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Colwyn Chambers 19 York St Manchester M2 3BA	Burscough Civil Parish Existing SW Drainage Modelling unmaintained ditches	
Date 17/02/2017 13:18 File Existing Drainage Model...	Designed by EA Checked by PTU	
XP Solutions	Network 2015.1	

Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)
1.000	248.124	2.251	110.2	3.924	15.00	0.0		0.033	\	-1
1.001	120.805	1.680	71.9	0.482	0.00	0.0		0.033	\	-2
1.002	157.420	0.169	931.5	0.482	0.00	0.0		0.033	\	-2
1.003	38.075	0.345	110.4	0.000	0.00	0.0	0.600		o	375
1.004	13.432	0.058	231.6	0.000	0.00	0.0	0.600		o	375
1.005	8.696	0.038	231.6	0.000	0.00	0.0	0.600		o	375
2.000	16.339	0.210	77.8	9.048	15.00	0.0	0.600		o	375
1.006	49.448	0.362	136.6	0.000	0.00	0.0	0.600		o	375
1.007	18.682	0.128	146.0	0.000	0.00	0.0	0.600		o	375
1.008	29.033	0.124	234.1	0.000	0.00	0.0	0.600		o	375
1.009	12.985	0.026	500.0	0.000	0.00	0.0	0.600		o	750
1.010	121.538	1.228	99.0	0.000	0.00	0.0	0.600		o	750
3.000	15.543	0.053	293.3	8.319	15.00	0.0	0.600		o	225
1.011	16.366	0.165	99.2	8.319	0.00	0.0	0.600		o	750
1.012	86.710	2.282	38.0	0.000	0.00	0.0	0.600		o	900
1.013	88.130	0.700	125.9	0.000	0.00	0.0	0.600		o	1200
4.000	28.188	1.200	23.5	1.307	15.00	0.0	0.600		o	225

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
1.000	25.131	7.847	0.0	1.78	3017.4
1.001	22.880	17.480	0.0	2.44	5716.8
1.002	21.200	27.113	0.0	0.68	1588.4
1.003	20.631	27.113	0.0	1.72	190.4
1.004	20.286	27.113	0.0	1.19	131.0
1.005	20.228	27.113	0.0	1.19	131.0
2.000	20.400	9.048	0.0	2.06	227.1
1.006	20.190	36.161	0.0	1.55	171.0
1.007	19.828	36.161	0.0	1.50	165.4
1.008	19.700	36.161	0.0	1.18	130.3
1.009	19.201	36.161	0.0	1.24	549.9
1.010	19.175	36.161	0.0	2.81	1242.9
3.000	18.000	16.638	0.0	0.76	30.2
1.011	17.947	69.437	0.0	2.81	1241.5
1.012	17.782	69.437	0.0	5.09	3239.2
1.013	15.500	69.437	0.0	3.33	3769.8
4.000	16.000	2.613	0.0	2.71	107.8


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1.014	37.253	1.100	33.9	0.000	0.00	0.0	0.600		o	1200
1.015	60.119	0.700	85.9	0.000	0.00	0.0		0.033	\	-17
1.016	93.167	0.950	98.1	0.000	0.00	0.0		0.033	\	-17
1.017	51.737	0.177	292.3	0.000	0.00	0.0		0.033	\	-17
5.000	244.840	6.459	37.9	0.338	15.00	0.0		0.033	\	-3
5.001	143.248	1.523	94.1	0.338	0.00	0.0		0.033	\	-5
5.002	108.117	0.462	234.0	0.056	0.00	0.0		0.033	\	-4
5.003	39.031	0.256	152.5	0.056	0.00	0.0		0.033	\	-4
5.004	9.850	0.010	985.0	0.056	0.00	0.0		0.033	\	-4
5.005	29.818	0.117	255.4	0.000	0.00	0.0	0.600		o	375
6.000	61.212	3.127	19.6	2.417	15.00	0.0	0.600		o	300
1.018	20.874	0.573	36.4	0.000	0.00	0.0	0.600		o	1200
1.019	138.861	0.350	396.7	0.000	0.00	0.0		0.033	\	-18
1.020	16.030	1.050	15.3	0.000	0.00	0.0	0.600		o	300
7.000	297.092	2.410	123.3	0.703	5.00	0.0		0.033	\	-1
8.000	137.864	0.550	250.7	0.670	5.00	0.0		0.033	\	-1

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
1.014	14.800	72.050	0.0	6.44	7282.2
1.015	13.700	72.050	0.0	2.28	6457.5
1.016	13.000	72.050	0.0	2.13	6042.9
1.017	12.050	72.050	0.0	1.23	3500.3
5.000	20.700	6.760	0.0	2.06	1164.1
5.001	14.241	13.520	0.0	1.93	3760.6
5.002	12.718	14.647	0.0	1.52	5925.4
5.003	12.256	15.774	0.0	1.88	7341.1
5.004	12.000	16.901	0.0	0.74	2888.2
5.005	11.990	16.901	0.0	1.13	124.7
6.000	15.000	4.833	0.0	3.57	252.3
1.018	11.873	93.784	0.0	6.21	7020.9
1.019	11.300	93.784	0.0	1.24	5006.1
1.020	10.950	93.784	0.0	4.04	285.9
7.000	23.700	14.052	0.0	1.68	2853.3
8.000	22.650	13.400	0.0	1.18	2000.9


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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)
8.001	100.489	0.500	201.0	0.383	0.00	0.0		0.033	\	-1
8.002	11.641	0.100	116.4	0.000	0.00	0.0		0.033	\	-1
8.003	19.605	0.020	980.3	0.000	0.00	0.0		0.033	\	-1
8.004	88.709	0.089	996.7	0.383	0.00	0.0		0.033	\	-1
8.005	101.363	0.101	1003.6	0.383	0.00	0.0		0.033	\	-1
7.001	58.489	0.058	1008.4	0.000	0.00	0.0		0.033	\	-1
7.002	34.036	0.034	1001.1	0.000	0.00	0.0		0.033	\	-1
9.000	66.162	0.102	648.6	0.163	5.00	0.0		0.033	\	-1
7.003	204.396	0.204	1001.9	0.000	0.00	0.0		0.033	\	-1
7.004	16.008	0.053	302.0	0.000	0.00	0.0	0.600		o	300
7.005	83.123	0.083	1001.5	0.000	0.00	0.0		0.033	\	-6
7.006	33.405	0.033	1012.3	0.000	0.00	0.0		0.033	\	-6
7.007	92.099	1.021	90.2	0.051	0.00	0.0		0.033	\	-6
10.000	162.844	0.600	271.4	0.051	5.00	0.0		0.033	\	-6
7.008	67.389	1.010	66.7	0.056	0.00	0.0		0.033	\	-6
7.009	159.787	2.472	64.6	0.090	0.00	0.0		0.033	\	-6
7.010	129.422	2.200	58.8	0.090	0.00	0.0		0.033	\	-7

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
8.001	22.100	21.061	0.0	1.32	2234.6
8.002	21.600	21.061	0.0	1.73	2936.2
8.003	21.500	21.061	0.0	0.60	1011.8
8.004	21.480	28.722	0.0	0.59	1003.4
8.005	21.391	36.383	0.0	0.59	1000.0
7.001	21.290	50.435	0.0	0.59	997.6
7.002	21.232	50.435	0.0	0.59	1001.3
9.000	21.300	3.260	0.0	0.73	1243.9
7.003	21.198	53.695	0.0	0.59	1000.8
7.004	20.994	53.695	0.0	0.90	63.6
7.005	20.941	53.695	0.0	0.58	978.4
7.006	20.854	53.695	0.0	0.57	973.1
7.007	20.821	54.710	0.0	1.92	3259.9
10.000	20.400	1.015	0.0	1.11	1879.3
7.008	19.800	56.844	0.0	2.23	3790.4
7.009	18.790	58.648	0.0	2.27	3851.0
7.010	16.400	60.452	0.0	2.69	6862.3


