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Catherine House Old Harborough Road Brixworth NN6 9BX	Kyngs Golf & Country Club 82659	
Date 18/08/2023	Designed by NN	
File 82659 DETAILED NETWORK MODEL 1 ...	Checked by MAS	
Micro Drainage	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	20.300	Add Flow / Climate Change (%)	0
Ratio R	0.400	Minimum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	550	Maximum Backdrop Height (m)	0.000
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

- Indicates pipe length does not match coordinates

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	29.572	0.370	79.9	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S1.001	4.027	0.051	79.0	0.038	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.002	17.722	0.222	79.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.003	30.808	0.386	79.8	0.015	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.004	18.372	0.225	81.7	0.054	0.00	0.0	0.600	o	225	Pipe/Conduit	
S2.000	29.789	1.214	24.5	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S2.001	11.795	0.841	14.0	0.036	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.005	16.845	0.500	33.7	0.007	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.006	5.000#	0.576	8.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	68.78	5.44	100.330	0.000	0.0	0.0	0.0	1.13	19.9	0.0
S1.001	68.45	5.50	99.960	0.038	0.0	0.0	0.0	1.13	20.0	7.0
S1.002	67.05	5.76	99.909	0.038	0.0	0.0	0.0	1.13	19.9	7.0
S1.003	64.76	6.22	99.687	0.053	0.0	0.0	0.0	1.13	19.9	9.3
S1.004	63.76	6.43	99.301	0.107	0.0	0.0	0.0	1.45	57.6	18.4
S2.000	69.88	5.24	100.290	0.000	0.0	0.0	0.0	2.04	36.1	0.0
S2.001	69.56	5.30	99.917	0.036	0.0	0.0	0.0	3.51	139.7	6.8
S1.005	63.19	6.55	99.076	0.150	0.0	0.0	0.0	2.26	89.9	25.7
S1.006	63.10	6.57	98.725	0.150	0.0	0.0	0.0	4.47	177.7	25.7

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S3.000	22.242	0.279	79.7	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S3.001	18.505	0.232	79.8	0.051	0.00	0.0	0.600	o	150	Pipe/Conduit	
S3.002	17.825	1.035	17.2	0.020	0.00	0.0	0.600	o	150	Pipe/Conduit	
S4.000	10.759	0.108	99.6	0.024	5.00	0.0	0.600	o	225	Pipe/Conduit	
S4.001	10.759	0.108	99.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S5.000	15.587	0.586	26.6	0.024	5.00	0.0	0.600	o	225	Pipe/Conduit	
S3.003	30.073	0.301	99.9	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S6.000	21.231	0.266	79.8	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S6.001	20.372	0.255	79.9	0.051	0.00	0.0	0.600	o	150	Pipe/Conduit	
S6.002	24.357	0.305	79.9	0.024	0.00	0.0	0.600	o	225	Pipe/Conduit	
S6.003	26.741	0.272	98.3	0.024	0.00	0.0	0.600	o	225	Pipe/Conduit	
S6.004	12.863	0.749	17.2	0.021	0.00	0.0	0.600	o	225	Pipe/Conduit	
S7.000	26.242	0.443	59.2	0.032	5.00	0.0	0.600	o	150	Pipe/Conduit	
S7.001	11.606	1.777	6.5	0.020	0.00	0.0	0.600	o	225	Pipe/Conduit	
S3.004	15.351	0.154	99.7	0.046	0.00	0.0	0.600	o	225	Pipe/Conduit	
S8.000	21.524	1.131	19.0	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S3.000	69.39	5.33	101.600	0.000	0.0	0.0	0.0	1.13	19.9	0.0
S3.001	67.88	5.60	101.321	0.051	0.0	0.0	0.0	1.13	19.9	9.3
S3.002	67.23	5.72	101.089	0.071	0.0	0.0	0.0	2.44	43.1	12.9
S4.000	70.50	5.14	100.270	0.024	0.0	0.0	0.0	1.31	52.1	4.6
S4.001	69.70	5.27	100.162	0.024	0.0	0.0	0.0	1.31	52.1	4.6
S5.000	70.70	5.10	100.640	0.024	0.0	0.0	0.0	2.55	101.3	4.6
S3.003	65.29	6.11	100.054	0.119	0.0	0.0	0.0	1.31	52.0	21.0
S6.000	69.47	5.31	101.600	0.000	0.0	0.0	0.0	1.13	19.9	0.0
S6.001	67.81	5.62	101.334	0.051	0.0	0.0	0.0	1.13	19.9	9.4
S6.002	66.36	5.89	101.079	0.075	0.0	0.0	0.0	1.46	58.2	13.5
S6.003	64.69	6.23	100.774	0.099	0.0	0.0	0.0	1.32	52.4	17.4
S6.004	64.36	6.30	100.502	0.120	0.0	0.0	0.0	3.17	126.2	20.9
S7.000	69.36	5.33	101.973	0.032	0.0	0.0	0.0	1.31	23.1	6.0
S7.001	69.15	5.37	101.530	0.052	0.0	0.0	0.0	5.15	204.9	9.8
S3.004	63.45	6.49	99.753	0.337	0.0	0.0	0.0	1.31	52.1	57.9
S8.000	70.39	5.15	100.730	0.000	0.0	0.0	0.0	2.32	41.0	0.0

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S3.005	12.137	0.221	54.9	0.043	0.00	0.0	0.600	o	225	Pipe/Conduit	
S3.006	17.931	0.689	26.0	0.013	0.00	0.0	0.600	o	225	Pipe/Conduit	
S3.007	5.000#	0.689	7.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S9.000	23.839	0.239	99.7	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S9.001	22.352	0.697	32.1	0.040	0.00	0.0	0.600	o	150	Pipe/Conduit	
S10.000	21.402	0.504	42.5	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S11.000	21.229	0.142	149.5	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S11.001	16.719	0.112	149.3	0.099	0.00	0.0	0.600	o	225	Pipe/Conduit	
S10.001	17.122	0.115	148.9	0.077	0.00	0.0	0.600	o	225	Pipe/Conduit	
S12.000	25.672	0.336	76.4	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S12.001	24.114	0.337	71.6	0.064	0.00	0.0	0.600	o	150	Pipe/Conduit	
S12.002	16.738	0.168	99.6	0.045	0.00	0.0	0.600	o	150	Pipe/Conduit	
S13.000	26.005	0.335	77.6	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S13.001	23.873	0.671	35.6	0.030	0.00	0.0	0.600	o	150	Pipe/Conduit	
S12.003	16.898	0.169	100.0	0.036	0.00	0.0	0.600	o	225	Pipe/Conduit	
S12.004	26.719	0.704	38.0	0.027	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S3.005	62.93	6.61	99.599	0.380	0.0	0.0	0.0	1.77	70.3	64.7
S3.006	62.41	6.72	99.378	0.393	0.0	0.0	0.0	2.58	102.4	66.5
S3.007	62.33	6.74	98.917	0.393	0.0	0.0	0.0	4.89	194.4	66.5
S9.000	69.02	5.39	99.587	0.000	0.0	0.0	0.0	1.01	17.8	0.0
S9.001	67.88	5.60	99.348	0.040	0.0	0.0	0.0	1.78	31.5	7.3
S10.000	69.95	5.23	99.270	0.000	0.0	0.0	0.0	1.55	27.4	0.0
S11.000	68.81	5.43	99.020	0.000	0.0	0.0	0.0	0.82	14.5	0.0
S11.001	67.40	5.69	98.878	0.099	0.0	0.0	0.0	1.07	42.5	18.1
S10.001	66.02	5.96	98.766	0.176	0.0	0.0	0.0	1.07	42.5	31.5
S12.000	69.15	5.37	100.365	0.000	0.0	0.0	0.0	1.15	20.3	0.0
S12.001	67.31	5.71	100.029	0.064	0.0	0.0	0.0	1.19	21.0	11.7
S12.002	65.89	5.99	99.692	0.109	0.0	0.0	0.0	1.01	17.8	19.4
S13.000	69.11	5.38	100.530	0.000	0.0	0.0	0.0	1.14	20.2	0.0
S13.001	67.82	5.61	100.195	0.030	0.0	0.0	0.0	1.69	29.9	5.5
S12.003	64.83	6.20	99.524	0.175	0.0	0.0	0.0	1.31	52.0	30.8
S12.004	63.83	6.41	99.355	0.202	0.0	0.0	0.0	2.13	84.7	34.9

