5	0.085	0.00	0.600		o	300
	100.006	42.062	0.177	237.6	0.051	0.00	0.600		o	300
	100.007	15.639	0.094	166.4	0.042	0.00	0.600		o	225
	104.000	29.973	0.179	167.4	0.020	4.00	0.600		o	225
	104.001	8.134	0.049	166.0	0.024	0.00	0.600		o	225
	100.008	12.251	0.051	240.2	0.027	0.00	0.600		o	300
	105.000	3.903	0.001	3903.0	0.000	4.00	0.600		o	300
	100.009	10.330	0.043	240.2	0.000	0.00	0.600		o	300
	100.010	15.885	0.067	237.1	0.000	0.00	0.600		o	300
	106.000	27.259	0.163	167.2	0.027	4.00	0.600		o	225
	106.001	21.996	0.132	166.6	0.038	0.00	0.600		o	225
	107.000	28.238	0.170	166.1	0.033	4.00	0.600		o	225
	106.002	33.352	0.200	166.8	0.042	0.00	0.600		o	225
	100.011	19.435	0.658	29.5	0.050	0.00	0.600		o	300
	100.012	25.928	0.760	34.1	0.047	0.00	0.600		o	300
	100.013	38.417	1.500	25.6	0.045	0.00	0.600		o	300
	PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
	100.000	1	72.400	69.994	2.106	71.990	69.879	1.811		1200
	101.000	2	72.160	69.976	1.884	71.990	69.879	1.811		1200
	100.001	3	71.990	69.879	1.811	71.630	69.707	1.623		1200
	100.002	4	71.630	69.707	1.623	71.300	69.625	1.375		1200
	102.000	5	71.370	69.865	1.280	71.300	69.700	1.375		1200
	100.003	6	71.300	69.625	1.375	70.940	68.976	1.664		1200
	103.000	7	69.730	68.230	1.200	69.880	68.155	1.425		1200
	103.001	8	69.880	68.155	1.425	70.940	67.999	2.641		1200
	100.004	9	70.940	67.999	2.641	69.300	66.913	2.087		1500
	100.005	10	69.300	66.913	2.087	69.000	66.426	2.274		1200
	100.006	11	69.000	66.426	2.274	68.000	66.249	1.451		1500
	100.007	12	68.000	66.249	1.526	67.730	66.155	1.350	Orifice	1800
	104.000	13	68.800	66.383	2.192	68.170	66.204	1.741		1200
	104.001	14	68.170	66.204	1.741	67.730	66.155	1.350		1200
	100.008	15	67.730	66.080	1.350	67.650	66.029	1.321		1200
	105.000	16	67.650	66.030	1.320	67.650	66.029	1.321		1200
	100.009	17	67.650	66.029	1.321	67.580	65.986	1.294	Orifice	1800
	100.010	18	67.580	65.986	1.294	67.540	65.919	1.321		1200
	106.000	19	68.200	66.488	1.487	69.000	66.325	2.450		1200
	106.001	20	69.000	66.325	2.450	68.450	66.193	2.032		1200
	107.000	21	67.500	66.363	0.912	68.450	66.193	2.032		1200
	106.002	22	68.450	66.193	2.032	67.540	65.993	1.322		1200
	100.011	23	67.540	65.918	1.322	66.760	65.260	1.200		1200
	100.012	24	66.760	65.260	1.200	65.000	64.500	0.200	Orifice	1200
	100.013	25	65.000	64.500	0.200	64.500	63.000	1.200		1200
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Woodcroft Farm
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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k (mm)	n	HYD SECT	DIA (mm)
100.014	20.599	0.360	57.2	0.052	0.00	0.600		o	300
108.000	36.856	0.860	42.9	0.057	4.00	0.600		o	225
108.001	40.172	0.860	46.7	0.059	0.00	0.600		o	225