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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)
7.011	79.859	0.200	399.3	0.442	0.00	0.0		0.033	\	-7
11.000	26.149	0.300	87.2	0.075	5.00	0.0		0.033	\	-7
7.012	27.910	0.100	279.1	0.000	0.00	0.0	0.600		o	300
7.013	78.221	1.000	78.2	0.000	0.00	0.0		0.033	\	-10
7.014	129.512	3.000	43.2	0.102	0.00	0.0		0.033	\	-8
12.000	107.639	0.000	0.0	0.143	5.00	0.0		0.033	\	-8
1.021	137.964	0.138	999.7	0.293	0.00	0.0		0.033	\	-9
1.022	2.008	0.007	300.0	0.000	0.00	0.0	0.600		o	375
1.023	20.061	0.355	56.5	0.000	0.00	0.0	0.600		[]	-11
1.024	45.209	0.045	1004.6	0.037	0.00	0.0		0.033	\	-13
1.025	2.082	0.155	13.4	0.000	0.00	0.0	0.600		o	600
1.026	54.475	0.054	1008.8	0.037	0.00	0.0		0.033	\	-13
1.027	2.073	0.005	400.0	0.000	0.00	0.0	0.600		o	600
1.028	38.429	0.038	1011.3	0.037	0.00	0.0		0.033	\	-13
1.029	10.223	0.802	12.7	0.000	0.00	0.0	0.600		o	1000
1.030	312.463	1.900	164.5	0.448	0.00	0.0		0.033	\	-14
1.031	211.146	0.211	1000.7	0.448	0.00	0.0		0.033	\	-14
1.032	226.278	0.489	462.7	0.000	0.00	0.0	0.600		o	600

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
7.011	14.200	69.299	0.0	1.03	2634.0
11.000	14.300	1.500	0.0	2.21	5637.6
7.012	14.000	70.799	0.0	0.94	66.2
7.013	13.900	70.799	0.0	1.33	563.5
7.014	12.900	72.836	0.0	3.51	12050.5
12.000	9.900	2.869	0.0	0.00	0.0
1.021	9.900	175.356	0.0	0.75	2560.7
1.022	9.762	175.356	0.0	1.04	115.0
1.023	9.755	175.356	0.0	2.10	188.6
1.024	9.400	176.096	0.0	0.51	566.6
1.025	9.355	176.096	0.0	6.67	1885.2
1.026	9.200	176.836	0.0	0.51	565.5
1.027	9.146	176.836	0.0	1.21	342.5
1.028	9.141	177.576	0.0	0.51	564.8
1.029	9.102	177.576	0.0	9.39	7375.6
1.030	8.300	186.529	0.0	1.84	6334.6
1.031	6.400	195.482	0.0	0.74	2568.0
1.032	6.189	195.482	0.0	1.13	318.2

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Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)
1.033	37.773	0.100	377.7	0.000	0.00	0.0		0.033	_	-15
1.034	50.273	0.400	125.7	0.000	0.00	0.0		0.033	_	-15
1.035	52.135	1.000	52.1	0.000	0.00	0.0		0.033	_	-15
1.036	42.921	0.043	998.2	0.000	0.00	0.0		0.033	_	-15
1.037	89.127	0.089	1001.4	0.000	0.00	0.0	0.600		_	-15

Network Results Table


PN	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Vel (m/s)	Cap (l/s)
1.033	5.700	195.482	0.0	0.85	1692.9
1.034	5.600	195.482	0.0	1.47	2934.8
1.035	5.200	195.482	0.0	2.28	4556.8
1.036	4.200	195.482	0.0	0.52	1041.4
1.037	4.157	195.482	0.0	1.40	2802.9

Conduit Sections for Storm

NOTE: Diameters less than 66 refer to section numbers of hydraulic conduits. These conduits are marked by the symbols:- [] box culvert, \ / open channel, oo dual pipe, ooo triple pipe, O egg.

Section numbers < 0 are taken from user conduit table

Section Number	Conduit Type	Major Dimn. (mm)	Minor Dimn. (mm)	Side Slope (Deg)	Corner Splay (mm)	4*Hyd Radius (m)	XSect Area (m ²)
-1	\ /	800	1200	63.0		1.939	1.694
-2	\ /	800	1500	63.0		2.252	2.346
-3	\ /	300	800	63.0		1.080	0.566
-4	\ /	400	2400	63.0		2.692	3.895
-5	\ /	400	1600	63.0		1.949	1.944
-6	\ /	500	1400	63.0		1.865	1.699
-7	\ /	500	1800	63.0		2.247	2.551
-8	\ /	700	2000	63.0		2.650	3.438
-9	\ /	1500	1500	63.0		2.791	3.396
-10	\ /	400	600	63.0		0.970	0.423
-11	[]	300	300	90.0		0.300	0.090
-13	\ /	600	1100	63.0		1.561	1.110
-14	\ /	1000	1800	63.0		2.739	3.451
-15	_	1000	2000	90.0		1.600	2.000
-17	\ /	400	2000	63.0		2.322	2.838
-18	\ /	1000	2000	63.0		2.943	4.038

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	\	-1	100	26.337	25.131	0.006	Junction	
1.001	\	-2	101	24.380	22.880	0.300	Junction	
1.002	\	-2	102	22.700	21.200	0.300	Junction	
1.003	o	375	9512	21.831	20.631	0.825	Open Manhole	1350
1.004	o	375	104	21.486	20.286	0.825	Open Manhole	1350
1.005	o	375	9508	21.428	20.228	0.825	Open Manhole	1350
2.000	o	375	7	21.200	20.400	0.425	Open Manhole	1200
1.006	o	375	9507	21.432	20.190	0.867	Open Manhole	1350
1.007	o	375	8609	21.028	19.828	0.825	Open Manhole	1350
1.008	o	375	8608	20.900	19.700	0.825	Open Manhole	1350
1.009	o	750	8610	20.401	19.201	0.450	Open Manhole	1800
1.010	o	750	8611	20.375	19.175	0.450	Open Manhole	1800
3.000	o	225	13	19.100	18.000	0.875	Open Manhole	1200
1.011	o	750	12	19.153	17.947	0.456	Open Manhole	1800
1.012	o	900	105	19.163	17.782	0.481	Open Manhole	1800
1.013	o	1200	106	17.500	15.500	0.800	Open Manhole	2100

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	248.124	110.2	101	24.380	22.880	0.300	Junction	
1.001	120.805	71.9	102	22.700	21.200	0.300	Junction	
1.002	157.420	931.5	9512	21.831	21.031	-0.400	Open Manhole	1350
1.003	38.075	110.4	104	21.486	20.286	0.825	Open Manhole	1350
1.004	13.432	231.6	9508	21.428	20.228	0.825	Open Manhole	1350
1.005	8.696	231.6	9507	21.432	20.190	0.867	Open Manhole	1350
2.000	16.339	77.8	9507	21.432	20.190	0.867	Open Manhole	1350
1.006	49.448	136.6	8609	21.028	19.828	0.825	Open Manhole	1350
1.007	18.682	146.0	8608	20.900	19.700	0.825	Open Manhole	1350
1.008	29.033	234.1	8610	20.401	19.576	0.450	Open Manhole	1800
1.009	12.985	500.0	8611	20.375	19.175	0.450	Open Manhole	1800
1.010	121.538	99.0	12	19.153	17.947	0.456	Open Manhole	1800
3.000	15.543	293.3	12	19.153	17.947	0.981	Open Manhole	1800
1.011	16.366	99.2	105	19.163	17.782	0.631	Open Manhole	1800
1.012	86.710	38.0	106	17.500	15.500	1.100	Open Manhole	2100
1.013	88.130	125.9	107	16.800	14.800	0.800	Open Manhole	2100

