

- Damage Legend**
- Site Boundary
 - Existing Public Surface Water Sewer
 - Existing Public Foul Water Sewer
 - New Adaptable Surface Water Drainage
 - New Private Surface Water Drainage
 - Surface Water Pump
 - Rising Eye
 - Surface Water Pump Rising Main
 - Perforated Pipe
 - New Private Foul Water Drainage
 - Foul Water Demarcation Chamber
 - Foul Water Pump
 - Foul Water Pump Rising Main
 - Cellular attenuation wrapped in an impermeable membrane
 - Type C Permeable Paving
 - Rampington
 - Swale
 - Proprietary Scale Inlet Headstock
 - Gully
 - Inlet Drainage Kerb
 - Final Excavation

- SAFETY/HEALTH & ENVIRONMENTAL HAZARD INFORMATION BOX**
- The hazards noted below are in addition to the normal hazards and risks faced by a contractor when dealing with the types of works detailed on this drawing.
- CONSTRUCTION RISKS:**
- Deep Trenches
 - Unforeseen Subsoils
 - Leakages
- DEMOLITION RISKS:**
- Leakages
- Notes:**
- DO NOT SCALE FROM THIS DRAWING.
 - All dimensions are in millimetres unless stated otherwise (i.e. m).
 - Drawing is to be used in conjunction with all relevant submittal drawings. Any inconsistencies should be reported to PRP immediately.
 - All levels and dimensions are to be checked on site before any work commences.
 - The Health and Safety at Work act is to be complied with at all times. Attention is drawn to the wearing of hard hats, reflective clothing, and the use of any other required safety equipment.
- Drawings:**
- Inset levels of existing manholes to be checked on site prior to commencing any drainage works.
 - For positions of all subsurface pipes & foul outlets refer to Architect's drawings.
 - All joints between present materials components shall have a minimum uncompressible thickness of 15mm of proprietary bitumen or resin mastic sealed.
 - Storm & foul branch connections are to be set at gradients of between 1:10 & 1:50
 - All in-situ concrete shall be minimum grade C25/30.
 - Proposed concrete cover & retaining shall be heavy duty reinforced concrete to BS 5311.
 - Flow lines shall be based on BS 5311 as per 4-22-03 & joints & fittings to be in accordance with BS 4-22-04. Close approval shall be in accordance with BS 4-22-04.
 - Materials covered & houses shall be maintained in good order or suitable for it and comply with requirements of BS EN 134 & shall be fully installed or equivalent.
 - Where there is no intermediate concrete between the end of a surface water pipe run and the adjoining the gradient of the run shall be not less than 1:100.
 - All completed work shall be suitably protected from damage by construction work. Damaged drainage will not be accepted. It is recommended that no heavy loading or unauthorised work is permitted above or near ungrouted manways, and that hoppers, bins, back lifts or other heavy vehicles are not driven along or near pipe runs.

Set MAAD factor to zero and run model again
 ↓
 Flooded areas 1W year return

MH	Location	Volume
RE1	Plot 14	0.247 increase
RE1	✓ 9	0.171 ✓
1	✓ 12	0.126 ✓
20	✓ 5	0.143 ✓
29	✓ 6	0.519 ✓
RE4	✓ 23	0.041 ✓
50	✓ 2	0.012 ✓

Rampington to be used in all domestic gardens throughout the estate. Refer to 82162-103 for standard detail

PRP 17/02/2023 Rampington edited NN / DE
 PRP 16/11/2022 issued for comments NN / DE
 Rev Date Description By / Ck


PRP
 consulting engineers & surveyors

Carlisle House, 2nd Floor, 100, Broad Street, Bristol, BS1 4JF
 Telephone: 0117 906 800
 Fax: 0117 906 801
 www.prp.co.uk
 London
 engineering excellence | creating advantage

Client: Cartwright Homes Ltd.
 Architect: Hayward Architects Ltd.
 Project: Proposed Housing Woodlands Lane, Bedworth CV12 0NN
 Title: Proposed Drainage Layout

Status: **PRELIMINARY**

Engineer: NN Date: June 2022
 Drawn: NN Scales: @ A3
 Checked: DE 1:250
 Project No: 82162 Dwg No: 102 Rev: P2


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Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.317	4-8	0.222

Total Area Contributing (ha) = 0.540

Total Pipe Volume (m³) = 18.294

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Existing Network Details for Storm

- Indicates pipe length does not match coordinates

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
S35.000	24.027	0.481	50.0	0.015	4.00	0.0	0.600	o	100	Pipe/Conduit
S36.000	6.936	0.266	26.1	0.005	4.00	0.0	0.600	o	100	Pipe/Conduit
S36.001	13.006	0.260	50.0	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit
S35.001	32.037	0.641	50.0	0.010	0.00	0.0	0.600	o	100	Pipe/Conduit
S35.002	5.062	0.283	17.9	0.003	0.00	0.0	0.600	o	100	Pipe/Conduit
S35.003	5.000#	0.050	100.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
S37.000	30.838	0.310	99.5	0.011	4.00	0.0	0.600	o	100	Pipe/Conduit
S37.001	22.581	0.806	28.0	0.010	0.00	0.0	0.600	o	100	Pipe/Conduit
S38.000	18.852	0.570	33.1	0.009	4.00	0.0	0.600	o	100	Pipe/Conduit
S38.001	7.681	0.522	14.7	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S39.000	7.632	0.138	55.3	0.002	4.00	0.0	0.600	o	100	Pipe/Conduit
S40.000	6.760	0.146	46.3	0.006	4.00	0.0	0.600	o	100	Pipe/Conduit
S40.001	3.403	0.166	20.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S41.000	6.760	0.068	99.4	0.005	4.00	0.0	0.600	o	100	Pipe/Conduit
S41.001	3.554	0.126	28.2	0.001	0.00	0.0	0.600	o	100	Pipe/Conduit
S39.001	5.003	0.123	40.7	0.001	0.00	0.0	0.600	o	100	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S35.000	105.655	0.015	0.0	1.09	8.6
S36.000	105.700	0.005	0.0	1.52	11.9
S36.001	105.434	0.007	0.0	1.09	8.6
S35.001	105.174	0.032	0.0	1.09	8.6
S35.002	104.533	0.035	0.0	1.83	14.4
S35.003	104.250	0.035	0.0	1.00	17.8
S37.000	106.515	0.011	0.0	0.77	6.1
S37.001	106.205	0.021	0.0	1.46	11.5
S38.000	106.550	0.009	0.0	1.35	10.6
S38.001	105.980	0.009	0.0	2.02	15.9
S39.000	105.897	0.002	0.0	1.04	8.2
S40.000	106.071	0.006	0.0	1.14	8.9
S40.001	105.925	0.006	0.0	1.71	13.5
S41.000	105.953	0.005	0.0	0.77	6.1
S41.001	105.885	0.006	0.0	1.46	11.5
S39.001	105.759	0.016	0.0	1.21	9.5


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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)	HYD SECT	DIA (mm)	Section Type
S42.000	13.463	0.264	51.0	0.005	4.00	0.0	0.600	o	100	Pipe/Conduit
S42.001	2.093	0.021	99.7	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S39.002	5.003	0.126	39.7	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S43.000	13.064	0.150	87.1	0.007	4.00	0.0	0.600	o	100	Pipe/Conduit
S43.001	17.243	0.442	39.0	0.006	0.00	0.0	0.600	o	100	Pipe/Conduit
S38.002	10.855	0.109	99.6	0.018	0.00	0.0	0.600	o	150	Pipe/Conduit
S44.000	10.333	0.231	44.7	0.011	4.00	0.0	0.600	o	100	Pipe/Conduit
S44.001	4.283	0.285	15.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S37.002	20.246	0.177	114.4	0.003	0.00	0.0	0.600	o	225	Pipe/Conduit
S45.000	14.266	0.157	90.9	0.006	4.00	0.0	0.600	o	100	Pipe/Conduit
S45.001	10.065	0.171	58.9	0.030	0.00	0.0	0.600	o	100	Pipe/Conduit
S46.000	17.978	0.341	52.7	0.011	4.00	0.0	0.600	o	100	Pipe/Conduit
S46.001	6.655	0.278	23.9	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S37.003	15.247	0.077	198.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
S47.000	10.034	0.101	99.3	0.003	4.00	0.0	0.600	o	100	Pipe/Conduit
S47.001	2.917	0.194	15.0	0.005	0.00	0.0	0.600	o	100	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S42.000	105.921	0.005	0.0	1.08	8.5
S42.001	105.657	0.005	0.0	0.77	6.0
S39.002	105.636	0.021	0.0	1.23	9.6
S43.000	106.050	0.007	0.0	0.82	6.5
S43.001	105.900	0.013	0.0	1.24	9.7
S38.002	105.458	0.061	0.0	1.01	17.8
S44.000	105.865	0.011	0.0	1.16	9.1
S44.001	105.634	0.011	0.0	2.00	15.7
S37.002	105.349	0.097	0.0	1.22	48.6
S45.000	105.625	0.006	0.0	0.81	6.3
S45.001	105.468	0.036	0.0	1.01	7.9
S46.000	105.900	0.011	0.0	1.06	8.4
S46.001	105.450	0.011	0.0	1.58	12.4
S37.003	105.172	0.144	0.0	0.93	36.8
S47.000	106.220	0.003	0.0	0.77	6.1
S47.001	106.119	0.007	0.0	2.00	15.7


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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)	HYD SECT	DIA (mm)	Section Type
S48.000	7.574	0.076	99.7	0.007	4.00	0.0	0.600	o	100	Pipe/Conduit
S48.001	1.830	0.025	73.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S47.002	4.201	0.280	15.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S47.003	11.182	0.305	36.7	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S37.004	9.956	0.050	199.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
S37.005	21.120	0.106	199.2	0.018	0.00	0.0	0.600	o	225	Pipe/Conduit
S37.006	9.719	0.046	211.3	0.002	0.00	0.0	0.600	o	225	Pipe/Conduit
S49.000	12.280	0.210	58.5	0.017	4.00	0.0	0.600	o	100	Pipe/Conduit
S49.001	6.375	0.114	55.9	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S37.007	8.340	0.059	141.0	0.002	0.00	0.0	0.600	o	225	Pipe/Conduit
S50.000	14.273	0.538	26.5	0.018	4.00	0.0	0.600	o	100	Pipe/Conduit
S51.000	9.881	0.500	19.8	0.000	4.00	0.0	0.600	o	100	Pipe/Conduit
S50.001	5.791	0.366	15.8	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S37.008	4.940	0.035	141.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
S52.000	7.859#	0.522	15.1	0.007	4.00	0.0	0.600	o	100	Pipe/Conduit
S52.001	3.019	0.161	18.8	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S48.000	106.025	0.007	0.0	0.77	6.0
S48.001	105.949	0.007	0.0	0.90	7.1
S47.002	105.924	0.015	0.0	2.00	15.7
S47.003	105.644	0.015	0.0	1.28	10.0
S37.004	105.095	0.158	0.0	0.92	36.7
S37.005	105.045	0.176	0.0	0.92	36.7
S37.006	104.939	0.178	0.0	0.90	35.6
S49.000	105.542	0.017	0.0	1.01	7.9
S49.001	105.132	0.017	0.0	1.03	8.1
S37.007	104.893	0.197	0.0	1.10	43.7
S50.000	105.738	0.018	0.0	1.50	11.8
S51.000	105.700	0.000	0.0	1.75	13.7
S50.001	105.200	0.018	0.0	1.95	15.3
S37.008	104.834	0.215	0.0	1.10	43.7
S52.000	105.482	0.007	0.0	2.00	15.7
S52.001	104.960	0.007	0.0	1.79	14.1


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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)	HYD SECT	DIA (mm)	Section Type
S53.000	6.163	0.173	35.6	0.000	4.00	0.0	0.600	o	100	Pipe/Conduit
S53.001	2.567	0.136	18.9	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S54.000	11.065	0.111	99.7	0.006	4.00	0.0	0.600	o	100	Pipe/Conduit
S55.000	5.793	0.111	52.2	0.002	4.00	0.0	0.600	o	100	Pipe/Conduit
S54.001	12.029	0.429	28.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S56.000	12.935	0.290	44.6	0.006	4.00	0.0	0.600	o	100	Pipe/Conduit
S54.002	6.470	0.462	14.0	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit
S53.002	5.573	0.398	14.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S37.009	10.098	0.069	146.3	0.043	0.00	0.0	0.600	o	300	Pipe/Conduit
S57.000	10.455#	0.105	99.6	0.006	4.00	0.0	0.600	o	100	Pipe/Conduit
S57.001	7.869	0.419	18.8	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S37.010	10.647	0.480	22.2	0.002	0.00	0.0	0.600	o	300	Pipe/Conduit
S37.011	5.000#	0.050	100.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S35.004	3.681	0.102	36.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S53.000	105.506	0.000	0.0	1.30	10.2
S53.001	105.333	0.000	0.0	1.79	14.0
S54.000	106.200	0.006	0.0	0.77	6.0
S55.000	106.200	0.002	0.0	1.07	8.4
S54.001	106.089	0.009	0.0	1.46	11.5
S56.000	105.950	0.006	0.0	1.16	9.1
S54.002	105.660	0.017	0.0	2.08	16.3
S53.002	105.197	0.017	0.0	2.08	16.3
S37.009	104.799	0.281	0.0	1.30	91.7
S57.000	105.254	0.006	0.0	0.77	6.1
S57.001	105.149	0.006	0.0	1.79	14.1
S37.010	104.730	0.290	0.0	3.35	237.0
S37.011	104.250	0.290	0.0	1.57	111.1
S35.004	104.200	0.324	0.0	2.63	185.6


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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)	HYD SECT	DIA (mm)	Section Type
S58.000	12.887	0.129	99.9	0.005	4.00	0.0	0.600	o	100	Pipe/Conduit
S59.000	4.206	0.104	40.4	0.005	4.00	0.0	0.600	o	100	Pipe/Conduit
S58.001	13.707	0.138	99.3	0.003	0.00	0.0	0.600	o	100	Pipe/Conduit
S60.000	3.383	0.187	18.1	0.006	4.00	0.0	0.600	o	100	Pipe/Conduit
S58.002	16.811	0.168	100.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S58.003	21.630	0.250	86.5	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit
S58.004	10.028	0.396	25.3	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S61.000	18.236	0.380	48.0	0.010	4.00	0.0	0.600	o	100	Pipe/Conduit
S61.001	7.511	0.456	16.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S62.000	8.751	0.630	13.9	0.003	4.00	0.0	0.600	o	100	Pipe/Conduit
S63.000	12.663	0.127	99.7	0.016	4.00	0.0	0.600	o	100	Pipe/Conduit
S63.001	2.688	0.193	13.9	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S62.001	8.069	0.217	37.2	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S64.000	11.772	0.587	20.1	0.004	4.00	0.0	0.600	o	100	Pipe/Conduit
S65.000	11.582	0.116	99.8	0.011	4.00	0.0	0.600	o	100	Pipe/Conduit
S65.001	5.499	0.055	100.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S58.000	105.735	0.005	0.0	0.77	6.0
S59.000	105.710	0.005	0.0	1.22	9.6
S58.001	105.606	0.013	0.0	0.77	6.1
S60.000	105.655	0.006	0.0	1.82	14.3
S58.002	105.468	0.019	0.0	0.77	6.0
S58.003	105.300	0.022	0.0	0.83	6.5
S58.004	105.050	0.022	0.0	1.54	12.1
S61.000	105.490	0.010	0.0	1.12	8.8
S61.001	105.110	0.010	0.0	1.91	15.0
S62.000	105.750	0.003	0.0	2.08	16.4
S63.000	105.440	0.016	0.0	0.77	6.0
S63.001	105.313	0.016	0.0	2.08	16.3
S62.001	105.120	0.019	0.0	1.27	10.0
S64.000	105.490	0.004	0.0	1.73	13.6
S65.000	105.155	0.011	0.0	0.77	6.0
S65.001	105.039	0.011	0.0	0.77	6.0


