

Pell Frischmann		Page 1
5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
Date 15/04/2025 File 250404 Combined Network...	Designed by L. Hulka Checked by L. Hulka	
Innovyze	Network 2020.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	20.000	Add Flow / Climate Change (%)	0
Ratio R	0.400	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	1.000	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.772	4-8	0.966	8-12	0.029

Total Area Contributing (ha) = 1.767

Total Pipe Volume (m³) = 98.167

Network Design Table for Storm

- Indicates pipe length does not match coordinates
« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	10.816	0.335	32.3	0.001	5.00	0.0	0.600	o	150	Pipe/Conduit	
S2.000	11.442	0.120	95.4	0.003	5.00	0.0	0.600	o	150	Pipe/Conduit	
S2.001	11.099	0.435	25.5	0.003	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	50.00	5.10	110.100	0.001	0.0	0.0	0.0	1.78	31.4	0.2
S2.000	50.00	5.19	110.370	0.003	0.0	0.0	0.0	1.03	18.2	0.5
S2.001	50.00	5.28	110.250	0.006	0.0	0.0	0.0	2.00	35.4	1.1

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S4.002	7.574	0.080	94.7	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit	
S4.003	5.999	0.755	7.9	0.006	0.00	0.0	0.600	o	100	Pipe/Conduit	
S6.000	8.441	0.130	64.9	0.001	5.00	0.0	0.600	o	100	Pipe/Conduit	
S6.001	11.260	1.055	10.7	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit	
S7.000	8.428	0.825	10.2	0.001	5.00	0.0	0.600	o	100	Pipe/Conduit	
S6.002	6.372	0.065	98.0	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit	
S6.003	4.442	0.045	98.7	0.006	0.00	0.0	0.600	o	100	Pipe/Conduit	
S4.004	32.046	0.945	33.9	0.041	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.011	15.297	0.065	235.3	0.017	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.012	30.833	0.110	280.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.013	23.387	0.080	292.3	0.069	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.014	6.562	0.105	62.5	0.041	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.015	23.973	0.280	85.6	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.016	28.612	0.080	357.6	0.040	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.017	36.882	0.120	307.4	0.053	0.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S4.002	50.00	5.40	109.870	0.005	0.0	0.0	0.0	0.79	6.2	0.9
S4.003	50.00	5.44	109.790	0.011	0.0	0.0	0.0	2.76	21.7	2.0
S6.000	50.00	5.15	110.380	0.001	0.0	0.0	0.0	0.96	7.5	0.2
S6.001	50.00	5.23	110.250	0.003	0.0	0.0	0.0	2.38	18.7	0.5
S7.000	50.00	5.06	110.020	0.001	0.0	0.0	0.0	2.43	19.1	0.2
S6.002	50.00	5.36	109.195	0.006	0.0	0.0	0.0	0.78	6.1	1.1
S6.003	50.00	5.46	109.130	0.012	0.0	0.0	0.0	0.77	6.1	2.2
S4.004	50.00	5.70	108.960	0.064	0.0	0.0	0.0	2.25	89.6	11.6
S1.011	50.00	7.26	107.865	0.284	0.0	0.0	0.0	1.18	130.0	51.3
S1.012	50.00	7.74	107.800	0.284	0.0	0.0	0.0	1.08	119.0	51.3
S1.013	50.00	8.11	107.690	0.353	0.0	0.0	0.0	1.05	116.5	63.7
S1.014	50.00	8.15	107.610	0.394	0.0	0.0	0.0	2.30	253.5	71.1
S1.015	50.00	8.34	107.430	0.394	0.0	0.0	0.0	2.20	349.6	71.1
S1.016	50.00	8.78	107.150	0.434	0.0	0.0	0.0	1.07	170.0	78.4
S1.017	50.00	9.32	107.070	0.487	0.0	0.0	0.0	1.15	183.6	87.9

Pell Frischmann

5 Manchester Square
London
W1U 3PD

Date 15/04/2025
File 250404 Combined Network...

Innovyze

Ratby Phase 2
RM Condition 7 SWS Results
(Private Drainage Included)

Designed by L. Hulka
Checked by L. Hulka

Network 2020.1

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S8.000	15.853	0.100	158.5	0.071	5.00	0.0	0.600	o	225	Pipe/Conduit	
S8.001	40.140	0.330	121.6	0.090	0.00	0.0	0.600	o	300	Pipe/Conduit	
S8.002	24.732	1.945	12.7	0.118	0.00	0.0	0.600	o	300	Pipe/Conduit	
S9.000	34.019	0.335	101.5	0.070	5.00	0.0	0.600	o	225	Pipe/Conduit	
S9.001	6.865	0.280	24.5	0.049	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.018	13.160	0.100	131.6	0.034	0.00	0.0	0.600	o	600	Pipe/Conduit	
S1.019	35.784	0.250	143.1	0.040	0.00	0.0	0.600	o	600	Pipe/Conduit	
S1.020	5.000#	0.250	20.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S10.000	60.778	0.520	116.9	0.044	5.00	0.0	0.600	o	225	Pipe/Conduit	
S11.000	26.977	0.240	112.4	0.047	5.00	0.0	0.600	o	225	Pipe/Conduit	
S10.001	17.933	0.205	87.5	0.074	0.00	0.0	0.600	o	225	Pipe/Conduit	
S10.002	31.864	0.165	193.1	0.026	0.00	0.0	0.600	o	300	Pipe/Conduit	
S12.000	5.709	0.130	43.9	0.007	5.00	0.0	0.600	o	150	Pipe/Conduit	
S12.001	13.302	0.090	147.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S12.002	14.968	0.100	149.7	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S8.000	50.00	5.26	109.550	0.071	0.0	0.0	0.0	1.04	41.2	12.8
S8.001	50.00	5.72	109.375	0.161	0.0	0.0	0.0	1.42	100.7	29.1
S8.002	50.00	5.82	109.045	0.279	0.0	0.0	0.0	4.43	313.3	50.4
S9.000	50.00	5.44	107.790	0.070	0.0	0.0	0.0	1.30	51.6	12.6
S9.001	50.00	5.48	107.455	0.119	0.0	0.0	0.0	2.65	105.5	21.5
S1.018	50.00	9.42	106.800	0.919	0.0	0.0	0.0	2.12	599.8	165.9
S1.019	50.00	9.71	106.700	0.959	0.0	0.0	0.0	2.03	575.0	173.1
S1.020	50.00	9.73	106.450	0.959	0.0	0.0	0.0	5.46	1544.3	173.1
S10.000	50.00	5.84	109.925	0.044	0.0	0.0	0.0	1.21	48.0	7.9
S11.000	50.00	5.36	109.645	0.047	0.0	0.0	0.0	1.23	49.0	8.5
S10.001	50.00	6.05	109.405	0.165	0.0	0.0	0.0	1.40	55.6	29.8
S10.002	50.00	6.52	109.125	0.191	0.0	0.0	0.0	1.13	79.7	34.5
S12.000	50.00	5.06	109.870	0.007	0.0	0.0	0.0	1.52	26.9	1.3
S12.001	50.00	5.33	109.740	0.007	0.0	0.0	0.0	0.82	14.6	1.3
S12.002	50.00	5.64	109.650	0.014	0.0	0.0	0.0	0.82	14.5	2.5

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<u>Network Design Table for Storm</u>											
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S13.000	13.205	0.160	82.5	0.013	5.00	0.0	0.600	o	100	Pipe/Conduit	
S12.003	3.194	0.085	37.6	0.008	0.00	0.0	0.600	o	150	Pipe/Conduit	
S12.004	15.363	0.205	74.9	0.020	0.00	0.0	0.600	o	225	Pipe/Conduit	
S14.000	6.833	0.400	17.1	0.008	5.00	0.0	0.600	o	100	Pipe/Conduit	
S14.001	12.395	0.120	103.3	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S15.000	6.063	0.410	14.8	0.008	5.00	0.0	0.600	o	100	Pipe/Conduit	
S14.002	4.153	0.190	21.9	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S12.005	22.207	0.150	148.0	0.020	0.00	0.0	0.600	o	225	Pipe/Conduit	
S10.003	48.783	1.620	30.1	0.058	0.00	0.0	0.600	o	375	Pipe/Conduit	
S16.000	6.904	0.050	138.1	0.004	5.00	0.0	0.600	o	150	Pipe/Conduit	
S17.000	6.922	0.050	138.4	0.005	5.00	0.0	0.600	o	150	Pipe/Conduit	
S16.001	2.825	0.020	141.2	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S16.002	12.906	0.090	143.4	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
<u>Network Results Table</u>											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
S13.000	50.00	5.26	109.760	0.013	0.0	0.0	0.0	0.85	6.7	2.3	
S12.003	50.00	5.67	109.550	0.035	0.0	0.0	0.0	1.65	29.1	6.3	
S12.004	50.00	5.84	109.390	0.055	0.0	0.0	0.0	1.51	60.1	9.9	
S14.000	50.00	5.06	110.020	0.008	0.0	0.0	0.0	1.88	14.7	1.4	
S14.001	50.00	5.33	109.620	0.008	0.0	0.0	0.0	0.76	5.9	1.4	
S15.000	50.00	5.05	109.910	0.008	0.0	0.0	0.0	2.02	15.9	1.4	
S14.002	50.00	5.38	109.500	0.016	0.0	0.0	0.0	1.66	13.0	2.9	
S12.005	50.00	6.18	109.185	0.091	0.0	0.0	0.0	1.07	42.6	16.4	
S10.003	50.00	6.77	108.885	0.340	0.0	0.0	0.0	3.31	365.9	61.4	
S16.000	50.00	5.13	109.050	0.004	0.0	0.0	0.0	0.85	15.1	0.7	
S17.000	50.00	5.14	109.050	0.005	0.0	0.0	0.0	0.85	15.1	0.9	
S16.001	50.00	5.21	109.000	0.009	0.0	0.0	0.0	0.65	5.1	1.6	
S16.002	50.00	5.47	108.980	0.016	0.0	0.0	0.0	0.84	14.8	2.9	
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5 Manchester Square
London
W1U 3PD

Date 15/04/2025
File 250404 Combined Network...