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
4.000	o	225	17	17.200	16.000	0.975	Open Manhole	1200
1.014	o	1200	107	16.800	14.800	0.800	Open Manhole	2100
1.015	\	-17	108	15.700	13.700	0.000	Junction	
1.016	\	-17	109	15.000	13.000	0.000	Junction	
1.017	\	-17	110	14.050	12.050	0.000	Junction	
5.000	\	-3	111	21.500	20.700	0.000	Junction	
5.001	\	-5	112	15.841	14.241	0.000	Junction	
5.002	\	-4	113	15.118	12.718	0.000	Junction	
5.003	\	-4	114	14.656	12.256	0.000	Junction	
5.004	\	-4	115	14.400	12.000	0.000	Junction	
5.005	o	375	116	14.700	11.990	2.335	Junction	
6.000	o	300	19	16.300	15.000	1.000	Open Manhole	1200
1.018	o	1200	117	14.200	11.873	1.127	Junction	
1.019	\	-18	118	13.300	11.300	0.000	Junction	
1.020	o	300	119	12.150	10.950	0.900	Junction	
7.000	\	-1	120	24.900	23.700	0.000	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
4.000	28.188	23.5	107	16.800	14.800	1.775	Open Manhole	2100
1.014	37.253	33.9	108	15.700	13.700	0.800	Junction	
1.015	60.119	85.9	109	15.000	13.000	0.000	Junction	
1.016	93.167	98.1	110	14.050	12.050	0.000	Junction	
1.017	51.737	292.3	117	14.200	11.873	0.327	Junction	
5.000	244.840	37.9	112	15.841	14.241	0.800	Junction	
5.001	143.248	94.1	113	15.118	12.718	0.800	Junction	
5.002	108.117	234.0	114	14.656	12.256	0.000	Junction	
5.003	39.031	152.5	115	14.400	12.000	0.000	Junction	
5.004	9.850	985.0	116	14.700	11.990	0.310	Junction	
5.005	29.818	255.4	117	14.200	11.873	1.952	Junction	
6.000	61.212	19.6	117	14.200	11.873	2.027	Junction	
1.018	20.874	36.4	118	13.300	11.300	0.800	Junction	
1.019	138.861	396.7	119	12.150	10.950	-0.800	Junction	
1.020	16.030	15.3	145	11.950	9.900	1.750	Junction	
7.000	297.092	123.3	127	23.100	21.290	0.610	Junction	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
8.000	\	-1	121	23.850	22.650	0.000	Junction	
8.001	\	-1	122	23.300	22.100	0.000	Junction	
8.002	\	-1	123	23.600	21.600	0.800	Junction	
8.003	\	-1	124	22.700	21.500	0.000	Junction	
8.004	\	-1	125	22.900	21.480	0.220	Junction	
8.005	\	-1	126	23.100	21.391	0.509	Junction	
7.001	\	-1	127	23.100	21.290	0.610	Junction	
7.002	\	-1	128	22.850	21.232	0.418	Junction	
9.000	\	-1	129	22.500	21.300	0.000	Junction	
7.003	\	-1	130	22.560	21.198	0.162	Junction	
7.004	o	300	131	23.220	20.994	1.926	Junction	
7.005	\	-6	132	23.050	20.941	0.709	Junction	
7.006	\	-6	133	22.700	20.854	0.446	Junction	
7.007	\	-6	134	22.750	20.821	0.529	Junction	
10.000	\	-6	135	21.800	20.400	0.000	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
8.000	137.864	250.7	122	23.300	22.100	0.000	Junction	
8.001	100.489	201.0	123	23.600	21.600	0.800	Junction	
8.002	11.641	116.4	124	22.700	21.500	0.000	Junction	
8.003	19.605	980.3	125	22.900	21.480	0.220	Junction	
8.004	88.709	996.7	126	23.100	21.391	0.509	Junction	
8.005	101.363	1003.6	127	23.100	21.290	0.610	Junction	
7.001	58.489	1008.4	128	22.850	21.232	0.418	Junction	
7.002	34.036	1001.1	130	22.560	21.198	0.162	Junction	
9.000	66.162	648.6	130	22.560	21.198	0.162	Junction	
7.003	204.396	1001.9	131	23.220	20.994	1.026	Junction	
7.004	16.008	302.0	132	23.050	20.941	1.809	Junction	
7.005	83.123	1001.5	133	22.700	20.858	0.442	Junction	
7.006	33.405	1012.3	134	22.750	20.821	0.529	Junction	
7.007	92.099	90.2	136	21.200	19.800	0.000	Junction	
10.000	162.844	271.4	136	21.200	19.800	0.000	Junction	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
7.008	\	-6	136	21.200	19.800	0.000	Junction	
7.009	\	-6	137	20.190	18.790	0.000	Junction	
7.010	\	-7	138	18.200	16.400	0.000	Junction	
7.011	\	-7	139	16.000	14.200	0.000	Junction	
11.000	\	-7	140	16.100	14.300	0.000	Junction	
7.012	o	300	141	15.600	14.000	1.300	Junction	
7.013	\	-10	142	14.500	13.900	0.000	Junction	
7.014	\	-8	143	14.900	12.900	0.000	Junction	
12.000	\	-8	144	11.900	9.900	0.000	Junction	
1.021	\	-9	145	11.950	9.900	0.550	Junction	
1.022	o	375	146	11.100	9.762	0.963	Junction	
1.023	[]	-11	147	11.000	9.755	0.945	Junction	
1.024	\	-13	56	10.500	9.400	0.000	Junction	
1.025	o	600	57	10.200	9.355	0.245	Junction	
1.026	\	-13	56	10.300	9.200	0.000	Junction	
1.027	o	600	59	10.500	9.146	0.754	Junction	
1.028	\	-13	60	10.500	9.141	0.259	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
7.008	67.389	66.7	137	20.190	18.790	0.000	Junction	
7.009	159.787	64.6	138	18.200	16.318	0.482	Junction	
7.010	129.422	58.8	139	16.000	14.200	0.000	Junction	
7.011	79.859	399.3	141	15.600	14.000	-0.200	Junction	
11.000	26.149	87.2	141	15.600	14.000	-0.200	Junction	
7.012	27.910	279.1	142	14.500	13.900	0.300	Junction	
7.013	78.221	78.2	143	14.900	12.900	1.400	Junction	
7.014	129.512	43.2	145	11.950	9.900	0.050	Junction	
12.000	107.639	0.0	145	11.950	9.900	0.050	Junction	
1.021	137.964	999.7	146	11.100	9.762	-0.162	Junction	
1.022	2.008	300.0	147	11.000	9.755	0.870	Junction	
1.023	20.061	56.5	56	10.500	9.400	0.800	Junction	
1.024	45.209	1004.6	57	10.200	9.355	-0.255	Junction	
1.025	2.082	13.4	56	10.300	9.200	0.500	Junction	
1.026	54.475	1008.8	59	10.500	9.146	0.254	Junction	
1.027	2.073	400.0	60	10.500	9.141	0.759	Junction	
1.028	38.429	1011.3	148	10.240	9.103	0.037	Junction	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.029	o	1000	148	10.240	9.102	0.138	Junction	
1.030	\	-14	62	10.100	8.300	0.000	Junction	
1.031	\	-14	149	8.200	6.400	0.000	Junction	
1.032	o	600	150	7.900	6.189	1.111	Junction	
1.033	_	-15	151	7.700	5.700	0.000	Junction	
1.034	_	-15	152	7.600	5.600	0.000	Junction	
1.035	_	-15	153	7.200	5.200	0.000	Junction	
1.036	_	-15	154	6.200	4.200	0.000	Junction	
1.037	_	-15	155	6.500	4.157	0.343	Junction	

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.029	10.223	12.7	62	10.100	8.300	0.800	Junction	
1.030	312.463	164.5	149	8.200	6.400	0.000	Junction	
1.031	211.146	1000.7	150	7.900	6.189	-0.089	Junction	
1.032	226.278	462.7	151	7.700	5.700	1.400	Junction	
1.033	37.773	377.7	152	7.600	5.600	0.000	Junction	
1.034	50.273	125.7	153	7.200	5.200	0.000	Junction	
1.035	52.135	52.1	154	6.200	4.200	0.000	Junction	
1.036	42.921	998.2	155	6.500	4.157	0.343	Junction	
1.037	89.127	1001.4		6.800	4.068	0.732	Open Manhole	0

Free Flowing Outfall Details for Storm


Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
1.037		6.800	4.068	4.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	5.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1


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

Synthetic Rainfall Details

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Simulation Criteria for Storm

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Storm Duration (mins)	30
Ratio R	0.368		

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

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 5.000
Hot Start Level (mm) 0 Inlet Coefficient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

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


Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.368
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 19.000 Cv (Winter) 0.840

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


Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 360, 720, 1440, 2880, 4320
Return Period(s) (years) 1, 5, 30, 100
Climate Change (%) 0, 0, 0, 30

PN	US/MH Name	Event	Water Surcharged Flooded						
			US/CL (m)	Level (m)	Depth (m)	Volume (m ³)	Flow / Cap.		
1.000	100	30 minute 1 year Winter I+0%	26.337	25.417	-0.914	0.000	0.08		
1.001	101	30 minute 1 year Winter I+0%	24.380	23.128	-1.252	0.000	0.05		
1.002	102	60 minute 1 year Winter I+0%	22.700	21.831	-0.869	0.000	0.16		
1.003	9512	60 minute 1 year Winter I+0%	21.831	21.799	0.793	0.000	0.93		
1.004	104	60 minute 1 year Winter I+0%	21.486	21.519	0.858	33.327	1.28		
1.005	9508	60 minute 1 year Winter I+0%	21.428	21.420	0.817	0.000	1.41		
2.000	7	120 minute 1 year Winter I+0%	21.200	21.399	0.624	199.075	0.97		
1.006	9507	120 minute 1 year Winter I+0%	21.432	21.336	0.771	0.000	1.35		
1.007	8609	120 minute 1 year Winter I+0%	21.028	20.674	0.471	0.000	1.56		
1.008	8608	120 minute 1 year Winter I+0%	20.900	20.363	0.288	0.000	1.86		
1.009	8610	120 minute 1 year Winter I+0%	20.401	19.711	-0.240	0.000	0.80		
1.010	8611	120 minute 1 year Winter I+0%	20.375	19.392	-0.533	0.000	0.19		
3.000	13	120 minute 1 year Winter I+0%	19.100	19.313	1.088	213.444	4.17		
1.011	12	30 minute 1 year Winter I+0%	19.153	18.644	-0.053	0.000	1.00		
1.012	105	60 minute 1 year Winter I+0%	19.163	18.069	-0.613	0.000	0.22		
1.013	106	60 minute 1 year Winter I+0%	17.500	15.863	-0.837	0.000	0.20		
4.000	17	30 minute 1 year Winter I+0%	17.200	16.167	-0.058	0.000	0.90		
1.014	107	30 minute 1 year Winter I+0%	16.800	15.133	-0.867	0.000	0.17		
1.015	108	30 minute 1 year Winter I+0%	15.700	14.387	-1.313	0.000	0.11		