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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)	HYD SECT	DIA (mm)	Section Type
S65.002	8.028	0.081	99.1	0.005	0.00	0.0	0.600	o	100	Pipe/Conduit
S62.002	11.013	0.074	148.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
S66.000	7.692	0.521	14.8	0.003	4.00	0.0	0.600	o	100	Pipe/Conduit
S62.003	6.728	0.114	59.0	0.003	0.00	0.0	0.600	o	150	Pipe/Conduit
S67.000	18.241	0.670	27.2	0.014	4.00	0.0	0.600	o	100	Pipe/Conduit
S67.001	2.648	0.165	16.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S62.004	8.364	0.042	199.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
S68.000	2.781	0.174	16.0	0.004	4.00	0.0	0.600	o	100	Pipe/Conduit
S69.000	4.296	0.274	15.7	0.003	4.00	0.0	0.600	o	100	Pipe/Conduit
S68.001	5.651	0.353	16.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S62.005	3.634	0.019	191.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
S58.005	16.632	0.076	218.8	0.039	0.00	0.0	0.600	o	225	Pipe/Conduit
S70.000	14.973	0.793	18.9	0.006	4.00	0.0	0.600	o	100	Pipe/Conduit
S70.001	1.258	0.083	15.2	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S65.002	104.984	0.016	0.0	0.77	6.1
S62.002	104.903	0.039	0.0	0.82	14.5
S66.000	105.350	0.003	0.0	2.02	15.9
S62.003	104.829	0.045	0.0	1.31	23.2
S67.000	105.550	0.014	0.0	1.48	11.7
S67.001	104.880	0.014	0.0	1.94	15.2
S62.004	104.715	0.058	0.0	0.92	36.7
S68.000	105.200	0.004	0.0	1.94	15.3
S69.000	105.300	0.003	0.0	1.96	15.4
S68.001	105.026	0.007	0.0	1.94	15.2
S62.005	104.673	0.065	0.0	0.94	37.5
S58.005	104.654	0.136	0.0	0.88	35.0
S70.000	105.454	0.006	0.0	1.79	14.0
S70.001	104.661	0.006	0.0	1.99	15.7

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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)	HYD SECT	DIA (mm)	Section Type
S58.006	17.249	0.079	218.3	0.005	0.00	0.0	0.600	o	225	Pipe/Conduit
S71.000	13.521	0.676	20.0	0.011	4.00	0.0	0.600	o	100	Pipe/Conduit
S71.001	1.612	0.075	21.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S58.007	12.356	0.083	148.9	0.025	0.00	0.0	0.600	o	225	Pipe/Conduit
S72.000	14.012	0.701	20.0	0.005	4.00	0.0	0.600	o	100	Pipe/Conduit
S72.001	1.673	0.133	12.6	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S58.008	14.486	0.097	149.3	0.015	0.00	0.0	0.600	o	225	Pipe/Conduit
S73.000	13.709	0.686	20.0	0.006	4.00	0.0	0.600	o	100	Pipe/Conduit
S73.001	1.553	0.103	15.1	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit
S58.009	17.870	0.120	148.9	0.003	0.00	0.0	0.600	o	225	Pipe/Conduit
S58.010	7.766	0.052	149.3	0.003	0.00	0.0	0.600	o	225	Pipe/Conduit
S58.011	7.342	0.049	149.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
S35.005	5.726#	0.026	220.2	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
S35.006	10.807#	0.048	225.1	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S58.006	104.578	0.146	0.0	0.88	35.0
S71.000	105.250	0.011	0.0	1.73	13.6
S71.001	104.574	0.011	0.0	1.67	13.1
S58.007	104.499	0.182	0.0	1.07	42.5
S72.000	105.250	0.005	0.0	1.74	13.6
S72.001	104.549	0.005	0.0	2.19	17.2
S58.008	104.416	0.203	0.0	1.07	42.4
S73.000	105.108	0.006	0.0	1.74	13.6
S73.001	104.422	0.006	0.0	2.00	15.7
S58.009	104.319	0.212	0.0	1.07	42.5
S58.010	104.199	0.215	0.0	1.07	42.4
S58.011	104.147	0.215	0.0	1.07	42.4
S35.005	104.098	0.540	0.0	1.22	134.4
S35.006	105.198	0.540	0.0	1.20	132.9



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)
SRE7	106.105	0.450	Open Manhole	300	S35.000	105.655	100				
SRE8	106.300	0.600	Open Manhole	300	S36.000	105.700	100				
S87	105.940	0.506	Open Manhole	300	S36.001	105.434	100	S36.000	105.434	100	
S85	105.970	0.796	Open Manhole	450	S35.001	105.174	100	S35.000	105.174	100	
								S36.001	105.174	100	
S86	106.150	1.617	Open Manhole	600	S35.002	104.533	100	S35.001	104.533	100	
SD2	106.200	1.950	Sealed Manhole	300	S35.003	104.250	150	S35.002	104.250	100	
SRE1	107.065	0.550	Open Manhole	300	S37.000	106.515	100				
S1	106.865	0.660	Open Manhole	300	S37.001	106.205	100	S37.000	106.205	100	
S10	107.190	0.640	Open Manhole	450	S38.000	106.550	100				
S11	106.730	0.750	Open Manhole	450	S38.001	105.980	100	S38.000	105.980	100	
S92	106.747	0.850	Open Manhole	450	S39.000	105.897	100				
S13	106.821	0.750	Open Manhole	450	S40.000	106.071	100				
S14	106.675	0.750	Open Manhole	450	S40.001	105.925	100	S40.000	105.925	100	
S16	106.703	0.750	Open Manhole	450	S41.000	105.953	100				
S17	106.703	0.818	Open Manhole	450	S41.001	105.885	100	S41.000	105.885	100	
S15	106.609	0.850	Open Manhole	450	S39.001	105.759	100	S39.000	105.759	100	
								S40.001	105.759	100	
								S41.001	105.759	100	
S21	106.671	0.750	Open Manhole	450	S42.000	105.921	100				
S22	106.511	0.854	Open Manhole	450	S42.001	105.657	100	S42.000	105.657	100	
SJ3	106.578	0.942	Sealed Manhole	300	S39.002	105.636	100	S39.001	105.636	100	
								S42.001	105.636	100	
SRE2	106.600	0.550	Open Manhole	300	S43.000	106.050	100				
S20	106.500	0.600	Open Manhole	300	S43.001	105.900	100	S43.000	105.900	100	
S12	106.547	1.089	Open Manhole	450	S38.002	105.458	150	S38.001	105.458	100	
								S39.002	105.510	100	
								S43.001	105.458	100	
S18	106.615	0.750	Open Manhole	450	S44.000	105.865	100				
S19	106.615	0.981	Open Manhole	450	S44.001	105.634	100	S44.000	105.634	100	
S2	106.490	1.141	Open Manhole	450	S37.002	105.349	225	S37.001	105.399	100	
								S38.002	105.349	150	
								S44.001	105.349	100	
S28	106.325	0.700	Open Manhole	450	S45.000	105.625	100				
S29	106.264	0.796	Open Manhole	450	S45.001	105.468	100	S45.000	105.468	100	
SRE4	106.450	0.550	Open Manhole	300	S46.000	105.900	100				
S30	106.350	0.900	Open Manhole	450	S46.001	105.450	100	S46.000	105.559	100	
S3	106.337	1.165	Open Manhole	450	S37.003	105.172	225	S37.002	105.172	225	109
								S45.001	105.297	100	
								S46.001	105.172	100	
S26	106.820	0.600	Open Manhole	300	S47.000	106.220	100				
S23	106.820	0.701	Open Manhole	450	S47.001	106.119	100	S47.000	106.119	100	
S25	106.725	0.700	Open Manhole	450	S48.000	106.025	100				
S24	106.725	0.776	Open Manhole	450	S48.001	105.949	100	S48.000	105.949	100	



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)
SJ6	106.785	0.861	Sealed Manhole	300	S47.002	105.924	100	S47.001	105.925	100	1
								S48.001	105.924	100	
S27	106.750	1.106	Open Manhole	450	S47.003	105.644	100	S47.002	105.644	100	
S4	106.590	1.495	Open Manhole	600	S37.004	105.095	225	S37.003	105.095	225	
								S47.003	105.339	100	119
S5	106.420	1.375	Open Manhole	600	S37.005	105.045	225	S37.004	105.045	225	
S6	106.323	1.384	Open Manhole	600	S37.006	104.939	225	S37.005	104.939	225	
S31	106.342	0.800	Open Manhole	450	S49.000	105.542	100				
S32	106.315	1.183	Open Manhole	450	S49.001	105.132	100	S49.000	105.332	100	200
S7	106.280	1.387	Open Manhole	600	S37.007	104.893	225	S37.006	104.893	225	
								S49.001	105.018	100	
S33	106.438	0.700	Open Manhole	450	S50.000	105.738	100				
S41	106.475	0.775	Open Manhole	450	S51.000	105.700	100				
S35	106.450	1.250	Open Manhole	600	S50.001	105.200	100	S50.000	105.200	100	
								S51.000	105.200	100	
SJ2	106.290	1.456	Sealed Manhole	300	S37.008	104.834	225	S37.007	104.834	225	
								S50.001	104.834	100	
S45	106.260	0.778	Open Manhole	450	S52.000	105.482	100				
S44	106.214	1.254	Open Manhole	600	S52.001	104.960	100	S52.000	104.960	100	
S42	106.206	0.700	Open Manhole	450	S53.000	105.506	100				
S43	106.426	1.093	Open Manhole	450	S53.001	105.333	100	S53.000	105.333	100	
S38	106.650	0.450	Open Manhole	300	S54.000	106.200	100				
S40	106.650	0.450	Open Manhole	300	S55.000	106.200	100				
S39	106.650	0.561	Open Manhole	300	S54.001	106.089	100	S54.000	106.089	100	
								S55.000	106.089	100	
S36	106.650	0.700	Open Manhole	450	S56.000	105.950	100				
S37	106.452	0.792	Open Manhole	450	S54.002	105.660	100	S54.001	105.660	100	
								S56.000	105.660	100	
SJ1	106.342	1.145	Sealed Manhole	300	S53.002	105.197	100	S53.001	105.197	100	
								S54.002	105.198	100	1
S8	106.280	1.481	Open Manhole	600	S37.009	104.799	300	S37.008	104.799	225	
								S52.001	104.799	100	
								S53.002	104.799	100	
S46	106.072	0.818	Open Manhole	450	S57.000	105.254	100				
S47	106.215	1.066	Open Manhole	450	S57.001	105.149	100	S57.000	105.149	100	
S9	106.140	1.410	Open Manhole	600	S37.010	104.730	300	S37.009	104.730	300	
								S57.001	104.730	100	
SD1	106.200	1.950	Sealed Manhole	300	S37.011	104.250	300	S37.010	104.250	300	
ST	106.200	2.000	Open Manhole	300	S35.004	104.200	300	S35.003	104.200	150	
								S37.011	104.200	300	
SRE5	106.185	0.450	Open Manhole	300	S58.000	105.735	100				
S48	106.160	0.450	Open Manhole	300	S59.000	105.710	100				
S49	106.080	0.474	Open Manhole	300	S58.001	105.606	100	S58.000	105.606	100	
								S59.000	105.606	100	



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)
S50	106.105	0.450	Open Manhole	300	S60.000	105.655	100				
SJ4	106.020	0.552	Sealed Manhole	300	S58.002	105.468	100	S58.001	105.468	100	
								S60.000	105.468	100	
S51	106.150	0.850	Open Manhole	450	S58.003	105.300	100	S58.002	105.300	100	
S52	106.033	0.983	Open Manhole	450	S58.004	105.050	100	S58.003	105.050	100	
S75	106.190	0.700	Open Manhole	450	S61.000	105.490	100				
S76	105.810	0.700	Open Manhole	450	S61.001	105.110	100	S61.000	105.110	100	
S34	106.300	0.550	Open Manhole	300	S62.000	105.750	100				
S65	106.170	0.730	Open Manhole	450	S63.000	105.440	100				
S62	106.060	0.747	Open Manhole	450	S63.001	105.313	100	S63.000	105.313	100	
S63	105.970	0.850	Open Manhole	450	S62.001	105.120	100	S62.000	105.120	100	
								S63.001	105.120	100	
S66	106.257	0.767	Open Manhole	450	S64.000	105.490	100				
S59	105.855	0.700	Open Manhole	450	S65.000	105.155	100				
S60	105.939	0.900	Open Manhole	450	S65.001	105.039	100	S65.000	105.039	100	
S61	105.900	0.916	Open Manhole	450	S65.002	104.984	100	S65.001	104.984	100	
S64	105.869	0.966	Open Manhole	450	S62.002	104.903	150	S62.001	104.903	100	
								S64.000	104.903	100	
								S65.002	104.903	100	
S67	106.185	0.835	Open Manhole	450	S66.000	105.350	100				
S68	106.166	1.337	Open Manhole	450	S62.003	104.829	150	S62.002	104.829	150	
								S66.000	104.829	100	
S70	106.250	0.700	Open Manhole	450	S67.000	105.550	100				
S69	105.686	0.806	Open Manhole	450	S67.001	104.880	100	S67.000	104.880	100	
S72	105.690	0.975	Open Manhole	450	S62.004	104.715	225	S62.003	104.715	150	
								S67.001	104.715	100	
S71	106.105	0.905	Open Manhole	450	S68.000	105.200	100				
S74	106.105	0.805	Open Manhole	450	S69.000	105.300	100				
SJ5	105.968	0.942	Sealed Manhole	300	S68.001	105.026	100	S68.000	105.026	100	
								S69.000	105.026	100	
S73	105.779	1.106	Open Manhole	450	S62.005	104.673	225	S62.004	104.673	225	
								S68.001	104.673	100	
S53	105.791	1.137	Open Manhole	450	S58.005	104.654	225	S58.004	104.654	100	
								S61.001	104.654	100	
								S62.005	104.654	225	
S77	106.154	0.700	Open Manhole	450	S70.000	105.454	100				
S78	105.875	1.214	Open Manhole	450	S70.001	104.661	100	S70.000	104.661	100	
S54	105.875	1.297	Open Manhole	600	S58.006	104.578	225	S58.005	104.578	225	
								S70.001	104.578	100	
S79	106.050	0.800	Open Manhole	450	S71.000	105.250	100				
S80	105.925	1.351	Open Manhole	600	S71.001	104.574	100	S71.000	104.574	100	
S55	105.870	1.371	Open Manhole	600	S58.007	104.499	225	S58.006	104.499	225	
								S71.001	104.499	100	
S81	106.050	0.800	Open Manhole	450	S72.000	105.250	100				