Innovyze

Ratby Phase 2
RM Condition 7 SWS Results
(Private Drainage Included)

Designed by L. Hulka
Checked by L. Hulka

Network 2020.1

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Network Design Table for Storm											
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S18.000	8.279	0.450	18.4	0.005	5.00	0.0	0.600	o	150	Pipe/Conduit	
S16.003	4.434	0.035	126.7	0.009	0.00	0.0	0.600	o	150	Pipe/Conduit	
S16.004	11.126	0.175	63.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S16.005	25.564	0.490	52.2	0.026	0.00	0.0	0.600	o	225	Pipe/Conduit	
S19.000	9.717	0.230	42.2	0.003	5.00	0.0	0.600	o	100	Pipe/Conduit	
S19.001	7.752	0.080	96.9	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S20.000	9.150	0.310	29.5	0.003	5.00	0.0	0.600	o	100	Pipe/Conduit	
S19.002	11.531	0.260	44.3	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S21.000	11.551	0.120	96.3	0.010	5.00	0.0	0.600	o	100	Pipe/Conduit	
S19.003	3.096	0.790	3.9	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S16.006	10.510	0.500	21.0	0.021	0.00	0.0	0.600	o	225	Pipe/Conduit	
S22.000	11.919	0.080	149.0	0.009	5.00	0.0	0.600	o	150	Pipe/Conduit	
Network Results Table											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
S18.000	50.00	5.06	109.340	0.005	0.0	0.0	0.0	2.36	41.7	0.9	
S16.003	50.00	5.55	108.890	0.030	0.0	0.0	0.0	0.89	15.8	5.4	
S16.004	50.00	5.70	108.855	0.030	0.0	0.0	0.0	1.26	22.3	5.4	
S16.005	50.00	5.93	108.605	0.056	0.0	0.0	0.0	1.81	72.2	10.1	
S19.000	50.00	5.14	109.550	0.003	0.0	0.0	0.0	1.19	9.3	0.5	
S19.001	50.00	5.30	109.320	0.003	0.0	0.0	0.0	0.78	6.1	0.5	
S20.000	50.00	5.11	109.550	0.003	0.0	0.0	0.0	1.43	11.2	0.5	
S19.002	50.00	5.47	109.240	0.006	0.0	0.0	0.0	1.16	9.1	1.1	
S21.000	50.00	5.25	109.100	0.010	0.0	0.0	0.0	0.78	6.2	1.8	
S19.003	50.00	5.48	108.980	0.016	0.0	0.0	0.0	3.94	30.9	2.9	
S16.006	50.00	5.99	108.115	0.093	0.0	0.0	0.0	2.87	114.0	16.8	
S22.000	50.00	5.24	107.920	0.009	0.0	0.0	0.0	0.82	14.5	1.6	

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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S23.000	12.014	0.080	150.2	0.001	5.00	0.0	0.600	o	150	Pipe/Conduit	
S24.000	5.999	0.060	100.0	0.001	5.00	0.0	0.600	o	150	Pipe/Conduit	
S24.001	2.821	0.020	141.1	0.004	0.00	0.0	0.600	o	150	Pipe/Conduit	
S23.001	10.933	0.080	136.7	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
S22.001	8.598	0.060	143.3	0.003	0.00	0.0	0.600	o	150	Pipe/Conduit	
S22.002	5.472	0.040	136.8	0.006	0.00	0.0	0.600	o	150	Pipe/Conduit	
S25.000	12.418	0.760	16.3	0.001	5.00	0.0	0.600	o	150	Pipe/Conduit	
S22.003	3.593	0.050	71.9	0.005	0.00	0.0	0.600	o	225	Pipe/Conduit	
S16.007	24.860	0.150	165.7	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S26.000	30.134	0.755	39.9	0.012	5.00	0.0	0.600	o	150	Pipe/Conduit	
S26.001	22.325	0.665	33.6	0.051	0.00	0.0	0.600	o	225	Pipe/Conduit	
S26.002	5.785	0.435	13.3	0.083	0.00	0.0	0.600	o	225	Pipe/Conduit	
S16.008	10.207	0.050	204.1	0.012	0.00	0.0	0.600	o	450	Pipe/Conduit	
<u>Network Results Table</u>											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
S23.000	50.00	5.24	108.000	0.001		0.0	0.0	0.0	0.82	14.5	0.2
S24.000	50.00	5.10	108.000	0.001		0.0	0.0	0.0	1.00	17.8	0.2
S24.001	50.00	5.16	107.940	0.005		0.0	0.0	0.0	0.84	14.9	0.9
S23.001	50.00	5.46	107.920	0.013		0.0	0.0	0.0	0.86	15.2	2.3
S22.001	50.00	5.63	107.840	0.025		0.0	0.0	0.0	0.84	14.8	4.5
S22.002	50.00	5.73	107.780	0.031		0.0	0.0	0.0	0.86	15.1	5.6
S25.000	50.00	5.08	108.500	0.001		0.0	0.0	0.0	2.50	44.3	0.2
S22.003	50.00	5.77	107.665	0.037		0.0	0.0	0.0	1.54	61.4	6.7
S16.007	50.00	6.33	107.540	0.130		0.0	0.0	0.0	1.22	86.1	23.5
S26.000	50.00	5.31	109.395	0.012		0.0	0.0	0.0	1.60	28.2	2.2
S26.001	50.00	5.48	108.565	0.063		0.0	0.0	0.0	2.27	90.1	11.4
S26.002	50.00	5.51	107.900	0.146		0.0	0.0	0.0	3.61	143.4	26.4
S16.008	50.00	6.45	107.240	0.288		0.0	0.0	0.0	1.42	225.7	52.0
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5 Manchester Square
London
W1U 3PD

Date 15/04/2025
File 250404 Combined Network...

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Ratby Phase 2
RM Condition 7 SWS Results
(Private Drainage Included)

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Network 2020.1

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Network Design Table for Storm											
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S27.000	10.704	0.110	97.3	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S27.001	11.918	0.120	99.3	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S28.000	7.635	0.140	54.5	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S28.001	4.909	0.050	98.2	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S28.002	10.821	0.240	45.1	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S27.002	6.465	0.060	107.8	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S29.000	18.852	0.190	99.2	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S29.001	8.104	0.850	9.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S27.003	6.342	0.330	19.2	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S10.004	39.054	0.620	63.0	0.113	0.00	0.0	0.600	o	525	Pipe/Conduit	
S30.000	8.196	0.300	27.3	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S31.000	5.972	0.300	19.9	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S30.001	1.811	0.020	90.6	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S30.002	11.040	0.310	35.6	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S27.000	50.00	5.23	108.160	0.000	0.0	0.0	0.0	0.78	6.1	0.0
S27.001	50.00	5.49	108.050	0.000	0.0	0.0	0.0	0.77	6.1	0.0
S28.000	50.00	5.12	108.360	0.000	0.0	0.0	0.0	1.05	8.2	0.0
S28.001	50.00	5.23	108.220	0.000	0.0	0.0	0.0	0.78	6.1	0.0
S28.002	50.00	5.38	108.170	0.000	0.0	0.0	0.0	1.15	9.0	0.0
S27.002	50.00	5.63	107.930	0.000	0.0	0.0	0.0	0.74	5.8	0.0
S29.000	50.00	5.41	108.720	0.000	0.0	0.0	0.0	0.77	6.1	0.0
S29.001	50.00	5.46	108.720	0.000	0.0	0.0	0.0	2.52	19.8	0.0
S27.003	50.00	5.69	107.870	0.000	0.0	0.0	0.0	1.77	13.9	0.0
S10.004	50.00	7.00	107.115	0.741	0.0	0.0	0.0	2.83	611.7	133.8
S30.000	50.00	5.09	108.530	0.000	0.0	0.0	0.0	1.48	11.6	0.0
S31.000	50.00	5.06	108.530	0.000	0.0	0.0	0.0	1.74	13.7	0.0
S30.001	50.00	5.13	108.250	0.000	0.0	0.0	0.0	0.81	6.4	0.0
S30.002	50.00	5.27	108.230	0.000	0.0	0.0	0.0	1.30	10.2	0.0

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5 Manchester Square London W1U 3PD					Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)						
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Innovyze					Network 2020.1						
<u>Network Design Table for Storm</u>											
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S32.000	8.436	0.540	15.6	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S30.003	5.060	0.455	11.1	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S33.000	13.069	0.585	22.3	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S30.004	16.760	0.415	40.4	0.033	0.00	0.0	0.600	o	150	Pipe/Conduit	
S34.000	8.999	0.060	150.0	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S34.001	11.078	0.080	138.5	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S35.000	19.036	0.190	100.0	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S35.001	2.715	0.350	7.8	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S36.000	6.168	0.070	88.1	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
S36.001	11.455	0.120	95.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S35.002	3.408	0.060	56.8	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
S30.005	10.200	0.130	78.5	0.034	0.00	0.0	0.600	o	225	Pipe/Conduit	
<u>Network Results Table</u>											
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	
S32.000	50.00	5.07	108.460	0.000	0.0	0.0	0.0	1.96	15.4	0.0	
S30.003	50.00	5.31	107.920	0.000	0.0	0.0	0.0	2.33	18.3	0.0	
S33.000	50.00	5.13	108.050	0.000	0.0	0.0	0.0	1.64	12.9	0.0	
S30.004	50.00	5.48	107.415	0.033	0.0	0.0	0.0	1.59	28.1	6.0	
S34.000	50.00	5.18	107.140	0.000	0.0	0.0	0.0	0.82	14.5	0.0	
S34.001	50.00	5.40	107.080	0.000	0.0	0.0	0.0	0.85	15.1	0.0	
S35.000	50.00	5.41	107.650	0.000	0.0	0.0	0.0	0.77	6.0	0.0	
S35.001	50.00	5.43	107.460	0.000	0.0	0.0	0.0	2.79	21.9	0.0	
S36.000	50.00	5.13	107.300	0.000	0.0	0.0	0.0	0.82	6.4	0.0	
S36.001	50.00	5.37	107.230	0.000	0.0	0.0	0.0	0.79	6.2	0.0	
S35.002	50.00	5.48	107.110	0.000	0.0	0.0	0.0	1.02	8.0	0.0	
S30.005	50.00	5.60	106.925	0.067	0.0	0.0	0.0	1.48	58.8	12.1	
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Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)
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PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S10.005	50.00	7.38	106.420	0.808	0.0	0.0	0.0	1.08	306.7	145.9
S10.006	50.00	7.40	106.370	0.808	0.0	0.0	0.0	4.14	896.5	145.9
S1.021	50.00	9.83	106.200	1.767	0.0	0.0	0.0	1.20	21.1«	319.0
S1.022	48.97	10.50	106.100	1.767	0.0	0.0	0.0	2.35	41.5«	319.0

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
Date 15/04/2025 File 250404 Combined Network...	Designed by L. Hulka Checked by L. Hulka	
Innovyze	Network 2020.1	

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)
P04	110.850	0.750	Open Manhole	100	S1.000	110.100	150				
P04	111.120	0.750	Open Manhole	100	S2.000	110.370	150				
P04	111.120	0.870	Open Manhole	450	S2.001	110.250	150	S2.000	110.250	150	
P04	111.150	0.750	Open Manhole	100	S3.000	110.400	150				
P04	110.880	0.900	Open Manhole	450	S3.001	109.980	150	S3.000	109.980	150	
P04	110.940	1.050	Open Manhole	450	S3.002	109.890	150	S3.001	109.890	150	
P04	110.990	1.175	Open Manhole	450	S2.002	109.815	150	S2.001	109.815	150	
								S3.002	109.815	150	
P04	110.910	1.145	Open Manhole	450	S1.001	109.765	150	S1.000	109.765	150	
								S2.002	109.765	150	
SW01	110.885	1.425	Open Manhole	1200	S1.002	109.460	225	S1.001	109.535	150	
SW02	110.715	1.425	Open Manhole	1200	S1.003	109.290	225	S1.002	109.290	225	
SW03	110.550	1.425	Open Manhole	1200	S1.004	109.125	225	S1.003	109.125	225	
SW04	110.375	1.425	Open Manhole	1200	S1.005	108.950	225	S1.004	108.950	225	
SW05	110.215	1.425	Open Manhole	1200	S1.006	108.790	225	S1.005	108.790	225	
SW06	110.375	1.645	Open Manhole	1200	S1.007	108.730	225	S1.006	108.730	225	
SW07	110.000	1.500	Open Manhole	1200	S1.008	108.500	300	S1.007	108.575	225	
SW08	109.755	1.500	Open Manhole	1200	S1.009	108.255	300	S1.008	108.255	300	
SW09	109.510	1.500	Open Manhole	1200	S1.010	108.010	300	S1.009	108.010	300	
P08	111.220	0.850	Open Manhole	100	S4.000	110.370	100				
P08	111.000	0.750	Open Manhole	450	S4.001	110.250	100	S4.000	110.250	100	
P08	110.770	0.700	Open Manhole	100	S5.000	110.070	100				
P08	110.720	1.450	Open Manhole	450	S4.002	109.870	100	S4.001	109.870	100	
								S5.000	109.270	100	
P08	110.530	0.740	Open Manhole	450	S4.003	109.790	100	S4.002	109.790	100	
P18	111.080	0.700	Open Manhole	100	S6.000	110.380	100				
P18	111.020	0.770	Open Manhole	450	S6.001	110.250	100	S6.000	110.250	100	
P18	110.720	0.700	Open Manhole	100	S7.000	110.020	100				
P18	110.720	1.525	Open Manhole	450	S6.002	109.195	100	S6.001	109.195	100	
								S7.000	109.195	100	
P18	110.540	1.410	Open Manhole	450	S6.003	109.130	100	S6.002	109.130	100	
SW10	110.385	1.425	Open Manhole	1200	S4.004	108.960	225	S4.003	109.035	100	
								S6.003	109.085	100	
SW11	109.610	1.745	Open Manhole	1500	S1.011	107.865	375	S1.010	107.940	300	
								S4.004	108.015	225	
SW12	109.465	1.665	Open Manhole	1500	S1.012	107.800	375	S1.011	107.800	375	
SW13	109.450	1.760	Open Manhole	1500	S1.013	107.690	375	S1.012	107.690	375	
SW14	109.310	1.700	Open Manhole	1500	S1.014	107.610	375	S1.013	107.610	375	