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S9.002	20.281	0.351	57.8	0.042	0.00	0.0	0.600	o	225	Pipe/Conduit	
S9.003	5.000#	0.300	16.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.007	12.013	0.071	169.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.008	22.116	0.131	168.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.009	29.963	0.177	169.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S14.000	29.391	0.889	33.1	0.004	5.00	0.0	0.600	o	150	Pipe/Conduit	
S14.001	29.391	0.294	100.0	0.034	0.00	0.0	0.600	o	150	Pipe/Conduit	
S14.002	29.391	0.294	100.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S14.003	29.391	0.294	100.0	0.034	0.00	0.0	0.600	o	150	Pipe/Conduit	
S14.004	29.640	0.297	99.8	0.013	0.00	0.0	0.600	o	150	Pipe/Conduit	
S14.005	22.626	0.227	99.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S14.006	20.048	1.008	19.9	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.010	29.967	0.177	169.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.011	29.749	0.993	30.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S9.002	62.93	6.61	98.651	0.460	0.0	0.0	0.0	1.72	68.5«	78.4
S9.003	62.82	6.63	98.551	0.460	0.0	0.0	0.0	3.22	128.1	78.4
S1.007	61.47	6.94	98.000	1.004	0.0	0.0	0.0	1.00	39.9«	167.1
S1.008	59.94	7.31	97.929	1.004	0.0	0.0	0.0	1.00	39.9«	167.1
S1.009	58.01	7.81	97.798	1.004	0.0	0.0	0.0	1.00	39.8«	167.1
S14.000	69.68	5.28	100.924	0.004	0.0	0.0	0.0	1.76	31.0	0.8
S14.001	67.01	5.77	100.035	0.039	0.0	0.0	0.0	1.00	17.8	7.0
S14.002	64.58	6.25	99.741	0.039	0.0	0.0	0.0	1.00	17.8	7.0
S14.003	62.34	6.74	99.447	0.073	0.0	0.0	0.0	1.00	17.8	12.3
S14.004	60.25	7.23	99.153	0.086	0.0	0.0	0.0	1.01	17.8	14.0
S14.005	58.77	7.61	98.856	0.086	0.0	0.0	0.0	1.01	17.8	14.0
S14.006	58.33	7.72	98.629	0.086	0.0	0.0	0.0	2.95	117.2	14.0
S1.010	56.51	8.22	97.621	1.089	0.0	0.0	0.0	1.21	85.2«	167.1
S1.011	55.91	8.39	97.444	1.089	0.0	0.0	0.0	2.88	203.8	167.1

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SRE1	100.930	0.600	Open Manhole	300	S1.000	100.330	150				
S1	100.930	0.970	Open Manhole	450	S1.001	99.960	150	S1.000	99.960	150	
S2	100.900	0.991	Open Manhole	450	S1.002	99.909	150	S1.001	99.909	150	
S3	100.735	1.048	Open Manhole	450	S1.003	99.687	150	S1.002	99.687	150	
S4	100.919	1.618	Open Manhole	450	S1.004	99.301	225	S1.003	99.301	150	
SRE2	100.890	0.600	Open Manhole	300	S2.000	100.290	150				
S5	100.960	1.884	Open Manhole	450	S2.001	99.917	225	S2.000	99.076	150	
S6	100.795	1.719	Open Manhole	600	S1.005	99.076	225	S1.004	99.076	225	
								S2.001	99.076	225	
SD1	100.500	1.924	Sealed Manhole	1200	S1.006	98.725	225	S1.005	98.576	225	
SRE3	102.200	0.600	Open Manhole	300	S3.000	101.600	150				
S7	102.200	0.879	Open Manhole	450	S3.001	101.321	150	S3.000	101.321	150	
S8	102.200	1.111	Open Manhole	450	S3.002	101.089	150	S3.001	101.089	150	
S9	101.020	0.750	Open Manhole	600	S4.000	100.270	225				
SD4	101.234	1.072	Open Manhole	1200	S4.001	100.162	225	S4.000	100.162	225	
S46	101.440	0.800	Open Manhole	600	S5.000	100.640	225				
S10	101.448	1.394	Open Manhole	600	S3.003	100.054	225	S3.002	100.054	150	
								S4.001	100.054	225	
								S5.000	100.054	225	
SRE4	102.200	0.600	Open Manhole	300	S6.000	101.600	150				
S11	102.200	0.866	Open Manhole	450	S6.001	101.334	150	S6.000	101.334	150	
S12	102.200	1.121	Open Manhole	450	S6.002	101.079	225	S6.001	101.079	150	
S13	102.010	1.236	Open Manhole	450	S6.003	100.774	225	S6.002	100.774	225	
S16	101.820	1.318	Open Manhole	450	S6.004	100.502	225	S6.003	100.502	225	
S14	102.823	0.850	Open Manhole	450	S7.000	101.973	150				
S44	102.180	0.650	Open Manhole	450	S7.001	101.530	225	S7.000	101.530	150	
S15	101.673	1.920	Open Manhole	1200	S3.004	99.753	225	S3.003	99.753	225	
								S6.004	99.753	225	
								S7.001	99.753	225	
S17	101.380	0.650	Open Manhole	450	S8.000	100.730	150				
S18	101.094	1.495	Open Manhole	600	S3.005	99.599	225	S3.004	99.599	225	
								S8.000	99.599	150	
S19	101.000	1.622	Open Manhole	600	S3.006	99.378	225	S3.005	99.378	225	
SD2	100.500	1.811	Sealed Manhole	1200	S3.007	98.917	225	S3.006	98.689	225	
S20	100.487	0.900	Open Manhole	450	S9.000	99.587	150				
S21	100.188	0.840	Open Manhole	450	S9.001	99.348	150	S9.000	99.348	150	
S22	100.170	0.900	Open Manhole	450	S10.000	99.270	150				
S23	99.920	0.900	Open Manhole	450	S11.000	99.020	150				
S24	99.889	1.011	Open Manhole	450	S11.001	98.878	225	S11.000	98.878	150	
S25	100.059	1.293	Open Manhole	450	S10.001	98.766	225	S10.000	98.766	150	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S26	101.265	0.900	Open Manhole	450	S12.000	100.365	150	S11.001	98.766	225	
S27	100.929	0.900	Open Manhole	450	S12.001	100.029	150	S12.000	100.029	150	
S28	100.592	0.900	Open Manhole	450	S12.002	99.692	150	S12.001	99.692	150	
S29	101.430	0.900	Open Manhole	450	S13.000	100.530	150				
S30	101.095	0.900	Open Manhole	450	S13.001	100.195	150	S13.000	100.195	150	
S31	100.781	1.257	Open Manhole	450	S12.003	99.524	225	S12.002	99.524	150	
								S13.001	99.524	150	
S32	100.972	1.617	Open Manhole	600	S12.004	99.355	225	S12.003	99.355	225	
S33	100.200	1.549	Open Manhole	600	S9.002	98.651	225	S9.001	98.651	150	
								S10.001	98.651	225	
								S12.004	98.651	225	
SD3	100.500	2.200	Open Manhole	1200	S9.003	98.551	225	S9.002	98.300	225	
SPond	100.500	2.500	Open Manhole	1200	S1.007	98.000	225	S1.006	98.149	225	149
								S3.007	98.228	225	228
								S9.003	98.251	225	251
S45	101.000	3.071	Open Manhole	900	S1.008	97.929	225	S1.007	97.929	225	
S34	101.590	3.792	Open Manhole	1200	S1.009	97.798	225	S1.008	97.798	225	
S37	101.824	0.900	Open Manhole	450	S14.000	100.924	150				
S38	100.935	0.900	Open Manhole	450	S14.001	100.035	150	S14.000	100.035	150	
S39	100.740	0.999	Open Manhole	450	S14.002	99.741	150	S14.001	99.741	150	
S40	100.849	1.402	Open Manhole	450	S14.003	99.447	150	S14.002	99.447	150	
S41	101.190	2.037	Open Manhole	450	S14.004	99.153	150	S14.003	99.153	150	
S42	101.500	2.644	Open Manhole	450	S14.005	98.856	150	S14.004	98.856	150	
S43	101.000	2.371	Open Manhole	600	S14.006	98.629	225	S14.005	98.629	150	
S35 FCC	101.550	3.929	Open Manhole	1200	S1.010	97.621	300	S1.009	97.621	225	
								S14.006	97.621	225	
S36	99.000	1.556	Open Manhole	1200	S1.011	97.444	300	S1.010	97.444	300	
SDitch	97.680	1.229	Open Manhole	0		OUTFALL		S1.011	96.451	300	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SRE1	439580.919	303339.735	439580.919	303339.735	Required	
S1	439599.305	303316.573	439599.305	303316.573	Required	
S2	439603.153	303317.759	439603.153	303317.759	Required	