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)
S82	105.950	1.401	Open Manhole	600	S72.001	104.549	100	S72.000	104.549	100	
S56	105.950	1.534	Open Manhole	600	S58.008	104.416	225	S58.007	104.416	225	
								S72.001	104.416	100	
S83	105.908	0.800	Open Manhole	450	S73.000	105.108	100				
S84	105.990	1.568	Open Manhole	600	S73.001	104.422	100	S73.000	104.422	100	
S57	105.990	1.671	Open Manhole	600	S58.009	104.319	225	S58.008	104.319	225	
								S73.001	104.319	100	
S58	105.900	1.701	Open Manhole	600	S58.010	104.199	225	S58.009	104.199	225	
S88	106.000	1.853	Open Manhole	600	S58.011	104.147	225	S58.010	104.147	225	
S89P	106.200	2.102	Open Manhole	1200	S35.005	104.098	375	S35.004	104.098	300	
								S58.011	104.098	225	
S90A	105.855	1.783	Open Manhole	1200	S35.006	105.198	375	S35.005	104.072	375	
S91A	106.080	0.930	Open Manhole	1200		OUTFALL		S35.006	105.150	375	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SRE7	-54.906	-108.742	-54.906	-108.742	Required	
SRE8	-75.757	-80.439	-75.757	-80.439	Required	
S87	-75.512	-87.370	-75.512	-87.370	Required	
S85	-62.581	-85.973	-62.581	-85.973	Required	
S86	-68.507	-54.490	-68.507	-54.490	Required	
SD2	-70.442	-49.812			No Entry	
SRE1	-107.878	-176.638	-107.878	-176.638	Required	
S1	-112.248	-146.111	-112.248	-146.111	Required	
S10	-89.428	-171.496	-89.428	-171.496	Required	
S11	-94.283	-153.280	-94.283	-153.280	Required	
S92	-81.543	-167.583	-81.543	-167.583	Required	

Catherine House
 Old Harborough Road
 Brixworth NN6 9BX

Woodlands
 82162



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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)
S13	-84.941	-167.801	-84.941	-167.801	Required	
S14	-87.136	-161.408	-87.136	-161.408	Required	
S16	-78.922	-168.920	-78.922	-168.920	Required	
S17	-81.117	-162.526	-81.117	-162.526	Required	
S15	-83.909	-160.328	-83.909	-160.328	Required	
S21	-70.757	-150.487	-70.757	-150.487	Required	
S22	-83.490	-154.861	-83.490	-154.861	Required	
SJ3	-85.459	-155.570			No Entry	
SRE2	-63.096	-157.114	-63.096	-157.114	Required	
S20	-70.376	-146.266	-70.376	-146.266	Required	
S12	-87.009	-150.813	-87.009	-150.813	Required	
S18	-89.161	-153.951	-89.161	-153.951	Required	
S19	-92.545	-144.187	-92.545	-144.187	Required	
S2	-90.376	-140.493	-90.376	-140.493	Required	
S28	-75.227	-136.638	-75.227	-136.638	Required	
S29	-79.623	-123.067	-79.623	-123.067	Required	
SRE4	-80.708	-97.957	-80.708	-97.957	Required	
S30	-84.665	-115.495	-84.665	-115.495	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	-89.293	-120.277	-89.293	-120.277	Required	
S26	-105.152	-126.798	-105.152	-126.798	Required	
S23	-115.115	-125.597	-115.115	-125.597	Required	
S25	-105.868	-122.177	-105.868	-122.177	Required	
S24	-113.430	-122.593	-113.430	-122.593	Required	
SJ6	-115.259	-122.684			No Entry	
S27	-115.466	-118.487	-115.466	-118.487	Required	
S4	-104.314	-117.663	-104.314	-117.663	Required	
S5	-103.955	-107.713	-103.955	-107.713	Required	
S6	-99.843	-86.997	-99.843	-86.997	Required	
S31	-100.591	-96.272	-100.591	-96.272	Required	
S32	-97.064	-84.510	-97.064	-84.510	Required	
S7	-95.394	-78.357	-95.394	-78.357	Required	
S33	-103.518	-81.888	-103.518	-81.888	Required	
S41	-101.538	-61.417	-101.538	-61.417	Required	
S35	-96.122	-69.681	-96.122	-69.681	Required	
SJ2	-90.628	-71.513			No Entry	
S45	-79.330	-72.781	-79.330	-72.781	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)
S44	-87.126	-70.389	-87.126	-70.389	Required	
S42	-87.525	-58.702	-87.525	-58.702	Required	
S43	-91.989	-62.951	-91.989	-62.951	Required	
S38	-115.609	-67.674	-115.609	-67.674	Required	
S40	-106.910	-53.304	-106.910	-53.304	Required	
S39	-110.033	-58.182	-110.033	-58.182	Required	
S36	-105.365	-74.091	-105.365	-74.091	Required	
S37	-98.951	-62.858	-98.951	-62.858	Required	
SJ1	-92.969	-65.324			No Entry	
S8	-87.817	-67.450	-87.817	-67.450	Required	
S46	-69.914	-56.094	-69.914	-56.094	Required	
S47	-71.841	-65.154	-71.841	-65.154	Required	
S9	-79.157	-62.256	-79.157	-62.256	Required	
SD1	-77.721	-51.707			No Entry	
ST	-49.069	-39.124	-49.069	-39.124	Required	
SRE5	-49.676	-153.732	-49.676	-153.732	Required	
S48	-40.209	-152.805	-40.209	-152.805	Required	
S49	-36.896	-155.397	-36.896	-155.397	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S50	-25.100	-147.570	-25.100	-147.570	Required	
SJ4	-23.995	-150.768			No Entry	
S51	-8.175	-145.082	-8.175	-145.082	Required	
S52	-15.415	-124.700	-15.415	-124.700	Required	
S75	-11.713	-138.538	-11.713	-138.538	Required	
S76	-17.600	-121.279	-17.600	-121.279	Required	
S34	-70.480	-128.195	-70.480	-128.195	Required	
S65	-58.880	-141.177	-58.880	-141.177	Required	
S62	-62.934	-129.180	-62.934	-129.180	Required	
S63	-61.855	-126.718	-61.855	-126.718	Required	
S66	-53.151	-139.016	-53.151	-139.016	Required	
S59	-75.314	-117.491	-75.314	-117.491	Required	
S60	-64.518	-121.685	-64.518	-121.685	Required	
S61	-59.043	-121.179	-59.043	-121.179	Required	
S64	-53.804	-127.262	-53.804	-127.262	Required	
S67	-44.074	-135.592	-44.074	-135.592	Required	
S68	-42.816	-128.003	-42.816	-128.003	Required	
S70	-31.773	-145.437	-31.773	-145.437	Required	

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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S69	-37.717	-128.191	-37.717	-128.191	Required	
S72	-36.433	-125.875	-36.433	-125.875	Required	
S71	-28.838	-131.606	-28.838	-131.606	Required	
S74	-24.561	-129.857	-24.561	-129.857	Required	
SJ5	-28.732	-128.826			No Entry	
S73	-28.516	-123.179	-28.516	-123.179	Required	
S53	-25.075	-122.009	-25.075	-122.009	Required	
S77	-45.290	-111.977	-45.290	-111.977	Required	
S78	-31.113	-107.158	-31.113	-107.158	Required	
S54	-30.282	-106.213	-30.282	-106.213	Required	
S79	-49.935	-95.393	-49.935	-95.393	Required	
S80	-37.157	-90.972	-37.157	-90.972	Required	
S55	-35.938	-89.918	-35.938	-89.918	Required	
S81	-55.070	-83.585	-55.070	-83.585	Required	
S82	-41.814	-79.044	-41.814	-79.044	Required	
S56	-40.291	-78.353	-40.291	-78.353	Required	
S83	-60.065	-69.843	-60.065	-69.843	Required	
S84	-47.075	-65.461	-47.075	-65.461	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)
S57	-45.631	-64.888	-45.631	-64.888	Required	
S58	-52.146	-48.248	-52.146	-48.248	Required	
S88	-44.869	-45.533	-44.869	-45.533	Required	
S89P	-45.501	-38.219	-45.501	-38.219	Required	
S90A	-34.761	-34.375	-34.761	-34.375	Required	
S91A	-29.938	-32.675			No Entry	

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., (mm)	L*W
S35.000	o	100	SRE7	106.105	105.655	0.350	Open Manhole		300
S36.000	o	100	SRE8	106.300	105.700	0.500	Open Manhole		300
S36.001	o	100	S87	105.940	105.434	0.406	Open Manhole		300
S35.001	o	100	S85	105.970	105.174	0.696	Open Manhole		450
S35.002	o	100	S86	106.150	104.533	1.517	Open Manhole		600
S35.003	o	150	SD2	106.200	104.250	1.800	Sealed Manhole		300
S37.000	o	100	SRE1	107.065	106.515	0.450	Open Manhole		300
S37.001	o	100	S1	106.865	106.205	0.560	Open Manhole		300
S38.000	o	100	S10	107.190	106.550	0.540	Open Manhole		450
S38.001	o	100	S11	106.730	105.980	0.650	Open Manhole		450
S39.000	o	100	S92	106.747	105.897	0.750	Open Manhole		450
S40.000	o	100	S13	106.821	106.071	0.650	Open Manhole		450
S40.001	o	100	S14	106.675	105.925	0.650	Open Manhole		450
S41.000	o	100	S16	106.703	105.953	0.650	Open Manhole		450
S41.001	o	100	S17	106.703	105.885	0.718	Open Manhole		450
S39.001	o	100	S15	106.609	105.759	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., (mm)	L*W
S35.000	24.027	50.0	S85	105.970	105.174	0.696	Open Manhole		450
S36.000	6.936	26.1	S87	105.940	105.434	0.406	Open Manhole		300
S36.001	13.006	50.0	S85	105.970	105.174	0.696	Open Manhole		450
S35.001	32.037	50.0	S86	106.150	104.533	1.517	Open Manhole		600
S35.002	5.062	17.9	SD2	106.200	104.250	1.850	Sealed Manhole		300
S35.003	5.000#	100.0	ST	106.200	104.200	1.850	Open Manhole		300
S37.000	30.838	99.5	S1	106.865	106.205	0.560	Open Manhole		300
S37.001	22.581	28.0	S2	106.490	105.399	0.991	Open Manhole		450
S38.000	18.852	33.1	S11	106.730	105.980	0.650	Open Manhole		450
S38.001	7.681	14.7	S12	106.547	105.458	0.989	Open Manhole		450
S39.000	7.632	55.3	S15	106.609	105.759	0.750	Open Manhole		450
S40.000	6.760	46.3	S14	106.675	105.925	0.650	Open Manhole		450
S40.001	3.403	20.5	S15	106.609	105.759	0.750	Open Manhole		450
S41.000	6.760	99.4	S17	106.703	105.885	0.718	Open Manhole		450
S41.001	3.554	28.2	S15	106.609	105.759	0.750	Open Manhole		450
S39.001	5.003	40.7	SJ3	106.578	105.636	0.842	Sealed Manhole		300

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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)
S42.000	o	100	S21	106.671	105.921	0.650	Open Manhole	450
S42.001	o	100	S22	106.511	105.657	0.754	Open Manhole	450
S39.002	o	100	SJ3	106.578	105.636	0.842	Sealed Manhole	300
S43.000	o	100	SRE2	106.600	106.050	0.450	Open Manhole	300
S43.001	o	100	S20	106.500	105.900	0.500	Open Manhole	300
S38.002	o	150	S12	106.547	105.458	0.939	Open Manhole	450
S44.000	o	100	S18	106.615	105.865	0.650	Open Manhole	450
S44.001	o	100	S19	106.615	105.634	0.881	Open Manhole	450
S37.002	o	225	S2	106.490	105.349	0.916	Open Manhole	450
S45.000	o	100	S28	106.325	105.625	0.600	Open Manhole	450
S45.001	o	100	S29	106.264	105.468	0.696	Open Manhole	450
S46.000	o	100	SRE4	106.450	105.900	0.450	Open Manhole	300
S46.001	o	100	S30	106.350	105.450	0.800	Open Manhole	450
S37.003	o	225	S3	106.337	105.172	0.940	Open Manhole	450
S47.000	o	100	S26	106.820	106.220	0.500	Open Manhole	300

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)
S42.000	13.463	51.0	S22	106.511	105.657	0.754	Open Manhole	450
S42.001	2.093	99.7	SJ3	106.578	105.636	0.842	Sealed Manhole	300
S39.002	5.003	39.7	S12	106.547	105.510	0.937	Open Manhole	450
S43.000	13.064	87.1	S20	106.500	105.900	0.500	Open Manhole	300
S43.001	17.243	39.0	S12	106.547	105.458	0.989	Open Manhole	450
S38.002	10.855	99.6	S2	106.490	105.349	0.991	Open Manhole	450
S44.000	10.333	44.7	S19	106.615	105.634	0.881	Open Manhole	450
S44.001	4.283	15.0	S2	106.490	105.349	1.041	Open Manhole	450
S37.002	20.246	114.4	S3	106.337	105.172	0.940	Open Manhole	450
S45.000	14.266	90.9	S29	106.264	105.468	0.696	Open Manhole	450
S45.001	10.065	58.9	S3	106.337	105.297	0.940	Open Manhole	450
S46.000	17.978	52.7	S30	106.350	105.559	0.691	Open Manhole	450
S46.001	6.655	23.9	S3	106.337	105.172	1.065	Open Manhole	450
S37.003	15.247	198.0	S4	106.590	105.095	1.270	Open Manhole	600
S47.000	10.034	99.3	S23	106.820	106.119	0.601	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)
S47.001	o	100	S23	106.820	106.119	0.601	Open Manhole	450
S48.000	o	100	S25	106.725	106.025	0.600	Open Manhole	450
S48.001	o	100	S24	106.725	105.949	0.676	Open Manhole	450
S47.002	o	100	SJ6	106.785	105.924	0.761	Sealed Manhole	300
S47.003	o	100	S27	106.750	105.644	1.006	Open Manhole	450
S37.004	o	225	S4	106.590	105.095	1.270	Open Manhole	600
S37.005	o	225	S5	106.420	105.045	1.150	Open Manhole	600
S37.006	o	225	S6	106.323	104.939	1.159	Open Manhole	600
S49.000	o	100	S31	106.342	105.542	0.700	Open Manhole	450
S49.001	o	100	S32	106.315	105.132	1.083	Open Manhole	450
S37.007	o	225	S7	106.280	104.893	1.162	Open Manhole	600
S50.000	o	100	S33	106.438	105.738	0.600	Open Manhole	450
S51.000	o	100	S41	106.475	105.700	0.675	Open Manhole	450
S50.001	o	100	S35	106.450	105.200	1.150	Open Manhole	600
S37.008	o	225	SJ2	106.290	104.834	1.231	Sealed Manhole	300