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SW15	109.080	1.650	Open Manhole	1500	S1.015	107.430	450	S1.014	107.505	375	
SW16	108.500	1.350	Open Manhole	1500	S1.016	107.150	450	S1.015	107.150	450	
SW17	109.075	2.005	Open Manhole	1500	S1.017	107.070	450	S1.016	107.070	450	
SW18	111.175	1.625	Open Manhole	1200	S8.000	109.550	225				
SW19	111.010	1.635	Open Manhole	1200	S8.001	109.375	300	S8.000	109.450	225	
SW20	110.595	1.550	Open Manhole	1200	S8.002	109.045	300	S8.001	109.045	300	
SW21	109.450	1.660	Open Manhole	1200	S9.000	107.790	225				
SW22	109.775	2.320	Open Manhole	1200	S9.001	107.455	225	S9.000	107.455	225	
SW23	109.690	2.890	Open Manhole	1500	S1.018	106.800	600	S1.017	106.950	450	
								S8.002	107.100	300	
								S9.001	107.175	225	
SW24	109.200	2.500	Open Manhole	1500	S1.019	106.700	600	S1.018	106.700	600	
SW25	107.800	1.350	Open Manhole	1500	S1.020	106.450	600	S1.019	106.450	600	
HD26	111.350	1.425	Open Manhole	1200	S10.000	109.925	225				
HD27	111.070	1.425	Open Manhole	1200	S11.000	109.645	225				
HD28	110.925	1.520	Open Manhole	1200	S10.001	109.405	225	S10.000	109.405	225	
								S11.000	109.405	225	
SW29	110.625	1.500	Open Manhole	1200	S10.002	109.125	300	S10.001	109.200	225	
P47	110.620	0.750	Open Manhole	100	S12.000	109.870	150				
P46	110.640	0.900	Open Manhole	450	S12.001	109.740	150	S12.000	109.740	150	
P46	110.820	1.170	Open Manhole	450	S12.002	109.650	150	S12.001	109.650	150	
P49	110.610	0.850	Open Manhole	100	S13.000	109.760	100				
P49	110.710	1.160	Open Manhole	450	S12.003	109.550	150	S12.002	109.550	150	
								S13.000	109.600	100	
SW30	110.815	1.425	Open Manhole	1200	S12.004	109.390	225	S12.003	109.465	150	
P49	110.720	0.700	Open Manhole	100	S14.000	110.020	100				
P50	110.470	0.850	Open Manhole	450	S14.001	109.620	100	S14.000	109.620	100	
P49	110.610	0.700	Open Manhole	100	S15.000	109.910	100				
P50	110.530	1.030	Open Manhole	450	S14.002	109.500	100	S14.001	109.500	100	
								S15.000	109.500	100	
SW31	110.610	1.425	Open Manhole	1200	S12.005	109.185	225	S12.004	109.185	225	
								S14.002	109.310	100	
SW32	110.535	1.650	Open Manhole	1350	S10.003	108.885	375	S10.002	108.960	300	
								S12.005	109.035	225	
P71	109.800	0.750	Open Manhole	100	S16.000	109.050	150				
P71	109.800	0.750	Open Manhole	100	S17.000	109.050	150				
P71	110.110	1.110	Open Manhole	450	S16.001	109.000	100	S16.000	109.000	150	
								S17.000	109.000	150	

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
Date 15/04/2025 File 250404 Combined Network...	Designed by L. Hulka Checked by L. Hulka	
Innovyze	Network 2020.1	

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)
P71	110.100	1.120	Open Manhole	450	S16.002	108.980	150	S16.001	108.980	100	
P71	110.090	0.750	Open Manhole	100	S18.000	109.340	150				
P71	110.330	1.440	Open Manhole	450	S16.003	108.890	150	S16.002	108.890	150	
								S18.000	108.890	150	
P71	110.430	1.575	Open Manhole	450	S16.004	108.855	150	S16.003	108.855	150	
SW34	110.510	1.905	Open Manhole	1200	S16.005	108.605	225	S16.004	108.680	150	
P72	110.400	0.850	Open Manhole	100	S19.000	109.550	100				
P72	110.170	0.850	Open Manhole	450	S19.001	109.320	100	S19.000	109.320	100	
P72	110.400	0.850	Open Manhole	100	S20.000	109.550	100				
P72	110.180	0.940	Open Manhole	450	S19.002	109.240	100	S19.001	109.240	100	
								S20.000	109.240	100	
P73	109.800	0.700	Open Manhole	100	S21.000	109.100	100				
P73	109.900	0.920	Open Manhole	450	S19.003	108.980	100	S19.002	108.980	100	
								S21.000	108.980	100	
SW35	109.905	1.790	Open Manhole	1200	S16.006	108.115	225	S16.005	108.115	225	
								S19.003	108.190	100	
P75	108.670	0.750	Open Manhole	150	S22.000	107.920	150				
P75	108.750	0.750	Open Manhole	100	S23.000	108.000	150				
P75	108.750	0.750	Open Manhole	150	S24.000	108.000	150				
P75	109.150	1.210	Open Manhole	450	S24.001	107.940	150	S24.000	107.940	150	
P75	109.040	1.120	Open Manhole	450	S23.001	107.920	150	S23.000	107.920	150	
								S24.001	107.920	150	
P75	108.950	1.110	Open Manhole	450	S22.001	107.840	150	S22.000	107.840	150	
								S23.001	107.840	150	
P75	109.410	1.630	Open Manhole	450	S22.002	107.780	150	S22.001	107.780	150	
P74	109.400	0.900	Open Manhole	100	S25.000	108.500	150				
P74	109.630	1.965	Open Manhole	450	S22.003	107.665	225	S22.002	107.740	150	
								S25.000	107.740	150	
SW36	109.660	2.120	Open Manhole	1200	S16.007	107.540	300	S16.006	107.615	225	
								S22.003	107.615	225	
SW38	110.795	1.400	Open Manhole	1200	S26.000	109.395	150				
SW39	110.065	1.500	Open Manhole	1200	S26.001	108.565	225	S26.000	108.640	150	
SW40	109.325	1.425	Open Manhole	1200	S26.002	107.900	225	S26.001	107.900	225	
SW41	109.040	1.800	Open Manhole	1500	S16.008	107.240	450	S16.007	107.390	300	
								S26.002	107.465	225	
P58	108.860	0.700	Open Manhole	100	S27.000	108.160	100				
P58	108.970	0.920	Open Manhole	450	S27.001	108.050	100	S27.000	108.050	100	
P58	109.060	0.700	Open Manhole	100	S28.000	108.360	100				

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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Innovyze	Network 2020.1	

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)
P58	109.070	0.850	Open Manhole	450	S28.001	108.220	100	S28.000	108.220	100	
P57	109.140	0.970	Open Manhole	450	S28.002	108.170	100	S28.001	108.170	100	
93	109.130	1.200	Open Manhole	450	S27.002	107.930	100	S27.001	107.930	100	
								S28.002	107.930	100	
P56	109.420	0.700	Open Manhole	100	S29.000	108.720	100				
P56	109.570	1.040	Open Manhole	450	S29.001	108.720	100	S29.000	108.530	100	
P56	109.370	1.500	Open Manhole	450	S27.003	107.870	100	S27.002	107.870	100	
								S29.001	107.870	100	
SW42	109.175	2.060	Open Manhole	1500	S10.004	107.115	525	S10.003	107.265	375	
								S16.008	107.190	450	
								S27.003	107.540	100	
P62	109.230	0.700	Open Manhole	100	S30.000	108.530	100				
P62	109.230	0.700	Open Manhole	100	S31.000	108.530	100				
P62	109.100	0.870	Open Manhole	450	S30.001	108.250	100	S30.000	108.230	100	
								S31.000	108.230	100	
P62	109.110	0.880	Open Manhole	450	S30.002	108.230	100	S30.001	108.230	100	
P62	109.160	0.700	Open Manhole	100	S32.000	108.460	100				
P62	108.920	1.000	Open Manhole	450	S30.003	107.920	100	S30.002	107.920	100	
								S32.000	107.920	100	
P61	108.900	0.850	Open Manhole	100	S33.000	108.050	100				
SW43	108.765	1.350	Open Manhole	1200	S30.004	107.415	150	S30.003	107.465	100	
								S33.000	107.465	100	
P59	107.890	0.750	Open Manhole	150	S34.000	107.140	150				
P59	107.850	0.770	Open Manhole	450	S34.001	107.080	150	S34.000	107.080	150	
P60	108.350	0.700	Open Manhole	100	S35.000	107.650	100				
P60	108.430	0.970	Open Manhole	450	S35.001	107.460	100	S35.000	107.460	100	
P59	108.000	0.700	Open Manhole	100	S36.000	107.300	100				
P59	108.300	1.070	Open Manhole	450	S36.001	107.230	100	S36.000	107.230	100	
P59	108.310	1.200	Open Manhole	450	S35.002	107.110	100	S35.001	107.110	100	
								S36.001	107.110	100	
SW44	108.255	1.330	Open Manhole	1200	S30.005	106.925	225	S30.004	107.000	150	
								S34.001	107.000	150	
								S35.002	107.050	100	
SW45	107.950	1.530	Open Manhole	1800	S10.005	106.420	600	S10.004	106.495	525	
								S30.005	106.795	225	
SW46	107.800	1.430	Open Manhole	1500	S10.006	106.370	525	S10.005	106.370	600	
SW47	107.800	1.600	Open Manhole	1500	S1.021	106.200	150	S1.020	106.200	600	
								S10.006	106.200	525	

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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Innovyze	Network 2020.1	

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)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
SW48	107.800	1.700	Open Manhole	3000	S1.022	106.100	150	S1.021	106.100	150	
	102.500	1.550	Open Manhole	0		OUTFALL		S1.022	100.950	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
P04	450505.353	306439.225	450505.353	306439.225	Required	
P04	450520.035	306432.885	450520.035	306432.885	Required	
P04	450523.994	306443.620	450523.994	306443.620	Required	
P04	450508.553	306430.961	450508.553	306430.961	Required	
P04	450510.962	306437.148	450510.962	306437.148	Required	
P04	450510.983	306440.892	450510.983	306440.892	Required	
P04	450513.681	306447.724	450513.681	306447.724	Required	
P04	450509.391	306449.259	450509.391	306449.259	Required	
SW01	450509.397	306452.555	450509.397	306452.555	Required	
SW02	450496.959	306457.368	450496.959	306457.368	Required	
SW03	450485.235	306462.132	450485.235	306462.132	Required	
SW04	450474.089	306466.736	450474.089	306466.736	Required	