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

PN	US/MH Name	Overflow (1/s)	Pipe Flow (1/s)	Status
1.000	100		256.3	OK
1.001	101		269.1	OK
1.002	102		251.2	OK
1.003	9512		160.4	FLOOD RISK
1.004	104		131.6	FLOOD
1.005	9508		131.7	FLOOD RISK
2.000	7		173.3	FLOOD
1.006	9507		213.8	FLOOD RISK
1.007	8609		213.8	SURCHARGED
1.008	8608		213.8	SURCHARGED
1.009	8610		213.8	OK
1.010	8611		213.8	OK
3.000	13		111.1	FLOOD
1.011	12		636.0	OK
1.012	105		636.0	OK
1.013	106		636.0	OK
4.000	17		90.3	OK
1.014	107		726.0	OK
1.015	108		726.1	OK

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

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap.
1.016	109	30 minute 1 year Winter I+0%	15.000	13.709	-1.291	0.000	0.12
1.017	110	360 minute 1 year Winter I+0%	14.050	13.131	-0.919	0.000	0.13
5.000	111	30 minute 1 year Winter I+0%	21.500	20.787	-0.713	0.000	0.02
5.001	112	15 minute 1 year Winter I+0%	15.841	14.386	-1.455	0.000	0.01
5.002	113	360 minute 1 year Winter I+0%	15.118	13.116	-2.002	0.000	0.00
5.003	114	360 minute 1 year Winter I+0%	14.656	13.116	-1.540	0.000	0.00
5.004	115	360 minute 1 year Winter I+0%	14.400	13.116	-1.284	0.000	0.01
5.005	116	360 minute 1 year Winter I+0%	14.700	13.116	0.751	0.000	0.17
6.000	19	30 minute 1 year Winter I+0%	16.300	15.185	-0.115	0.000	0.70
1.018	117	360 minute 1 year Winter I+0%	14.200	13.114	0.041	0.000	0.17
1.019	118	360 minute 1 year Winter I+0%	13.300	13.107	-0.193	0.000	0.10
1.020	119	360 minute 1 year Winter I+0%	12.150	13.099	1.849	948.778	1.23
7.000	120	15 minute 1 year Winter I+0%	24.900	23.851	-1.049	0.000	0.03
8.000	121	15 minute 1 year Winter I+0%	23.850	22.830	-1.020	0.000	0.04
8.001	122	15 minute 1 year Winter I+0%	23.300	22.295	-1.005	0.000	0.05
8.002	123	30 minute 1 year Winter I+0%	23.600	21.879	-0.921	0.000	0.03
8.003	124	30 minute 1 year Winter I+0%	22.700	21.875	-0.825	0.000	0.13
8.004	125	30 minute 1 year Winter I+0%	22.900	21.853	-0.827	0.000	0.09
8.005	126	30 minute 1 year Winter I+0%	23.100	21.767	-0.824	0.000	0.09
7.001	127	30 minute 1 year Winter I+0%	23.100	21.675	-0.815	0.000	0.11
7.002	128	60 minute 1 year Winter I+0%	22.850	21.590	-0.842	0.000	0.12
9.000	129	60 minute 1 year Winter I+0%	22.500	21.515	-0.985	0.000	0.01
7.003	130	60 minute 1 year Winter I+0%	22.560	21.515	-0.883	0.000	0.10
7.004	131	60 minute 1 year Winter I+0%	23.220	21.401	0.107	0.000	1.19
7.005	132	60 minute 1 year Winter I+0%	23.050	21.317	-1.024	0.000	0.07
7.006	133	60 minute 1 year Winter I+0%	22.700	21.187	-1.067	0.000	0.09
7.007	134	60 minute 1 year Winter I+0%	22.750	20.983	-1.238	0.000	0.02
10.000	135	15 minute 1 year Winter I+0%	21.800	20.429	-1.371	0.000	0.00
7.008	136	60 minute 1 year Winter I+0%	21.200	19.950	-1.250	0.000	0.02
7.009	137	60 minute 1 year Winter I+0%	20.190	18.938	-1.252	0.000	0.02
7.010	138	60 minute 1 year Winter I+0%	18.200	16.528	-1.672	0.000	0.01
7.011	139	120 minute 1 year Winter I+0%	16.000	14.470	-1.530	0.000	0.03
11.000	140	15 minute 1 year Winter I+0%	16.100	14.321	-1.779	0.000	0.00
7.012	141	120 minute 1 year Winter I+0%	15.600	14.314	0.014	0.000	1.14
7.013	142	120 minute 1 year Winter I+0%	14.500	14.088	-0.412	0.000	0.13
7.014	143	120 minute 1 year Winter I+0%	14.900	12.976	-1.924	0.000	0.01
12.000	144	360 minute 1 year Winter I+0%	11.900	11.649	-0.251	0.000	0.00
1.021	145	360 minute 1 year Winter I+0%	11.950	11.650	0.250	0.000	0.14
1.022	146	360 minute 1 year Winter I+0%	11.100	11.640	1.503	540.000	2.77
1.023	147	60 minute 1 year Winter I+0%	11.000	10.130	0.075	0.000	1.43
1.024	56	360 minute 1 year Winter I+0%	10.500	10.184	-0.316	0.000	0.55
1.025	57	360 minute 1 year Winter I+0%	10.200	10.046	0.091	0.000	0.75
1.026	56	360 minute 1 year Winter I+0%	10.300	10.042	-0.258	0.000	0.52
1.027	59	360 minute 1 year Winter I+0%	10.500	9.927	0.181	0.000	0.86
1.028	60	360 minute 1 year Winter I+0%	10.500	9.925	-0.316	0.000	0.60
1.029	148	360 minute 1 year Winter I+0%	10.240	9.330	-0.772	0.000	0.12
1.030	62	360 minute 1 year Winter I+0%	10.100	8.595	-1.505	0.000	0.05
1.031	149	360 minute 1 year Winter I+0%	8.200	6.934	-1.266	0.000	0.12

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
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PN	US/MH Name	Overflow (1/s)	Pipe Flow (1/s)	Status
1.016	109		725.0	OK
1.017	110		468.1	OK
5.000	111		22.8	OK
5.001	112		46.3	OK
5.002	113		15.3	OK
5.003	114		15.4	OK
5.004	115		20.1	OK
5.005	116		21.3	SURCHARGED*
6.000	19		166.9	OK
1.018	117		508.1	SURCHARGED*
1.019	118		503.6	FLOOD RISK*
1.020	119		314.5	FLOOD
7.000	120		73.0	OK
8.000	121		73.9	OK
8.001	122		102.6	OK
8.002	123		82.9	OK
8.003	124		81.4	OK
8.004	125		94.5	OK
8.005	126		93.6	OK
7.001	127		109.0	OK
7.002	128		102.5	OK
9.000	129		10.2	OK
7.003	130		96.7	OK
7.004	131		73.0	SURCHARGED*
7.005	132		72.8	OK
7.006	133		72.2	OK
7.007	134		72.2	OK
10.000	135		6.5	OK
7.008	136		72.2	OK
7.009	137		72.1	OK
7.010	138		72.1	OK
7.011	139		75.1	OK
11.000	140		9.6	OK
7.012	141		75.1	SURCHARGED*
7.013	142		75.1	OK
7.014	143		75.7	OK
12.000	144		2.4	FLOOD RISK*
1.021	145		362.2	SURCHARGED*
1.022	146		297.1	FLOOD
1.023	147		269.0	SURCHARGED*
1.024	56		297.1	OK
1.025	57		297.7	FLOOD RISK*
1.026	56		297.3	FLOOD RISK*
1.027	59		298.2	SURCHARGED*
1.028	60		297.4	OK
1.029	148		297.3	OK*
1.030	62		297.7	OK