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)
S47.001	2.917	15.0	SJ6	106.785	105.925	0.760	Sealed Manhole	300
S48.000	7.574	99.7	S24	106.725	105.949	0.676	Open Manhole	450
S48.001	1.830	73.0	SJ6	106.785	105.924	0.761	Sealed Manhole	300
S47.002	4.201	15.0	S27	106.750	105.644	1.006	Open Manhole	450
S47.003	11.182	36.7	S4	106.590	105.339	1.151	Open Manhole	600
S37.004	9.956	199.1	S5	106.420	105.045	1.150	Open Manhole	600
S37.005	21.120	199.2	S6	106.323	104.939	1.159	Open Manhole	600
S37.006	9.719	211.3	S7	106.280	104.893	1.162	Open Manhole	600
S49.000	12.280	58.5	S32	106.315	105.332	0.883	Open Manhole	450
S49.001	6.375	55.9	S7	106.280	105.018	1.162	Open Manhole	600
S37.007	8.340	141.0	SJ2	106.290	104.834	1.231	Sealed Manhole	300
S50.000	14.273	26.5	S35	106.450	105.200	1.150	Open Manhole	600
S51.000	9.881	19.8	S35	106.450	105.200	1.150	Open Manhole	600
S50.001	5.791	15.8	SJ2	106.290	104.834	1.356	Sealed Manhole	300
S37.008	4.940	141.0	S8	106.280	104.799	1.256	Open Manhole	600

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PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S52.000	o	100	S45	106.260	105.482	0.678	Open Manhole	450
S52.001	o	100	S44	106.214	104.960	1.154	Open Manhole	600
S53.000	o	100	S42	106.206	105.506	0.600	Open Manhole	450
S53.001	o	100	S43	106.426	105.333	0.993	Open Manhole	450
S54.000	o	100	S38	106.650	106.200	0.350	Open Manhole	300
S55.000	o	100	S40	106.650	106.200	0.350	Open Manhole	300
S54.001	o	100	S39	106.650	106.089	0.461	Open Manhole	300
S56.000	o	100	S36	106.650	105.950	0.600	Open Manhole	450
S54.002	o	100	S37	106.452	105.660	0.692	Open Manhole	450
S53.002	o	100	SJ1	106.342	105.197	1.045	Sealed Manhole	300
S37.009	o	300	S8	106.280	104.799	1.181	Open Manhole	600
S57.000	o	100	S46	106.072	105.254	0.718	Open Manhole	450
S57.001	o	100	S47	106.215	105.149	0.966	Open Manhole	450
S37.010	o	300	S9	106.140	104.730	1.110	Open Manhole	600
S37.011	o	300	SD1	106.200	104.250	1.650	Sealed Manhole	300

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)
S52.000	7.859#	15.1	S44	106.214	104.960	1.154	Open Manhole	600
S52.001	3.019	18.8	S8	106.280	104.799	1.381	Open Manhole	600
S53.000	6.163	35.6	S43	106.426	105.333	0.993	Open Manhole	450
S53.001	2.567	18.9	SJ1	106.342	105.197	1.045	Sealed Manhole	300
S54.000	11.065	99.7	S39	106.650	106.089	0.461	Open Manhole	300
S55.000	5.793	52.2	S39	106.650	106.089	0.461	Open Manhole	300
S54.001	12.029	28.0	S37	106.452	105.660	0.692	Open Manhole	450
S56.000	12.935	44.6	S37	106.452	105.660	0.692	Open Manhole	450
S54.002	6.470	14.0	SJ1	106.342	105.198	1.044	Sealed Manhole	300
S53.002	5.573	14.0	S8	106.280	104.799	1.381	Open Manhole	600
S37.009	10.098	146.3	S9	106.140	104.730	1.110	Open Manhole	600
S57.000	10.455#	99.6	S47	106.215	105.149	0.966	Open Manhole	450
S57.001	7.869	18.8	S9	106.140	104.730	1.310	Open Manhole	600
S37.010	10.647	22.2	SD1	106.200	104.250	1.650	Sealed Manhole	300
S37.011	5.000#	100.0	ST	106.200	104.200	1.700	Open Manhole	300

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S35.004	o	300	ST	106.200	104.200	1.700	Open Manhole	300
S58.000	o	100	SRE5	106.185	105.735	0.350	Open Manhole	300
S59.000	o	100	S48	106.160	105.710	0.350	Open Manhole	300
S58.001	o	100	S49	106.080	105.606	0.374	Open Manhole	300
S60.000	o	100	S50	106.105	105.655	0.350	Open Manhole	300
S58.002	o	100	SJ4	106.020	105.468	0.452	Sealed Manhole	300
S58.003	o	100	S51	106.150	105.300	0.750	Open Manhole	450
S58.004	o	100	S52	106.033	105.050	0.883	Open Manhole	450
S61.000	o	100	S75	106.190	105.490	0.600	Open Manhole	450
S61.001	o	100	S76	105.810	105.110	0.600	Open Manhole	450
S62.000	o	100	S34	106.300	105.750	0.450	Open Manhole	300
S63.000	o	100	S65	106.170	105.440	0.630	Open Manhole	450
S63.001	o	100	S62	106.060	105.313	0.647	Open Manhole	450
S62.001	o	100	S63	105.970	105.120	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)
S35.004	3.681	36.1	S89P	106.200	104.098	1.802	Open Manhole	1200
S58.000	12.887	99.9	S49	106.080	105.606	0.374	Open Manhole	300
S59.000	4.206	40.4	S49	106.080	105.606	0.374	Open Manhole	300
S58.001	13.707	99.3	SJ4	106.020	105.468	0.452	Sealed Manhole	300
S60.000	3.383	18.1	SJ4	106.020	105.468	0.452	Sealed Manhole	300
S58.002	16.811	100.0	S51	106.150	105.300	0.750	Open Manhole	450
S58.003	21.630	86.5	S52	106.033	105.050	0.883	Open Manhole	450
S58.004	10.028	25.3	S53	105.791	104.654	1.037	Open Manhole	450
S61.000	18.236	48.0	S76	105.810	105.110	0.600	Open Manhole	450
S61.001	7.511	16.5	S53	105.791	104.654	1.037	Open Manhole	450
S62.000	8.751	13.9	S63	105.970	105.120	0.750	Open Manhole	450
S63.000	12.663	99.7	S62	106.060	105.313	0.647	Open Manhole	450
S63.001	2.688	13.9	S63	105.970	105.120	0.750	Open Manhole	450
S62.001	8.069	37.2	S64	105.869	104.903	0.866	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)
S64.000	o	100	S66	106.257	105.490	0.667	Open Manhole	450
S65.000	o	100	S59	105.855	105.155	0.600	Open Manhole	450
S65.001	o	100	S60	105.939	105.039	0.800	Open Manhole	450
S65.002	o	100	S61	105.900	104.984	0.816	Open Manhole	450
S62.002	o	150	S64	105.869	104.903	0.816	Open Manhole	450
S66.000	o	100	S67	106.185	105.350	0.735	Open Manhole	450
S62.003	o	150	S68	106.166	104.829	1.187	Open Manhole	450
S67.000	o	100	S70	106.250	105.550	0.600	Open Manhole	450
S67.001	o	100	S69	105.686	104.880	0.706	Open Manhole	450
S62.004	o	225	S72	105.690	104.715	0.750	Open Manhole	450
S68.000	o	100	S71	106.105	105.200	0.805	Open Manhole	450
S69.000	o	100	S74	106.105	105.300	0.705	Open Manhole	450
S68.001	o	100	SJ5	105.968	105.026	0.842	Sealed Manhole	300
S62.005	o	225	S73	105.779	104.673	0.881	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)
S64.000	11.772	20.1	S64	105.869	104.903	0.866	Open Manhole	450
S65.000	11.582	99.8	S60	105.939	105.039	0.800	Open Manhole	450
S65.001	5.499	100.0	S61	105.900	104.984	0.816	Open Manhole	450
S65.002	8.028	99.1	S64	105.869	104.903	0.866	Open Manhole	450
S62.002	11.013	148.8	S68	106.166	104.829	1.187	Open Manhole	450
S66.000	7.692	14.8	S68	106.166	104.829	1.237	Open Manhole	450
S62.003	6.728	59.0	S72	105.690	104.715	0.825	Open Manhole	450
S67.000	18.241	27.2	S69	105.686	104.880	0.706	Open Manhole	450
S67.001	2.648	16.0	S72	105.690	104.715	0.875	Open Manhole	450
S62.004	8.364	199.1	S73	105.779	104.673	0.881	Open Manhole	450
S68.000	2.781	16.0	SJ5	105.968	105.026	0.842	Sealed Manhole	300
S69.000	4.296	15.7	SJ5	105.968	105.026	0.842	Sealed Manhole	300
S68.001	5.651	16.0	S73	105.779	104.673	1.006	Open Manhole	450
S62.005	3.634	191.3	S53	105.791	104.654	0.912	Open Manhole	450

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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)
S58.005	o	225	S53	105.791	104.654	0.912	Open Manhole	450
S70.000	o	100	S77	106.154	105.454	0.600	Open Manhole	450
S70.001	o	100	S78	105.875	104.661	1.114	Open Manhole	450
S58.006	o	225	S54	105.875	104.578	1.072	Open Manhole	600
S71.000	o	100	S79	106.050	105.250	0.700	Open Manhole	450
S71.001	o	100	S80	105.925	104.574	1.251	Open Manhole	600
S58.007	o	225	S55	105.870	104.499	1.146	Open Manhole	600
S72.000	o	100	S81	106.050	105.250	0.700	Open Manhole	450
S72.001	o	100	S82	105.950	104.549	1.301	Open Manhole	600
S58.008	o	225	S56	105.950	104.416	1.309	Open Manhole	600
S73.000	o	100	S83	105.908	105.108	0.700	Open Manhole	450
S73.001	o	100	S84	105.990	104.422	1.468	Open Manhole	600
S58.009	o	225	S57	105.990	104.319	1.446	Open Manhole	600
S58.010	o	225	S58	105.900	104.199	1.476	Open Manhole	600
S58.011	o	225	S88	106.000	104.147	1.628	Open Manhole	600
S35.005	o	375	S89P	106.200	104.098	1.727	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)
S58.005	16.632	218.8	S54	105.875	104.578	1.072	Open Manhole	600
S70.000	14.973	18.9	S78	105.875	104.661	1.114	Open Manhole	450
S70.001	1.258	15.2	S54	105.875	104.578	1.197	Open Manhole	600
S58.006	17.249	218.3	S55	105.870	104.499	1.146	Open Manhole	600
S71.000	13.521	20.0	S80	105.925	104.574	1.251	Open Manhole	600
S71.001	1.612	21.5	S55	105.870	104.499	1.271	Open Manhole	600
S58.007	12.356	148.9	S56	105.950	104.416	1.309	Open Manhole	600
S72.000	14.012	20.0	S82	105.950	104.549	1.301	Open Manhole	600
S72.001	1.673	12.6	S56	105.950	104.416	1.434	Open Manhole	600
S58.008	14.486	149.3	S57	105.990	104.319	1.446	Open Manhole	600
S73.000	13.709	20.0	S84	105.990	104.422	1.468	Open Manhole	600
S73.001	1.553	15.1	S57	105.990	104.319	1.571	Open Manhole	600
S58.009	17.870	148.9	S58	105.900	104.199	1.476	Open Manhole	600
S58.010	7.766	149.3	S88	106.000	104.147	1.628	Open Manhole	600
S58.011	7.342	149.3	S89P	106.200	104.098	1.877	Open Manhole	1200
S35.005	5.726#	220.2	S90A	105.855	104.072	1.408	Open Manhole	1200

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Diam Sect (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S35.006	o 375	S90A	105.855	105.198	0.282	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)
S35.006	10.807#	225.1	S91A	106.080	105.150	0.555	Open Manhole	1200

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
35.000	-	-	100	0.015	0.015	0.015
36.000	-	-	100	0.005	0.005	0.005
36.001	-	-	100	0.002	0.002	0.002
35.001	-	-	100	0.010	0.010	0.010
35.002	User	-	100	0.003	0.003	0.003
35.003	-	-	100	0.000	0.000	0.000
37.000	-	-	100	0.011	0.011	0.011
37.001	-	-	100	0.010	0.010	0.010
38.000	-	-	100	0.009	0.009	0.009
38.001	-	-	100	0.000	0.000	0.000
39.000	User	-	100	0.002	0.002	0.002
40.000	User	-	100	0.006	0.006	0.006
40.001	-	-	100	0.000	0.000	0.000
41.000	User	-	100	0.005	0.005	0.005
41.001	User	-	100	0.001	0.001	0.001
39.001	User	-	100	0.001	0.001	0.001
42.000	User	-	100	0.005	0.005	0.005
42.001	-	-	100	0.000	0.000	0.000
39.002	-	-	100	0.000	0.000	0.000
43.000	-	-	100	0.007	0.007	0.007
43.001	-	-	100	0.006	0.006	0.006
38.002	User	-	100	0.018	0.018	0.018
44.000	User	-	100	0.011	0.011	0.011
44.001	-	-	100	0.000	0.000	0.000
37.002	User	-	100	0.003	0.003	0.003
45.000	User	-	100	0.006	0.006	0.006
45.001	User	-	100	0.030	0.030	0.030
46.000	-	-	100	0.011	0.011	0.011
46.001	-	-	100	0.000	0.000	0.000
37.003	-	-	100	0.000	0.000	0.000
47.000	User	-	100	0.003	0.003	0.003
47.001	User	-	100	0.005	0.005	0.005
48.000	User	-	100	0.007	0.007	0.007
48.001	-	-	100	0.000	0.000	0.000
47.002	-	-	100	0.000	0.000	0.000
47.003	-	-	100	0.000	0.000	0.000
37.004	-	-	100	0.000	0.000	0.000
37.005	-	-	100	0.018	0.018	0.018
37.006	-	-	100	0.002	0.002	0.002
49.000	User	-	100	0.017	0.017	0.017
49.001	-	-	100	0.000	0.000	0.000
37.007	-	-	100	0.002	0.002	0.002
50.000	User	-	100	0.018	0.018	0.018
51.000	-	-	100	0.000	0.000	0.000
50.001	-	-	100	0.000	0.000	0.000
37.008	-	-	100	0.000	0.000	0.000
52.000	User	-	100	0.007	0.007	0.007
52.001	-	-	100	0.000	0.000	0.000
53.000	-	-	100	0.000	0.000	0.000
53.001	-	-	100	0.000	0.000	0.000
54.000	User	-	100	0.006	0.006	0.006
55.000	User	-	100	0.002	0.002	0.002
54.001	-	-	100	0.000	0.000	0.000
56.000	User	-	100	0.006	0.006	0.006
54.002	User	-	100	0.002	0.002	0.002
53.002	-	-	100	0.000	0.000	0.000
37.009	User	-	100	0.043	0.043	0.043
57.000	User	-	100	0.006	0.006	0.006
57.001	-	-	100	0.000	0.000	0.000
37.010	User	-	100	0.002	0.002	0.002