109.000	26.772	1.030	26.0	0.074	4.00	0.600		o	225
108.002	8.086	0.450	18.0	0.056	0.00	0.600		o	300
108.003	43.265	0.670	64.6	0.064	0.00	0.600		o	300
110.000	6.568	0.001	6568.0	0.000	4.00	0.600		o	300
100.015	16.439	0.957	17.2	0.028	0.00	0.600		o	300
111.000	28.320	0.170	166.6	0.056	4.00	0.600		o	225
100.016	19.963	0.084	238.0	0.048	0.00	0.600		o	300
112.000	26.095	0.901	29.0	0.077	4.00	0.600		o	225
100.017	67.392	2.799	24.1	0.083	0.00	0.600		o	300
100.018	30.644	0.129	237.6	0.094	0.00	0.600		o	450
100.019	22.372	0.058	385.7	0.076	0.00	0.600		o	450
113.000	7.177	0.001	7177.0	0.000	4.00	0.600		o	300
100.020	25.676	0.108	237.7	0.111	0.00	0.600		o	300
100.021	24.388	0.102	239.1	0.078	0.00	0.600		o	300
100.022	25.913	0.156	166.1	0.000	0.00	0.600		o	225
114.000	91.897	2.500	36.8	0.000	4.00		0.022	\ /	-1
114.001	7.230	0.483	15.0	0.000	0.00	0.600		o	225
114.002	12.752	0.852	15.0	0.000	0.00	0.600		o	225
114.003	24.160	0.145	166.6	0.000	0.00	0.600		o	225
114.004	7.623	0.104	73.3	0.000	0.00	0.600		o	225
114.005	19.117	0.261	73.2	0.078	0.00	0.600		o	225
114.006	22.896	0.313	73.2	0.072	0.00	0.600		o	225
115.000	28.352	0.940	30.2	0.064	4.00	0.600		o	225
PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)
100.014	26	64.500	63.000	1.200	64.140	62.640	1.200		1200
108.000	27	66.980	65.555	1.200	66.120	64.695	1.200		1200
108.001	28	66.120	64.695	1.200	65.260	63.835	1.200		1200
109.000	29	66.290	64.865	1.200	65.260	63.835	1.200		1200
108.002	30	65.260	63.760	1.200	64.810	63.310	1.200		1200
108.003	31	64.810	63.310	1.200	64.140	62.640	1.200		1200
110.000	32	64.140	62.641	1.199	64.140	62.640	1.200		1200
100.015	33	64.140	62.640	1.200	63.500	61.683	1.517	Orifice	1800
111.000	34	63.280	62.155	0.900	63.500	61.985	1.290		1200
100.016	35	63.500	61.683	1.517	63.500	61.599	1.601		1200
112.000	36	64.000	62.575	1.200	63.500	61.674	1.601		1200
100.017	37	63.500	61.599	1.601	60.300	58.800	1.200		1200
100.018	38	60.300	58.650	1.200	61.200	58.521	2.229		1200
100.019	39	61.200	58.521	2.229	61.060	58.463	2.147		1500
113.000	40	61.060	58.464	2.296	61.060	58.463	2.297		1200
100.020	41	61.060	58.463	2.297	60.560	58.355	1.905		1800
100.021	42	60.560	58.355	1.905	60.160	58.253	1.607		1200
100.022	43	60.160	58.253	1.682	59.600	58.097	1.278	Orifice	1800
114.000	44	63.880	63.530	0.000	61.380	61.030	0.000		0
114.001	45	61.380	60.255	0.900	61.380	59.772	1.383		1500
114.002	46	61.380	59.772	1.383	61.150	58.920	2.005		1200
114.003	47	61.150	58.920	2.005	60.550	58.775	1.550		1500
114.004	48	60.550	58.775	1.550	60.450	58.671	1.554	Orifice	1500
114.005	49	60.450	58.671	1.554	60.290	58.410	1.655		1200
114.006	50	60.290	58.410	1.655	59.600	58.097	1.278		1200
115.000	51	61.900	60.475	1.200	60.960	59.535	1.200		1200