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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S3	439613.896	303303.665	439613.896	303303.665	Required	
S4	439589.792	303284.480	439589.792	303284.480	Required	
SRE2	439562.926	303326.661	439562.926	303326.661	Required	
S5	439581.419	303303.307	439581.419	303303.307	Required	
S6	439574.109	303294.050	439574.109	303294.050	Required	
SD1	439557.620	303290.608			No Entry	
SRE3	439652.220	303250.438	439652.220	303250.438	Required	
S7	439630.184	303253.460	439630.184	303253.460	Required	
S8	439611.851	303255.976	439611.851	303255.976	Required	
S9	439620.002	303276.746	439620.002	303276.746	Required	
SD4	439609.933	303272.957	439609.933	303272.957	Required	
S46	439615.166	303266.204	439615.166	303266.204	Required	
S10	439599.864	303269.168	439599.864	303269.168	Required	
SRE4	439645.660	303203.957	439645.660	303203.957	Required	
S11	439624.619	303206.792	439624.619	303206.792	Required	
S12	439604.428	303209.501	439604.428	303209.501	Required	
S13	439583.722	303222.326	439583.722	303222.326	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S16	439566.290	303242.605	439566.290	303242.605	Required	
S14	439607.195	303232.084	439607.195	303232.084	Required	
S44	439583.551	303243.469	439583.551	303243.469	Required	
S15	439575.378	303251.709	439575.378	303251.709	Required	
S17	439547.227	303253.556	439547.227	303253.556	Required	
S18	439566.086	303263.928	439566.086	303263.928	Required	
S19	439572.542	303274.206	439572.542	303274.206	Required	
SD2	439558.093	303284.823			No Entry	
S20	439552.573	303324.841	439552.573	303324.841	Required	
S21	439534.289	303309.545	439534.289	303309.545	Required	
S22	439517.590	303312.337	439517.590	303312.337	Required	
S23	439501.215	303315.784	439501.215	303315.784	Required	
S24	439496.473	303295.092	439496.473	303295.092	Required	
S25	439512.797	303291.479	439512.797	303291.479	Required	
S26	439479.823	303220.564	439479.823	303220.564	Required	
S27	439485.327	303245.640	439485.327	303245.640	Required	
S28	439490.496	303269.193	439490.496	303269.193	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S29	439495.831	303216.711	439495.831	303216.711	Required	
S30	439501.551	303242.078	439501.551	303242.078	Required	
S31	439506.792	303265.369	439506.792	303265.369	Required	
S32	439523.293	303261.725	439523.293	303261.725	Required	
S33	439529.500	303287.713	439529.500	303287.713	Required	
SD3	439549.514	303284.436	439549.514	303284.436	Required	
SPond	439549.742	303274.679	439549.742	303274.679	Required	
S45	439544.851	303263.707	439544.851	303263.707	Required	
S34	439532.855	303245.127	439532.855	303245.127	Required	
S37	439580.976	303077.428	439580.976	303077.428	Required	
S38	439581.793	303106.807	439581.793	303106.807	Required	
S39	439582.611	303136.186	439582.611	303136.186	Required	
S40	439583.429	303165.565	439583.429	303165.565	Required	
S41	439584.246	303194.945	439584.246	303194.945	Required	
S42	439556.563	303205.535	439556.563	303205.535	Required	
S43	439536.569	303216.126	439536.569	303216.126	Required	
S35 FCC	439516.859	303219.791	439516.859	303219.791	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S36	439489.689	303207.151	439489.689	303207.151	Required	
SDitch	439459.995	303208.965			No Entry	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

- Indicates pipe length does not match coordinates

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	150	SRE1	100.930	100.330	0.450	Open Manhole	300
S1.001	o	150	S1	100.930	99.960	0.820	Open Manhole	450
S1.002	o	150	S2	100.900	99.909	0.841	Open Manhole	450
S1.003	o	150	S3	100.735	99.687	0.898	Open Manhole	450
S1.004	o	225	S4	100.919	99.301	1.393	Open Manhole	450
S2.000	o	150	SRE2	100.890	100.290	0.450	Open Manhole	300
S2.001	o	225	S5	100.960	99.917	0.818	Open Manhole	450
S1.005	o	225	S6	100.795	99.076	1.494	Open Manhole	600
S1.006	o	225	SD1	100.500	98.725	1.550	Sealed Manhole	1200
S3.000	o	150	SRE3	102.200	101.600	0.450	Open Manhole	300
S3.001	o	150	S7	102.200	101.321	0.729	Open Manhole	450
S3.002	o	150	S8	102.200	101.089	0.961	Open Manhole	450
S4.000	o	225	S9	101.020	100.270	0.525	Open Manhole	600
S4.001	o	225	SD4	101.234	100.162	0.847	Open Manhole	1200
S5.000	o	225	S46	101.440	100.640	0.575	Open Manhole	600

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)
S1.000	29.572	79.9	S1	100.930	99.960	0.820	Open Manhole	450
S1.001	4.027	79.0	S2	100.900	99.909	0.841	Open Manhole	450
S1.002	17.722	79.8	S3	100.735	99.687	0.898	Open Manhole	450
S1.003	30.808	79.8	S4	100.919	99.301	1.468	Open Manhole	450
S1.004	18.372	81.7	S6	100.795	99.076	1.494	Open Manhole	600
S2.000	29.789	24.5	S5	100.960	99.076	1.734	Open Manhole	450
S2.001	11.795	14.0	S6	100.795	99.076	1.494	Open Manhole	600
S1.005	16.845	33.7	SD1	100.500	98.576	1.699	Sealed Manhole	1200
S1.006	5.000#	8.7	SPond	100.500	98.149	2.126	Open Manhole	1200
S3.000	22.242	79.7	S7	102.200	101.321	0.729	Open Manhole	450
S3.001	18.505	79.8	S8	102.200	101.089	0.961	Open Manhole	450
S3.002	17.825	17.2	S10	101.448	100.054	1.244	Open Manhole	600
S4.000	10.759	99.6	SD4	101.234	100.162	0.847	Open Manhole	1200
S4.001	10.759	99.6	S10	101.448	100.054	1.169	Open Manhole	600
S5.000	15.587	26.6	S10	101.448	100.054	1.169	Open Manhole	600

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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)
S3.003	o	225	S10	101.448	100.054	1.169	Open Manhole	600
S6.000	o	150	SRE4	102.200	101.600	0.450	Open Manhole	300
S6.001	o	150	S11	102.200	101.334	0.716	Open Manhole	450
S6.002	o	225	S12	102.200	101.079	0.896	Open Manhole	450
S6.003	o	225	S13	102.010	100.774	1.011	Open Manhole	450
S6.004	o	225	S16	101.820	100.502	1.093	Open Manhole	450
S7.000	o	150	S14	102.823	101.973	0.700	Open Manhole	450
S7.001	o	225	S44	102.180	101.530	0.425	Open Manhole	450
S3.004	o	225	S15	101.673	99.753	1.695	Open Manhole	1200
S8.000	o	150	S17	101.380	100.730	0.500	Open Manhole	450
S3.005	o	225	S18	101.094	99.599	1.270	Open Manhole	600
S3.006	o	225	S19	101.000	99.378	1.397	Open Manhole	600
S3.007	o	225	SD2	100.500	98.917	1.358	Sealed Manhole	1200
S9.000	o	150	S20	100.487	99.587	0.750	Open Manhole	450
S9.001	o	150	S21	100.188	99.348	0.690	Open Manhole	450
S10.000	o	150	S22	100.170	99.270	0.750	Open Manhole	450