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
37.011	-	-	100	0.000	0.000	0.000
35.004	-	-	100	0.000	0.000	0.000
58.000	User	-	100	0.005	0.005	0.005
59.000	-	-	100	0.005	0.005	0.005
58.001	-	-	100	0.003	0.003	0.003
60.000	-	-	100	0.006	0.006	0.006
58.002	-	-	100	0.000	0.000	0.000
58.003	User	-	100	0.002	0.002	0.002
58.004	-	-	100	0.000	0.000	0.000
61.000	User	-	100	0.010	0.010	0.010
61.001	-	-	100	0.000	0.000	0.000
62.000	User	-	100	0.003	0.003	0.003
63.000	User	-	100	0.016	0.016	0.016
63.001	-	-	100	0.000	0.000	0.000
62.001	-	-	100	0.000	0.000	0.000
64.000	User	-	100	0.004	0.004	0.004
65.000	User	-	100	0.011	0.011	0.011
65.001	-	-	100	0.000	0.000	0.000
65.002	User	-	100	0.005	0.005	0.005
62.002	-	-	100	0.000	0.000	0.000
66.000	User	-	100	0.003	0.003	0.003
62.003	User	-	100	0.003	0.003	0.003
67.000	User	-	100	0.014	0.014	0.014
67.001	-	-	100	0.000	0.000	0.000
62.004	-	-	100	0.000	0.000	0.000
68.000	User	-	100	0.004	0.004	0.004
69.000	User	-	100	0.003	0.003	0.003
68.001	-	-	100	0.000	0.000	0.000
62.005	-	-	100	0.000	0.000	0.000
58.005	-	-	100	0.039	0.039	0.039
70.000	User	-	100	0.006	0.006	0.006
70.001	-	-	100	0.000	0.000	0.000
58.006	User	-	100	0.005	0.005	0.005
71.000	User	-	100	0.011	0.011	0.011
71.001	-	-	100	0.000	0.000	0.000
58.007	User	-	100	0.025	0.025	0.025
72.000	User	-	100	0.005	0.005	0.005
72.001	-	-	100	0.000	0.000	0.000
58.008	User	-	100	0.015	0.015	0.015
73.000	User	-	100	0.006	0.006	0.006
73.001	-	-	100	0.000	0.000	0.000
58.009	User	-	100	0.003	0.003	0.003
58.010	User	-	100	0.003	0.003	0.003
58.011	-	-	100	0.000	0.000	0.000
35.005	-	-	100	0.000	0.000	0.000
35.006	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.540	0.540	0.540

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)
S35.006	S91A	106.080	105.150	0.000	1200	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 1 Number of Storage Structures 20 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)	20.000	Storm Duration (mins)	30
Ratio R	0.400		


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Online Controls for Storm

Pump Manhole: S89P, DS/PN: S35.005, Volume (m³): 2.8

Invert Level (m) 104.098

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	5.4000	0.700	5.4000	1.300	5.4000	1.900	5.4000	2.500	5.4000
0.200	5.4000	0.800	5.4000	1.400	5.4000	2.000	5.4000	2.600	5.4000
0.300	5.4000	0.900	5.4000	1.500	5.4000	2.100	5.4000	2.700	5.4000
0.400	5.4000	1.000	5.4000	1.600	5.4000	2.200	5.4000	2.800	5.4000
0.500	5.4000	1.100	5.4000	1.700	5.4000	2.300	5.4000	2.900	5.4000
0.600	5.4000	1.200	5.4000	1.800	5.4000	2.400	5.4000	3.000	5.4000

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Storage Structures for Storm

Porous Car Park Manhole: S14, DS/PN: S40.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	6.7
Membrane Percolation (mm/hr)	1000	Length (m)	9.5
Max Percolation (l/s)	17.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	106.195	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S17, DS/PN: S41.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	6.6
Membrane Percolation (mm/hr)	1000	Length (m)	7.8
Max Percolation (l/s)	14.3	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	106.223	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S22, DS/PN: S42.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	3.5
Membrane Percolation (mm/hr)	1000	Length (m)	14.8
Max Percolation (l/s)	14.4	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	106.031	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S19, DS/PN: S44.001


Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	11.2
Max Percolation (l/s)	31.1	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	106.135	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S29, DS/PN: S45.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.7
Membrane Percolation (mm/hr)	1000	Length (m)	10.0
Max Percolation (l/s)	15.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	105.784	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S24, DS/PN: S48.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	6.8
Membrane Percolation (mm/hr)	1000	Length (m)	10.4
Max Percolation (l/s)	19.6	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	106.245	Cap Volume Depth (m)	0.350

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Porous Car Park Manhole: S32, DS/PN: S49.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	13.2
Max Percolation (l/s)	36.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	105.835	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S35, DS/PN: S50.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	17.9
Max Percolation (l/s)	49.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	105.970	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S44, DS/PN: S52.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	6.5
Membrane Percolation (mm/hr)	1000	Length (m)	11.7
Max Percolation (l/s)	21.1	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	105.734	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S43, DS/PN: S53.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	6.0
Membrane Percolation (mm/hr)	1000	Length (m)	7.0
Max Percolation (l/s)	11.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	105.946	Cap Volume Depth (m)	0.350

Porous Car Park Manhole: S47, DS/PN: S57.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.5
Membrane Percolation (mm/hr)	1000	Length (m)	11.0
Max Percolation (l/s)	16.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	105.735	Cap Volume Depth (m)	0.350

Cellular Storage Manhole: ST, DS/PN: S35.004

Invert Level (m)	104.200	Safety Factor	2.0
Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	300.0	0.0	1.200	300.0	0.0	1.201	0.0	0.0

Porous Car Park Manhole: S76, DS/PN: S61.001

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.30
Membrane Percolation (mm/hr)	1000	Invert Level (m)	105.330
Max Percolation (l/s)	28.5	Width (m)	5.4
Safety Factor	2.0	Length (m)	19.0

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Porous Car Park Manhole: S76, DS/PN: S61.001

Slope (1:X) 0.0 Evaporation (mm/day) 3
Depression Storage (mm) 5 Cap Volume Depth (m) 0.350

Porous Car Park Manhole: S62, DS/PN: S63.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 10.0
Membrane Percolation (mm/hr) 1000 Length (m) 16.0
Max Percolation (l/s) 44.4 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 105.580 Cap Volume Depth (m) 0.350

Porous Car Park Manhole: S60, DS/PN: S65.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 8.7
Membrane Percolation (mm/hr) 1000 Length (m) 10.0
Max Percolation (l/s) 24.2 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 105.459 Cap Volume Depth (m) 0.350

Porous Car Park Manhole: S69, DS/PN: S67.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 10.6
Membrane Percolation (mm/hr) 1000 Length (m) 19.0
Max Percolation (l/s) 55.9 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 105.206 Cap Volume Depth (m) 0.350

Porous Car Park Manhole: S78, DS/PN: S70.001


Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 3.5
Membrane Percolation (mm/hr) 1000 Length (m) 15.0
Max Percolation (l/s) 14.6 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 105.395 Cap Volume Depth (m) 0.350

Porous Car Park Manhole: S80, DS/PN: S71.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 7.0
Membrane Percolation (mm/hr) 1000 Length (m) 15.0
Max Percolation (l/s) 29.2 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 105.445 Cap Volume Depth (m) 0.350


Porous Car Park Manhole: S82, DS/PN: S72.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 3.5
Membrane Percolation (mm/hr) 1000 Length (m) 14.3
Max Percolation (l/s) 13.9 Slope (1:X) 0.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 105.470 Cap Volume Depth (m) 0.350

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Porous Car Park Manhole: S84, DS/PN: S73.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	3.5
Membrane Percolation (mm/hr)	1000	Length (m)	14.3
Max Percolation (l/s)	13.9	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	105.510	Cap Volume Depth (m)	0.350

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2 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 1 Number of Storage Structures 20 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 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) 2, 30, 100
Climate Change (%) 0, 0, 40

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)
S35.000	SRE7	15 Winter	2	+0%	100/15 Summer	100/15 Summer			105.696	-0.059
S36.000	SRE8	15 Winter	2	+0%	100/15 Summer				105.720	-0.080
S36.001	S87	15 Winter	2	+0%	30/15 Summer				105.460	-0.074
S35.001	S85	15 Winter	2	+0%	30/15 Summer				105.235	-0.039
S35.002	S86	15 Winter	2	+0%	30/120 Winter				104.582	-0.051
S35.003	SD2	120 Winter	2	+0%	30/15 Summer				104.395	-0.005
S37.000	SRE1	15 Winter	2	+0%	100/15 Summer	100/15 Summer			106.556	-0.059
S37.001	S1	15 Winter	2	+0%	100/15 Summer	100/15 Summer			106.244	-0.061
S38.000	S10	15 Winter	2	+0%					106.578	-0.072
S38.001	S11	15 Winter	2	+0%	100/15 Summer				106.003	-0.077
S39.000	S92	15 Winter	2	+0%	30/15 Summer				105.913	-0.084
S40.000	S13	15 Winter	2	+0%	100/15 Summer				106.095	-0.076
S40.001	S14	15 Winter	2	+0%	30/15 Summer				105.946	-0.079
S41.000	S16	15 Winter	2	+0%	30/15 Summer				105.982	-0.071
S41.001	S17	15 Summer	2	+0%	30/15 Summer				105.906	-0.079
S39.001	S15	15 Summer	2	+0%	30/15 Summer				105.799	-0.060
S42.000	S21	15 Winter	2	+0%	30/15 Summer				105.945	-0.076
S42.001	S22	15 Summer	2	+0%	30/15 Summer				105.691	-0.066
S39.002	SJ3	15 Summer	2	+0%	30/15 Summer				105.683	-0.053
S43.000	SRE2	15 Winter	2	+0%	100/15 Summer				106.082	-0.068
S43.001	S20	15 Winter	2	+0%	30/15 Summer	100/15 Summer			105.933	-0.067
S38.002	S12	15 Winter	2	+0%	30/15 Summer				105.547	-0.061
S44.000	S18	15 Winter	2	+0%	30/15 Winter				105.899	-0.066
S44.001	S19	15 Winter	2	+0%	30/15 Summer				105.661	-0.073
S37.002	S2	15 Winter	2	+0%	30/15 Summer				105.445	-0.129
S45.000	S28	15 Winter	2	+0%	30/15 Summer				105.654	-0.071
S45.001	S29	15 Winter	2	+0%	30/15 Summer	100/15 Winter			105.535	-0.033
S46.000	SRE4	15 Winter	2	+0%	100/15 Summer	100/15 Summer			105.935	-0.065
S46.001	S30	15 Winter	2	+0%	30/15 Summer				105.479	-0.071
S37.003	S3	15 Winter	2	+0%	30/15 Summer				105.335	-0.062

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2 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 (m ³)	Flow / Cap. (l/s)	Time (mins)	Flow (l/s)			
S35.000	SRE7	0.000	0.35			2.9	OK	5
S36.000	SRE8	0.000	0.09			1.0	OK	
S36.001	S87	0.000	0.16			1.3	OK	
S35.001	S85	0.000	0.66			5.5	OK	
S35.002	S86	0.000	0.48			6.0	OK	
S35.003	SD2	0.000	0.14			2.0	OK	
S37.000	SRE1	0.000	0.35			2.1	OK	3
S37.001	S1	0.000	0.32			3.6	OK	3
S38.000	S10	0.000	0.17			1.7	OK	
S38.001	S11	0.000	0.12			1.7	OK	
S39.000	S92	0.000	0.06			0.5	OK	
S40.000	S13	0.000	0.14			1.1	OK	
S40.001	S14	0.000	0.10		4	1.1	OK	
S41.000	S16	0.000	0.18			1.0	OK	
S41.001	S17	0.000	0.10		5	1.0	OK	
S39.001	S15	0.000	0.33			2.8	OK	
S42.000	S21	0.000	0.13			1.0	OK	
S42.001	S22	0.000	0.26		5	1.0	OK	
S39.002	SJ3	0.000	0.45			3.8	OK	
S43.000	SRE2	0.000	0.22			1.3	OK	
S43.001	S20	0.000	0.24			2.3	OK	3
S38.002	S12	0.000	0.66			10.5	OK	
S44.000	S18	0.000	0.25			2.2	OK	
S44.001	S19	0.000	0.16		5	2.2	OK	
S37.002	S2	0.000	0.38			16.6	OK	
S45.000	S28	0.000	0.18			1.1	OK	
S45.001	S29	0.000	0.78		7	5.7	OK	2
S46.000	SRE4	0.000	0.26			2.1	OK	2
S46.001	S30	0.000	0.19			2.1	OK	
S37.003	S3	0.000	0.75			24.4	OK	