Woodcroft Farm
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Existing Network Details for Network 100

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	k	n	HYD SECT	DIA (mm)	
	116.000	15.250	0.091	167.6	0.064	4.00	0.600		o	225
	116.001	18.096	0.108	167.6	0.064	0.00	0.600		o	225
	116.002	26.764	0.160	167.0	0.038	0.00	0.600		o	225
	115.001	44.496	0.187	237.9	0.088	0.00	0.600		o	300
	117.000	23.646	0.142	167.0	0.042	4.00	0.600		o	225
	115.002	48.802	1.493	32.7	0.077	0.00	0.600		o	300
	118.000	8.317	0.008	1000.0	0.000	4.00	0.600		o	300
	115.003	36.912	1.130	32.7	0.074	0.00	0.600		o	300
	115.004	36.885	0.096	384.2	0.072	0.00	0.600		o	450
	119.000	25.519	0.153	167.0	0.060	4.00	0.600		o	225
	115.005	22.845	0.059	387.2	0.095	0.00	0.600		o	450
	115.006	41.118	0.107	384.3	0.059	0.00	0.600		o	450
	100.023	22.691	0.059	384.6	0.000	0.00	0.600		o	450
	120.000	27.347	0.164	167.0	0.052	4.00	0.600		o	225
	100.024	31.176	0.081	384.9	0.052	0.00	0.600		o	450
	100.025	26.060	0.068	383.2	0.050	0.00	0.600		o	450
	100.026	4.726	0.012	393.8	0.087	0.00	0.600		o	450
	100.027	33.145	0.139	238.5	0.000	0.00	0.600		o	300
PN	US/MH	US/CL	US/TL	US	DS/CL	DS/TL	DS		Ctrl	US/MH
	Name	(m)	(m)	C.Depth (m)	(m)	(m)	C.Depth (m)			(mm)
116.000	52	65.000	62.866	1.909	64.200	62.775	1.200			1200
116.001	53	64.200	61.183	2.792	62.500	61.075	1.200			1200
116.002	54	62.500	59.695	2.580	60.960	59.535	1.200			1200
115.001	55	60.960	59.460	1.200	62.300	59.273	1.727			1200
117.000	56	63.790	60.414	3.151	62.300	60.272	1.803			1200
115.002	57	62.300	59.273	2.727	59.900	57.780	1.820			1200
118.000	58	59.900	57.788	1.812	59.900	57.780	1.820			1200
115.003	58	59.900	57.780	1.820	58.500	56.650	1.550			1200
115.004	59	58.500	56.500	1.550	58.870	56.404	2.016			1500
119.000	60	58.770	56.782	1.763	58.870	56.629	2.016			1200
115.005	61	58.870	56.404	2.016	58.940	56.345	2.145			1500
115.006	62	58.940	56.345	2.145	59.600	56.238	2.912			1500
100.023	63	59.600	56.238	2.912	58.610	56.179	1.981			1500
120.000	64	59.490	57.343	1.922	58.610	57.179	1.206			1200
100.024	65	58.610	56.179	1.981	58.300	56.098	1.752			1500
100.025	89	58.300	56.098	1.752	58.650	56.030	2.170			1800
100.026	90	58.650	56.030	2.170	58.650	56.018	2.182			1500
100.027	91	58.650	56.018	2.332	58.650	55.879	2.471	Hydro-Brake®		1800

Free Flowing Outfall Details for Network 100

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
100.027		58.650	55.879	54.000	1200	0

Caversham Bridge House
Waterman Place
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Simulation Criteria for Network 100

Volumetric Runoff Coeff	0.750	Manhole Headloss Coeff (Global)	0.500	Inlet Coefficient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Factor * 10m ³ /ha Storage	2.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	7	Number of Storage Structures	9	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	19.000	Cv (Summer)	0.750
Return Period (years)	2	Ratio R	0.350	Cv (Winter)	0.840
Region	England and Wales	Profile Type	Summer	Storm Duration (mins)	15

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Orifice Manhole: 12, DS/PN: 100.007, Volume (m³): 7.3

Diameter (m) 0.080 Discharge Coefficient 0.600 Invert Level (m) 66.249

Orifice Manhole: 17, DS/PN: 100.009, Volume (m³): 5.1

Diameter (m) 0.080 Discharge Coefficient 0.600 Invert Level (m) 66.029

Orifice Manhole: 24, DS/PN: 100.012, Volume (m³): 3.0

Diameter (m) 0.250 Discharge Coefficient 0.600 Invert Level (m) 65.260

Orifice Manhole: 33, DS/PN: 100.015, Volume (m³): 8.5

Diameter (m) 0.080 Discharge Coefficient 0.600 Invert Level (m) 62.640

Orifice Manhole: 43, DS/PN: 100.022, Volume (m³): 6.5

Diameter (m) 0.090 Discharge Coefficient 0.600 Invert Level (m) 58.253

Orifice Manhole: 48, DS/PN: 114.004, Volume (m³): 4.0

Diameter (m) 0.080 Discharge Coefficient 0.600 Invert Level (m) 58.775

Hydro-Brake® Manhole: 91, DS/PN: 100.027, Volume (m³): 7.2

Design Head (m) 2.250 Design Flow (l/s) 18.0 Hydro-Brake® Type Md7 Diameter (mm) 133 Invert Level (m) 56.018

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.3	0.600	9.2	1.600	15.1	2.600	19.3	5.000	26.7	7.500	32.7
0.200	6.0	0.800	10.7	1.800	16.0	3.000	20.7	5.500	28.0	8.000	33.8
0.300	6.5	1.000	11.9	2.000	16.9	3.500	22.3	6.000	29.2	8.500	34.8
0.400	7.6	1.200	13.1	2.200	17.7	4.000	23.9	6.500	30.4	9.000	35.8
0.500	8.4	1.400	14.1	2.400	18.5	4.500	25.3	7.000	31.6	9.500	36.8