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)
S3.003	30.073	99.9	S15	101.673	99.753	1.695	Open Manhole	1200
S6.000	21.231	79.8	S11	102.200	101.334	0.716	Open Manhole	450
S6.001	20.372	79.9	S12	102.200	101.079	0.971	Open Manhole	450
S6.002	24.357	79.9	S13	102.010	100.774	1.011	Open Manhole	450
S6.003	26.741	98.3	S16	101.820	100.502	1.093	Open Manhole	450
S6.004	12.863	17.2	S15	101.673	99.753	1.695	Open Manhole	1200
S7.000	26.242	59.2	S44	102.180	101.530	0.500	Open Manhole	450
S7.001	11.606	6.5	S15	101.673	99.753	1.695	Open Manhole	1200
S3.004	15.351	99.7	S18	101.094	99.599	1.270	Open Manhole	600
S8.000	21.524	19.0	S18	101.094	99.599	1.345	Open Manhole	600
S3.005	12.137	54.9	S19	101.000	99.378	1.397	Open Manhole	600
S3.006	17.931	26.0	SD2	100.500	98.689	1.586	Sealed Manhole	1200
S3.007	5.000#	7.3	SPond	100.500	98.228	2.047	Open Manhole	1200
S9.000	23.839	99.7	S21	100.188	99.348	0.690	Open Manhole	450
S9.001	22.352	32.1	S33	100.200	98.651	1.399	Open Manhole	600
S10.000	21.402	42.5	S25	100.059	98.766	1.143	Open Manhole	450

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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)
S11.000	o	150	S23	99.920	99.020	0.750	Open Manhole	450
S11.001	o	225	S24	99.889	98.878	0.786	Open Manhole	450
S10.001	o	225	S25	100.059	98.766	1.068	Open Manhole	450
S12.000	o	150	S26	101.265	100.365	0.750	Open Manhole	450
S12.001	o	150	S27	100.929	100.029	0.750	Open Manhole	450
S12.002	o	150	S28	100.592	99.692	0.750	Open Manhole	450
S13.000	o	150	S29	101.430	100.530	0.750	Open Manhole	450
S13.001	o	150	S30	101.095	100.195	0.750	Open Manhole	450
S12.003	o	225	S31	100.781	99.524	1.032	Open Manhole	450
S12.004	o	225	S32	100.972	99.355	1.392	Open Manhole	600
S9.002	o	225	S33	100.200	98.651	1.324	Open Manhole	600
S9.003	o	225	SD3	100.500	98.551	1.724	Open Manhole	1200
S1.007	o	225	SPond	100.500	98.000	2.275	Open Manhole	1200
S1.008	o	225	S45	101.000	97.929	2.846	Open Manhole	900
S1.009	o	225	S34	101.590	97.798	3.567	Open Manhole	1200

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)
S11.000	21.229	149.5	S24	99.889	98.878	0.861	Open Manhole	450
S11.001	16.719	149.3	S25	100.059	98.766	1.068	Open Manhole	450
S10.001	17.122	148.9	S33	100.200	98.651	1.324	Open Manhole	600
S12.000	25.672	76.4	S27	100.929	100.029	0.750	Open Manhole	450
S12.001	24.114	71.6	S28	100.592	99.692	0.750	Open Manhole	450
S12.002	16.738	99.6	S31	100.781	99.524	1.107	Open Manhole	450
S13.000	26.005	77.6	S30	101.095	100.195	0.750	Open Manhole	450
S13.001	23.873	35.6	S31	100.781	99.524	1.107	Open Manhole	450
S12.003	16.898	100.0	S32	100.972	99.355	1.392	Open Manhole	600
S12.004	26.719	38.0	S33	100.200	98.651	1.324	Open Manhole	600
S9.002	20.281	57.8	SD3	100.500	98.300	1.975	Open Manhole	1200
S9.003	5.000#	16.7	SPond	100.500	98.251	2.024	Open Manhole	1200
S1.007	12.013	169.2	S45	101.000	97.929	2.846	Open Manhole	900
S1.008	22.116	168.8	S34	101.590	97.798	3.567	Open Manhole	1200
S1.009	29.963	169.3	S35 FCC	101.550	97.621	3.704	Open Manhole	1200

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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)
S14.000	o	150	S37	101.824	100.924	0.750	Open Manhole	450
S14.001	o	150	S38	100.935	100.035	0.750	Open Manhole	450
S14.002	o	150	S39	100.740	99.741	0.849	Open Manhole	450
S14.003	o	150	S40	100.849	99.447	1.252	Open Manhole	450
S14.004	o	150	S41	101.190	99.153	1.887	Open Manhole	450
S14.005	o	150	S42	101.500	98.856	2.494	Open Manhole	450
S14.006	o	225	S43	101.000	98.629	2.146	Open Manhole	600
S1.010	o	300	S35 FCC	101.550	97.621	3.629	Open Manhole	1200
S1.011	o	300	S36	99.000	97.444	1.256	Open Manhole	1200

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)
S14.000	29.391	33.1	S38	100.935	100.035	0.750	Open Manhole	450
S14.001	29.391	100.0	S39	100.740	99.741	0.849	Open Manhole	450
S14.002	29.391	100.0	S40	100.849	99.447	1.252	Open Manhole	450
S14.003	29.391	100.0	S41	101.190	99.153	1.887	Open Manhole	450
S14.004	29.640	99.8	S42	101.500	98.856	2.494	Open Manhole	450
S14.005	22.626	99.7	S43	101.000	98.629	2.221	Open Manhole	600
S14.006	20.048	19.9	S35 FCC	101.550	97.621	3.704	Open Manhole	1200
S1.010	29.967	169.3	S36	99.000	97.444	1.256	Open Manhole	1200
S1.011	29.749	30.0	SDitch	97.680	96.451	0.929	Open Manhole	0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.000	0.000	0.000
1.001	User	-	100	0.038	0.038	0.038
1.002	-	-	100	0.000	0.000	0.000
1.003	-	-	100	0.015	0.015	0.015
1.004	-	-	100	0.054	0.054	0.054
2.000	-	-	100	0.000	0.000	0.000
2.001	User	-	100	0.036	0.036	0.036
1.005	User	-	100	0.007	0.007	0.007
1.006	-	-	100	0.000	0.000	0.000
3.000	-	-	100	0.000	0.000	0.000
3.001	User	-	100	0.051	0.051	0.051
3.002	User	-	100	0.020	0.020	0.020
4.000	-	-	100	0.024	0.024	0.024
4.001	-	-	100	0.000	0.000	0.000
5.000	-	-	100	0.024	0.024	0.024
3.003	-	-	100	0.000	0.000	0.000
6.000	-	-	100	0.000	0.000	0.000
6.001	User	-	100	0.051	0.051	0.051
6.002	User	-	100	0.024	0.024	0.024
6.003	-	-	100	0.024	0.024	0.024
6.004	User	-	100	0.021	0.021	0.021
7.000	User	-	100	0.032	0.032	0.032
7.001	User	-	100	0.020	0.020	0.020
3.004	-	-	100	0.046	0.046	0.046
8.000	-	-	100	0.000	0.000	0.000
3.005	User	-	100	0.043	0.043	0.043
3.006	User	-	100	0.013	0.013	0.013
3.007	-	-	100	0.000	0.000	0.000
9.000	-	-	100	0.000	0.000	0.000
9.001	User	-	100	0.040	0.040	0.040
10.000	-	-	100	0.000	0.000	0.000
11.000	-	-	100	0.000	0.000	0.000
11.001	User	-	100	0.099	0.099	0.099
10.001	User	-	100	0.077	0.077	0.077
12.000	-	-	100	0.000	0.000	0.000
12.001	User	-	100	0.064	0.064	0.064
12.002	User	-	100	0.045	0.045	0.045
13.000	-	-	100	0.000	0.000	0.000
13.001	User	-	100	0.030	0.030	0.030
12.003	User	-	100	0.036	0.036	0.036
12.004	User	-	100	0.027	0.027	0.027
9.002	User	-	100	0.042	0.042	0.042
9.003	-	-	100	0.000	0.000	0.000
1.007	-	-	100	0.000	0.000	0.000
1.008	-	-	100	0.000	0.000	0.000
1.009	-	-	100	0.000	0.000	0.000
14.000	User	-	100	0.004	0.004	0.004
14.001	User	-	100	0.034	0.034	0.034
14.002	-	-	100	0.000	0.000	0.000
14.003	User	-	100	0.034	0.034	0.034
14.004	User	-	100	0.013	0.013	0.013
14.005	-	-	100	0.000	0.000	0.000
14.006	-	-	100	0.000	0.000	0.000
1.010	-	-	100	0.000	0.000	0.000
1.011	-	-	100	0.000	0.000	0.000

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
				Total	Total	Total
				1.089	1.089	1.089

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)
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SI.011	SDitch	97.680	96.451	0.000	0	0
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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	0.000
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 Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	2	Number of Storage Structures	14	Number of Real Time Controls	0