2 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	Surcharged
									Level (m)	Depth (m)
S47.000	S26	15 Winter	2	+0%					106.241	-0.079
S47.001	S23	15 Winter	2	+0%	100/15 Summer				106.140	-0.079
S48.000	S25	15 Winter	2	+0%	100/15 Summer				106.059	-0.066
S48.001	S24	15 Summer	2	+0%	100/15 Summer				105.987	-0.062
S47.002	SJ6	15 Winter	2	+0%	100/15 Summer				105.954	-0.070
S47.003	S27	15 Winter	2	+0%	30/15 Summer				105.680	-0.064
S37.004	S4	15 Winter	2	+0%	30/15 Summer				105.302	-0.018
S37.005	S5	15 Winter	2	+0%	2/15 Winter				105.273	0.003
S37.006	S6	15 Winter	2	+0%	2/15 Winter				105.216	0.052
S49.000	S31	15 Winter	2	+0%	100/15 Summer				105.587	-0.055
S49.001	S32	15 Winter	2	+0%	30/15 Summer				105.178	-0.054
S37.007	S7	15 Winter	2	+0%	2/15 Winter				105.162	0.044
S50.000	S33	15 Winter	2	+0%	100/15 Summer				105.776	-0.062
S51.000	S41	15 Summer	2	+0%					105.700	-0.100
S50.001	S35	15 Winter	2	+0%	30/15 Summer				105.234	-0.066
S37.008	SJ2	15 Winter	2	+0%	2/15 Winter				105.084	0.025
S52.000	S45	15 Winter	2	+0%					105.503	-0.079
S52.001	S44	15 Winter	2	+0%	30/15 Summer				104.983	-0.077
S53.000	S42	15 Summer	2	+0%					105.506	-0.100
S53.001	S43	15 Summer	2	+0%	100/15 Summer				105.333	-0.100
S54.000	S38	15 Winter	2	+0%					106.231	-0.069
S55.000	S40	15 Winter	2	+0%					106.216	-0.084
S54.001	S39	15 Summer	2	+0%					106.115	-0.074
S56.000	S36	15 Winter	2	+0%					105.974	-0.076
S54.002	S37	15 Winter	2	+0%					105.691	-0.069
S53.002	SJ1	15 Winter	2	+0%	100/15 Summer				105.229	-0.068
S37.009	S8	15 Winter	2	+0%	30/15 Summer				104.968	-0.131
S57.000	S46	15 Winter	2	+0%					105.285	-0.069
S57.001	S47	15 Winter	2	+0%					105.169	-0.080
S37.010	S9	15 Winter	2	+0%	100/120 Winter				104.829	-0.201
S37.011	SD1	15 Winter	2	+0%	30/15 Summer				104.432	-0.118
S35.004	ST	120 Winter	2	+0%	30/30 Summer				104.394	-0.106
S58.000	SRE5	15 Winter	2	+0%	30/15 Winter				105.764	-0.071
S59.000	S48	15 Winter	2	+0%	30/15 Winter				105.733	-0.077
S58.001	S49	15 Winter	2	+0%	30/15 Summer				105.652	-0.054
S60.000	S50	15 Winter	2	+0%	30/15 Winter	100/15 Summer			105.676	-0.079
S58.002	SJ4	15 Winter	2	+0%	30/15 Summer				105.525	-0.043
S58.003	S51	15 Winter	2	+0%	30/15 Summer				105.357	-0.043
S58.004	S52	15 Winter	2	+0%	30/15 Summer				105.090	-0.060
S61.000	S75	15 Winter	2	+0%	100/15 Summer				105.522	-0.068
S61.001	S76	15 Winter	2	+0%	30/15 Summer				105.135	-0.075
S62.000	S34	15 Winter	2	+0%					105.763	-0.087
S63.000	S65	15 Winter	2	+0%	30/15 Summer				105.492	-0.048
S63.001	S62	15 Winter	2	+0%	30/15 Summer				105.347	-0.066
S62.001	S63	15 Summer	2	+0%	30/15 Summer				105.164	-0.056
S64.000	S66	15 Winter	2	+0%	100/15 Summer				105.506	-0.084
S65.000	S59	15 Winter	2	+0%	30/15 Summer				105.197	-0.058
S65.001	S60	15 Summer	2	+0%	30/15 Summer				105.083	-0.056
S65.002	S61	15 Winter	2	+0%	30/15 Summer				105.035	-0.049
S62.002	S64	15 Winter	2	+0%	30/15 Summer				104.983	-0.070
S66.000	S67	15 Winter	2	+0%	100/15 Summer				105.363	-0.087
S62.003	S68	15 Winter	2	+0%	30/15 Summer				104.913	-0.066
S67.000	S70	15 Winter	2	+0%	100/15 Summer				105.583	-0.067
S67.001	S69	15 Winter	2	+0%	30/15 Summer				104.913	-0.067
S62.004	S72	15 Winter	2	+0%	30/15 Summer				104.901	-0.039
S68.000	S71	15 Winter	2	+0%	30/15 Summer				105.217	-0.083
S69.000	S74	15 Winter	2	+0%	100/15 Summer				105.313	-0.087

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

PN	US/MH Name	Flooded		Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Volume (m³)	Flow / Cap.					
S47.000	S26	0.000	0.09			0.5	OK	
S47.001	S23	0.000	0.10			1.3	OK	
S48.000	S25	0.000	0.25			1.4	OK	
S48.001	S24	0.000	0.31		5	1.4	OK	
S47.002	SJ6	0.000	0.19			2.6	OK	
S47.003	S27	0.000	0.28			2.6	OK	
S37.004	S4	0.000	0.87			26.7	OK	
S37.005	S5	0.000	0.84			28.1	SURCHARGED	
S37.006	S6	0.000	0.89			26.4	SURCHARGED	
S49.000	S31	0.000	0.43			3.2	OK	
S49.001	S32	0.000	0.44		6	3.2	OK	
S37.007	S7	0.000	0.81			27.7	SURCHARGED	
S50.000	S33	0.000	0.31			3.5	OK	
S51.000	S41	0.000	0.00			0.0	OK	
S50.001	S35	0.000	0.25		5	3.5	OK	
S37.008	SJ2	0.000	0.98			29.4	SURCHARGED*	
S52.000	S45	0.000	0.10			1.4	OK	
S52.001	S44	0.000	0.12		5	1.4	OK	
S53.000	S42	0.000	0.00			0.0	OK	
S53.001	S43	0.000	0.00			0.0	OK	
S54.000	S38	0.000	0.22			1.2	OK	
S55.000	S40	0.000	0.06			0.5	OK	
S54.001	S39	0.000	0.16			1.7	OK	
S56.000	S36	0.000	0.13			1.1	OK	
S54.002	S37	0.000	0.21			3.1	OK	
S53.002	SJ1	0.000	0.22			3.1	OK	
S37.009	S8	0.000	0.60			39.7	OK	
S57.000	S46	0.000	0.21			1.2	OK	
S57.001	S47	0.000	0.09		4	1.2	OK	
S37.010	S9	0.000	0.23			40.7	OK	
S37.011	SD1	0.000	0.66			40.5	OK	
S35.004	ST	0.000	0.07		100	5.6	OK	
S58.000	SRE5	0.000	0.18			1.0	OK	
S59.000	S48	0.000	0.12			1.0	OK	
S58.001	S49	0.000	0.43			2.4	OK	
S60.000	S50	0.000	0.10			1.2	OK	1
S58.002	SJ4	0.000	0.61			3.5	OK	5
S58.003	S51	0.000	0.62			3.9	OK	
S58.004	S52	0.000	0.34			3.9	OK	
S61.000	S75	0.000	0.22			1.9	OK	
S61.001	S76	0.000	0.14		6	1.9	OK	
S62.000	S34	0.000	0.04			0.6	OK	
S63.000	S65	0.000	0.54			3.1	OK	
S63.001	S62	0.000	0.25		6	3.1	OK	
S62.001	S63	0.000	0.40			3.6	OK	
S64.000	S66	0.000	0.06			0.8	OK	
S65.000	S59	0.000	0.38			2.1	OK	
S65.001	S60	0.000	0.40		5	2.1	OK	
S65.002	S61	0.000	0.52			2.9	OK	
S62.002	S64	0.000	0.56			7.2	OK	
S66.000	S67	0.000	0.04			0.6	OK	
S62.003	S68	0.000	0.42			8.2	OK	
S67.000	S70	0.000	0.24			2.6	OK	
S67.001	S69	0.000	0.23		5	2.6	OK	
S62.004	S72	0.000	0.36			10.6	OK	
S68.000	S71	0.000	0.07			0.8	OK	

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2 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 (m ³)	Flow / Cap. (l/s)	Time (mins)	Flow (l/s)		
S69.000	S74	0.000	0.04		0.5	OK	

2 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) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level	Surcharged Depth
									(m)	(m)
S68.001	SJ5	15 Winter	2	+0%	30/15 Summer				105.047	-0.079
S62.005	S73	15 Winter	2	+0%	30/15 Summer				104.894	-0.004
S58.005	S53	15 Winter	2	+0%	2/15 Winter				104.887	0.008
S70.000	S77	15 Winter	2	+0%					105.473	-0.081
S70.001	S78	15 Winter	2	+0%	2/15 Summer				104.859	0.098
S58.006	S54	15 Winter	2	+0%	2/15 Summer				104.858	0.055
S71.000	S79	15 Winter	2	+0%	100/15 Summer				105.277	-0.073
S71.001	S80	15 Winter	2	+0%	2/15 Summer				104.827	0.153
S58.007	S55	15 Winter	2	+0%	2/15 Summer				104.825	0.101
S72.000	S81	15 Winter	2	+0%	100/15 Summer				105.268	-0.082
S72.001	S82	15 Winter	2	+0%	2/15 Summer				104.761	0.112
S58.008	S56	15 Winter	2	+0%	2/15 Summer				104.760	0.119
S73.000	S83	15 Winter	2	+0%	100/15 Summer				105.129	-0.079
S73.001	S84	15 Winter	2	+0%	2/15 Summer				104.685	0.163
S58.009	S57	15 Winter	2	+0%	2/15 Summer				104.684	0.140
S58.010	S58	15 Winter	2	+0%	2/15 Summer				104.602	0.178
S58.011	S88	15 Winter	2	+0%	2/15 Summer				104.532	0.160
S35.005	S89P	15 Winter	2	+0%	30/15 Summer				104.464	-0.009
S35.006	S90A	30 Winter	2	+0%					105.259	-0.314

PN	US/MH Name	Flooded		Half Drain		Pipe	Status	Level Exceeded
		Volume (m ³)	Flow / Cap. (l/s)	Time (mins)	Flow (l/s)			
S68.001	SJ5	0.000	0.10			1.4	OK	
S62.005	S73	0.000	0.44			11.4	OK	
S58.005	S53	0.000	0.73			22.6	SURCHARGED	
S70.000	S77	0.000	0.08			1.1	OK	
S70.001	S78	0.000	0.13		4	1.1	SURCHARGED	
S58.006	S54	0.000	0.68			21.1	SURCHARGED	
S71.000	S79	0.000	0.17			2.2	OK	
S71.001	S80	0.000	0.27		5	2.1	SURCHARGED	
S58.007	S55	0.000	0.69			25.2	SURCHARGED	
S72.000	S81	0.000	0.08			1.0	OK	
S72.001	S82	0.000	0.09		5	0.9	SURCHARGED	
S58.008	S56	0.000	0.68			25.5	SURCHARGED	
S73.000	S83	0.000	0.10			1.2	OK	
S73.001	S84	0.000	0.12		7	1.1	SURCHARGED	
S58.009	S57	0.000	0.65			24.6	SURCHARGED	
S58.010	S58	0.000	0.78			24.9	SURCHARGED	
S58.011	S88	0.000	0.80			25.0	SURCHARGED	
S35.005	S89P	0.000	0.06			5.4	OK	
S35.006	S90A	0.000	0.05			5.4	OK	

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 1 Number of Storage Structures 20 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 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) 2, 30, 100
 Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)
S35.000	SRE7	15 Winter	30	+0%	100/15 Summer	100/15 Summer			105.750	-0.005
S36.000	SRE8	15 Winter	30	+0%	100/15 Summer				105.727	-0.073
S36.001	S87	15 Winter	30	+0%	30/15 Summer				105.596	0.062
S35.001	S85	15 Winter	30	+0%	30/15 Summer				105.575	0.301
S35.002	S86	180 Winter	30	+0%	30/120 Winter				104.653	0.020
S35.003	SD2	180 Winter	30	+0%	30/15 Summer				104.651	0.251
S37.000	SRE1	15 Winter	30	+0%	100/15 Summer	100/15 Summer			106.576	-0.039
S37.001	S1	15 Winter	30	+0%	100/15 Summer	100/15 Summer			106.267	-0.038
S38.000	S10	15 Winter	30	+0%					106.589	-0.061
S38.001	S11	15 Winter	30	+0%	100/15 Summer				106.041	-0.039
S39.000	S92	15 Winter	30	+0%	30/15 Summer				106.083	0.086
S40.000	S13	15 Winter	30	+0%	100/15 Summer				106.105	-0.066
S40.001	S14	15 Winter	30	+0%	30/15 Summer				106.085	0.060
S41.000	S16	15 Winter	30	+0%	30/15 Summer				106.095	0.042
S41.001	S17	15 Winter	30	+0%	30/15 Summer				106.085	0.100
S39.001	S15	15 Winter	30	+0%	30/15 Summer				106.078	0.219
S42.000	S21	15 Winter	30	+0%	30/15 Summer				106.052	0.031
S42.001	S22	15 Winter	30	+0%	30/15 Summer				106.039	0.282
S39.002	SJ3	15 Winter	30	+0%	30/15 Summer				106.044	0.308
S43.000	SRE2	15 Winter	30	+0%	100/15 Summer				106.119	-0.031
S43.001	S20	15 Winter	30	+0%	30/15 Summer	100/15 Summer			106.099	0.099
S38.002	S12	15 Winter	30	+0%	30/15 Summer				106.021	0.413
S44.000	S18	15 Winter	30	+0%	30/15 Winter				105.974	0.009
S44.001	S19	15 Winter	30	+0%	30/15 Summer				105.933	0.199
S37.002	S2	15 Winter	30	+0%	30/15 Summer				105.912	0.338
S45.000	S28	15 Winter	30	+0%	30/15 Summer				105.881	0.156
S45.001	S29	15 Winter	30	+0%	30/15 Summer	100/15 Winter			105.869	0.301
S46.000	SRE4	15 Winter	30	+0%	100/15 Summer	100/15 Summer			105.950	-0.050
S46.001	S30	15 Winter	30	+0%	30/15 Summer				105.850	0.300
S37.003	S3	15 Winter	30	+0%	30/15 Summer				105.822	0.425

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

PN	US/MH Name	Flooded		Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Volume (m ³)	Flow						
S35.000	SRE7	0.000	0.65				5.4	OK	5
S36.000	SRE8	0.000	0.17				1.8	OK	
S36.001	S87	0.000	0.30				2.5	SURCHARGED	
S35.001	S85	0.000	1.20				10.1	SURCHARGED	
S35.002	S86	0.000	0.22				2.8	SURCHARGED	
S35.003	SD2	0.000	0.20				2.8	SURCHARGED*	
S37.000	SRE1	0.000	0.67				3.9	OK	3
S37.001	S1	0.000	0.68				7.5	OK	3
S38.000	S10	0.000	0.32				3.3	OK	
S38.001	S11	0.000	0.22				3.3	OK	
S39.000	S92	0.000	0.11				0.9	SURCHARGED	
S40.000	S13	0.000	0.26				2.1	OK	
S40.001	S14	0.000	0.18			3	2.0	SURCHARGED	
S41.000	S16	0.000	0.33				1.8	SURCHARGED	
S41.001	S17	0.000	0.18			4	1.8	SURCHARGED	
S39.001	S15	0.000	0.63				5.2	SURCHARGED	
S42.000	S21	0.000	0.24				1.9	SURCHARGED	
S42.001	S22	0.000	0.81			2	3.3	SURCHARGED	
S39.002	SJ3	0.000	0.95				8.0	SURCHARGED*	
S43.000	SRE2	0.000	0.42				2.6	OK	
S43.001	S20	0.000	0.48				4.5	SURCHARGED	3
S38.002	S12	0.000	1.03				16.4	SURCHARGED	
S44.000	S18	0.000	0.47				4.0	SURCHARGED	
S44.001	S19	0.000	0.26			3	3.5	SURCHARGED	
S37.002	S2	0.000	0.61				26.8	SURCHARGED	
S45.000	S28	0.000	0.34				2.0	SURCHARGED	
S45.001	S29	0.000	1.41			5	10.3	SURCHARGED	2
S46.000	SRE4	0.000	0.50				4.0	OK	2
S46.001	S30	0.000	0.31				3.4	SURCHARGED	
S37.003	S3	0.000	1.05				34.0	SURCHARGED	