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Caversham Bridge House			Woodcroft Farm		
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Caversham Bridge House Waterman Place Reading RG1 8DN	Woodcroft Farm Network 100									
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Micro Drainage	Network 2013.1.1									
Tank or Pond Manhole: 91, DS/PN: 100.027 Invert Level (m) 56.018 <table><thead><tr><th>Depth (m)</th><th>Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th></tr></thead><tbody><tr><td>0.000</td><td>289.0</td><td>2.600</td><td>676.0</td></tr></tbody></table>			Depth (m)	Area (m²)	Depth (m)	Area (m²)	0.000	289.0	2.600	676.0
Depth (m)	Area (m²)	Depth (m)	Area (m²)							
0.000	289.0	2.600	676.0							
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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Network 100

PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.
115.003	15 Winter	1	0%	100/15 Summer				
115.004	1440 Winter	1	0%	30/15 Summer				
119.000	15 Winter	1	0%	30/15 Summer				
115.005	1440 Winter	1	0%	30/15 Summer				
115.006	1440 Winter	1	0%	1/960 Winter				
100.023	1440 Winter	1	0%	1/360 Winter				
120.000	15 Winter	1	0%	100/15 Winter				
100.024	1440 Winter	1	0%	1/360 Winter				
100.025	1440 Winter	1	0%	1/240 Summer				
100.026	1440 Winter	1	0%	1/120 Winter				
100.027	1440 Winter	1	0%	1/30 Winter				

PN	US/MH Name	Water	Surch'd Depth (m)	Flooded	Flow / Cap.	O'flow (l/s)	Pipe	Status
		Level (m)		Volume (m³)			Flow (l/s)	
100.000	1	70.065	-0.229	0.000	0.12	0.0	7.9	OK
101.000	2	70.049	-0.227	0.000	0.11	0.0	7.1	OK
100.001	3	70.004	-0.175	0.000	0.35	0.0	23.4	OK
100.002	4	69.847	-0.160	0.000	0.44	0.0	27.4	OK
102.000	5	69.923	-0.167	0.000	0.15	0.0	5.7	OK
100.003	6	69.704	-0.221	0.000	0.16	0.0	32.0	OK
103.000	7	68.251	-0.279	0.000	0.01	0.0	0.8	OK
103.001	8	68.229	-0.226	0.000	0.13	0.0	8.9	OK
100.004	9	68.117	-0.182	0.000	0.33	0.0	49.3	OK
100.005	10	67.046	-0.167	0.000	0.40	0.0	57.4	OK
100.006	11	66.728	0.002	0.000	0.90	0.0	60.4	SURCHARGED
100.007	12	66.659	0.184	0.000	0.23	0.0	8.1	SURCHARGED
104.000	13	66.422	-0.186	0.000	0.07	0.0	2.6	OK
104.001	14	66.329	-0.100	0.000	0.03	0.0	0.9	OK
100.008	15	66.329	-0.051	0.000	0.15	0.0	8.7	OK
105.000	16	66.324	-0.006	0.000	0.09	0.0	4.5	OK
100.009	17	66.324	-0.005	0.000	0.12	0.0	6.5	OK
100.010	18	66.051	-0.235	0.000	0.11	0.0	6.5	OK
106.000	19	66.535	-0.178	0.000	0.10	0.0	3.6	OK
106.001	20	66.394	-0.156	0.000	0.21	0.0	7.5	OK
107.000	21	66.414	-0.174	0.000	0.12	0.0	4.4	OK
106.002	22	66.296	-0.122	0.000	0.43	0.0	16.2	OK
100.011	23	65.993	-0.225	0.000	0.14	0.0	24.8	OK
100.012	24	65.480	-0.080	0.000	0.17	0.0	29.7	OK
100.013	25	64.582	-0.218	0.000	0.17	0.0	34.2	OK
100.014	26	63.114	-0.186	0.000	0.31	0.0	39.4	OK
108.000	27	65.603	-0.177	0.000	0.10	0.0	7.7	OK
108.001	28	64.762	-0.158	0.000	0.19	0.0	13.9	OK
109.000	29	64.914	-0.176	0.000	0.11	0.0	10.0	OK
108.002	30	63.845	-0.215	0.000	0.18	0.0	29.8	OK
108.003	31	63.419	-0.191	0.000	0.28	0.0	36.5	OK
110.000	32	63.013	0.072	0.000	0.11	0.0	4.5	SURCHARGED
100.015	33	63.013	0.073	0.000	0.03	0.0	7.7	SURCHARGED
111.000	34	62.223	-0.157	0.000	0.20	0.0	7.5	OK
100.016	35	61.801	-0.182	0.000	0.32	0.0	20.2	OK
112.000	36	62.626	-0.174	0.000	0.12	0.0	10.4	OK
100.017	37	61.685	-0.214	0.000	0.18	0.0	39.0	OK
100.018	38	58.818	-0.282	0.000	0.27	0.0	48.7	OK
100.019	39	58.788	-0.183	0.000	0.33	0.0	45.0	OK
113.000	40	58.657	-0.107	0.000	0.08	0.0	3.0	OK
100.020	41	58.760	-0.003	0.000	0.61	0.0	39.3	OK
100.021	42	58.695	0.040	0.000	0.68	0.0	43.4	SURCHARGED
100.022	43	58.639	0.161	0.000	0.27	0.0	9.9	SURCHARGED
114.000	44	63.530	-0.350	0.000	0.00	0.0	0.0	OK
114.001	45	60.255	-0.225	0.000	0.00	0.0	0.0	OK
114.002	46	59.772	-0.225	0.000	0.00	0.0	0.0	OK
114.003	47	58.920	-0.225	0.000	0.00	0.0	0.0	OK
114.004	48	58.775	-0.225	0.000	0.00	0.0	0.0	OK
114.005	49	58.730	-0.166	0.000	0.15	0.0	8.3	OK
114.006	50	58.493	-0.142	0.000	0.29	0.0	16.0	OK
115.000	51	60.522	-0.178	0.000	0.10	0.0	8.7	OK
116.000	52	62.941	-0.150	0.000	0.25	0.0	8.7	OK
116.001	53	61.286	-0.122	0.000	0.43	0.0	15.4	OK
116.002	54	59.811	-0.109	0.000	0.52	0.0	19.4	OK
115.001	55	59.620	-0.140	0.000	0.53	0.0	35.9	OK
117.000	56	60.473	-0.166	0.000	0.15	0.0	5.7	OK
115.002	57	59.378	-0.195	0.000	0.26	0.0	48.4	OK
118.000	58	57.803	-0.285	0.000	0.01	0.0	0.3	OK
115.003	58	57.891	-0.188	0.000	0.29	0.0	52.8	OK
115.004	59	56.806	-0.144	0.000	0.03	0.0	4.7	OK
119.000	60	56.853	-0.154	0.000	0.22	0.0	8.2	OK
115.005	61	56.806	-0.048	0.000	0.04	0.0	5.8	OK
115.006	62	56.806	0.011	0.000	0.04	0.0	6.3	SURCHARGED
100.023	63	56.806	0.118	0.000	0.12	0.0	16.2	SURCHARGED
120.000	64	57.409	-0.159	0.000	0.19	0.0	7.0	OK
100.024	65	56.801	0.173	0.000	0.12	0.0	17.0	SURCHARGED
100.025	66	56.797	0.249	0.000	0.13	0.0	17.4	SURCHARGED