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XP Solutions	Network 2015.1	

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


PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.031	149		298.4	OK

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

PN	US/MH Name	Event	US/CL (m)	Water Surcharged			Flooded	
				Level (m)	Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)
1.032	150	360 minute 1 year Winter I+0%	7.900	6.646	-0.143	0.000	0.94	
1.033	151	360 minute 1 year Winter I+0%	7.700	6.187	-1.513	0.000	0.18	
1.034	152	360 minute 1 year Winter I+0%	7.600	5.926	-1.674	0.000	0.10	
1.035	153	360 minute 1 year Winter I+0%	7.200	5.439	-1.761	0.000	0.07	
1.036	154	360 minute 1 year Winter I+0%	6.200	4.906	-1.294	0.000	0.31	
1.037	155	360 minute 1 year Winter I+0%	6.500	4.486	-1.671	0.000	0.11	

Pipe			
PN	US/MH Name	Flow (l/s)	Status
1.032	150	298.3	OK*
1.033	151	298.3	OK
1.034	152	298.3	OK
1.035	153	298.3	OK
1.036	154	298.3	OK
1.037	155	298.3	OK

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XP Solutions	Network 2015.1	

5 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 5.000
Hot Start Level (mm) 0 Inlet Coefficient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

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


Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.368
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 19.000 Cv (Winter) 0.840

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


Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 360, 720, 1440, 2880, 4320
Return Period(s) (years) 1, 5, 30, 100
Climate Change (%) 0, 0, 0, 30

PN	US/MH Name	Event	Water Surcharged Flooded						
			US/CL (m)	Level (m)	Depth (m)	Volume (m ³)	Flow / Cap.		
1.000	100	30 minute 5 year Winter I+0%	26.337	25.528	-0.803	0.000	0.14		
1.001	101	30 minute 5 year Winter I+0%	24.380	23.226	-1.154	0.000	0.08		
1.002	102	30 minute 5 year Winter I+0%	22.700	22.014	-0.686	0.000	0.28		
1.003	9512	60 minute 5 year Winter I+0%	21.831	21.991	0.985	159.699	1.11		
1.004	104	120 minute 5 year Winter I+0%	21.486	21.657	0.996	170.855	1.14		
1.005	9508	120 minute 5 year Winter I+0%	21.428	21.578	0.975	149.820	1.45		
2.000	7	120 minute 5 year Winter I+0%	21.200	21.779	1.004	578.965	1.22		
1.006	9507	120 minute 5 year Winter I+0%	21.432	21.534	0.969	101.688	1.44		
1.007	8609	120 minute 5 year Winter I+0%	21.028	20.778	0.575	0.000	1.66		
1.008	8608	120 minute 5 year Winter I+0%	20.900	20.424	0.349	0.000	1.99		
1.009	8610	120 minute 5 year Winter I+0%	20.401	19.732	-0.219	0.000	0.86		
1.010	8611	120 minute 5 year Winter I+0%	20.375	19.401	-0.524	0.000	0.20		
3.000	13	120 minute 5 year Winter I+0%	19.100	19.798	1.573	698.090	5.06		
1.011	12	30 minute 5 year Winter I+0%	19.153	18.990	0.293	0.000	1.73		
1.012	105	30 minute 5 year Winter I+0%	19.163	18.168	-0.514	0.000	0.39		
1.013	106	30 minute 5 year Winter I+0%	17.500	15.985	-0.715	0.000	0.34		
4.000	17	30 minute 5 year Winter I+0%	17.200	16.630	0.405	0.000	1.09		
1.014	107	30 minute 5 year Winter I+0%	16.800	15.235	-0.765	0.000	0.29		
1.015	108	30 minute 5 year Winter I+0%	15.700	14.591	-1.109	0.000	0.19		

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XP Solutions	Network 2015.1	


5 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	100		427.8	OK
1.001	101		452.2	OK
1.002	102		437.3	OK
1.003	9512		190.9	FLOOD
1.004	104		116.9	FLOOD
1.005	9508		135.6	FLOOD
2.000	7		218.3	FLOOD
1.006	9507		228.4	FLOOD
1.007	8609		228.4	FLOOD RISK
1.008	8608		228.4	SURCHARGED
1.009	8610		228.4	OK
1.010	8611		228.4	OK
3.000	13		134.7	FLOOD
1.011	12		1098.2	FLOOD RISK
1.012	105		1098.4	OK
1.013	106		1094.5	OK
4.000	17		109.2	SURCHARGED
1.014	107		1199.3	OK
1.015	108		1196.5	OK

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
1.016	109	30 minute 5 year Winter I+0%	15.000	13.924	-1.076	0.000	0.20
1.017	110	360 minute 5 year Winter I+0%	14.050	13.764	-0.286	0.000	0.17
5.000	111	30 minute 5 year Winter I+0%	21.500	20.815	-0.685	0.000	0.03
5.001	112	15 minute 5 year Winter I+0%	15.841	14.440	-1.401	0.000	0.02
5.002	113	360 minute 5 year Winter I+0%	15.118	13.755	-1.363	0.000	0.00
5.003	114	360 minute 5 year Winter I+0%	14.656	13.755	-0.901	0.000	0.00
5.004	115	360 minute 5 year Winter I+0%	14.400	13.755	-0.645	0.000	0.01
5.005	116	360 minute 5 year Winter I+0%	14.700	13.755	1.390	0.000	0.40
6.000	19	30 minute 5 year Winter I+0%	16.300	15.406	0.106	0.000	0.97
1.018	117	360 minute 5 year Winter I+0%	14.200	13.755	0.682	0.000	0.21
1.019	118	360 minute 5 year Winter I+0%	13.300	13.747	0.447	447.148	0.12
1.020	119	360 minute 5 year Winter I+0%	12.150	13.738	2.488	1588.388	1.33
7.000	120	15 minute 5 year Winter I+0%	24.900	23.906	-0.994	0.000	0.04
8.000	121	15 minute 5 year Winter I+0%	23.850	22.899	-0.951	0.000	0.06
8.001	122	15 minute 5 year Winter I+0%	23.300	22.367	-0.933	0.000	0.08
8.002	123	30 minute 5 year Winter I+0%	23.600	22.000	-0.800	0.000	0.05
8.003	124	30 minute 5 year Winter I+0%	22.700	21.997	-0.703	0.000	0.21
8.004	125	30 minute 5 year Winter I+0%	22.900	21.978	-0.702	0.000	0.16
8.005	126	30 minute 5 year Winter I+0%	23.100	21.894	-0.697	0.000	0.16
7.001	127	30 minute 5 year Winter I+0%	23.100	21.802	-0.688	0.000	0.18
7.002	128	30 minute 5 year Winter I+0%	22.850	21.711	-0.721	0.000	0.21
9.000	129	60 minute 5 year Winter I+0%	22.500	21.645	-0.855	0.000	0.01
7.003	130	60 minute 5 year Winter I+0%	22.560	21.645	-0.753	0.000	0.16
7.004	131	60 minute 5 year Winter I+0%	23.220	21.587	0.293	0.000	1.72
7.005	132	60 minute 5 year Winter I+0%	23.050	21.410	-0.931	0.000	0.11
7.006	133	60 minute 5 year Winter I+0%	22.700	21.282	-0.972	0.000	0.13
7.007	134	60 minute 5 year Winter I+0%	22.750	21.020	-1.201	0.000	0.03
10.000	135	15 minute 5 year Winter I+0%	21.800	20.449	-1.351	0.000	0.01
7.008	136	60 minute 5 year Winter I+0%	21.200	19.982	-1.218	0.000	0.03
7.009	137	60 minute 5 year Winter I+0%	20.190	18.971	-1.219	0.000	0.03
7.010	138	60 minute 5 year Winter I+0%	18.200	16.583	-1.617	0.000	0.02
7.011	139	120 minute 5 year Winter I+0%	16.000	14.566	-1.434	0.000	0.04
11.000	140	120 minute 5 year Winter I+0%	16.100	14.450	-1.650	0.000	0.00
7.012	141	120 minute 5 year Winter I+0%	15.600	14.450	0.150	0.000	1.63
7.013	142	120 minute 5 year Winter I+0%	14.500	14.131	-0.369	0.000	0.19
7.014	143	120 minute 5 year Winter I+0%	14.900	13.009	-1.891	0.000	0.01
12.000	144	360 minute 5 year Winter I+0%	11.900	11.978	0.078	77.781	0.01
1.021	145	360 minute 5 year Winter I+0%	11.950	11.978	0.578	27.788	0.16
1.022	146	360 minute 5 year Winter I+0%	11.100	11.967	1.830	867.231	3.04
1.023	147	60 minute 5 year Winter I+0%	11.000	10.130	0.075	0.000	1.53
1.024	56	360 minute 5 year Winter I+0%	10.500	10.218	-0.282	0.000	0.60
1.025	57	360 minute 5 year Winter I+0%	10.200	10.077	0.122	0.000	0.83
1.026	56	360 minute 5 year Winter I+0%	10.300	10.072	-0.228	0.000	0.57
1.027	59	360 minute 5 year Winter I+0%	10.500	9.953	0.207	0.000	0.94
1.028	60	360 minute 5 year Winter I+0%	10.500	9.948	-0.293	0.000	0.65
1.029	148	360 minute 5 year Winter I+0%	10.240	9.341	-0.761	0.000	0.13
1.030	62	720 minute 5 year Winter I+0%	10.100	8.612	-1.488	0.000	0.05
1.031	149	720 minute 5 year Winter I+0%	8.200	6.979	-1.221	0.000	0.13