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

PN	US/MH		Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged
	Name	Storm							Level (m)	Depth (m)
S47.000	S26	15 Winter	30	+0%				106.248	-0.072	
S47.001	S23	15 Winter	30	+0%	100/15 Summer			106.151	-0.068	
S48.000	S25	15 Winter	30	+0%	100/15 Summer			106.073	-0.052	
S48.001	S24	15 Summer	30	+0%	100/15 Summer			106.004	-0.045	
S47.002	SJ6	15 Summer	30	+0%	100/15 Summer			105.968	-0.056	
S47.003	S27	15 Winter	30	+0%	30/15 Summer			105.815	0.071	
S37.004	S4	15 Winter	30	+0%	30/15 Summer			105.742	0.422	
S37.005	S5	15 Winter	30	+0%	2/15 Winter			105.667	0.397	
S37.006	S6	15 Winter	30	+0%	2/15 Winter			105.489	0.325	
S49.000	S31	15 Winter	30	+0%	100/15 Summer			105.611	-0.031	
S49.001	S32	15 Winter	30	+0%	30/15 Summer			105.443	0.211	
S37.007	S7	15 Winter	30	+0%	2/15 Winter			105.386	0.268	
S50.000	S33	15 Winter	30	+0%	100/15 Summer			105.793	-0.045	
S51.000	S41	15 Summer	30	+0%				105.700	-0.100	
S50.001	S35	15 Winter	30	+0%	30/15 Summer			105.326	0.026	
S37.008	SJ2	15 Winter	30	+0%	2/15 Winter			105.261	0.202	
S52.000	S45	15 Winter	30	+0%				105.511	-0.071	
S52.001	S44	15 Summer	30	+0%	30/15 Summer			105.125	0.065	
S53.000	S42	15 Summer	30	+0%				105.506	-0.100	
S53.001	S43	15 Summer	30	+0%	100/15 Summer			105.333	-0.100	
S54.000	S38	15 Winter	30	+0%				106.245	-0.055	
S55.000	S40	15 Winter	30	+0%				106.223	-0.077	
S54.001	S39	15 Winter	30	+0%				106.126	-0.063	
S56.000	S36	15 Winter	30	+0%				105.983	-0.067	
S54.002	S37	15 Summer	30	+0%				105.705	-0.055	
S53.002	SJ1	15 Summer	30	+0%	100/15 Summer			105.243	-0.054	
S37.009	S8	15 Winter	30	+0%	30/15 Summer			105.111	0.012	
S57.000	S46	15 Winter	30	+0%				105.297	-0.057	
S57.001	S47	15 Winter	30	+0%				105.177	-0.072	
S37.010	S9	15 Winter	30	+0%	100/120 Winter			104.871	-0.159	
S37.011	SD1	180 Winter	30	+0%	30/15 Summer			104.651	0.101	
S35.004	ST	180 Winter	30	+0%	30/30 Summer			104.650	0.150	
S58.000	SRE5	15 Winter	30	+0%	30/15 Winter			105.849	0.014	
S59.000	S48	15 Winter	30	+0%	30/15 Winter			105.842	0.032	
S58.001	S49	15 Winter	30	+0%	30/15 Summer			105.835	0.129	
S60.000	S50	15 Winter	30	+0%	30/15 Winter	100/15 Summer		105.781	0.026	
S58.002	SJ4	15 Winter	30	+0%	30/15 Summer			105.775	0.207	
S58.003	S51	15 Winter	30	+0%	30/15 Summer			105.633	0.233	
S58.004	S52	15 Winter	30	+0%	30/15 Summer			105.435	0.285	
S61.000	S75	15 Winter	30	+0%	100/15 Summer			105.535	-0.055	
S61.001	S76	15 Winter	30	+0%	30/15 Summer			105.340	0.130	
S62.000	S34	15 Winter	30	+0%				105.768	-0.082	
S63.000	S65	15 Winter	30	+0%	30/15 Summer			105.657	0.117	
S63.001	S62	15 Winter	30	+0%	30/15 Summer			105.558	0.145	
S62.001	S63	15 Winter	30	+0%	30/15 Summer			105.524	0.304	
S64.000	S66	15 Winter	30	+0%	100/15 Summer			105.512	-0.078	
S65.000	S59	15 Summer	30	+0%	30/15 Summer			105.530	0.275	
S65.001	S60	15 Winter	30	+0%	30/15 Summer			105.467	0.328	
S65.002	S61	15 Winter	30	+0%	30/15 Summer			105.459	0.375	
S62.002	S64	15 Winter	30	+0%	30/15 Summer			105.436	0.383	
S66.000	S67	15 Winter	30	+0%	100/15 Summer			105.407	-0.043	
S62.003	S68	15 Winter	30	+0%	30/15 Summer			105.399	0.420	
S67.000	S70	15 Winter	30	+0%	100/15 Summer			105.597	-0.053	
S67.001	S69	15 Winter	30	+0%	30/15 Summer			105.247	0.267	
S62.004	S72	15 Winter	30	+0%	30/15 Summer			105.360	0.420	
S68.000	S71	15 Winter	30	+0%	30/15 Summer			105.378	0.078	
S69.000	S74	15 Winter	30	+0%	100/15 Summer			105.378	-0.022	

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 Brixworth NN6 9BX

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Date 11/05/2023
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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

PN	US/MH Name	Flooded Volume (m ³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S47.000	S26	0.000	0.18		1.0	OK	
S47.001	S23	0.000	0.22		2.7	OK	
S48.000	S25	0.000	0.47		2.6	OK	
S48.001	S24	0.000	0.59	5	2.6	OK	
S47.002	SJ6	0.000	0.40		5.3	OK	
S47.003	S27	0.000	0.53		5.0	SURCHARGED	
S37.004	S4	0.000	1.25		38.3	SURCHARGED	
S37.005	S5	0.000	1.28		42.9	SURCHARGED	
S37.006	S6	0.000	1.48		43.6	SURCHARGED	
S49.000	S31	0.000	0.81		6.0	OK	
S49.001	S32	0.000	0.75	3	5.5	SURCHARGED	
S37.007	S7	0.000	1.43		49.2	SURCHARGED	
S50.000	S33	0.000	0.58		6.6	OK	
S51.000	S41	0.000	0.00		0.0	OK	
S50.001	S35	0.000	0.46	3	6.2	SURCHARGED	
S37.008	SJ2	0.000	1.83		54.6	SURCHARGED*	
S52.000	S45	0.000	0.18		2.6	OK	
S52.001	S44	0.000	0.21	4	2.4	SURCHARGED	
S53.000	S42	0.000	0.00		0.0	OK	
S53.001	S43	0.000	0.00		0.0	OK	
S54.000	S38	0.000	0.41		2.3	OK	
S55.000	S40	0.000	0.12		0.9	OK	
S54.001	S39	0.000	0.30		3.2	OK	
S56.000	S36	0.000	0.24		2.1	OK	
S54.002	S37	0.000	0.42		6.1	OK	
S53.002	SJ1	0.000	0.42		6.1	OK	
S37.009	S8	0.000	1.14		75.3	SURCHARGED	
S57.000	S46	0.000	0.39		2.2	OK	
S57.001	S47	0.000	0.17	5	2.2	OK	
S37.010	S9	0.000	0.45		77.6	OK	
S37.011	SD1	0.000	0.38		23.1	SURCHARGED*	
S35.004	ST	0.000	0.08		6.5	SURCHARGED	
S58.000	SRE5	0.000	0.34		2.0	SURCHARGED	
S59.000	S48	0.000	0.22		1.8	SURCHARGED	
S58.001	S49	0.000	0.77		4.4	FLOOD RISK	
S60.000	S50	0.000	0.18		2.1	SURCHARGED	1
S58.002	SJ4	0.000	0.99		5.7	FLOOD RISK*	5
S58.003	S51	0.000	0.93		5.9	SURCHARGED	
S58.004	S52	0.000	0.57		6.4	SURCHARGED	
S61.000	S75	0.000	0.42		3.6	OK	
S61.001	S76	0.000	0.44	3	6.0	SURCHARGED	
S62.000	S34	0.000	0.07		1.1	OK	
S63.000	S65	0.000	0.96		5.5	SURCHARGED	
S63.001	S62	0.000	0.41	3	5.0	SURCHARGED	
S62.001	S63	0.000	0.66		6.0	SURCHARGED	
S64.000	S66	0.000	0.12		1.5	OK	
S65.000	S59	0.000	0.69		3.9	SURCHARGED	
S65.001	S60	0.000	0.79	4	4.2	SURCHARGED	
S65.002	S61	0.000	0.89		4.9	SURCHARGED	
S62.002	S64	0.000	0.86		11.3	SURCHARGED	
S66.000	S67	0.000	0.07		1.0	OK	
S62.003	S68	0.000	0.63		12.5	SURCHARGED	
S67.000	S70	0.000	0.45		5.0	OK	
S67.001	S69	0.000	1.15	5	13.0	SURCHARGED	
S62.004	S72	0.000	0.57		16.9	SURCHARGED	
S68.000	S71	0.000	0.12		1.4	SURCHARGED	

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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

PN	US/MH Name	Flooded		Half Drain Pipe		Status	Level Exceeded
		Volume (m ³)	Flow / Overflow Cap. (l/s)	Time (mins)	Pipe Flow (l/s)		
S69.000	S74	0.000	0.08		1.0	OK	



30 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	Surcharged
									Level (m)	Depth (m)
S68.001	SJ5	15 Winter	30	+0%	30/15 Summer				105.373	0.247
S62.005	S73	15 Winter	30	+0%	30/15 Summer				105.359	0.461
S58.005	S53	15 Winter	30	+0%	2/15 Winter				105.357	0.478
S70.000	S77	15 Winter	30	+0%					105.481	-0.073
S70.001	S78	15 Winter	30	+0%	2/15 Summer				105.306	0.545
S58.006	S54	15 Winter	30	+0%	2/15 Summer				105.300	0.497
S71.000	S79	15 Winter	30	+0%	100/15 Summer				105.298	-0.052
S71.001	S80	15 Winter	30	+0%	2/15 Summer				105.243	0.569
S58.007	S55	15 Winter	30	+0%	2/15 Summer				105.229	0.505
S72.000	S81	15 Winter	30	+0%	100/15 Summer				105.275	-0.075
S72.001	S82	15 Winter	30	+0%	2/15 Summer				105.131	0.482
S58.008	S56	15 Winter	30	+0%	2/15 Summer				105.127	0.486
S73.000	S83	15 Winter	30	+0%	100/15 Summer				105.137	-0.071
S73.001	S84	15 Winter	30	+0%	2/15 Summer				104.974	0.452
S58.009	S57	15 Winter	30	+0%	2/15 Summer				104.970	0.426
S58.010	S58	15 Summer	30	+0%	2/15 Summer				104.777	0.353
S58.011	S88	180 Winter	30	+0%	2/15 Summer				104.662	0.290
S35.005	S89P	180 Winter	30	+0%	30/15 Summer				104.661	0.188
S35.006	S90A	15 Winter	30	+0%					105.260	-0.313

PN	US/MH Name	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
		Volume (m³)			Time (mins)	Flow (l/s)		
S68.001	SJ5	0.000	0.17			2.3	SURCHARGED*	
S62.005	S73	0.000	0.68			17.5	SURCHARGED	
S58.005	S53	0.000	0.96			29.7	SURCHARGED	
S70.000	S77	0.000	0.16			2.2	OK	
S70.001	S78	0.000	0.26		7	2.1	SURCHARGED	
S58.006	S54	0.000	1.01			31.7	SURCHARGED	
S71.000	S79	0.000	0.32			4.1	OK	
S71.001	S80	0.000	0.50		7	3.8	SURCHARGED	
S58.007	S55	0.000	1.07			39.1	SURCHARGED	
S72.000	S81	0.000	0.15			1.9	OK	
S72.001	S82	0.000	0.20		7	2.0	SURCHARGED	
S58.008	S56	0.000	1.23			45.9	SURCHARGED	
S73.000	S83	0.000	0.18			2.4	OK	
S73.001	S84	0.000	0.24		9	2.2	SURCHARGED	
S58.009	S57	0.000	1.28			48.6	SURCHARGED	
S58.010	S58	0.000	1.48			47.6	SURCHARGED	
S58.011	S88	0.000	0.54			16.8	SURCHARGED	
S35.005	S89P	0.000	0.06			5.4	SURCHARGED	
S35.006	S90A	0.000	0.05			5.4	OK	

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 1 Number of Storage Structures 20 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 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) 2, 30, 100
 Climate Change (%) 0, 0, 40

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)
S35.000	SRE7	15 Winter	100	+40%	100/15 Summer	100/15 Summer			106.106	0.351
S36.000	SRE8	30 Summer	100	+40%	100/15 Summer				105.967	0.167
S36.001	S87	15 Winter	100	+40%	30/15 Summer				105.936	0.402
S35.001	S85	30 Summer	100	+40%	30/15 Summer				105.964	0.690
S35.002	S86	240 Winter	100	+40%	30/120 Winter				105.169	0.536
S35.003	SD2	240 Winter	100	+40%	30/15 Summer				105.167	0.767
S37.000	SRE1	15 Winter	100	+40%	100/15 Summer	100/15 Summer			107.065	0.450
S37.001	S1	15 Winter	100	+40%	100/15 Summer	100/15 Summer			106.865	0.560
S38.000	S10	15 Summer	100	+40%					106.613	-0.037
S38.001	S11	15 Summer	100	+40%	100/15 Summer				106.413	0.333
S39.000	S92	15 Winter	100	+40%	30/15 Summer				106.262	0.265
S40.000	S13	15 Winter	100	+40%	100/15 Summer				106.261	0.090
S40.001	S14	15 Winter	100	+40%	30/15 Summer				106.252	0.227
S41.000	S16	15 Winter	100	+40%	30/15 Summer				106.269	0.216
S41.001	S17	15 Winter	100	+40%	30/15 Summer				106.258	0.273
S39.001	S15	15 Winter	100	+40%	30/15 Summer				106.254	0.395
S42.000	S21	15 Winter	100	+40%	30/15 Summer				106.236	0.215
S42.001	S22	15 Winter	100	+40%	30/15 Summer				106.227	0.470
S39.002	SJ3	15 Winter	100	+40%	30/15 Summer				106.250	0.514
S43.000	SRE2	15 Summer	100	+40%	100/15 Summer				106.587	0.437
S43.001	S20	15 Winter	100	+40%	30/15 Summer	100/15 Summer			106.500	0.500
S38.002	S12	15 Winter	100	+40%	30/15 Summer				106.325	0.717
S44.000	S18	15 Winter	100	+40%	30/15 Winter				106.336	0.371
S44.001	S19	15 Winter	100	+40%	30/15 Summer				106.192	0.458
S37.002	S2	15 Winter	100	+40%	30/15 Summer				106.207	0.633
S45.000	S28	15 Winter	100	+40%	30/15 Summer				106.288	0.563
S45.001	S29	15 Winter	100	+40%	30/15 Summer	100/15 Winter			106.265	0.697
S46.000	SRE4	15 Winter	100	+40%	100/15 Summer	100/15 Summer			106.450	0.450
S46.001	S30	15 Winter	100	+40%	30/15 Summer				106.219	0.669
S37.003	S3	15 Winter	100	+40%	30/15 Summer				106.134	0.737