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London
W1U 3PD

Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)
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Date	15/04/2025
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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)
SW05	450465.532	306444.336	450465.532	306444.336	Required	
SW06	450469.647	306435.260	450469.647	306435.260	Required	
SW07	450463.100	306413.500	450463.100	306413.500	Required	
SW08	450460.791	306403.470	450460.791	306403.470	Required	
SW09	450460.955	306395.912	450460.955	306395.912	Required	
P08	450510.048	306404.018	450510.048	306404.018	Required	
P08	450511.572	306396.521	450511.572	306396.521	Required	
P08	450500.283	306401.882	450500.283	306401.882	Required	
P08	450501.784	306394.539	450501.784	306394.539	Required	
P08	450494.387	306392.911	450494.387	306392.911	Required	
P18	450515.668	306378.090	450515.668	306378.090	Required	
P18	450514.572	306386.460	450514.572	306386.460	Required	
P18	450505.216	306375.974	450505.216	306375.974	Required	
P18	450503.535	306384.233	450503.535	306384.233	Required	
P18	450497.291	306382.962	450497.291	306382.962	Required	

Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SW25	450609.393	306324.450	450609.393	306324.450	Required	
HD26	450558.632	306511.515	450558.632	306511.515	Required	
HD27	450532.940	306428.172	450532.940	306428.172	Required	
HD28	450545.065	306452.271	450545.065	306452.271	Required	
SW29	450561.391	306444.850	450561.391	306444.850	Required	
P47	450573.293	306382.605	450573.293	306382.605	Required	
P46	450568.839	306379.034	450568.839	306379.034	Required	
P46	450560.474	306389.377	450560.474	306389.377	Required	
P49	450580.375	306388.560	450580.375	306388.560	Required	
P49	450572.077	306398.832	450572.077	306398.832	Required	
SW30	450570.078	306401.323	450570.078	306401.323	Required	
P49	450587.213	306393.677	450587.213	306393.677	Required	
P50	450592.489	306398.018	450592.489	306398.018	Required	
P49	450580.390	306403.188	450580.390	306403.188	Required	
P50	450584.584	306407.566	450584.584	306407.566	Required	

Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
P73	450647.474	306453.998	450647.474	306453.998	Required	
SW35	450644.694	306452.637	450644.694	306452.637	Required	
P75	450673.716	306429.646	450673.716	306429.646	Required	
P75	450678.589	306439.398	450678.589	306439.398	Required	
P75	450672.496	306449.893	450672.496	306449.893	Required	
P75	450667.123	306447.226	450667.123	306447.226	Required	
P75	450667.695	306444.463	450667.695	306444.463	Required	
P75	450662.894	306434.641	450662.894	306434.641	Required	
P75	450655.035	306438.129	450655.035	306438.129	Required	
P74	450663.663	306448.601	450663.663	306448.601	Required	
P74	450652.572	306443.016	450652.572	306443.016	Required	
SW36	450648.979	306443.040	450648.979	306443.040	Required	
SW38	450586.084	306444.874	450586.084	306444.874	Required	
SW39	450613.329	306431.999	450613.329	306431.999	Required	
SW40	450633.598	306422.641	450633.598	306422.641	Required	

Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)
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	MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
	SW41	450638.896	306420.317	450638.896	306420.317	Required	
	P58	450644.090	306387.628	450644.090	306387.628	Required	
	P58	450648.533	306397.366	450648.533	306397.366	Required	
	P58	450634.218	306383.232	450634.218	306383.232	Required	
	P58	450637.481	306390.135	450637.481	306390.135	Required	
	P57	450633.284	306392.679	450633.284	306392.679	Required	
	93	450637.786	306402.519	450637.786	306402.519	Required	
	P56	450616.628	306391.678	450616.628	306391.678	Required	
	P56	450624.619	306408.753	450624.619	306408.753	Required	
	P56	450631.948	306405.297	450631.948	306405.297	Required	
	SW42	450634.614	306411.052	450634.614	306411.052	Required	
	P62	450657.967	306434.568	450657.967	306434.568	Required	
	P62	450649.135	306429.788	450649.135	306429.788	Required	
	P62	450654.490	306427.146	450654.490	306427.146	Required	
	P62	450656.136	306426.391	450656.136	306426.391	Required	



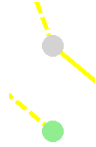
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MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
P62	450643.710	306420.154	450643.710	306420.154	Required	
P62	450651.298	306416.468	450651.298	306416.468	Required	
P61	450660.011	306424.495	450660.011	306424.495	Required	
SW43	450654.574	306412.611	450654.574	306412.611	Required	
P59	450684.242	306410.125	450684.242	306410.125	Required	
P59	450680.265	306402.053	450680.265	306402.053	Required	
P60	450676.448	306426.921	450676.448	306426.921	Required	
P60	450668.354	306409.692	450668.354	306409.692	Required	
P59	450681.335	306416.484	450681.335	306416.484	Required	
P59	450675.702	306418.995	450675.702	306418.995	Required	
P59	450670.847	306408.619	450670.847	306408.619	Required	
SW44	450669.707	306405.408	450669.707	306405.408	Required	
SW45	450670.318	306395.226	450670.318	306395.226	Required	
SW46	450670.854	306370.342	450670.854	306370.342	Required	
SW47	450631.834	306316.740	450631.834	306316.740	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)
SW48	450634.264	306310.092	450634.264	306310.092	Required	
	450707.730	306248.880			No Entry	

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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PIPELINE SCHEDULES for Storm

Upstream Manhole

- Indicates pipe length does not match coordinates

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	150	P04	110.850	110.100	0.600	Open Manhole	100
S2.000	o	150	P04	111.120	110.370	0.600	Open Manhole	100
S2.001	o	150	P04	111.120	110.250	0.720	Open Manhole	450
S3.000	o	150	P04	111.150	110.400	0.600	Open Manhole	100
S3.001	o	150	P04	110.880	109.980	0.750	Open Manhole	450
S3.002	o	150	P04	110.940	109.890	0.900	Open Manhole	450
S2.002	o	150	P04	110.990	109.815	1.025	Open Manhole	450
S1.001	o	150	P04	110.910	109.765	0.995	Open Manhole	450
S1.002	o	225	SW01	110.885	109.460	1.200	Open Manhole	1200
S1.003	o	225	SW02	110.715	109.290	1.200	Open Manhole	1200
S1.004	o	225	SW03	110.550	109.125	1.200	Open Manhole	1200
S1.005	o	225	SW04	110.375	108.950	1.200	Open Manhole	1200
S1.006	o	225	SW05	110.215	108.790	1.200	Open Manhole	1200
S1.007	o	225	SW06	110.375	108.730	1.420	Open Manhole	1200
S1.008	o	300	SW07	110.000	108.500	1.200	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)
S1.000	10.816	32.3	P04	110.910	109.765	0.995	Open Manhole	450
S2.000	11.442	95.4	P04	111.120	110.250	0.720	Open Manhole	450
S2.001	11.099	25.5	P04	110.990	109.815	1.025	Open Manhole	450
S3.000	6.639	15.8	P04	110.880	109.980	0.750	Open Manhole	450
S3.001	3.744	41.6	P04	110.940	109.890	0.900	Open Manhole	450
S3.002	7.346	97.9	P04	110.990	109.815	1.025	Open Manhole	450
S2.002	4.556	91.1	P04	110.910	109.765	0.995	Open Manhole	450
S1.001	3.296	14.3	SW01	110.885	109.535	1.200	Open Manhole	1200
S1.002	13.337	78.5	SW02	110.715	109.290	1.200	Open Manhole	1200
S1.003	12.655	76.7	SW03	110.550	109.125	1.200	Open Manhole	1200
S1.004	12.059	68.9	SW04	110.375	108.950	1.200	Open Manhole	1200
S1.005	23.979	149.9	SW05	110.215	108.790	1.200	Open Manhole	1200
S1.006	9.965	166.1	SW06	110.375	108.730	1.420	Open Manhole	1200
S1.007	22.766	146.9	SW07	110.000	108.575	1.200	Open Manhole	1200
S1.008	10.292	42.0	SW08	109.755	108.255	1.200	Open Manhole	1200

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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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)
S1.009	o	300	SW08	109.755	108.255	1.200	Open Manhole	1200
S1.010	o	300	SW09	109.510	108.010	1.200	Open Manhole	1200
S4.000	o	100	P08	111.220	110.370	0.750	Open Manhole	100
S4.001	o	100	P08	111.000	110.250	0.650	Open Manhole	450
S5.000	o	100	P08	110.770	110.070	0.600	Open Manhole	100
S4.002	o	100	P08	110.720	109.870	0.750	Open Manhole	450
S4.003	o	100	P08	110.530	109.790	0.640	Open Manhole	450
S6.000	o	100	P18	111.080	110.380	0.600	Open Manhole	100
S6.001	o	100	P18	111.020	110.250	0.670	Open Manhole	450
S7.000	o	100	P18	110.720	110.020	0.600	Open Manhole	100
S6.002	o	100	P18	110.720	109.195	1.425	Open Manhole	450
S6.003	o	100	P18	110.540	109.130	1.310	Open Manhole	450
S4.004	o	225	SW10	110.385	108.960	1.200	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)
S1.009	7.560	30.9	SW09	109.510	108.010	1.200	Open Manhole	1200
S1.010	15.612	223.0	SW11	109.610	107.940	1.370	Open Manhole	1500
S4.000	7.650	63.8	P08	111.000	110.250	0.650	Open Manhole	450
S4.001	9.987	26.3	P08	110.720	109.870	0.750	Open Manhole	450
S5.000	7.495	9.4	P08	110.720	109.270	1.350	Open Manhole	450
S4.002	7.574	94.7	P08	110.530	109.790	0.640	Open Manhole	450
S4.003	5.999	7.9	SW10	110.385	109.035	1.250	Open Manhole	1200
S6.000	8.441	64.9	P18	111.020	110.250	0.670	Open Manhole	450
S6.001	11.260	10.7	P18	110.720	109.195	1.425	Open Manhole	450
S7.000	8.428	10.2	P18	110.720	109.195	1.425	Open Manhole	450
S6.002	6.372	98.0	P18	110.540	109.130	1.310	Open Manhole	450
S6.003	4.442	98.7	SW10	110.385	109.085	1.200	Open Manhole	1200
S4.004	32.046	33.9	SW11	109.610	108.015	1.370	Open Manhole	1500

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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)
S1.011	o	375	SW11	109.610	107.865	1.370	Open Manhole	1500
S1.012	o	375	SW12	109.465	107.800	1.290	Open Manhole	1500
S1.013	o	375	SW13	109.450	107.690	1.385	Open Manhole	1500
S1.014	o	375	SW14	109.310	107.610	1.325	Open Manhole	1500
S1.015	o	450	SW15	109.080	107.430	1.200	Open Manhole	1500
S1.016	o	450	SW16	108.500	107.150	0.900	Open Manhole	1500
S1.017	o	450	SW17	109.075	107.070	1.555	Open Manhole	1500
S8.000	o	225	SW18	111.175	109.550	1.400	Open Manhole	1200
S8.001	o	300	SW19	111.010	109.375	1.335	Open Manhole	1200
S8.002	o	300	SW20	110.595	109.045	1.250	Open Manhole	1200
S9.000	o	225	SW21	109.450	107.790	1.435	Open Manhole	1200
S9.001	o	225	SW22	109.775	107.455	2.095	Open Manhole	1200
S1.018	o	600	SW23	109.690	106.800	2.290	Open Manhole	1500
S1.019	o	600	SW24	109.200	106.700	1.900	Open Manhole	1500
S1.020	o	600	SW25	107.800	106.450	0.750	Open Manhole	1500
S10.000	o	225	HD26	111.350	109.925	1.200	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)
S1.011	15.297	235.3	SW12	109.465	107.800	1.290	Open Manhole	1500
S1.012	30.833	280.3	SW13	109.450	107.690	1.385	Open Manhole	1500
S1.013	23.387	292.3	SW14	109.310	107.610	1.325	Open Manhole	1500
S1.014	6.562	62.5	SW15	109.080	107.505	1.200	Open Manhole	1500
S1.015	23.973	85.6	SW16	108.500	107.150	0.900	Open Manhole	1500
S1.016	28.612	357.6	SW17	109.075	107.070	1.555	Open Manhole	1500
S1.017	36.882	307.4	SW23	109.690	106.950	2.290	Open Manhole	1500
S8.000	15.853	158.5	SW19	111.010	109.450	1.335	Open Manhole	1200
S8.001	40.140	121.6	SW20	110.595	109.045	1.250	Open Manhole	1200
S8.002	24.732	12.7	SW23	109.690	107.100	2.290	Open Manhole	1500
S9.000	34.019	101.5	SW22	109.775	107.455	2.095	Open Manhole	1200
S9.001	6.865	24.5	SW23	109.690	107.175	2.290	Open Manhole	1500
S1.018	13.160	131.6	SW24	109.200	106.700	1.900	Open Manhole	1500
S1.019	35.784	143.1	SW25	107.800	106.450	0.750	Open Manhole	1500
S1.020	5.000#	20.0	SW47	107.800	106.200	1.000	Open Manhole	1500
S10.000	60.778	116.9	HD28	110.925	109.405	1.295	Open Manhole	1200