Caversham Bridge House
Waterman Place
Reading RG1 8DN

Woodcroft Farm
Network 100

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Network 100

PN	US/MH Name	Water	Surch'd Depth (m)	Flooded	Flow / Cap.	O'flow (l/s)	Pipe	Status
		Level (m)		Volume (m³)			Flow	
100.026	90	56.792	0.313	0.000	0.15	0.0	18.0	SURCHARGED
100.027	91	56.791	0.473	0.000	0.16	0.0	10.5	SURCHARGED

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Network 100

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 7 Number of Storage Structures 9 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR M5-60 (mm)	19.000	Cv (Summer)	0.750	
Region	England and Wales	Ratio R	0.350	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm) 300.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status OFF
DVD Status ON
Inertia Status ON

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440

Return Period(s) (years) 1, 30, 100

Climate Change (%) 0, 0, 30

PN	Storm	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.
100.000	15 Winter	30	0%	100/15 Summer				
101.000	15 Winter	30	0%	100/15 Summer				
100.001	15 Winter	30	0%	100/15 Summer				
100.002	15 Winter	30	0%	30/15 Summer				
102.000	15 Winter	30	0%					
100.003	15 Winter	30	0%					
103.000	15 Winter	30	0%	100/15 Summer				
103.001	15 Winter	30	0%	100/15 Summer				
100.004	15 Winter	30	0%	30/15 Winter				
100.005	15 Winter	30	0%	30/15 Summer				
100.006	15 Winter	30	0%	1/15 Winter				
100.007	120 Winter	30	0%	1/15 Summer				
104.000	360 Winter	30	0%	100/120 Summer				
104.001	360 Winter	30	0%	30/120 Summer				
100.008	360 Winter	30	0%	30/60 Winter				
105.000	360 Winter	30	0%	30/60 Summer				
100.009	360 Winter	30	0%	30/60 Summer				
100.010	15 Winter	30	0%					
106.000	15 Winter	30	0%	100/15 Summer				
106.001	15 Winter	30	0%	100/15 Summer				
107.000	15 Winter	30	0%	100/15 Summer				
106.002	15 Winter	30	0%	30/15 Summer				
100.011	15 Winter	30	0%					
100.012	15 Winter	30	0%	30/15 Summer				
100.013	15 Winter	30	0%	100/15 Summer				
100.014	15 Winter	30	0%	30/15 Summer				
108.000	15 Winter	30	0%					
108.001	15 Winter	30	0%	100/15 Summer				
109.000	15 Winter	30	0%					
108.002	15 Winter	30	0%	100/15 Summer				
108.003	15 Winter	30	0%	30/15 Summer				
110.000	960 Winter	30	0%	1/240 Winter				
100.015	15 Winter	30	0%	1/15 Summer				
111.000	15 Winter	30	0%					
100.016	15 Winter	30	0%	100/15 Summer				
112.000	15 Winter	30	0%					
100.017	15 Winter	30	0%					
100.018	15 Winter	30	0%	100/15 Summer				
100.019	15 Winter	30	0%	30/15 Summer				
113.000	960 Winter	30	0%	30/60 Summer				
100.020	960 Winter	30	0%	30/15 Summer				
100.021	960 Winter	30	0%	1/15 Summer				
100.022	960 Winter	30	0%	1/15 Summer				
114.000	60 Winter	30	0%					
114.001	60 Winter	30	0%					
114.002	60 Winter	30	0%					
114.003	60 Winter	30	0%					
114.004	60 Winter	30	0%					
114.005	15 Summer	30	0%	100/15 Summer				
114.006	15 Summer	30	0%	100/15 Summer				
115.000	15 Winter	30	0%	100/15 Winter				
116.000	15 Winter	30	0%					
116.001	15 Summer	30	0%	30/15 Summer				
116.002	15 Winter	30	0%	30/15 Summer				
115.001	15 Winter	30	0%	30/15 Summer				
117.000	15 Winter	30	0%					
115.002	15 Winter	30	0%	100/15 Summer				