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XP Solutions	Network 2015.1	


5 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.016	109		1190.4	OK
1.017	110		590.2	FLOOD RISK*
5.000	111		37.9	OK
5.001	112		78.4	OK
5.002	113		22.1	OK
5.003	114		34.7	OK
5.004	115		46.6	OK
5.005	116		49.4	SURCHARGED*
6.000	19		233.0	SURCHARGED
1.018	117		626.8	SURCHARGED*
1.019	118		624.2	FLOOD
1.020	119		342.1	FLOOD
7.000	120		119.9	OK
8.000	121		123.4	OK
8.001	122		169.9	OK
8.002	123		136.0	OK
8.003	124		133.9	OK
8.004	125		156.7	OK
8.005	126		158.1	OK
7.001	127		182.9	OK
7.002	128		174.9	OK
9.000	129		16.7	OK
7.003	130		157.2	OK
7.004	131		105.7	SURCHARGED*
7.005	132		105.4	OK
7.006	133		104.8	OK
7.007	134		104.7	OK
10.000	135		10.8	OK
7.008	136		104.7	OK
7.009	137		104.6	OK
7.010	138		104.6	OK
7.011	139		108.3	OK
11.000	140		5.0	OK
7.012	141		107.6	SURCHARGED*
7.013	142		107.6	OK
7.014	143		108.5	OK
12.000	144		29.5	FLOOD
1.021	145		404.9	FLOOD
1.022	146		325.5	FLOOD
1.023	147		289.5	SURCHARGED*
1.024	56		325.5	FLOOD RISK*
1.025	57		325.8	FLOOD RISK*
1.026	56		325.6	FLOOD RISK*
1.027	59		325.8	SURCHARGED*
1.028	60		325.6	OK
1.029	148		325.6	OK*
1.030	62		325.8	OK

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5 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm


PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.031	149		327.3	OK

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XP Solutions	Network 2015.1	

5 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Event	US/CL (m)	Water			Surcharged Flooded	
				Level (m)	Depth (m)	Volume (m ³)	Flow / Overflow Cap. (l/s)	
1.032	150	720 minute 5 year Winter I+0%	7.900	6.789	0.000	0.000	1.03	
1.033	151	720 minute 5 year Winter I+0%	7.700	6.222	-1.478	0.000	0.19	
1.034	152	720 minute 5 year Winter I+0%	7.600	5.948	-1.652	0.000	0.11	
1.035	153	720 minute 5 year Winter I+0%	7.200	5.455	-1.745	0.000	0.07	
1.036	154	720 minute 5 year Winter I+0%	6.200	4.959	-1.241	0.000	0.34	
1.037	155	720 minute 5 year Winter I+0%	6.500	4.509	-1.648	0.000	0.12	

Pipe			
PN	US/MH Name	Flow (l/s)	Status
1.032	150	327.3	SURCHARGED*
1.033	151	327.3	OK
1.034	152	327.3	OK
1.035	153	327.3	OK
1.036	154	327.3	OK
1.037	155	327.3	OK

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XP Solutions	Network 2015.1	

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

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 5.000
Hot Start Level (mm) 0 Inlet Coefficient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

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


Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.368
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 19.000 Cv (Winter) 0.840

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


Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 360, 720, 1440, 2880, 4320
Return Period(s) (years) 1, 5, 30, 100
Climate Change (%) 0, 0, 0, 30

PN	US/MH Name	Event	Water Surcharged Flooded				
			US/CL (m)	Level (m)	Depth (m)	Volume (m ³)	Flow / Cap.
1.000	100	30 minute 30 year Winter I+0%	26.337	25.634	-0.697	0.000	0.21
1.001	101	30 minute 30 year Winter I+0%	24.380	23.330	-1.050	0.000	0.12
1.002	102	60 minute 30 year Winter I+0%	22.700	22.249	-0.451	0.000	0.37
1.003	9512	60 minute 30 year Winter I+0%	21.831	22.239	1.233	408.292	1.32
1.004	104	120 minute 30 year Winter I+0%	21.486	21.854	1.193	368.188	1.09
1.005	9508	120 minute 30 year Winter I+0%	21.428	21.796	1.193	367.838	1.39
2.000	7	120 minute 30 year Winter I+0%	21.200	22.312	1.537	1112.495	1.88
1.006	9507	120 minute 30 year Winter I+0%	21.432	21.758	1.193	326.009	1.54
1.007	8609	120 minute 30 year Winter I+0%	21.028	20.896	0.693	0.000	1.78
1.008	8608	120 minute 30 year Winter I+0%	20.900	20.492	0.417	0.000	2.13
1.009	8610	120 minute 30 year Winter I+0%	20.401	19.751	-0.200	0.000	0.91
1.010	8611	30 minute 30 year Winter I+0%	20.375	19.418	-0.507	0.000	0.20
3.000	13	120 minute 30 year Winter I+0%	19.100	20.495	2.270	1394.766	6.19
1.011	12	30 minute 30 year Winter I+0%	19.153	19.287	0.590	133.533	2.19
1.012	105	30 minute 30 year Winter I+0%	19.163	18.225	-0.457	0.000	0.49
1.013	106	30 minute 30 year Winter I+0%	17.500	16.054	-0.646	0.000	0.44
4.000	17	30 minute 30 year Winter I+0%	17.200	17.215	0.990	14.530	1.29
1.014	107	30 minute 30 year Winter I+0%	16.800	15.296	-0.704	0.000	0.36
1.015	108	30 minute 30 year Winter I+0%	15.700	14.715	-0.985	0.000	0.23

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

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	100		641.7	OK
1.001	101		665.8	OK
1.002	102		591.6	OK
1.003	9512		228.0	FLOOD
1.004	104		112.1	FLOOD
1.005	9508		129.9	FLOOD
2.000	7		336.7	FLOOD
1.006	9507		243.9	FLOOD
1.007	8609		243.9	FLOOD RISK
1.008	8608		243.9	SURCHARGED
1.009	8610		243.9	OK
1.010	8611		231.0	OK
3.000	13		165.0	FLOOD
1.011	12		1391.3	FLOOD
1.012	105		1391.7	OK
1.013	106		1389.5	OK
4.000	17		129.3	FLOOD
1.014	107		1513.0	OK
1.015	108		1512.0	OK