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S11.000	o	225	HD27	111.070	109.645	1.200	Open Manhole	1200
S10.001	o	225	HD28	110.925	109.405	1.295	Open Manhole	1200
S10.002	o	300	SW29	110.625	109.125	1.200	Open Manhole	1200
S12.000	o	150	P47	110.620	109.870	0.600	Open Manhole	100
S12.001	o	150	P46	110.640	109.740	0.750	Open Manhole	450
S12.002	o	150	P46	110.820	109.650	1.020	Open Manhole	450
S13.000	o	100	P49	110.610	109.760	0.750	Open Manhole	100
S12.003	o	150	P49	110.710	109.550	1.010	Open Manhole	450
S12.004	o	225	SW30	110.815	109.390	1.200	Open Manhole	1200
S14.000	o	100	P49	110.720	110.020	0.600	Open Manhole	100
S14.001	o	100	P50	110.470	109.620	0.750	Open Manhole	450
S15.000	o	100	P49	110.610	109.910	0.600	Open Manhole	100
S14.002	o	100	P50	110.530	109.500	0.930	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)
S11.000	26.977	112.4	HD28	110.925	109.405	1.295	Open Manhole	1200
S10.001	17.933	87.5	SW29	110.625	109.200	1.200	Open Manhole	1200
S10.002	31.864	193.1	SW32	110.535	108.960	1.275	Open Manhole	1350
S12.000	5.709	43.9	P46	110.640	109.740	0.750	Open Manhole	450
S12.001	13.302	147.8	P46	110.820	109.650	1.020	Open Manhole	450
S12.002	14.968	149.7	P49	110.710	109.550	1.010	Open Manhole	450
S13.000	13.205	82.5	P49	110.710	109.600	1.010	Open Manhole	450
S12.003	3.194	37.6	SW30	110.815	109.465	1.200	Open Manhole	1200
S12.004	15.363	74.9	SW31	110.610	109.185	1.200	Open Manhole	1200
S14.000	6.833	17.1	P50	110.470	109.620	0.750	Open Manhole	450
S14.001	12.395	103.3	P50	110.530	109.500	0.930	Open Manhole	450
S15.000	6.063	14.8	P50	110.530	109.500	0.930	Open Manhole	450
S14.002	4.153	21.9	SW31	110.610	109.310	1.200	Open Manhole	1200

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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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)
S12.005	o	225	SW31	110.610	109.185	1.200	Open Manhole	1200
S10.003	o	375	SW32	110.535	108.885	1.275	Open Manhole	1350
S16.000	o	150	P71	109.800	109.050	0.600	Open Manhole	100
S17.000	o	150	P71	109.800	109.050	0.600	Open Manhole	100
S16.001	o	100	P71	110.110	109.000	1.010	Open Manhole	450
S16.002	o	150	P71	110.100	108.980	0.970	Open Manhole	450
S18.000	o	150	P71	110.090	109.340	0.600	Open Manhole	100
S16.003	o	150	P71	110.330	108.890	1.290	Open Manhole	450
S16.004	o	150	P71	110.430	108.855	1.425	Open Manhole	450
S16.005	o	225	SW34	110.510	108.605	1.680	Open Manhole	1200
S19.000	o	100	P72	110.400	109.550	0.750	Open Manhole	100
S19.001	o	100	P72	110.170	109.320	0.750	Open Manhole	450
S20.000	o	100	P72	110.400	109.550	0.750	Open Manhole	100

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)
S12.005	22.207	148.0	SW32	110.535	109.035	1.275	Open Manhole	1350
S10.003	48.783	30.1	SW42	109.175	107.265	1.535	Open Manhole	1500
S16.000	6.904	138.1	P71	110.110	109.000	0.960	Open Manhole	450
S17.000	6.922	138.4	P71	110.110	109.000	0.960	Open Manhole	450
S16.001	2.825	141.2	P71	110.100	108.980	1.020	Open Manhole	450
S16.002	12.906	143.4	P71	110.330	108.890	1.290	Open Manhole	450
S18.000	8.279	18.4	P71	110.330	108.890	1.290	Open Manhole	450
S16.003	4.434	126.7	P71	110.430	108.855	1.425	Open Manhole	450
S16.004	11.126	63.6	SW34	110.510	108.680	1.680	Open Manhole	1200
S16.005	25.564	52.2	SW35	109.905	108.115	1.565	Open Manhole	1200
S19.000	9.717	42.2	P72	110.170	109.320	0.750	Open Manhole	450
S19.001	7.752	96.9	P72	110.180	109.240	0.840	Open Manhole	450
S20.000	9.150	29.5	P72	110.180	109.240	0.840	Open Manhole	450

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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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)
S19.002	o	100	P72	110.180	109.240	0.840	Open Manhole	450
S21.000	o	100	P73	109.800	109.100	0.600	Open Manhole	100
S19.003	o	100	P73	109.900	108.980	0.820	Open Manhole	450
S16.006	o	225	SW35	109.905	108.115	1.565	Open Manhole	1200
S22.000	o	150	P75	108.670	107.920	0.600	Open Manhole	150
S23.000	o	150	P75	108.750	108.000	0.600	Open Manhole	100
S24.000	o	150	P75	108.750	108.000	0.600	Open Manhole	150
S24.001	o	150	P75	109.150	107.940	1.060	Open Manhole	450
S23.001	o	150	P75	109.040	107.920	0.970	Open Manhole	450
S22.001	o	150	P75	108.950	107.840	0.960	Open Manhole	450
S22.002	o	150	P75	109.410	107.780	1.480	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)
S19.002	11.531	44.3	P73	109.900	108.980	0.820	Open Manhole	450
S21.000	11.551	96.3	P73	109.900	108.980	0.820	Open Manhole	450
S19.003	3.096	3.9	SW35	109.905	108.190	1.615	Open Manhole	1200
S16.006	10.510	21.0	SW36	109.660	107.615	1.820	Open Manhole	1200
S22.000	11.919	149.0	P75	108.950	107.840	0.960	Open Manhole	450
S23.000	12.014	150.2	P75	109.040	107.920	0.970	Open Manhole	450
S24.000	5.999	100.0	P75	109.150	107.940	1.060	Open Manhole	450
S24.001	2.821	141.1	P75	109.040	107.920	0.970	Open Manhole	450
S23.001	10.933	136.7	P75	108.950	107.840	0.960	Open Manhole	450
S22.001	8.598	143.3	P75	109.410	107.780	1.480	Open Manhole	450
S22.002	5.472	136.8	P74	109.630	107.740	1.740	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)
S25.000	o	150	P74	109.400	108.500	0.750	Open Manhole	100
S22.003	o	225	P74	109.630	107.665	1.740	Open Manhole	450
S16.007	o	300	SW36	109.660	107.540	1.820	Open Manhole	1200
S26.000	o	150	SW38	110.795	109.395	1.250	Open Manhole	1200
S26.001	o	225	SW39	110.065	108.565	1.275	Open Manhole	1200
S26.002	o	225	SW40	109.325	107.900	1.200	Open Manhole	1200
S16.008	o	450	SW41	109.040	107.240	1.350	Open Manhole	1500
S27.000	o	100	P58	108.860	108.160	0.600	Open Manhole	100
S27.001	o	100	P58	108.970	108.050	0.820	Open Manhole	450
S28.000	o	100	P58	109.060	108.360	0.600	Open Manhole	100
S28.001	o	100	P58	109.070	108.220	0.750	Open Manhole	450
S28.002	o	100	P57	109.140	108.170	0.870	Open Manhole	450
S27.002	o	100	93	109.130	107.930	1.100	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)
S25.000	12.418	16.3	P74	109.630	107.740	1.740	Open Manhole	450
S22.003	3.593	71.9	SW36	109.660	107.615	1.820	Open Manhole	1200
S16.007	24.860	165.7	SW41	109.040	107.390	1.350	Open Manhole	1500
S26.000	30.134	39.9	SW39	110.065	108.640	1.275	Open Manhole	1200
S26.001	22.325	33.6	SW40	109.325	107.900	1.200	Open Manhole	1200
S26.002	5.785	13.3	SW41	109.040	107.465	1.350	Open Manhole	1500
S16.008	10.207	204.1	SW42	109.175	107.190	1.535	Open Manhole	1500
S27.000	10.704	97.3	P58	108.970	108.050	0.820	Open Manhole	450
S27.001	11.918	99.3	93	109.130	107.930	1.100	Open Manhole	450
S28.000	7.635	54.5	P58	109.070	108.220	0.750	Open Manhole	450
S28.001	4.909	98.2	P57	109.140	108.170	0.870	Open Manhole	450
S28.002	10.821	45.1	93	109.130	107.930	1.100	Open Manhole	450
S27.002	6.465	107.8	P56	109.370	107.870	1.400	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)
S29.000	o	100	P56	109.420	108.720	0.600	Open Manhole	100
S29.001	o	100	P56	109.570	108.720	0.750	Open Manhole	450
S27.003	o	100	P56	109.370	107.870	1.400	Open Manhole	450
S10.004	o	525	SW42	109.175	107.115	1.535	Open Manhole	1500
S30.000	o	100	P62	109.230	108.530	0.600	Open Manhole	100
S31.000	o	100	P62	109.230	108.530	0.600	Open Manhole	100
S30.001	o	100	P62	109.100	108.250	0.750	Open Manhole	450
S30.002	o	100	P62	109.110	108.230	0.780	Open Manhole	450
S32.000	o	100	P62	109.160	108.460	0.600	Open Manhole	100
S30.003	o	100	P62	108.920	107.920	0.900	Open Manhole	450
S33.000	o	100	P61	108.900	108.050	0.750	Open Manhole	100
S30.004	o	150	SW43	108.765	107.415	1.200	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)
S29.000	18.852	99.2	P56	109.570	108.530	0.940	Open Manhole	450
S29.001	8.104	9.5	P56	109.370	107.870	1.400	Open Manhole	450
S27.003	6.342	19.2	SW42	109.175	107.540	1.535	Open Manhole	1500
S10.004	39.054	63.0	SW45	107.950	106.495	0.930	Open Manhole	1800
S30.000	8.196	27.3	P62	109.100	108.230	0.770	Open Manhole	450
S31.000	5.972	19.9	P62	109.100	108.230	0.770	Open Manhole	450
S30.001	1.811	90.6	P62	109.110	108.230	0.780	Open Manhole	450
S30.002	11.040	35.6	P62	108.920	107.920	0.900	Open Manhole	450
S32.000	8.436	15.6	P62	108.920	107.920	0.900	Open Manhole	450
S30.003	5.060	11.1	SW43	108.765	107.465	1.200	Open Manhole	1200
S33.000	13.069	22.3	SW43	108.765	107.465	1.200	Open Manhole	1200
S30.004	16.760	40.4	SW44	108.255	107.000	1.105	Open Manhole	1200