Synthetic Rainfall Details

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)	20.300	Storm Duration (mins)	30
Ratio R	0.400		

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Online Controls for Storm

Non Return Valve Manhole: SD4, DS/PN: S4.001, Volume (m³): 1.6

Hydro-Brake® Optimum Manhole: S35 FCC, DS/PN: S1.010, Volume (m³): 6.3

Unit Reference MD-SHE-0078-4400-2879-4400
Design Head (m) 2.879
Design Flow (l/s) 4.4
Flush-Flo™ Calculated
Objective Minimise upstream storage
Application Surface
Sump Available Yes
Diameter (mm) 78
Invert Level (m) 97.621
Minimum Outlet Pipe Diameter (mm) 100
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.879	4.4	Kick-Flo®	0.698	2.3
Flush-Flo™	0.338	2.9	Mean Flow over Head Range	-	3.2

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

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	2.2	0.800	2.4	2.000	3.7	4.000	5.1	7.000	6.7
0.200	2.7	1.000	2.7	2.200	3.9	4.500	5.4	7.500	6.9
0.300	2.9	1.200	2.9	2.400	4.0	5.000	5.7	8.000	7.1
0.400	2.8	1.400	3.1	2.600	4.2	5.500	5.9	8.500	7.3
0.500	2.8	1.600	3.3	3.000	4.5	6.000	6.2	9.000	7.5
0.600	2.6	1.800	3.5	3.500	4.8	6.500	6.4	9.500	7.7

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Storage Structures for Storm

Bio-Retention Area Manhole: S6, DS/PN: S1.005

Invert Level (m) 99.076 Infiltration Coefficient Side (m/hr) 0.00000
Porosity 1.00 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000

Depth (m)	Area (m ²)	Perimeter (m)	Depth (m)	Area (m ²)	Perimeter (m)	Depth (m)	Area (m ²)	Perimeter (m)
0.000	1523.0	190.650	0.250	1523.0	190.650	0.251	0.0	190.650

Bio-Retention Area Manhole: S15, DS/PN: S3.004

Invert Level (m) 99.753 Infiltration Coefficient Side (m/hr) 0.00000
Porosity 1.00 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000

Depth (m)	Area (m ²)	Perimeter (m)	Depth (m)	Area (m ²)	Perimeter (m)	Depth (m)	Area (m ²)	Perimeter (m)
0.000	537.0	160.000	0.250	537.0	160.000	0.251	0.0	160.000

Porous Car Park Manhole: S21, DS/PN: S9.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 8.2
Membrane Percolation (mm/hr) 1000 Length (m) 24.0
Max Percolation (l/s) 54.7 Slope (1:X) 80.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 99.348 Cap Volume Depth (m) 0.450

Porous Car Park Manhole: S24, DS/PN: S11.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 6.0
Membrane Percolation (mm/hr) 1000 Length (m) 53.0
Max Percolation (l/s) 88.3 Slope (1:X) 60.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 98.878 Cap Volume Depth (m) 0.450

Porous Car Park Manhole: S25, DS/PN: S10.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 6.0
Membrane Percolation (mm/hr) 1000 Length (m) 53.0
Max Percolation (l/s) 88.3 Slope (1:X) 60.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 98.766 Cap Volume Depth (m) 0.450

Porous Car Park Manhole: S27, DS/PN: S12.001

Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.30
Membrane Percolation (mm/hr) 1000 Invert Level (m) 100.029
Max Percolation (l/s) 48.8 Width (m) 6.0
Safety Factor 2.0 Length (m) 29.3

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Porous Car Park Manhole: S27, DS/PN: S12.001

Slope (1:X) 80.0 Evaporation (mm/day) 3
Depression Storage (mm) 5 Cap Volume Depth (m) 0.450

Porous Car Park Manhole: S28, DS/PN: S12.002

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 6.0
Membrane Percolation (mm/hr) 1000 Length (m) 24.0
Max Percolation (l/s) 40.0 Slope (1:X) 80.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 99.692 Cap Volume Depth (m) 0.450

Porous Car Park Manhole: S30, DS/PN: S13.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 6.0
Membrane Percolation (mm/hr) 1000 Length (m) 29.3
Max Percolation (l/s) 48.8 Slope (1:X) 80.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 100.195 Cap Volume Depth (m) 0.450

Porous Car Park Manhole: S31, DS/PN: S12.003

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 6.0
Membrane Percolation (mm/hr) 1000 Length (m) 24.0
Max Percolation (l/s) 40.0 Slope (1:X) 80.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 99.524 Cap Volume Depth (m) 0.450

Porous Car Park Manhole: S32, DS/PN: S12.004

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 6.0
Membrane Percolation (mm/hr) 1000 Length (m) 18.0
Max Percolation (l/s) 30.0 Slope (1:X) 80.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 99.355 Cap Volume Depth (m) 0.450

Porous Car Park Manhole: S33, DS/PN: S9.002

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 7.5
Membrane Percolation (mm/hr) 1000 Length (m) 45.5
Max Percolation (l/s) 94.8 Slope (1:X) 28.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 98.651 Cap Volume Depth (m) 0.450

Tank or Pond Manhole: SPond, DS/PN: S1.007

Invert Level (m) 98.000

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Tank or Pond Manhole: SPond, DS/PN: S1.007

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	83.0	2.500	547.0

Filter Drain Manhole: S42, DS/PN: S14.005

Infiltration Coefficient Base (m/hr)	0.00000	Pipe Diameter (m)	0.150
Infiltration Coefficient Side (m/hr)	0.00000	Pipe Depth above Invert (m)	0.450
Safety Factor	2.0	Number of Pipes	1
Porosity	0.30	Slope (1:X)	100.0
Invert Level (m)	98.856	Cap Volume Depth (m)	0.300
Trench Width (m)	0.5	Cap Infiltration Depth (m)	0.000
Trench Length (m)	24.3		

Filter Drain Manhole: S43, DS/PN: S14.006

Infiltration Coefficient Base (m/hr)	0.00000	Pipe Diameter (m)	0.150
Infiltration Coefficient Side (m/hr)	0.00000	Pipe Depth above Invert (m)	0.450
Safety Factor	2.0	Number of Pipes	1
Porosity	0.30	Slope (1:X)	100.0
Invert Level (m)	98.629	Cap Volume Depth (m)	0.300
Trench Width (m)	0.5	Cap Infiltration Depth (m)	0.000
Trench Length (m)	22.6		

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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 0.000
 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 Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 2 Number of Storage Structures 14 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.300 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.400 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 40

											Water	Surcharged
US/MH			Return	Climate	First (X)		First (Y)		First (Z)	Overflow	Level	
PN	Name	Storm	Period	Change	Surcharge		Flood		Overflow	Act.	(m)	Depth
S1.000	SRE1	15 Summer	1	+0%	100/15	Summer	100/15	Summer			100.330	-0.150
S1.001	S1	15 Winter	1	+0%	100/15	Summer	100/15	Summer			100.019	-0.091
S1.002	S2	15 Winter	1	+0%	100/15	Summer					99.959	-0.100
S1.003	S3	15 Winter	1	+0%	30/15	Summer					99.747	-0.090
S1.004	S4	15 Winter	1	+0%	100/15	Summer					99.377	-0.149
S2.000	SRE2	15 Summer	1	+0%							100.290	-0.150
S2.001	S5	15 Winter	1	+0%							99.945	-0.197
S1.005	S6	360 Winter	1	+0%	100/240	Winter					99.088	-0.213
S1.006	SD1	600 Winter	1	+0%	30/60	Summer					98.829	-0.121
S3.000	SRE3	15 Summer	1	+0%	100/15	Summer					101.600	-0.150
S3.001	S7	15 Winter	1	+0%	100/15	Summer					101.380	-0.091
S3.002	S8	15 Winter	1	+0%	100/15	Summer					101.136	-0.103
S4.000	S9	15 Winter	1	+0%	100/15	Summer					100.312	-0.183
S4.001	SD4	15 Winter	1	+0%	100/15	Summer					100.204	-0.183
S5.000	S46	15 Winter	1	+0%							100.668	-0.197
S3.003	S10	15 Winter	1	+0%	100/15	Summer					100.141	-0.138
S6.000	SRE4	15 Summer	1	+0%	100/15	Summer					101.600	-0.150
S6.001	S11	15 Winter	1	+0%	100/15	Summer					101.393	-0.091
S6.002	S12	15 Winter	1	+0%	100/15	Summer					101.141	-0.163
S6.003	S13	15 Winter	1	+0%	100/15	Summer					100.849	-0.150
S6.004	S16	15 Winter	1	+0%							100.556	-0.171
S7.000	S14	15 Winter	1	+0%							102.019	-0.104
S7.001	S44	15 Winter	1	+0%							101.559	-0.196
S3.004	S15	120 Winter	1	+0%							99.808	-0.170
S8.000	S17	15 Summer	1	+0%							100.730	-0.150
S3.005	S18	120 Winter	1	+0%							99.650	-0.174