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

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap.
1.016	109	360 minute 30 year Winter I+0%	15.000	14.341	-0.659	0.000	0.13
1.017	110	360 minute 30 year Winter I+0%	14.050	14.327	0.277	277.406	0.22
5.000	111	30 minute 30 year Winter I+0%	21.500	20.846	-0.654	0.000	0.05
5.001	112	15 minute 30 year Winter I+0%	15.841	14.510	-1.331	0.000	0.03
5.002	113	360 minute 30 year Winter I+0%	15.118	14.317	-0.801	0.000	0.00
5.003	114	360 minute 30 year Winter I+0%	14.656	14.317	-0.339	0.000	0.00
5.004	115	360 minute 30 year Winter I+0%	14.400	14.317	-0.083	0.000	0.02
5.005	116	360 minute 30 year Winter I+0%	14.700	14.317	1.952	0.000	0.41
6.000	119	30 minute 30 year Winter I+0%	16.300	16.263	0.963	0.000	1.06
1.018	117	360 minute 30 year Winter I+0%	14.200	14.318	1.245	117.629	0.27
1.019	118	360 minute 30 year Winter I+0%	13.300	14.309	1.009	1008.902	0.14
1.020	119	360 minute 30 year Winter I+0%	12.150	14.299	3.049	2149.340	1.42
7.000	120	15 minute 30 year Winter I+0%	24.900	23.964	-0.936	0.000	0.06
8.000	121	15 minute 30 year Winter I+0%	23.850	22.972	-0.878	0.000	0.09
8.001	122	15 minute 30 year Winter I+0%	23.300	22.446	-0.854	0.000	0.11
8.002	123	30 minute 30 year Winter I+0%	23.600	22.121	-0.679	0.000	0.07
8.003	124	30 minute 30 year Winter I+0%	22.700	22.117	-0.583	0.000	0.31
8.004	125	30 minute 30 year Winter I+0%	22.900	22.102	-0.578	0.000	0.22
8.005	126	30 minute 30 year Winter I+0%	23.100	22.019	-0.572	0.000	0.22
7.001	127	30 minute 30 year Winter I+0%	23.100	21.932	-0.558	0.000	0.27
7.002	128	60 minute 30 year Winter I+0%	22.850	21.843	-0.589	0.000	0.31
9.000	129	60 minute 30 year Winter I+0%	22.500	21.824	-0.676	0.000	0.02
7.003	130	60 minute 30 year Winter I+0%	22.560	21.824	-0.574	0.000	0.23
7.004	131	60 minute 30 year Winter I+0%	23.220	21.795	0.501	0.000	2.29
7.005	132	60 minute 30 year Winter I+0%	23.050	21.482	-0.859	0.000	0.14
7.006	133	60 minute 30 year Winter I+0%	22.700	21.350	-0.904	0.000	0.17
7.007	134	60 minute 30 year Winter I+0%	22.750	21.056	-1.165	0.000	0.04
10.000	135	15 minute 30 year Winter I+0%	21.800	20.472	-1.328	0.000	0.01
7.008	136	60 minute 30 year Winter I+0%	21.200	20.015	-1.185	0.000	0.04
7.009	137	60 minute 30 year Winter I+0%	20.190	19.003	-1.187	0.000	0.04
7.010	138	120 minute 30 year Winter I+0%	18.200	16.612	-1.588	0.000	0.02
7.011	139	120 minute 30 year Winter I+0%	16.000	14.740	-1.260	0.000	0.06
11.000	140	120 minute 30 year Winter I+0%	16.100	14.672	-1.428	0.000	0.00
7.012	141	120 minute 30 year Winter I+0%	15.600	14.672	0.372	0.000	2.20
7.013	142	120 minute 30 year Winter I+0%	14.500	14.178	-0.322	0.000	0.26
7.014	143	120 minute 30 year Winter I+0%	14.900	13.047	-1.853	0.000	0.01
12.000	144	720 minute 30 year Winter I+0%	11.900	12.292	0.392	392.245	0.03
1.021	145	720 minute 30 year Winter I+0%	11.950	12.292	0.892	342.254	0.16
1.022	146	720 minute 30 year Winter I+0%	11.100	12.281	2.144	1181.004	3.24
1.023	147	60 minute 30 year Winter I+0%	11.000	10.130	0.075	0.000	1.63
1.024	56	720 minute 30 year Winter I+0%	10.500	10.291	-0.209	0.000	0.64
1.025	57	720 minute 30 year Winter I+0%	10.200	10.174	0.219	0.000	0.88
1.026	56	720 minute 30 year Winter I+0%	10.300	10.102	-0.198	0.000	0.61
1.027	59	720 minute 30 year Winter I+0%	10.500	9.983	0.237	0.000	1.00
1.028	60	720 minute 30 year Winter I+0%	10.500	9.966	-0.275	0.000	0.70
1.029	148	720 minute 30 year Winter I+0%	10.240	9.349	-0.753	0.000	0.14
1.030	62	720 minute 30 year Winter I+0%	10.100	8.626	-1.474	0.000	0.06
1.031	149	720 minute 30 year Winter I+0%	8.200	7.031	-1.169	0.000	0.14

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

PN	US/MH Name	Overflow (1/s)	Pipe Flow (1/s)	Status
1.016	109		780.1	OK
1.017	110		753.5	FLOOD
5.000	111		56.5	OK
5.001	112		127.8	OK
5.002	113		27.2	OK
5.003	114		35.8	OK
5.004	115		48.1	FLOOD RISK*
5.005	116		51.0	SURCHARGED*
6.000	119		253.6	FLOOD RISK
1.018	117		816.4	FLOOD
1.019	118		712.1	FLOOD
1.020	119		364.7	FLOOD
7.000	120		173.8	OK
8.000	121		181.3	OK
8.001	122		248.0	OK
8.002	123		200.0	OK
8.003	124		197.8	OK
8.004	125		225.4	OK
8.005	126		225.0	OK
7.001	127		272.0	OK
7.002	128		252.5	OK
9.000	129		24.4	OK
7.003	130		231.6	OK
7.004	131		140.3	SURCHARGED*
7.005	132		139.9	OK
7.006	133		139.4	OK
7.007	134		139.3	OK
10.000	135		15.8	OK
7.008	136		139.3	OK
7.009	137		139.2	OK
7.010	138		140.9	OK
7.011	139		147.5	OK
11.000	140		7.2	OK
7.012	141		145.5	SURCHARGED*
7.013	142		145.4	OK
7.014	143		146.7	OK
12.000	144		68.8	FLOOD
1.021	145		408.9	FLOOD
1.022	146		347.7	FLOOD
1.023	147		308.0	SURCHARGED*
1.024	56		347.8	FLOOD RISK*
1.025	57		347.1	FLOOD RISK*
1.026	56		347.3	FLOOD RISK*
1.027	59		347.1	SURCHARGED*
1.028	60		347.3	OK
1.029	148		347.3	OK*
1.030	62		349.5	OK

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


PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.031	149		351.4	OK

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

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap.
1.032	150	720 minute 30 year Winter I+0%	7.900	6.870	0.081	0.000	1.10
1.033	151	720 minute 30 year Winter I+0%	7.700	6.250	-1.450	0.000	0.21
1.034	152	720 minute 30 year Winter I+0%	7.600	5.966	-1.634	0.000	0.12
1.035	153	720 minute 30 year Winter I+0%	7.200	5.468	-1.732	0.000	0.08
1.036	154	720 minute 30 year Winter I+0%	6.200	5.002	-1.198	0.000	0.36
1.037	155	720 minute 30 year Winter I+0%	6.500	4.527	-1.630	0.000	0.13

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.032	150	351.1	351.1	SURCHARGED*
1.033	151	351.1	351.1	OK
1.034	152	351.1	351.1	OK
1.035	153	351.1	351.1	OK
1.036	154	351.1	351.1	OK
1.037	155	351.1	351.1	OK

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

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 5.000
Hot Start Level (mm) 0 Inlet Coefficient 0.800
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
Foul Sewage per hectare (l/s) 0.000

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


Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.368
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 19.000 Cv (Winter) 0.840

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


Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 360, 720, 1440, 2880, 4320
Return Period(s) (years) 1, 5, 30, 100
Climate Change (%) 0, 0, 0, 30

PN	US/MH Name	Event	US/CL (m)	Level (m)	Water Depth (m)	Surcharged Volume (m ³)	Flooded Flow / Cap.
1.000	100	30 minute 100 year Winter I+30%	26.337	25.823	-0.508	0.000	0.36
1.001	101	30 minute 100 year Winter I+30%	24.380	23.490	-0.890	0.000	0.20
1.002	102	60 minute 100 year Winter I+30%	22.700	22.765	0.065	65.309	0.64
1.003	9512	60 minute 100 year Winter I+30%	21.831	22.751	1.745	920.385	1.72
1.004	104	360 minute 100 year Winter I+30%	21.486	22.312	1.651	826.100	1.05
1.005	9508	360 minute 100 year Winter I+30%	21.428	22.271	1.668	842.792	1.57
2.000	7	120 minute 100 year Winter I+30%	21.200	23.545	2.770	2344.664	2.88
1.006	9507	360 minute 100 year Winter I+30%	21.432	22.242	1.677	810.460	1.79
1.007	8609	360 minute 100 year Winter I+30%	21.028	21.119	0.916	90.768	1.97
1.008	8608	360 minute 100 year Winter I+30%	20.900	20.622	0.547	0.000	2.36
1.009	8610	30 minute 100 year Winter I+30%	20.401	19.947	-0.004	0.000	0.92
1.010	8611	30 minute 100 year Winter I+30%	20.375	19.926	0.001	0.000	0.21
3.000	13	120 minute 100 year Winter I+30%	19.100	22.060	3.835	2959.738	8.11
1.011	12	30 minute 100 year Winter I+30%	19.153	19.879	1.182	725.827	2.89
1.012	105	30 minute 100 year Winter I+30%	19.163	18.309	-0.373	0.000	0.65
1.013	106	30 minute 100 year Winter I+30%	17.500	16.155	-0.545	0.000	0.58
4.000	17	30 minute 100 year Winter I+30%	17.200	17.354	1.129	154.064	1.33
1.014	107	30 minute 100 year Winter I+30%	16.800	15.376	-0.624	0.000	0.47
1.015	108	720 minute 100 year Winter I+30%	15.700	15.184	-0.516	0.000	0.13