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S34.000	o	150	P59	107.890	107.140	0.600	Open Manhole	150
S34.001	o	150	P59	107.850	107.080	0.620	Open Manhole	450
S35.000	o	100	P60	108.350	107.650	0.600	Open Manhole	100
S35.001	o	100	P60	108.430	107.460	0.870	Open Manhole	450
S36.000	o	100	P59	108.000	107.300	0.600	Open Manhole	100
S36.001	o	100	P59	108.300	107.230	0.970	Open Manhole	450
S35.002	o	100	P59	108.310	107.110	1.100	Open Manhole	450
S30.005	o	225	SW44	108.255	106.925	1.105	Open Manhole	1200
S10.005	o	600	SW45	107.950	106.420	0.930	Open Manhole	1800
S10.006	o	525	SW46	107.800	106.370	0.905	Open Manhole	1500
S1.021	o	150	SW47	107.800	106.200	1.450	Open Manhole	1500
S1.022	o	150	SW48	107.800	106.100	1.550	Open Manhole	3000

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)
S34.000	8.999	150.0	P59	107.850	107.080	0.620	Open Manhole	450
S34.001	11.078	138.5	SW44	108.255	107.000	1.105	Open Manhole	1200
S35.000	19.036	100.0	P60	108.430	107.460	0.870	Open Manhole	450
S35.001	2.715	7.8	P59	108.310	107.110	1.100	Open Manhole	450
S36.000	6.168	88.1	P59	108.300	107.230	0.970	Open Manhole	450
S36.001	11.455	95.5	P59	108.310	107.110	1.100	Open Manhole	450
S35.002	3.408	56.8	SW44	108.255	107.050	1.105	Open Manhole	1200
S30.005	10.200	78.5	SW45	107.950	106.795	0.930	Open Manhole	1800
S10.005	24.889	497.8	SW46	107.800	106.370	0.830	Open Manhole	1500
S10.006	5.000#	29.4	SW47	107.800	106.200	1.075	Open Manhole	1500
S1.021	7.078	70.8	SW48	107.800	106.100	1.550	Open Manhole	3000
S1.022	95.626	18.6		102.500	100.950	1.400	Open Manhole	0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.001	0.001	0.001
2.000	-	-	100	0.003	0.003	0.003
2.001	-	-	100	0.003	0.003	0.003
3.000	-	-	100	0.001	0.001	0.001
3.001	-	-	100	0.003	0.003	0.003
3.002	-	-	100	0.003	0.003	0.003
2.002	-	-	100	0.009	0.009	0.009
1.001	-	-	100	0.012	0.012	0.012
1.002	-	-	100	0.000	0.000	0.000
1.003	-	-	100	0.030	0.030	0.030
1.004	-	-	100	0.035	0.035	0.035
1.005	-	-	100	0.000	0.000	0.000
1.006	-	-	100	0.000	0.000	0.000
1.007	-	-	100	0.000	0.000	0.000
1.008	-	-	100	0.058	0.058	0.058
1.009	-	-	100	0.004	0.004	0.004
1.010	-	-	100	0.041	0.041	0.041
4.000	-	-	100	0.001	0.001	0.001
4.001	-	-	100	0.001	0.001	0.001
5.000	-	-	100	0.001	0.001	0.001
4.002	-	-	100	0.002	0.002	0.002
4.003	-	-	100	0.006	0.006	0.006
6.000	-	-	100	0.001	0.001	0.001
6.001	-	-	100	0.002	0.002	0.002
7.000	-	-	100	0.001	0.001	0.001
6.002	-	-	100	0.002	0.002	0.002
6.003	-	-	100	0.006	0.006	0.006
4.004	-	-	100	0.041	0.041	0.041
1.011	-	-	100	0.017	0.017	0.017
1.012	-	-	100	0.000	0.000	0.000
1.013	-	-	100	0.069	0.069	0.069
1.014	-	-	100	0.041	0.041	0.041
1.015	-	-	100	0.000	0.000	0.000
1.016	-	-	100	0.040	0.040	0.040
1.017	-	-	100	0.053	0.053	0.053
8.000	-	-	100	0.071	0.071	0.071
8.001	-	-	100	0.090	0.090	0.090
8.002	-	-	100	0.118	0.118	0.118
9.000	-	-	100	0.070	0.070	0.070
9.001	-	-	100	0.049	0.049	0.049
1.018	-	-	100	0.034	0.034	0.034
1.019	-	-	100	0.040	0.040	0.040
1.020	-	-	100	0.000	0.000	0.000
10.000	-	-	100	0.044	0.044	0.044
11.000	-	-	100	0.047	0.047	0.047
10.001	-	-	100	0.074	0.074	0.074
10.002	-	-	100	0.026	0.026	0.026
12.000	-	-	100	0.007	0.007	0.007
12.001	-	-	100	0.000	0.000	0.000
12.002	-	-	100	0.007	0.007	0.007
13.000	-	-	100	0.013	0.013	0.013

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Area Summary for Storm <table><tr><th>Pipe Number</th><th>PIMP Type</th><th>PIMP Name</th><th>PIMP (%)</th><th>Gross Area (ha)</th><th>Imp. Area (ha)</th><th>Pipe Total (ha)</th></tr><tr><td>12.003</td><td>-</td><td>-</td><td>100</td><td>0.008</td><td>0.008</td><td>0.008</td></tr><tr><td>12.004</td><td>-</td><td>-</td><td>100</td><td>0.020</td><td>0.020</td><td>0.020</td></tr><tr><td>14.000</td><td>-</td><td>-</td><td>100</td><td>0.008</td><td>0.008</td><td>0.008</td></tr><tr><td>14.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>15.000</td><td>-</td><td>-</td><td>100</td><td>0.008</td><td>0.008</td><td>0.008</td></tr><tr><td>14.002</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>12.005</td><td>-</td><td>-</td><td>100</td><td>0.020</td><td>0.020</td><td>0.020</td></tr><tr><td>10.003</td><td>-</td><td>-</td><td>100</td><td>0.058</td><td>0.058</td><td>0.058</td></tr><tr><td>16.000</td><td>-</td><td>-</td><td>100</td><td>0.004</td><td>0.004</td><td>0.004</td></tr><tr><td>17.000</td><td>-</td><td>-</td><td>100</td><td>0.005</td><td>0.005</td><td>0.005</td></tr><tr><td>16.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>16.002</td><td>-</td><td>-</td><td>100</td><td>0.007</td><td>0.007</td><td>0.007</td></tr><tr><td>18.000</td><td>-</td><td>-</td><td>100</td><td>0.005</td><td>0.005</td><td>0.005</td></tr><tr><td>16.003</td><td>-</td><td>-</td><td>100</td><td>0.009</td><td>0.009</td><td>0.009</td></tr><tr><td>16.004</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>16.005</td><td>-</td><td>-</td><td>100</td><td>0.026</td><td>0.026</td><td>0.026</td></tr><tr><td>19.000</td><td>-</td><td>-</td><td>100</td><td>0.003</td><td>0.003</td><td>0.003</td></tr><tr><td>19.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>20.000</td><td>-</td><td>-</td><td>100</td><td>0.003</td><td>0.003</td><td>0.003</td></tr><tr><td>19.002</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>21.000</td><td>-</td><td>-</td><td>100</td><td>0.010</td><td>0.010</td><td>0.010</td></tr><tr><td>19.003</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>16.006</td><td>-</td><td>-</td><td>100</td><td>0.021</td><td>0.021</td><td>0.021</td></tr><tr><td>22.000</td><td>-</td><td>-</td><td>100</td><td>0.009</td><td>0.009</td><td>0.009</td></tr><tr><td>23.000</td><td>-</td><td>-</td><td>100</td><td>0.001</td><td>0.001</td><td>0.001</td></tr><tr><td>24.000</td><td>-</td><td>-</td><td>100</td><td>0.001</td><td>0.001</td><td>0.001</td></tr><tr><td>24.001</td><td>-</td><td>-</td><td>100</td><td>0.004</td><td>0.004</td><td>0.004</td></tr><tr><td>23.001</td><td>-</td><td>-</td><td>100</td><td>0.007</td><td>0.007</td><td>0.007</td></tr><tr><td>22.001</td><td>-</td><td>-</td><td>100</td><td>0.003</td><td>0.003</td><td>0.003</td></tr><tr><td>22.002</td><td>-</td><td>-</td><td>100</td><td>0.006</td><td>0.006</td><td>0.006</td></tr><tr><td>25.000</td><td>-</td><td>-</td><td>100</td><td>0.001</td><td>0.001</td><td>0.001</td></tr><tr><td>22.003</td><td>-</td><td>-</td><td>100</td><td>0.005</td><td>0.005</td><td>0.005</td></tr><tr><td>16.007</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>26.000</td><td>-</td><td>-</td><td>100</td><td>0.012</td><td>0.012</td><td>0.012</td></tr><tr><td>26.001</td><td>-</td><td>-</td><td>100</td><td>0.051</td><td>0.051</td><td>0.051</td></tr><tr><td>26.002</td><td>-</td><td>-</td><td>100</td><td>0.083</td><td>0.083</td><td>0.083</td></tr><tr><td>16.008</td><td>-</td><td>-</td><td>100</td><td>0.012</td><td>0.012</td><td>0.012</td></tr><tr><td>27.000</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>27.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>28.000</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>28.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>28.002</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>27.002</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>29.000</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>29.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>27.003</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>10.004</td><td>-</td><td>-</td><td>100</td><td>0.113</td><td>0.113</td><td>0.113</td></tr><tr><td>30.000</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>31.000</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>30.001</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr><tr><td>30.002</td><td>-</td><td>-</td><td>100</td><td>0.000</td><td>0.000</td><td>0.000</td></tr></table>							Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)	12.003	-	-	100	0.008	0.008	0.008	12.004	-	-	100	0.020	0.020	0.020	14.000	-	-	100	0.008	0.008	0.008	14.001	-	-	100	0.000	0.000	0.000	15.000	-	-	100	0.008	0.008	0.008	14.002	-	-	100	0.000	0.000	0.000	12.005	-	-	100	0.020	0.020	0.020	10.003	-	-	100	0.058	0.058	0.058	16.000	-	-	100	0.004	0.004	0.004	17.000	-	-	100	0.005	0.005	0.005	16.001	-	-	100	0.000	0.000	0.000	16.002	-	-	100	0.007	0.007	0.007	18.000	-	-	100	0.005	0.005	0.005	16.003	-	-	100	0.009	0.009	0.009	16.004	-	-	100	0.000	0.000	0.000	16.005	-	-	100	0.026	0.026	0.026	19.000	-	-	100	0.003	0.003	0.003	19.001	-	-	100	0.000	0.000	0.000	20.000	-	-	100	0.003	0.003	0.003	19.002	-	-	100	0.000	0.000	0.000	21.000	-	-	100	0.010	0.010	0.010	19.003	-	-	100	0.000	0.000	0.000	16.006	-	-	100	0.021	0.021	0.021	22.000	-	-	100	0.009	0.009	0.009	23.000	-	-	100	0.001	0.001	0.001	24.000	-	-	100	0.001	0.001	0.001	24.001	-	-	100	0.004	0.004	0.004	23.001	-	-	100	0.007	0.007	0.007	22.001	-	-	100	0.003	0.003	0.003	22.002	-	-	100	0.006	0.006	0.006	25.000	-	-	100	0.001	0.001	0.001	22.003	-	-	100	0.005	0.005	0.005	16.007	-	-	100	0.000	0.000	0.000	26.000	-	-	100	0.012	0.012	0.012	26.001	-	-	100	0.051	0.051	0.051	26.002	-	-	100	0.083	0.083	0.083	16.008	-	-	100	0.012	0.012	0.012	27.000	-	-	100	0.000	0.000	0.000	27.001	-	-	100	0.000	0.000	0.000	28.000	-	-	100	0.000	0.000	0.000	28.001	-	-	100	0.000	0.000	0.000	28.002	-	-	100	0.000	0.000	0.000	27.002	-	-	100	0.000	0.000	0.000	29.000	-	-	100	0.000	0.000	0.000	29.001	-	-	100	0.000	0.000	0.000	27.003	-	-	100	0.000	0.000	0.000	10.004	-	-	100	0.113	0.113	0.113	30.000	-	-	100	0.000	0.000	0.000	31.000	-	-	100	0.000	0.000	0.000	30.001	-	-	100	0.000	0.000	0.000	30.002	-	-	100	0.000	0.000	0.000
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Pell Frischmann		Page 36
5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
Date 15/04/2025 File 250404 Combined Network...	Designed by L. Hulka Checked by L. Hulka	
Innovyze	Network 2020.1	