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

PN	US/MH Name	Flooded		Half Drain		Pipe	Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)		
S1.000	SRE1	0.000	0.00			0.0	OK	2
S1.001	S1	0.000	0.32			4.5	OK	2
S1.002	S2	0.000	0.24			4.5	OK	
S1.003	S3	0.000	0.33			6.3	OK	
S1.004	S4	0.000	0.25			12.7	OK	
S2.000	SRE2	0.000	0.00			0.0	OK	
S2.001	S5	0.000	0.04			4.4	OK	
S1.005	S6	0.000	0.01		295	0.9	OK	
S1.006	SD1	0.000	0.01			0.9	OK	
S3.000	SRE3	0.000	0.00			0.0	OK	
S3.001	S7	0.000	0.32			6.0	OK	
S3.002	S8	0.000	0.21			8.4	OK	
S4.000	S9	0.000	0.08			3.4	OK	
S4.001	SD4	0.000	0.08			3.4	OK	
S5.000	S46	0.000	0.04			3.4	OK	
S3.003	S10	0.000	0.31			15.3	OK	
S6.000	SRE4	0.000	0.00			0.0	OK	
S6.001	S11	0.000	0.33			6.1	OK	
S6.002	S12	0.000	0.17			9.0	OK	
S6.003	S13	0.000	0.24			11.8	OK	
S6.004	S16	0.000	0.13			14.3	OK	
S7.000	S14	0.000	0.20			4.4	OK	
S7.001	S44	0.000	0.04			6.9	OK	
S3.004	S15	0.000	0.14		98	6.2	OK	
S8.000	S17	0.000	0.00			0.0	OK	
S3.005	S18	0.000	0.12			7.1	OK	

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

PN	US/MH Name	Storm	Return Climate		First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged
			Period	Change					Level (m)	Depth (m)
S3.006	S19	15 Winter	1	+0%	100/120 Winter				99.421	-0.182
S3.007	SD2	15 Winter	1	+0%	30/120 Winter				98.954	-0.188
S9.000	S20	15 Summer	1	+0%					99.587	-0.150
S9.001	S21	15 Winter	1	+0%	100/60 Winter				99.387	-0.111
S10.000	S22	15 Summer	1	+0%	100/30 Winter				99.270	-0.150
S11.000	S23	15 Summer	1	+0%	30/15 Winter				99.020	-0.150
S11.001	S24	15 Winter	1	+0%	30/15 Summer				98.963	-0.140
S10.001	S25	15 Winter	1	+0%	30/15 Summer				98.880	-0.111
S12.000	S26	15 Summer	1	+0%					100.365	-0.150
S12.001	S27	15 Winter	1	+0%	100/15 Summer				100.092	-0.087
S12.002	S28	15 Winter	1	+0%	30/15 Summer				99.786	-0.056
S13.000	S29	15 Summer	1	+0%					100.530	-0.150
S13.001	S30	15 Winter	1	+0%					100.230	-0.115
S12.003	S31	15 Winter	1	+0%	100/15 Summer				99.622	-0.127
S12.004	S32	15 Winter	1	+0%	100/15 Winter				99.433	-0.147
S9.002	S33	15 Winter	1	+0%	30/15 Summer				98.839	-0.037
S9.003	SD3	600 Winter	1	+0%	1/360 Winter				98.829	0.053
S1.007	SPond	600 Winter	1	+0%	1/15 Winter				98.829	0.604
S1.008	S45	600 Winter	1	+0%	1/15 Summer				98.827	0.673
S1.009	S34	600 Winter	1	+0%	1/15 Summer				98.821	0.798
S14.000	S37	15 Winter	1	+0%					100.939	-0.135
S14.001	S38	15 Winter	1	+0%	30/15 Summer	100/15 Summer			100.089	-0.096
S14.002	S39	15 Winter	1	+0%	30/15 Summer	100/15 Summer			99.794	-0.097
S14.003	S40	15 Winter	1	+0%	30/15 Summer	100/15 Summer			99.523	-0.074
S14.004	S41	15 Winter	1	+0%	30/15 Summer				99.237	-0.066
S14.005	S42	15 Winter	1	+0%	30/15 Summer				98.939	-0.067
S14.006	S43	600 Winter	1	+0%	30/30 Winter				98.813	-0.041
S1.010	S35 FCC	600 Winter	1	+0%	1/15 Summer				98.813	0.892
S1.011	S36	600 Winter	1	+0%					97.466	-0.278

PN	US/MH Name	Flooded		Half Drain		Pipe	Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)		
S3.006	S19	0.000	0.08			7.4	OK	
S3.007	SD2	0.000	0.06			7.4	OK	
S9.000	S20	0.000	0.00			0.0	OK	
S9.001	S21	0.000	0.15		6	4.5	OK	
S10.000	S22	0.000	0.00			0.0	OK	
S11.000	S23	0.000	0.00			0.0	OK	
S11.001	S24	0.000	0.30		6	11.4	OK	
S10.001	S25	0.000	0.50		6	19.1	OK	
S12.000	S26	0.000	0.00			0.0	OK	
S12.001	S27	0.000	0.37		6	7.3	OK	
S12.002	S28	0.000	0.70		6	11.7	OK	
S13.000	S29	0.000	0.00			0.0	OK	
S13.001	S30	0.000	0.12		6	3.3	OK	
S12.003	S31	0.000	0.39		7	18.2	OK	
S12.004	S32	0.000	0.26		6	20.4	OK	
S9.002	S33	0.000	0.69		4	42.7	OK	
S9.003	SD3	0.000	0.09			6.9	SURCHARGED	
S1.007	SPond	0.000	0.30			10.1	SURCHARGED	

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Micro Drainage	Network 2020.1.3	

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

PN	US/MH Name	Flooded		Flow / Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Volume (m³)	Flow / Cap.					
S1.008	S45	0.000	0.24			8.8	SURCHARGED	
S1.009	S34	0.000	0.15			5.6	SURCHARGED	
S14.000	S37	0.000	0.02			0.6	OK	
S14.001	S38	0.000	0.27			4.7	OK	5
S14.002	S39	0.000	0.27			4.6	OK	4
S14.003	S40	0.000	0.50			8.5	OK	
S14.004	S41	0.000	0.59			10.0	OK	
S14.005	S42	0.000	0.59		7	9.9	OK	
S14.006	S43	0.000	0.01		163	1.3	OK	
S1.010	S35 FCC	0.000	0.04			2.9	SURCHARGED	
S1.011	S36	0.000	0.02			2.9	OK	

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Micro Drainage	Network 2020.1.3	

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 0.000
 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 Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 2 Number of Storage Structures 14 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.300 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.400 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 40

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S1.000	SRE1	15 Summer	30	+0%	100/15 Summer	100/15 Summer			100.330	-0.150
S1.001	S1	15 Summer	30	+0%	100/15 Summer	100/15 Summer			100.082	-0.028
S1.002	S2	15 Summer	30	+0%	100/15 Summer				100.007	-0.052
S1.003	S3	15 Winter	30	+0%	30/15 Summer				99.843	0.006
S1.004	S4	15 Winter	30	+0%	100/15 Summer				99.448	-0.078
S2.000	SRE2	15 Summer	30	+0%					100.290	-0.150
S2.001	S5	15 Winter	30	+0%					99.967	-0.175
S1.005	S6	960 Winter	30	+0%	100/240 Winter				99.173	-0.128
S1.006	SD1	600 Winter	30	+0%	30/60 Summer				99.277	0.327
S3.000	SRE3	15 Summer	30	+0%	100/15 Summer				101.600	-0.150
S3.001	S7	15 Winter	30	+0%	100/15 Summer				101.455	-0.016
S3.002	S8	15 Winter	30	+0%	100/15 Summer				101.177	-0.062
S4.000	S9	15 Winter	30	+0%	100/15 Summer				100.337	-0.158
S4.001	SD4	15 Winter	30	+0%	100/15 Summer				100.239	-0.148
S5.000	S46	15 Winter	30	+0%					100.686	-0.179
S3.003	S10	15 Winter	30	+0%	100/15 Summer				100.218	-0.061
S6.000	SRE4	15 Summer	30	+0%	100/15 Summer				101.600	-0.150
S6.001	S11	15 Winter	30	+0%	100/15 Summer				101.475	-0.009
S6.002	S12	15 Winter	30	+0%	100/15 Summer				101.194	-0.110
S6.003	S13	15 Winter	30	+0%	100/15 Summer				100.920	-0.079
S6.004	S16	15 Winter	30	+0%					100.601	-0.126
S7.000	S14	15 Winter	30	+0%					102.048	-0.075
S7.001	S44	15 Winter	30	+0%					101.579	-0.176