118.000	60 Winter	30	0%	100/15 Winter				

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Network 100

PN	US/MH Name	Water	Surch'd Depth	Flooded	Flow / Cap.	O'flow (1/s)	Pipe	Status
		Level (m)		Volume (m³)			Flow	
100.026	90	57.518	1.038	0.000	0.26	0.0	29.7	SURCHARGED
100.027	91	57.516	1.198	0.000	0.22	0.0	14.6	SURCHARGED

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Network 100

Simulation Criteria

Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	7	Number of Storage Structures	9	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	19.000	Cv (Summer)	0.750
Region	England and Wales	Ratio R	0.350	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 30

		Return	Climate	First X	First Y	First Z	O/F	Lvl
PN	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Exc.
100.000	15 Winter	100	+30%	100/15 Summer				
101.000	15 Winter	100	+30%	100/15 Summer				
100.001	15 Winter	100	+30%	100/15 Summer				
100.002	15 Winter	100	+30%	30/15 Summer				
102.000	15 Winter	100	+30%					
100.003	15 Winter	100	+30%					
103.000	15 Winter	100	+30%	100/15 Summer				
103.001	15 Summer	100	+30%	100/15 Summer				
100.004	15 Winter	100	+30%	30/15 Winter				
100.005	15 Winter	100	+30%	30/15 Summer				
100.006	15 Winter	100	+30%	1/15 Winter				
100.007	240 Winter	100	+30%	1/15 Summer				
104.000	480 Winter	100	+30%	100/120 Summer				
104.001	480 Winter	100	+30%	30/120 Summer				
100.008	480 Winter	100	+30%	30/60 Winter				
105.000	480 Winter	100	+30%	30/60 Summer				
100.009	480 Winter	100	+30%	30/60 Summer				
100.010	15 Winter	100	+30%					
106.000	15 Winter	100	+30%	100/15 Summer				
106.001	15 Winter	100	+30%	100/15 Summer				
107.000	15 Winter	100	+30%	100/15 Summer				
106.002	15 Winter	100	+30%	30/15 Summer				
100.011	15 Winter	100	+30%					
100.012	15 Winter	100	+30%	30/15 Summer				
100.013	15 Winter	100	+30%	100/15 Summer				
100.014	15 Winter	100	+30%	30/15 Summer				
108.000	15 Winter	100	+30%					
108.001	15 Winter	100	+30%	100/15 Summer				
109.000	15 Winter	100	+30%					
108.002	15 Winter	100	+30%	100/15 Summer				
108.003	15 Winter	100	+30%	30/15 Summer				
110.000	960 Winter	100	+30%	1/240 Winter				
100.015	15 Winter	100	+30%	1/15 Summer				
111.000	15 Winter	100	+30%					
100.016	15 Winter	100	+30%	100/15 Summer				
112.000	15 Winter	100	+30%					
100.017	15 Winter	100	+30%					
100.018	15 Winter	100	+30%	100/15 Summer				
100.019	15 Winter	100	+30%	30/15 Summer				
113.000	960 Winter	100	+30%	30/60 Summer				
100.020	960 Winter	100	+30%	30/15 Summer				
100.021	960 Winter	100	+30%	1/15 Summer				
100.022	960 Winter	100	+30%	1/15 Summer				
114.000	60 Winter	100	+30%					
114.001	60 Winter	100	+30%					
114.002	60 Winter	100	+30%					
114.003	60 Winter	100	+30%					
114.004	15 Winter	100	+30%					
114.005	15 Winter	100	+30%	100/15 Summer				
114.006	15 Summer	100	+30%	100/15 Summer				
115.000	15 Winter	100	+30%	100/15 Winter				
116.000	15 Winter	100	+30%					
116.001	15 Winter	100	+30%	30/15 Summer				
116.002	15 Winter	100	+30%	30/15 Summer				
115.001	15 Winter	100	+30%	30/15 Summer				
117.000	15 Winter	100	+30%					
115.002	15 Winter	100	+30%	100/15 Summer				
118.000	1440 Winter	100	+30%	100/15 Winter				