Online Controls for Storm

Hydro-Brake® Optimum Manhole: SW47, DS/PN: S1.021, Volume (m³): 4.6

Unit Reference	MD-SHE-0141-9900-1300-9900
Design Head (m)	1.300
Design Flow (l/s)	9.9
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	141
Invert Level (m)	106.200
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.300	9.9
Flush-Flo™	0.382	9.9
Kick-Flo®	0.825	8.0
Mean Flow over Head Range	-	8.6

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

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.1	1.200	9.5	3.000	14.7	7.000	22.1
0.200	9.2	1.400	10.3	3.500	15.8	7.500	22.8
0.300	9.8	1.600	10.9	4.000	16.9	8.000	23.5
0.400	9.9	1.800	11.5	4.500	17.8	8.500	24.2
0.500	9.8	2.000	12.1	5.000	18.8	9.000	24.9
0.600	9.5	2.200	12.7	5.500	19.6	9.500	25.6
0.800	8.3	2.400	13.2	6.000	20.5		
1.000	8.8	2.600	13.7	6.500	21.3		

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
Date 15/04/2025 File 250404 Combined Network...	Designed by L. Hulka Checked by L. Hulka	
Innovyze	Network 2020.1	

Pell Frischmann

5 Manchester Square
London
W1U 3PD

Date 15/04/2025
File 250404 Combined Network...

Innovyze

Ratby Phase 2
RM Condition 7 SWS Results
(Private Drainage Included)

Designed by L. Hulka
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Network 2020.1

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

Simulation Criteria

Areal Reduction Factor 1.000

Additional Flow - % of Total Flow 0.000

Hot Start (mins) 0

MADD Factor * 10m³/ha Storage 0.000

Hot Start Level (mm) 0

Inlet Coefficient 0.800

Manhole Headloss Coeff (Global) 0.500

Flow per Person per Day (l/per/day) 0.000

Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0

Number of Storage Structures 1

Number of Online Controls 1

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model

FSR

Ratio R 0.400

Region England and Wales Cv (Summer) 1.000

M5-60 (mm)

20.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0

DVD Status OFF

Analysis Timestep

Fine Inertia Status OFF

DTS Status

OFF

Profile(s)

Summer and Winter

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

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

Climate Change (%) 0, 0, 40

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level
									(m)
S1.000	P04 15	Summer	1	+0%	100/15	Summer			110.105
S2.000	P04 15	Summer	1	+0%	100/15	Summer			110.388
S2.001	P04 15	Summer	1	+0%	100/15	Summer			110.267
S3.000	P04 15	Summer	1	+0%	100/15	Summer			110.403
S3.001	P04 15	Summer	1	+0%	100/15	Summer			109.998
S3.002	P04 15	Summer	1	+0%	100/15	Summer			109.916
S2.002	P04 15	Summer	1	+0%	100/15	Summer			109.865
S1.001	P04 15	Summer	1	+0%	100/15	Summer			109.808
S1.002	SW01 15	Summer	1	+0%	100/15	Summer			109.509
S1.003	SW02 15	Summer	1	+0%	100/15	Summer			109.357
S1.004	SW03 15	Summer	1	+0%	30/15	Summer			109.206
S1.005	SW04 15	Summer	1	+0%	30/15	Summer			109.047
S1.006	SW05 15	Summer	1	+0%	30/15	Summer			108.895
S1.007	SW06 15	Summer	1	+0%	30/15	Summer			108.826
S1.008	SW07 15	Summer	1	+0%	100/15	Summer			108.587
S1.009	SW08 15	Summer	1	+0%	100/15	Summer			108.343
S1.010	SW09 15	Summer	1	+0%	30/15	Summer			108.153
S4.000	P08 15	Summer	1	+0%					110.381
S4.001	P08 15	Summer	1	+0%					110.261
S5.000	P08 15	Summer	1	+0%					110.075
S4.002	P08 15	Summer	1	+0%					109.895

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
Date 15/04/2025 File 250404 Combined Network...	Designed by L. Hulka Checked by L. Hulka	
Innovyze	Network 2020.1	

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

PN	US/MH Name	Surcharged Flooded		Flow / Overflow		Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Cap.	(l/s)	Time (mins)	Flow (l/s)		
S1.000	P04	-0.145	0.000	0.01			0.2	OK	
S2.000	P04	-0.132	0.000	0.03			0.5	OK	
S2.001	P04	-0.133	0.000	0.03			1.0	OK	
S3.000	P04	-0.147	0.000	0.00			0.2	OK	
S3.001	P04	-0.132	0.000	0.03			0.6	OK	
S3.002	P04	-0.124	0.000	0.07			1.1	OK	
S2.002	P04	-0.100	0.000	0.24			3.4	OK	
S1.001	P04	-0.107	0.000	0.18			5.3	OK	
S1.002	SW01	-0.176	0.000	0.10			5.3	OK	
S1.003	SW02	-0.158	0.000	0.19			9.7	OK	
S1.004	SW03	-0.144	0.000	0.28			14.8	OK	
S1.005	SW04	-0.128	0.000	0.38			14.9	OK	
S1.006	SW05	-0.120	0.000	0.44			14.7	OK	
S1.007	SW06	-0.129	0.000	0.38			14.9	OK	
S1.008	SW07	-0.213	0.000	0.18			22.2	OK	
S1.009	SW08	-0.212	0.000	0.18			22.8	OK	
S1.010	SW09	-0.157	0.000	0.45			28.2	OK	
S4.000	P08	-0.089	0.000	0.03			0.2	OK	
S4.001	P08	-0.089	0.000	0.03			0.3	OK	
S5.000	P08	-0.095	0.000	0.01			0.2	OK	
S4.002	P08	-0.075	0.000	0.14			0.8	OK	

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5 Manchester Square London W1U 3PD		Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)							
Date 15/04/2025 File 250404 Combined Network...		Designed by L. Hulka Checked by L. Hulka							
Innovyze		Network 2020.1							
1 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)
S4.003	P08	15 Summer	1	+0%					109.810
S6.000	P18	15 Summer	1	+0%					110.391
S6.001	P18	15 Summer	1	+0%					110.261
S7.000	P18	15 Summer	1	+0%					110.025
S6.002	P18	15 Summer	1	+0%	100/15 Summer				109.223
S6.003	P18	15 Summer	1	+0%	30/15 Summer				109.171
S4.004	SW10	15 Summer	1	+0%	100/15 Summer				109.011
S1.011	SW11	15 Summer	1	+0%	30/15 Summer				108.026
S1.012	SW12	15 Summer	1	+0%	30/15 Summer				107.958
S1.013	SW13	15 Summer	1	+0%	30/15 Summer				107.871
S1.014	SW14	15 Summer	1	+0%	100/15 Summer				107.774
S1.015	SW15	15 Summer	1	+0%	100/15 Summer				107.556
S1.016	SW16	15 Summer	1	+0%	100/15 Summer				107.345
S1.017	SW17	15 Summer	1	+0%	100/15 Summer				107.258
S8.000	SW18	15 Summer	1	+0%	100/15 Summer				109.641
S8.001	SW19	15 Summer	1	+0%	100/15 Summer				109.483
S8.002	SW20	15 Summer	1	+0%					109.124
S9.000	SW21	15 Summer	1	+0%	100/15 Summer				107.867
S9.001	SW22	15 Summer	1	+0%	100/15 Summer				107.534
S1.018	SW23	15 Summer	1	+0%	100/15 Summer				107.029
S1.019	SW24	30 Summer	1	+0%	100/15 Summer				106.895
S1.020	SW25	15 Summer	1	+0%	100/15 Summer				106.642
S10.000	HD26	15 Summer	1	+0%	100/15 Summer				109.987
S11.000	HD27	15 Summer	1	+0%	100/15 Summer				109.710
S10.001	HD28	15 Summer	1	+0%	30/15 Summer				109.523
S10.002	SW29	15 Summer	1	+0%	30/15 Summer				109.260
S12.000	P47	15 Summer	1	+0%	100/15 Summer				109.893
S12.001	P46	15 Summer	1	+0%	100/15 Summer				109.771
S12.002	P46	15 Summer	1	+0%	100/15 Summer				109.692
S13.000	P49	15 Summer	1	+0%	100/15 Summer				109.802
S12.003	P49	15 Summer	1	+0%	100/15 Summer				109.608
S12.004	SW30	15 Summer	1	+0%	100/15 Summer				109.451
S14.000	P49	15 Summer	1	+0%	100/15 Summer				110.042
S14.001	P50	15 Summer	1	+0%	100/15 Summer				109.654
S15.000	P49	15 Summer	1	+0%	100/15 Summer				109.931
S14.002	P50	15 Summer	1	+0%	100/15 Summer				109.534
S12.005	SW31	15 Summer	1	+0%	30/15 Summer				109.280
S10.003	SW32	15 Summer	1	+0%					108.984
S16.000	P71	15 Summer	1	+0%	100/15 Summer				109.073
S17.000	P71	15 Summer	1	+0%	100/15 Summer				109.076
S16.001	P71	15 Summer	1	+0%	100/15 Summer				109.044
S16.002	P71	15 Summer	1	+0%	100/15 Summer				109.025
S18.000	P71	15 Summer	1	+0%					109.356
S16.003	P71	15 Summer	1	+0%	30/15 Summer				108.957
S16.004	P71	15 Summer	1	+0%	100/15 Summer				108.905
S16.005	SW34	15 Summer	1	+0%					108.659
S19.000	P72	15 Summer	1	+0%					109.566
S19.001	P72	15 Summer	1	+0%					109.341
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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
Date 15/04/2025 File 250404 Combined Network...	Designed by L. Hulka Checked by L. Hulka	
Innovyze	Network 2020.1	