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

PN	US/MH Name	Flooded		Half Drain		Pipe	Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)		
S1.000	SRE1	0.000	0.00			0.0	OK	2
S1.001	S1	0.000	1.00			14.1	OK	2
S1.002	S2	0.000	0.76			14.1	OK	
S1.003	S3	0.000	1.00			19.1	SURCHARGED	
S1.004	S4	0.000	0.74			38.4	OK	
S2.000	SRE2	0.000	0.00			0.0	OK	
S2.001	S5	0.000	0.11			13.4	OK	
S1.005	S6	0.000	0.03		533	2.6	OK	
S1.006	SD1	0.000	0.02			2.6	SURCHARGED*	
S3.000	SRE3	0.000	0.00			0.0	OK	
S3.001	S7	0.000	1.00			18.6	OK	
S3.002	S8	0.000	0.65			26.1	OK	
S4.000	S9	0.000	0.19			8.3	OK	
S4.001	SD4	0.000	0.19			8.2	OK	
S5.000	S46	0.000	0.09			8.4	OK	
S3.003	S10	0.000	0.87			42.0	OK	
S6.000	SRE4	0.000	0.00			0.0	OK	
S6.001	S11	0.000	1.00			18.7	OK	
S6.002	S12	0.000	0.51			27.5	OK	
S6.003	S13	0.000	0.73			35.7	OK	
S6.004	S16	0.000	0.39			42.9	OK	
S7.000	S14	0.000	0.49			10.9	OK	
S7.001	S44	0.000	0.11			18.4	OK	

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

PN	US/MH Name	Storm	Return Climate		First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged
			Period	Change					Level (m)	Depth (m)
S3.004	S15	60 Winter	30	+0%					99.862	-0.116
S8.000	S17	15 Summer	30	+0%					100.730	-0.150
S3.005	S18	60 Winter	30	+0%					99.700	-0.124
S3.006	S19	60 Winter	30	+0%	100/120 Winter				99.460	-0.143
S3.007	SD2	600 Winter	30	+0%	30/120 Winter				99.291	0.149
S9.000	S20	15 Summer	30	+0%					99.587	-0.150
S9.001	S21	15 Winter	30	+0%	100/60 Winter				99.422	-0.076
S10.000	S22	600 Winter	30	+0%	100/30 Winter				99.299	-0.121
S11.000	S23	600 Winter	30	+0%	30/15 Winter				99.300	0.130
S11.001	S24	600 Winter	30	+0%	30/15 Summer				99.300	0.197
S10.001	S25	600 Winter	30	+0%	30/15 Summer				99.299	0.308
S12.000	S26	15 Summer	30	+0%					100.365	-0.150
S12.001	S27	15 Winter	30	+0%	100/15 Summer				100.178	-0.001
S12.002	S28	15 Winter	30	+0%	30/15 Summer				99.946	0.104
S13.000	S29	15 Summer	30	+0%					100.530	-0.150
S13.001	S30	15 Winter	30	+0%					100.260	-0.085
S12.003	S31	15 Winter	30	+0%	100/15 Summer				99.688	-0.061
S12.004	S32	15 Winter	30	+0%	100/15 Winter				99.484	-0.096
S9.002	S33	600 Winter	30	+0%	30/15 Summer				99.297	0.421
S9.003	SD3	600 Winter	30	+0%	1/360 Winter				99.290	0.514
S1.007	SPond	600 Winter	30	+0%	1/15 Winter				99.287	1.062
S1.008	S45	480 Winter	30	+0%	1/15 Summer				99.290	1.136
S1.009	S34	480 Winter	30	+0%	1/15 Summer				99.291	1.268
S14.000	S37	15 Winter	30	+0%					100.946	-0.128
S14.001	S38	15 Winter	30	+0%	30/15 Summer	100/15 Summer			100.315	0.130
S14.002	S39	15 Winter	30	+0%	30/15 Summer	100/15 Summer			100.203	0.312
S14.003	S40	15 Winter	30	+0%	30/15 Summer	100/15 Summer			100.087	0.490
S14.004	S41	15 Winter	30	+0%	30/15 Summer				99.667	0.364
S14.005	S42	480 Winter	30	+0%	30/15 Summer				99.282	0.276
S14.006	S43	480 Winter	30	+0%	30/30 Winter				99.284	0.430
S1.010	S35	FCC 480 Winter	30	+0%	1/15 Summer				99.286	1.365
S1.011	S36	600 Winter	30	+0%					97.470	-0.274

PN	US/MH Name	Flooded		Half Drain	Pipe	Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)		
S3.004	S15	0.000	0.48		53	21.9	OK
S8.000	S17	0.000	0.00			0.0	OK
S3.005	S18	0.000	0.41			25.0	OK
S3.006	S19	0.000	0.29			26.2	OK
S3.007	SD2	0.000	0.10			11.2	SURCHARGED*
S9.000	S20	0.000	0.00			0.0	OK
S9.001	S21	0.000	0.48		4	14.3	OK
S10.000	S22	0.000	0.00			0.0	OK
S11.000	S23	0.000	0.00			0.0	SURCHARGED
S11.001	S24	0.000	0.08		266	3.2	SURCHARGED
S10.001	S25	0.000	0.14		610	5.3	SURCHARGED
S12.000	S26	0.000	0.00			0.0	OK
S12.001	S27	0.000	0.90		4	18.0	OK
S12.002	S28	0.000	1.28		6	21.2	SURCHARGED
S13.000	S29	0.000	0.00			0.0	OK

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

PN	US/MH Name	Flooded		Half Drain		Pipe Flow (l/s)	Status	Level Exceeded
		Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)			
S13.001	S30	0.000	0.39	4	11.1	OK		
S12.003	S31	0.000	0.87	7	40.4	OK		
S12.004	S32	0.000	0.61	7	48.0	OK		
S9.002	S33	0.000	0.21		12.9	SURCHARGED		
S9.003	SD3	0.000	0.16		12.6	SURCHARGED		
S1.007	SPond	0.000	0.17		5.8	SURCHARGED		
S1.008	S45	0.000	0.14		4.9	SURCHARGED		
S1.009	S34	0.000	0.10		3.7	SURCHARGED		
S14.000	S37	0.000	0.05		1.5	OK		
S14.001	S38	0.000	0.80		13.6	SURCHARGED		5
S14.002	S39	0.000	0.71		12.0	SURCHARGED		4
S14.003	S40	0.000	1.18		20.1	SURCHARGED		
S14.004	S41	0.000	1.37		23.3	SURCHARGED		
S14.005	S42	0.000	0.20		3.3	SURCHARGED		
S14.006	S43	0.000	0.03		3.0	SURCHARGED		
S1.010	S35 FCC	0.000	0.04		3.4	SURCHARGED		
S1.011	S36	0.000	0.02		3.4	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 0.000
 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 Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 2 Number of Storage Structures 14 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.300 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.400 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 40