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PN	Storm	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.
115.003	15 Winter	100	+30%	100/15 Summer				
115.004	1440 Winter	100	+30%	30/15 Summer				
119.000	1440 Winter	100	+30%	30/15 Summer				
115.005	1440 Winter	100	+30%	30/15 Summer				
115.006	1440 Winter	100	+30%	1/960 Winter				
100.023	1440 Winter	100	+30%	1/360 Winter				
120.000	1440 Winter	100	+30%	100/15 Winter				
100.024	1440 Winter	100	+30%	1/360 Winter				
100.025	1440 Winter	100	+30%	1/240 Summer				
100.026	1440 Winter	100	+30%	1/120 Winter				
100.027	1440 Winter	100	+30%	1/30 Winter				

PN	US/MH Name	Water	Surch'ed Depth (m)	Flooded	Flow / Cap.	O'flow (l/s)	Pipe	Status
		Level (m)		Volume (m³)			Flow (l/s)	
100.000	1	70.647	0.353	0.000	0.44	0.0	28.4	SURCHARGED
101.000	2	70.644	0.368	0.000	0.40	0.0	25.7	SURCHARGED
100.001	3	70.568	0.389	0.000	1.42	0.0	95.1	SURCHARGED
100.002	4	70.194	0.187	0.000	1.81	0.0	112.4	SURCHARGED
102.000	5	69.995	-0.095	0.000	0.62	0.0	23.3	OK
100.003	6	69.805	-0.120	0.000	0.66	0.0	132.6	OK
103.000	7	68.711	0.181	0.000	0.67	0.0	41.1	SURCHARGED
103.001	8	68.840	0.385	0.000	0.60	0.0	40.1	SURCHARGED
100.004	9	69.087	0.787	0.000	0.82	0.0	123.8	SURCHARGED
100.005	10	68.504	1.291	0.000	1.09	0.0	155.2	SURCHARGED
100.006	11	67.917	1.190	0.000	2.59	0.0	173.2	SURCHARGED
100.007	12	67.348	0.874	0.000	0.31	0.0	10.9	SURCHARGED
104.000	13	66.798	0.190	0.000	0.03	0.0	1.2	SURCHARGED
104.001	14	66.798	0.369	0.000	0.08	0.0	2.6	SURCHARGED
100.008	15	66.797	0.417	0.000	0.23	0.0	13.1	SURCHARGED
105.000	16	66.789	0.459	0.000	0.03	0.0	1.2	SURCHARGED
100.009	17	66.789	0.460	0.000	0.17	0.0	9.7	SURCHARGED
100.010	18	66.150	-0.136	0.000	0.10	0.0	6.3	OK
106.000	19	66.889	0.176	0.000	0.33	0.0	12.2	SURCHARGED
106.001	20	66.860	0.310	0.000	0.80	0.0	28.6	SURCHARGED
107.000	21	66.810	0.222	0.000	0.40	0.0	15.0	SURCHARGED
106.002	22	66.772	0.354	0.000	1.63	0.0	61.6	SURCHARGED
100.011	23	66.148	-0.070	0.000	0.48	0.0	85.0	OK
100.012	24	66.007	0.447	0.000	0.59	0.0	101.7	SURCHARGED
100.013	25	64.916	0.116	0.000	0.58	0.0	118.8	FLOOD RISK
100.014	26	64.426	1.126	0.000	1.06	0.0	136.1	FLOOD RISK
108.000	27	65.657	-0.123	0.000	0.42	0.0	31.9	OK
108.001	28	65.355	0.435	0.000	0.77	0.0	55.6	SURCHARGED
109.000	29	65.057	-0.033	0.000	0.43	0.0	41.0	OK