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

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	100		1096.9	OK
1.001	101		1140.0	OK
1.002	102		1022.2	FLOOD
1.003	9512		295.9	FLOOD
1.004	104		107.7	FLOOD
1.005	9508		146.3	FLOOD
2.000	7		516.5	FLOOD
1.006	9507		282.6	FLOOD
1.007	8609		270.6	FLOOD
1.008	8608		270.6	FLOOD RISK
1.009	8610		245.3	OK
1.010	8611		245.0	SURCHARGED
3.000	13		216.1	FLOOD
1.011	12		1840.0	FLOOD
1.012	105		1840.1	OK
1.013	106		1838.0	OK
4.000	17		133.3	FLOOD
1.014	107		1965.4	OK
1.015	108		824.9	OK

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

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
1.016	109	720 minute 100 year Winter I+30%	15.000	15.171	0.171	171.373	0.13
1.017	110	720 minute 100 year Winter I+30%	14.050	15.156	1.106	1106.354	0.21
5.000	111	30 minute 100 year Winter I+30%	21.500	20.906	-0.594	0.000	0.08
5.001	112	720 minute 100 year Winter I+30%	15.841	15.124	-0.717	0.000	0.01
5.002	113	720 minute 100 year Winter I+30%	15.118	15.124	0.006	5.881	0.01
5.003	114	720 minute 100 year Winter I+30%	14.656	15.124	0.468	467.955	0.01
5.004	115	720 minute 100 year Winter I+30%	14.400	15.124	0.724	724.053	0.04
5.005	116	720 minute 100 year Winter I+30%	14.700	15.124	2.759	424.354	1.12
6.000	19	30 minute 100 year Winter I+30%	16.300	16.554	1.254	254.123	1.10
1.018	117	720 minute 100 year Winter I+30%	14.200	15.145	2.072	945.223	0.26
1.019	118	720 minute 100 year Winter I+30%	13.300	15.136	1.836	1836.014	0.12
1.020	119	720 minute 100 year Winter I+30%	12.150	15.126	3.876	2975.927	1.51
7.000	120	15 minute 100 year Winter I+30%	24.900	24.073	-0.827	0.000	0.10
8.000	121	15 minute 100 year Winter I+30%	23.850	23.093	-0.757	0.000	0.15
8.001	122	15 minute 100 year Winter I+30%	23.300	22.572	-0.728	0.000	0.19
8.002	123	30 minute 100 year Winter I+30%	23.600	22.335	-0.465	0.000	0.11
8.003	124	30 minute 100 year Winter I+30%	22.700	22.329	-0.371	0.000	0.52
8.004	125	30 minute 100 year Winter I+30%	22.900	22.318	-0.362	0.000	0.38
8.005	126	30 minute 100 year Winter I+30%	23.100	22.236	-0.355	0.000	0.38
7.001	127	60 minute 100 year Winter I+30%	23.100	22.174	-0.316	0.000	0.45
7.002	128	60 minute 100 year Winter I+30%	22.850	22.166	-0.266	0.000	0.53
9.000	129	60 minute 100 year Winter I+30%	22.500	22.161	-0.339	0.000	0.03
7.003	130	60 minute 100 year Winter I+30%	22.560	22.161	-0.237	0.000	0.38
7.004	131	60 minute 100 year Winter I+30%	23.220	22.146	0.852	0.000	3.08
7.005	132	60 minute 100 year Winter I+30%	23.050	21.578	-0.763	0.000	0.19
7.006	133	60 minute 100 year Winter I+30%	22.700	21.440	-0.814	0.000	0.23
7.007	134	60 minute 100 year Winter I+30%	22.750	21.104	-1.117	0.000	0.06
10.000	135	15 minute 100 year Winter I+30%	21.800	20.522	-1.278	0.000	0.01
7.008	136	120 minute 100 year Winter I+30%	21.200	20.059	-1.141	0.000	0.05
7.009	137	120 minute 100 year Winter I+30%	20.190	19.049	-1.141	0.000	0.05
7.010	138	120 minute 100 year Winter I+30%	18.200	16.652	-1.548	0.000	0.03
7.011	139	120 minute 100 year Winter I+30%	16.000	15.187	-0.813	0.000	0.08
11.000	140	120 minute 100 year Winter I+30%	16.100	15.174	-0.926	0.000	0.00
7.012	141	120 minute 100 year Winter I+30%	15.600	15.174	0.874	0.000	3.06
7.013	142	120 minute 100 year Winter I+30%	14.500	14.237	-0.263	0.000	0.36
7.014	143	120 minute 100 year Winter I+30%	14.900	13.103	-1.797	0.000	0.02
12.000	144	1440 minute 100 year Winter I+30%	11.900	12.812	0.912	911.966	0.04
1.021	145	1440 minute 100 year Winter I+30%	11.950	12.812	1.412	861.975	0.16
1.022	146	1440 minute 100 year Winter I+30%	11.100	12.800	2.663	1699.698	3.53
1.023	147	60 minute 100 year Winter I+30%	11.000	10.130	0.075	0.000	1.74
1.024	56	1440 minute 100 year Winter I+30%	10.500	10.439	-0.061	0.000	0.70
1.025	57	1440 minute 100 year Winter I+30%	10.200	10.370	0.415	169.865	0.96
1.026	56	1440 minute 100 year Winter I+30%	10.300	10.227	-0.073	0.000	0.67
1.027	59	1440 minute 100 year Winter I+30%	10.500	10.139	0.393	0.000	1.09
1.028	60	1440 minute 100 year Winter I+30%	10.500	9.996	-0.245	0.000	0.76
1.029	148	1440 minute 100 year Winter I+30%	10.240	9.360	-0.742	0.000	0.15
1.030	62	1440 minute 100 year Winter I+30%	10.100	8.644	-1.456	0.000	0.06
1.031	149	1440 minute 100 year Winter I+30%	8.200	7.119	-1.081	0.000	0.15

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

PN	US/MH Name	Overflow (1/s)	Pipe Flow (1/s)	Status
1.016	109		814.1	FLOOD
1.017	110		748.7	FLOOD
5.000	111		96.0	OK
5.001	112		31.2	OK
5.002	113		29.9	FLOOD
5.003	114		94.2	FLOOD
5.004	115		136.8	FLOOD
5.005	116		139.9	FLOOD
6.000	19		263.9	FLOOD
1.018	117		788.6	FLOOD
1.019	118		601.4	FLOOD
1.020	119		387.5	FLOOD
7.000	120		291.7	OK
8.000	121		306.6	OK
8.001	122		421.1	OK
8.002	123		336.8	OK
8.003	124		332.0	OK
8.004	125		380.4	OK
8.005	126		385.1	OK
7.001	127		448.3	OK
7.002	128		437.3	OK
9.000	129		42.0	OK
7.003	130		384.9	OK
7.004	131		189.2	SURCHARGED*
7.005	132		188.7	OK
7.006	133		187.9	OK
7.007	134		187.8	OK
10.000	135		24.2	OK
7.008	136		190.2	OK
7.009	137		193.1	OK
7.010	138		195.9	OK
7.011	139		206.4	OK
11.000	140		12.1	OK
7.012	141		202.6	SURCHARGED*
7.013	142		202.6	FLOOD RISK*
7.014	143		204.8	OK
12.000	144		94.2	FLOOD
1.021	145		397.1	FLOOD
1.022	146		378.2	FLOOD
1.023	147		328.4	SURCHARGED*
1.024	56		378.4	FLOOD RISK*
1.025	57		378.2	FLOOD
1.026	56		378.3	FLOOD RISK*
1.027	59		378.3	SURCHARGED*
1.028	60		378.4	OK
1.029	148		378.4	OK*
1.030	62		380.2	OK

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

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.031	149		382.1	OK

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

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap.
1.032	150	1440 minute 100 year Winter I+30%	7.900	6.998	0.209	0.000	1.20
1.033	151	1440 minute 100 year Winter I+30%	7.700	6.286	-1.414	0.000	0.23
1.034	152	1440 minute 100 year Winter I+30%	7.600	5.989	-1.611	0.000	0.13
1.035	153	1440 minute 100 year Winter I+30%	7.200	5.484	-1.716	0.000	0.08
1.036	154	1440 minute 100 year Winter I+30%	6.200	5.058	-1.142	0.000	0.40
1.037	155	1440 minute 100 year Winter I+30%	6.500	4.551	-1.606	0.000	0.14

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
1.032	150	381.9	381.9	SURCHARGED*
1.033	151	381.9	381.9	OK
1.034	152	381.9	381.9	OK
1.035	153	381.9	381.9	OK
1.036	154	381.9	381.9	OK
1.037	155	381.9	381.9	OK