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S1.000	SRE1	15 Summer	100	+40%	100/15 Summer	100/15 Summer			100.930	0.450
S1.001	S1	15 Winter	100	+40%	100/15 Summer	100/15 Summer			100.930	0.820
S1.002	S2	15 Summer	100	+40%	100/15 Summer				100.835	0.776
S1.003	S3	15 Summer	100	+40%	30/15 Summer				100.599	0.762
S1.004	S4	15 Winter	100	+40%	100/15 Summer				99.655	0.129
S2.000	SRE2	15 Summer	100	+40%					100.290	-0.150
S2.001	S5	15 Winter	100	+40%					99.986	-0.156
S1.005	S6	1440 Winter	100	+40%	100/240 Winter				99.590	0.289
S1.006	SD1	1440 Winter	100	+40%	30/60 Summer				99.590	0.640
S3.000	SRE3	15 Winter	100	+40%	100/15 Summer				102.194	0.444
S3.001	S7	15 Winter	100	+40%	100/15 Summer				102.194	0.723
S3.002	S8	15 Winter	100	+40%	100/15 Summer				101.637	0.398
S4.000	S9	15 Winter	100	+40%	100/15 Summer				100.615	0.120
S4.001	SD4	15 Winter	100	+40%	100/15 Summer				100.594	0.207
S5.000	S46	15 Winter	100	+40%					100.702	-0.163
S3.003	S10	15 Winter	100	+40%	100/15 Summer				100.574	0.295
S6.000	SRE4	15 Winter	100	+40%	100/15 Summer				102.194	0.444
S6.001	S11	15 Winter	100	+40%	100/15 Summer				102.194	0.710
S6.002	S12	15 Winter	100	+40%	100/15 Summer				101.405	0.101
S6.003	S13	15 Winter	100	+40%	100/15 Summer				101.151	0.152
S6.004	S16	15 Winter	100	+40%					100.638	-0.089
S7.000	S14	15 Winter	100	+40%					102.086	-0.037
S7.001	S44	15 Winter	100	+40%					101.597	-0.158

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

PN	US/MH Name	Flooded		Half Drain		Pipe	Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)		
S1.000	SRE1	0.004	0.02			0.4	FLOOD	2
S1.001	S1	0.321	1.59			22.5	FLOOD	2
S1.002	S2	0.000	1.18			21.9	FLOOD RISK	
S1.003	S3	0.000	1.53			29.2	FLOOD RISK	
S1.004	S4	0.000	1.22			62.9	SURCHARGED	
S2.000	SRE2	0.000	0.00			0.0	OK	
S2.001	S5	0.000	0.21			24.4	OK	
S1.005	S6	0.000	0.03			2.7	SURCHARGED	
S1.006	SD1	0.000	0.03			2.7	SURCHARGED*	
S3.000	SRE3	0.000	0.02			0.4	FLOOD RISK	
S3.001	S7	0.000	1.59			29.7	FLOOD RISK	
S3.002	S8	0.000	1.03			41.4	SURCHARGED	
S4.000	S9	0.000	0.33			14.3	SURCHARGED	
S4.001	SD4	0.000	0.36			15.9	SURCHARGED	
S5.000	S46	0.000	0.17			15.2	OK	
S3.003	S10	0.000	1.40			68.2	SURCHARGED	
S6.000	SRE4	0.000	0.02			0.4	FLOOD RISK	
S6.001	S11	0.000	1.77			33.2	FLOOD RISK	
S6.002	S12	0.000	0.88			47.3	SURCHARGED	
S6.003	S13	0.000	1.25			61.0	SURCHARGED	
S6.004	S16	0.000	0.67			72.8	OK	
S7.000	S14	0.000	0.90			19.8	OK	
S7.001	S44	0.000	0.19			33.4	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S3.004	S15	60 Winter	100	+40%					99.937	-0.041
S8.000	S17	15 Summer	100	+40%					100.730	-0.150
S3.005	S18	120 Winter	100	+40%					99.780	-0.044
S3.006	S19	120 Winter	100	+40%	100/120 Winter				99.671	0.068
S3.007	SD2	1440 Winter	100	+40%	30/120 Winter				99.591	0.449
S9.000	S20	1440 Winter	100	+40%					99.593	-0.144
S9.001	S21	1440 Winter	100	+40%	100/60 Winter				99.593	0.095
S10.000	S22	1440 Winter	100	+40%	100/30 Winter				99.593	0.173
S11.000	S23	1440 Winter	100	+40%	30/15 Winter				99.594	0.424
S11.001	S24	1440 Winter	100	+40%	30/15 Summer				99.594	0.491
S10.001	S25	1440 Winter	100	+40%	30/15 Summer				99.593	0.602
S12.000	S26	15 Summer	100	+40%					100.365	-0.150
S12.001	S27	15 Winter	100	+40%	100/15 Summer				100.332	0.153
S12.002	S28	30 Winter	100	+40%	30/15 Summer				100.081	0.239
S13.000	S29	15 Summer	100	+40%					100.530	-0.150
S13.001	S30	15 Winter	100	+40%					100.289	-0.056
S12.003	S31	15 Winter	100	+40%	100/15 Summer				99.781	0.032
S12.004	S32	30 Winter	100	+40%	100/15 Winter				99.619	0.039
S9.002	S33	1440 Winter	100	+40%	30/15 Summer				99.592	0.716
S9.003	SD3	1440 Winter	100	+40%	1/360 Winter				99.590	0.814
S1.007	SPond	1440 Winter	100	+40%	1/15 Winter				99.589	1.364
S1.008	S45	1440 Winter	100	+40%	1/15 Summer				99.635	1.481
S1.009	S34	1440 Winter	100	+40%	1/15 Summer				99.673	1.650
S14.000	S37	15 Winter	100	+40%					100.958	-0.116
S14.001	S38	15 Winter	100	+40%	30/15 Summer	100/15 Summer			100.937	0.752
S14.002	S39	15 Winter	100	+40%	30/15 Summer	100/15 Summer			100.743	0.852
S14.003	S40	15 Summer	100	+40%	30/15 Summer	100/15 Summer			100.801	1.204
S14.004	S41	15 Winter	100	+40%	30/15 Summer				100.346	1.043
S14.005	S42	1440 Winter	100	+40%	30/15 Summer				99.661	0.655
S14.006	S43	1440 Winter	100	+40%	30/30 Winter				99.673	0.819
S1.010	S35	FCC 1440 Winter	100	+40%	1/15 Summer				99.676	1.755
S1.011	S36	1440 Winter	100	+40%					97.473	-0.271

PN	US/MH Name	Flooded		Half Drain		Pipe		Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)			
S3.004	S15	0.000	1.00		39	45.9		OK	
S8.000	S17	0.000	0.00			0.0		OK	
S3.005	S18	0.000	0.79			47.8		OK	
S3.006	S19	0.000	0.54			49.4		SURCHARGED	
S3.007	SD2	0.000	0.09			11.1		SURCHARGED*	
S9.000	S20	0.000	0.00			0.0		OK	
S9.001	S21	0.000	0.04		246	1.1		SURCHARGED	
S10.000	S22	0.000	0.00			0.0		SURCHARGED	
S11.000	S23	0.000	0.00			0.0		SURCHARGED	
S11.001	S24	0.000	0.07		662	2.5		FLOOD RISK	
S10.001	S25	0.000	0.12		1062	4.5		SURCHARGED	
S12.000	S26	0.000	0.00			0.0		OK	
S12.001	S27	0.000	0.93		7	18.5		SURCHARGED	
S12.002	S28	0.000	1.46		13	24.2		SURCHARGED	
S13.000	S29	0.000	0.00			0.0		OK	

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Catherine House Old Harborough Road Brixworth NN6 9BX	Kyngs Golf & Country Club 82659	
Date 18/08/2023	Designed by NN	
File 82659 DETAILED NETWORK MODEL 1 ...	Checked by MAS	
Micro Drainage	Network 2020.1.3	

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

PN	US/MH Name	Flooded		Flow / Overflow (l/s)	Half Drain Pipe		Status	Level Exceeded
		Volume (m³)	Cap.		Time (mins)	Flow (l/s)		
S13.001	S30	0.000	0.70		4	19.9	OK	
S12.003	S31	0.000	1.10		7	50.9	SURCHARGED	
S12.004	S32	0.000	0.68		13	53.2	SURCHARGED	
S9.002	S33	0.000	0.19			11.7	SURCHARGED	
S9.003	SD3	0.000	0.15			11.7	SURCHARGED	
S1.007	SPond	0.000	0.43			14.6	SURCHARGED	
S1.008	S45	0.000	0.32			11.6	SURCHARGED	
S1.009	S34	0.000	0.19			6.9	SURCHARGED	
S14.000	S37	0.000	0.09			2.8	OK	
S14.001	S38	1.935	0.83			14.2	FLOOD	5
S14.002	S39	2.641	1.22			20.8	FLOOD	4
S14.003	S40	0.008	1.40			23.8	FLOOD	
S14.004	S41	0.000	1.87			31.9	SURCHARGED	
S14.005	S42	0.000	0.18			3.0	SURCHARGED	
S14.006	S43	0.000	0.03			2.8	SURCHARGED	
S1.010	S35 FCC	0.000	0.05			3.7	SURCHARGED	
S1.011	S36	0.000	0.02			3.7	OK	