108.002	30	64.944	0.884	0.000	0.61	0.0	103.2	SURCHARGED
108.003	31	64.721	1.111	0.000	1.00	0.0	129.9	FLOOD RISK
110.000	32	63.826	0.885	0.000	0.19	0.0	7.7	SURCHARGED
100.015	33	64.024	1.084	0.000	0.07	0.0	15.4	FLOOD RISK
111.000	34	62.312	-0.068	0.000	0.83	0.0	31.1	OK
100.016	35	61.998	0.015	0.000	1.13	0.0	70.4	SURCHARGED
112.000	36	62.684	-0.116	0.000	0.48	0.0	42.8	OK
100.017	37	61.792	-0.107	0.000	0.71	0.0	155.1	OK
100.018	38	59.645	0.545	0.000	1.10	0.0	199.2	SURCHARGED
100.019	39	59.498	0.527	0.000	1.71	0.0	230.0	SURCHARGED
113.000	40	59.465	0.701	0.000	0.08	0.0	3.1	SURCHARGED
100.020	41	59.465	0.702	0.000	0.39	0.0	24.8	SURCHARGED
100.021	42	59.445	0.790	0.000	0.41	0.0	26.3	SURCHARGED
100.022	43	59.425	0.947	0.000	0.48	0.0	17.9	SURCHARGED
114.000	44	63.530	-0.350	0.000	0.00	0.0	0.0	OK
114.001	45	60.255	-0.225	0.000	0.00	0.0	0.0	OK
114.002	46	59.772	-0.225	0.000	0.00	0.0	0.0	OK
114.003	47	58.920	-0.225	0.000	0.00	0.0	0.0	OK
114.004	48	58.917	-0.083	0.000	0.06	0.0	3.0	OK
114.005	49	59.044	0.148	0.000	0.68	0.0	37.4	SURCHARGED
114.006	50	58.919	0.284	0.000	1.34	0.0	74.9	SURCHARGED
115.000	51	60.831	0.131	0.000	0.39	0.0	34.6	SURCHARGED
116.000	52	63.067	-0.024	0.000	1.00	0.0	35.3	OK
116.001	53	61.731	0.323	0.000	1.96	0.0	70.3	SURCHARGED
116.002	54	61.443	1.523	0.000	2.12	0.0	78.9	SURCHARGED
115.001	55	60.778	1.018	0.000	2.10	0.0	140.7	FLOOD RISK
117.000	56	60.545	-0.094	0.000	0.64	0.0	23.5	OK
115.002	57	60.029	0.456	0.000	1.02	0.0	187.5	SURCHARGED
118.000	58	58.278	0.190	0.000	0.07	0.0	2.5	SURCHARGED
115.003	58	58.414	0.335	0.000	0.82	0.0	147.5	SURCHARGED
115.004	59	58.276	1.326	0.000	0.11	0.0	15.6	FLOOD RISK
119.000	60	58.276	1.269	0.000	0.04	0.0	1.6	SURCHARGED
115.005	61	58.276	1.423	0.000	0.15	0.0	19.6	SURCHARGED
115.006	62	58.276	1.481	0.000	0.14	0.0	21.1	SURCHARGED
100.023	63	58.275	1.587	0.000	0.28	0.0	38.4	SURCHARGED
120.000	64	58.267	0.699	0.000	0.04	0.0	1.4	SURCHARGED
100.024	65	58.267	1.639	0.000	0.29	0.0	40.9	SURCHARGED
100.025	89	58.259	1.712	0.000	0.30	0.0	42.1	FLOOD RISK

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Network 100

PN	US/MH Name	Water	Surch'd Depth (m)	Flooded	Flow / Cap.	O'flow (l/s)	Pipe	Status
		Level (m)		Volume (m³)			Flow	
100.026	90	58.252	1.772	0.000	0.38	0.0	44.3	SURCHARGED
100.027	91	58.249	1.931	0.000	0.27	0.0	17.8	SURCHARGED