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

PN	US/MH Name	Flooded		Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Volume (m ³)	Flow / Cap.					
S35.000	SRE7	0.902	0.76			6.4	FLOOD	5
S36.000	SRE8	0.000	0.27			2.9	SURCHARGED	
S36.001	S87	0.000	0.55			4.4	FLOOD RISK	
S35.001	S85	0.000	1.38			11.6	FLOOD RISK	
S35.002	S86	0.000	0.32			4.0	SURCHARGED	
S35.003	SD2	0.000	0.28			4.0	SURCHARGED*	
S37.000	SRE1	0.293	1.03			6.1	FLOOD	3
S37.001	S1	0.154	0.91			10.2	FLOOD	3
S38.000	S10	0.000	0.59			6.0	OK	
S38.001	S11	0.000	0.40			5.8	SURCHARGED	
S39.000	S92	0.000	0.21			1.6	SURCHARGED	
S40.000	S13	0.000	0.46			3.7	SURCHARGED	
S40.001	S14	0.000	0.58		6	6.5	SURCHARGED	
S41.000	S16	0.000	0.62			3.4	SURCHARGED	
S41.001	S17	0.000	0.32		5	3.0	SURCHARGED	
S39.001	S15	0.000	0.84			7.0	SURCHARGED	
S42.000	S21	0.000	0.42			3.4	SURCHARGED	
S42.001	S22	0.000	2.72		7	11.0	FLOOD RISK	
S39.002	SJ3	0.000	1.79			15.1	SURCHARGED*	
S43.000	SRE2	0.000	0.75			4.6	FLOOD RISK	
S43.001	S20	0.326	0.73			6.8	FLOOD	3
S38.002	S12	0.000	1.12			17.9	FLOOD RISK	
S44.000	S18	0.000	0.88			7.4	FLOOD RISK	
S44.001	S19	0.000	0.91		4	12.3	SURCHARGED	
S37.002	S2	0.000	0.68			30.1	FLOOD RISK	
S45.000	S28	0.000	0.58			3.5	FLOOD RISK	
S45.001	S29	0.619	1.73		9	12.7	FLOOD	2
S46.000	SRE4	0.041	0.85			6.8	FLOOD	2
S46.001	S30	0.000	0.60			6.8	FLOOD RISK	
S37.003	S3	0.000	1.28			41.5	FLOOD RISK	



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)
S47.000	S26	15 Summer	100	+40%					106.297	-0.023
S47.001	S23	15 Summer	100	+40%	100/15 Summer				106.282	0.063
S48.000	S25	15 Winter	100	+40%	100/15 Summer				106.308	0.183
S48.001	S24	15 Winter	100	+40%	100/15 Summer				106.259	0.210
S47.002	SJ6	15 Winter	100	+40%	100/15 Summer				106.254	0.230
S47.003	S27	15 Winter	100	+40%	30/15 Summer				106.190	0.446
S37.004	S4	15 Winter	100	+40%	30/15 Summer				106.042	0.722
S37.005	S5	15 Summer	100	+40%	2/15 Winter				105.970	0.700
S37.006	S6	15 Summer	100	+40%	2/15 Winter				105.772	0.608
S49.000	S31	15 Winter	100	+40%	100/15 Summer				106.296	0.654
S49.001	S32	15 Winter	100	+40%	30/15 Summer				105.837	0.605
S37.007	S7	15 Summer	100	+40%	2/15 Winter				105.650	0.532
S50.000	S33	15 Winter	100	+40%	100/15 Summer				106.290	0.452
S51.000	S41	15 Winter	100	+40%					105.702	-0.098
S50.001	S35	15 Winter	100	+40%	30/15 Summer				105.719	0.419
S37.008	SJ2	15 Summer	100	+40%	2/15 Winter				105.473	0.414
S52.000	S45	15 Winter	100	+40%					105.521	-0.061
S52.001	S44	15 Summer	100	+40%	30/15 Summer				105.253	0.193
S53.000	S42	15 Summer	100	+40%					105.506	-0.100
S53.001	S43	15 Winter	100	+40%	100/15 Summer				105.451	0.018
S54.000	S38	15 Winter	100	+40%					106.265	-0.035
S55.000	S40	15 Winter	100	+40%					106.231	-0.069
S54.001	S39	15 Winter	100	+40%					106.141	-0.048
S56.000	S36	15 Winter	100	+40%					105.996	-0.054
S54.002	S37	15 Summer	100	+40%					105.726	-0.034
S53.002	SJ1	15 Winter	100	+40%	100/15 Summer				105.452	0.155
S37.009	S8	15 Summer	100	+40%	30/15 Summer				105.223	0.124
S57.000	S46	15 Winter	100	+40%					105.317	-0.037
S57.001	S47	15 Winter	100	+40%					105.187	-0.062
S37.010	S9	240 Winter	100	+40%	100/120 Winter				105.170	0.140
S37.011	SD1	240 Winter	100	+40%	30/15 Summer				105.168	0.618
S35.004	ST	240 Winter	100	+40%	30/30 Summer				105.166	0.666
S58.000	SRE5	15 Winter	100	+40%	30/15 Winter				106.128	0.293
S59.000	S48	15 Winter	100	+40%	30/15 Winter				106.095	0.285
S58.001	S49	15 Winter	100	+40%	30/15 Summer				106.078	0.372
S60.000	S50	15 Summer	100	+40%	30/15 Winter	100/15 Summer			106.105	0.350
S58.002	SJ4	15 Summer	100	+40%	30/15 Summer				106.020	0.452
S58.003	S51	15 Summer	100	+40%	30/15 Summer				105.973	0.573
S58.004	S52	15 Winter	100	+40%	30/15 Summer				105.693	0.543
S61.000	S75	15 Winter	100	+40%	100/15 Summer				105.618	0.028
S61.001	S76	15 Winter	100	+40%	30/15 Summer				105.449	0.239
S62.000	S34	15 Winter	100	+40%					105.774	-0.076
S63.000	S65	15 Winter	100	+40%	30/15 Summer				106.038	0.498
S63.001	S62	15 Winter	100	+40%	30/15 Summer				105.623	0.210
S62.001	S63	15 Winter	100	+40%	30/15 Summer				105.609	0.389
S64.000	S66	15 Winter	100	+40%	100/15 Summer				105.611	0.021
S65.000	S59	15 Winter	100	+40%	30/15 Summer				105.711	0.456
S65.001	S60	15 Winter	100	+40%	30/15 Summer				105.560	0.421
S65.002	S61	15 Winter	100	+40%	30/15 Summer				105.580	0.496
S62.002	S64	15 Winter	100	+40%	30/15 Summer				105.587	0.534
S66.000	S67	15 Winter	100	+40%	100/15 Summer				105.584	0.134
S62.003	S68	15 Winter	100	+40%	30/15 Summer				105.571	0.592
S67.000	S70	15 Winter	100	+40%	100/15 Summer				105.703	0.053
S67.001	S69	30 Winter	100	+40%	30/15 Summer				105.363	0.383
S62.004	S72	15 Winter	100	+40%	30/15 Summer				105.550	0.610
S68.000	S71	15 Winter	100	+40%	30/15 Summer				105.615	0.315
S69.000	S74	15 Winter	100	+40%	100/15 Summer				105.614	0.214

Catherine House
 Old Harborough Road
 Brixworth NN6 9BX

Woodlands
 82162




Date 11/05/2023
 File 82162 - DETAILED DESIGN.MDX

Designed by NN
 Checked by MS

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 Volume (m ³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S47.000	S26	0.000	0.31		1.8	OK	
S47.001	S23	0.000	0.37		4.5	SURCHARGED	
S48.000	S25	0.000	0.85		4.7	SURCHARGED	
S48.001	S24	0.000	1.13		4 5.0	SURCHARGED	
S47.002	SJ6	0.000	0.54		7.2	SURCHARGED*	
S47.003	S27	0.000	0.78		7.4	SURCHARGED	
S37.004	S4	0.000	1.52		46.4	SURCHARGED	
S37.005	S5	0.000	1.45		48.5	SURCHARGED	
S37.006	S6	0.000	1.66		49.0	SURCHARGED	
S49.000	S31	0.000	1.41		10.5	FLOOD RISK	
S49.001	S32	0.000	1.39		3 10.1	SURCHARGED	
S37.007	S7	0.000	1.71		58.7	SURCHARGED	
S50.000	S33	0.000	1.00		11.2	FLOOD RISK	
S51.000	S41	0.000	0.00		0.0	OK	
S50.001	S35	0.000	0.83		4 11.3	SURCHARGED	
S37.008	SJ2	0.000	2.34		69.9	SURCHARGED*	
S52.000	S45	0.000	0.33		4.7	OK	
S52.001	S44	0.000	0.40		4 4.5	SURCHARGED	
S53.000	S42	0.000	0.00		0.0	OK	
S53.001	S43	0.000	0.03		2 0.3	SURCHARGED	
S54.000	S38	0.000	0.75		4.2	OK	
S55.000	S40	0.000	0.21		1.6	OK	
S54.001	S39	0.000	0.54		5.8	OK	
S56.000	S36	0.000	0.44		3.8	OK	
S54.002	S37	0.000	0.76		11.1	OK	
S53.002	SJ1	0.000	0.75		10.8	SURCHARGED*	
S37.009	S8	0.000	1.66		109.6	SURCHARGED	
S57.000	S46	0.000	0.71		4.0	OK	
S57.001	S47	0.000	0.31		5 4.0	OK	
S37.010	S9	0.000	0.20		34.2	SURCHARGED	
S37.011	SD1	0.000	0.55		33.9	SURCHARGED*	
S35.004	ST	0.000	0.07		5.6	SURCHARGED	
S58.000	SRE5	0.000	0.63		3.6	FLOOD RISK	
S59.000	S48	0.000	0.41		3.3	FLOOD RISK	
S58.001	S49	0.000	1.13		6.5	FLOOD RISK	
S60.000	S50	0.012	0.35		4.2	FLOOD	1
S58.002	SJ4	0.000	1.16		6.7	FLOOD RISK*	5
S58.003	S51	0.000	1.09		6.8	FLOOD RISK	
S58.004	S52	0.000	0.61		6.9	SURCHARGED	
S61.000	S75	0.000	0.76		6.4	SURCHARGED	
S61.001	S76	0.000	0.62		7 8.4	SURCHARGED	
S62.000	S34	0.000	0.13		2.0	OK	
S63.000	S65	0.000	1.83		10.5	FLOOD RISK	
S63.001	S62	0.000	0.58		6 7.1	SURCHARGED	
S62.001	S63	0.000	0.79		7.2	SURCHARGED	
S64.000	S66	0.000	0.20		2.6	SURCHARGED	
S65.000	S59	0.000	1.29		7.3	FLOOD RISK	
S65.001	S60	0.000	1.28		8 6.8	SURCHARGED	
S65.002	S61	0.000	1.23		6.9	SURCHARGED	
S62.002	S64	0.000	0.96		12.6	FLOOD RISK	
S66.000	S67	0.000	0.13		1.9	SURCHARGED	
S62.003	S68	0.000	0.65		12.8	SURCHARGED	
S67.000	S70	0.000	0.81		9.0	SURCHARGED	
S67.001	S69	0.000	1.21		14 13.7	SURCHARGED	
S62.004	S72	0.000	0.64		18.9	FLOOD RISK	
S68.000	S71	0.000	0.24		2.7	SURCHARGED	

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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 (m ³)	Flow / Cap. (l/s)	Time (mins)	Flow (l/s)		
S69.000	S74	0.000	0.14		1.8	SURCHARGED	



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)
S68.001	SJ5	15 Winter	100	+40%	30/15 Summer				105.606	0.480
S62.005	S73	15 Winter	100	+40%	30/15 Summer				105.567	0.669
S58.005	S53	15 Winter	100	+40%	2/15 Winter				105.571	0.692
S70.000	S77	15 Winter	100	+40%					105.541	-0.013
S70.001	S78	15 Winter	100	+40%	2/15 Summer				105.492	0.731
S58.006	S54	15 Winter	100	+40%	2/15 Summer				105.514	0.711
S71.000	S79	15 Summer	100	+40%	100/15 Summer				105.700	0.350
S71.001	S80	15 Winter	100	+40%	2/15 Summer				105.469	0.795
S58.007	S55	15 Winter	100	+40%	2/15 Summer				105.461	0.737
S72.000	S81	15 Summer	100	+40%	100/15 Summer				105.461	0.111
S72.001	S82	15 Summer	100	+40%	2/15 Summer				105.391	0.742
S58.008	S56	15 Winter	100	+40%	2/15 Summer				105.368	0.727
S73.000	S83	15 Winter	100	+40%	100/15 Summer				105.295	0.087
S73.001	S84	15 Winter	100	+40%	2/15 Summer				105.210	0.688
S58.009	S57	15 Summer	100	+40%	2/15 Summer				105.195	0.651
S58.010	S58	240 Winter	100	+40%	2/15 Summer				105.182	0.758
S58.011	S88	240 Winter	100	+40%	2/15 Summer				105.179	0.807
S35.005	S89P	240 Winter	100	+40%	30/15 Summer				105.179	0.706
S35.006	S90A	120 Summer	100	+40%					105.260	-0.313

PN	US/MH Name	Flooded Volume (m³)	Flow / Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S68.001	SJ5	0.000	0.34		4.6	SURCHARGED*	
S62.005	S73	0.000	0.74		19.1	FLOOD RISK	
S58.005	S53	0.000	1.13		35.1	FLOOD RISK	
S70.000	S77	0.000	0.28		3.8	OK	
S70.001	S78	0.000	1.28		5 10.3	SURCHARGED	
S58.006	S54	0.000	1.15		36.0	SURCHARGED	
S71.000	S79	0.000	0.58		7.5	SURCHARGED	
S71.001	S80	0.000	1.25		4 9.5	SURCHARGED	
S58.007	S55	0.000	1.18		43.0	SURCHARGED	
S72.000	S81	0.000	0.27		3.5	SURCHARGED	
S72.001	S82	0.000	0.35		8 3.6	SURCHARGED	
S58.008	S56	0.000	1.43		53.2	SURCHARGED	
S73.000	S83	0.000	0.34		4.3	SURCHARGED	
S73.001	S84	0.000	0.49		18 4.3	SURCHARGED	
S58.009	S57	0.000	1.51		57.7	SURCHARGED	
S58.010	S58	0.000	0.74		23.9	SURCHARGED	
S58.011	S88	0.000	0.76		23.9	SURCHARGED	
S35.005	S89P	0.000	0.06		5.4	SURCHARGED	
S35.006	S90A	0.000	0.05		5.4	OK	