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

PN	US/MH Name	Surcharged Flooded		Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)					
S4.003	P08	-0.080	0.000	0.09		1.7	OK	
S6.000	P18	-0.089	0.000	0.03		0.2	OK	
S6.001	P18	-0.089	0.000	0.03		0.5	OK	
S7.000	P18	-0.095	0.000	0.01		0.2	OK	
S6.002	P18	-0.072	0.000	0.17		0.9	OK	
S6.003	P18	-0.059	0.000	0.35		1.8	OK	
S4.004	SW10	-0.174	0.000	0.11		9.4	OK	
S1.011	SW11	-0.214	0.000	0.38		39.3	OK	
S1.012	SW12	-0.217	0.000	0.37		38.6	OK	
S1.013	SW13	-0.194	0.000	0.47		46.5	OK	
S1.014	SW14	-0.211	0.000	0.40		50.7	OK	
S1.015	SW15	-0.324	0.000	0.17		50.5	OK	
S1.016	SW16	-0.255	0.000	0.37		54.4	OK	
S1.017	SW17	-0.262	0.000	0.36		58.7	OK	
S8.000	SW18	-0.134	0.000	0.34		12.5	OK	
S8.001	SW19	-0.192	0.000	0.27		25.6	OK	
S8.002	SW20	-0.221	0.000	0.15		42.7	OK	
S9.000	SW21	-0.148	0.000	0.25		12.2	OK	
S9.001	SW22	-0.146	0.000	0.26		19.3	OK	
S1.018	SW23	-0.371	0.000	0.31		107.6	OK	
S1.019	SW24	-0.405	0.000	0.23		112.1	OK	
S1.020	SW25	-0.408	0.000	0.22		112.0	OK	
S10.000	HD26	-0.163	0.000	0.16		7.5	OK	
S11.000	HD27	-0.160	0.000	0.18		8.2	OK	
S10.001	HD28	-0.107	0.000	0.53		26.6	OK	
S10.002	SW29	-0.165	0.000	0.41		30.2	OK	
S12.000	P47	-0.127	0.000	0.06		1.2	OK	
S12.001	P46	-0.119	0.000	0.09		1.2	OK	
S12.002	P46	-0.108	0.000	0.17		2.3	OK	
S13.000	P49	-0.058	0.000	0.36		2.3	OK	
S12.003	P49	-0.092	0.000	0.31		5.7	OK	
S12.004	SW30	-0.164	0.000	0.16		8.6	OK	
S14.000	P49	-0.078	0.000	0.11		1.4	OK	
S14.001	P50	-0.066	0.000	0.25		1.4	OK	
S15.000	P49	-0.079	0.000	0.10		1.4	OK	
S14.002	P50	-0.066	0.000	0.25		2.8	OK	
S12.005	SW31	-0.130	0.000	0.37		14.5	OK	
S10.003	SW32	-0.276	0.000	0.16		52.8	OK	
S16.000	P71	-0.127	0.000	0.06		0.7	OK	
S17.000	P71	-0.124	0.000	0.07		0.9	OK	
S16.001	P71	-0.056	0.000	0.40		1.6	OK	
S16.002	P71	-0.105	0.000	0.19		2.6	OK	
S18.000	P71	-0.134	0.000	0.02		0.9	OK	
S16.003	P71	-0.083	0.000	0.41		4.8	OK	
S16.004	P71	-0.100	0.000	0.24		4.8	OK	
S16.005	SW34	-0.171	0.000	0.13		8.6	OK	
S19.000	P72	-0.084	0.000	0.06		0.5	OK	

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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Innovyze Network 2020.1		

<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>									
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	
S20.000	P72	15 Summer	1	+0%					
S19.002	P72	15 Summer	1	+0%					
S21.000	P73	15 Summer	1	+0%	100/15 Summer				
S19.003	P73	15 Summer	1	+0%					
S16.006	SW35	15 Summer	1	+0%	100/15 Summer				
S22.000	P75	15 Summer	1	+0%	100/15 Summer				
S23.000	P75	15 Summer	1	+0%	100/15 Summer				
S24.000	P75	15 Summer	1	+0%	100/15 Summer				
S24.001	P75	15 Summer	1	+0%	100/15 Summer				
S23.001	P75	15 Summer	1	+0%	100/15 Summer				
S22.001	P75	15 Summer	1	+0%	100/15 Summer				
S22.002	P75	15 Summer	1	+0%	30/15 Summer				
S25.000	P74	15 Summer	1	+0%					
S22.003	P74	15 Summer	1	+0%	100/15 Summer				
S16.007	SW36	15 Summer	1	+0%	100/15 Summer				
S26.000	SW38	15 Summer	1	+0%					
S26.001	SW39	15 Summer	1	+0%	100/15 Summer				
S26.002	SW40	15 Summer	1	+0%	100/15 Summer				
S16.008	SW41	15 Summer	1	+0%	100/15 Summer				
S27.000	P58	15 Summer	1	+0%					
S27.001	P58	15 Summer	1	+0%					
S28.000	P58	15 Summer	1	+0%					
S28.001	P58	15 Summer	1	+0%					
S28.002	P57	15 Summer	1	+0%					
S27.002	93	15 Summer	1	+0%					
S29.000	P56	15 Summer	1	+0%					
S29.001	P56	15 Summer	1	+0%					
S27.003	P56	15 Summer	1	+0%	100/15 Summer				
S10.004	SW42	15 Summer	1	+0%	100/15 Summer				
S30.000	P62	15 Summer	1	+0%					
S31.000	P62	15 Summer	1	+0%					
S30.001	P62	15 Summer	1	+0%					
S30.002	P62	15 Summer	1	+0%					
S32.000	P62	15 Summer	1	+0%					
S30.003	P62	15 Summer	1	+0%					
S33.000	P61	15 Summer	1	+0%					
S30.004	SW43	15 Summer	1	+0%	100/15 Summer				
S34.000	P59	15 Summer	1	+0%	100/15 Summer				
S34.001	P59	15 Summer	1	+0%	100/15 Summer				
S35.000	P60	15 Summer	1	+0%					
S35.001	P60	15 Summer	1	+0%					
S36.000	P59	15 Summer	1	+0%	100/15 Summer				
S36.001	P59	15 Summer	1	+0%	100/15 Summer				
S35.002	P59	15 Summer	1	+0%	100/15 Summer				
S30.005	SW44	15 Summer	1	+0%	100/15 Summer				
S10.005	SW45	15 Summer	1	+0%	30/15 Summer				
S10.006	SW46	15 Summer	1	+0%	30/15 Summer				
S1.021	SW47	480 Summer	1	+0%	1/15 Summer				

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5 Manchester Square London W1U 3PD				Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)					
Date 15/04/2025 File 250404 Combined Network...				Designed by L. Hulka Checked by L. Hulka					
Innovyze				Network 2020.1					
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>									
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S20.000	P72	109.565	-0.085	0.000	0.05			0.5	OK
S19.002	P72	109.263	-0.077	0.000	0.12			1.1	OK
S21.000	P73	109.138	-0.062	0.000	0.31			1.8	OK
S19.003	P73	109.003	-0.077	0.000	0.11			2.8	OK
S16.006	SW35	108.174	-0.166	0.000	0.15			14.5	OK
S22.000	P75	107.955	-0.115	0.000	0.12			1.6	OK
S23.000	P75	108.010	-0.140	0.000	0.01			0.2	OK
S24.000	P75	108.009	-0.141	0.000	0.01			0.2	OK
S24.001	P75	107.967	-0.123	0.000	0.07			0.8	OK
S23.001	P75	107.958	-0.112	0.000	0.15			2.0	OK
S22.001	P75	107.898	-0.092	0.000	0.31			4.0	OK
S22.002	P75	107.846	-0.084	0.000	0.39			4.9	OK
S25.000	P74	108.503	-0.147	0.000	0.00			0.2	OK
S22.003	P74	107.730	-0.160	0.000	0.18			5.8	OK
S16.007	SW36	107.645	-0.195	0.000	0.27			20.4	OK
S26.000	SW38	109.423	-0.122	0.000	0.08			2.1	OK
S26.001	SW39	108.617	-0.173	0.000	0.12			9.7	OK
S26.002	SW40	107.975	-0.150	0.000	0.24			22.1	OK
S16.008	SW41	107.402	-0.288	0.000	0.28			43.8	OK
S27.000	P58	108.160	-0.100	0.000	0.00			0.0	OK
S27.001	P58	108.050	-0.100	0.000	0.00			0.0	OK
S28.000	P58	108.360	-0.100	0.000	0.00			0.0	OK
S28.001	P58	108.220	-0.100	0.000	0.00			0.0	OK
S28.002	P57	108.170	-0.100	0.000	0.00			0.0	OK
S27.002	93	107.930	-0.100	0.000	0.00			0.0	OK
S29.000	P56	108.720	-0.100	0.000	0.00			0.0	OK
S29.001	P56	108.530	-0.290	0.000	0.00			0.0	OK
S27.003	P56	107.870	-0.100	0.000	0.00			0.0	OK
S10.004	SW42	107.278	-0.362	0.000	0.21			112.3	OK
S30.000	P62	108.530	-0.100	0.000	0.00			0.0	OK
S31.000	P62	108.530	-0.100	0.000	0.00			0.0	OK
S30.001	P62	108.230	-0.120	0.000	0.00			0.0	OK
S30.002	P62	108.230	-0.100	0.000	0.00			0.0	OK
S32.000	P62	108.460	-0.100	0.000	0.00			0.0	OK
S30.003	P62	107.920	-0.100	0.000	0.00			0.0	OK
S33.000	P61	108.050	-0.100	0.000	0.00			0.0	OK
S30.004	SW43	107.459	-0.106	0.000	0.19			4.9	OK
S34.000	P59	107.140	-0.150	0.000	0.00			0.0	OK
S34.001	P59	107.080	-0.150	0.000	0.00			0.0	OK
S35.000	P60	107.650	-0.100	0.000	0.00			0.0	OK
S35.001	P60	107.460	-0.100	0.000	0.00			0.0	OK
S36.000	P59	107.300	-0.100	0.000	0.00			0.0	OK
S36.001	P59	107.230	-0.100	0.000	0.00			0.0	OK
S35.002	P59	107.110	-0.100	0.000	0.00			0.0	OK
S30.005	SW44	106.994	-0.156	0.000	0.20			10.0	OK
S10.005	SW45	106.722	-0.298	0.000	0.50			120.5	OK
S10.006	SW46	106.594	-0.301	0.000	0.38			120.8	OK
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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)																												
Date 15/04/2025 File 250404 Combined Network...	Designed by L. Hulka Checked by L. Hulka																												
Innovyze	Network 2020.1																												
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>																													
	<table><tr><td></td><td>US/MH</td><td>Level</td></tr><tr><td>PN</td><td>Name</td><td>Exceeded</td></tr><tr><td>S36.000</td><td>P59</td><td></td></tr><tr><td>S36.001</td><td>P59</td><td></td></tr><tr><td>S35.002</td><td>P59</td><td></td></tr><tr><td>S30.005</td><td>SW44</td><td></td></tr><tr><td>S10.005</td><td>SW45</td><td></td></tr><tr><td>S10.006</td><td>SW46</td><td></td></tr><tr><td>S1.021</td><td>SW47</td><td></td></tr></table>		US/MH	Level	PN	Name	Exceeded	S36.000	P59		S36.001	P59		S35.002	P59		S30.005	SW44		S10.005	SW45		S10.006	SW46		S1.021	SW47		
	US/MH	Level																											
PN	Name	Exceeded																											
S36.000	P59																												
S36.001	P59																												
S35.002	P59																												
S30.005	SW44																												
S10.005	SW45																												
S10.006	SW46																												
S1.021	SW47																												
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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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Innovyze	Network 2020.1	

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

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)						
S1.000	P04	-0.139	0.000	0.02			0.4	OK	
S2.000	P04	-0.122	0.000	0.08			1.3	OK	
S2.001	P04	-0.120	0.000	0.09			2.8	OK	
S3.000	P04	-0.142	0.000	0.01			0.4	OK	
S3.001	P04	-0.118	0.000	0.10			1.9	OK	
S3.002	P04	-0.103	0.000	0.22			3.4	OK	
S2.002	P04	-0.052	0.000	0.75			10.5	OK	
S1.001	P04	-0.070	0.000	0.56			16.8	OK	
S1.002	SW01	-0.136	0.000	0.33			16.7	OK	
S1.003	SW02	-0.094	0.000	0.61			31.1	OK	
S1.004	SW03	0.016	0.000	0.83			44.6	SURCHARGED	
S1.005	SW04	0.074	0.000	1.11			43.4	SURCHARGED	
S1.006	SW05	0.042	0.000	1.25			42.0	SURCHARGED	
S1.007	SW06	0.011	0.000	1.06			41.4	SURCHARGED	
S1.008	SW07	-0.146	0.000	0.50			62.2	OK	
S1.009	SW08	-0.087	0.000	0.50			61.9	OK	
S1.010	SW09	0.096	0.000	1.23			77.0	SURCHARGED	
S4.000	P08	-0.084	0.000	0.06			0.4	OK	
S4.001	P08	-0.081	0.000	0.08			0.9	OK	
S5.000	P08	-0.090	0.000	0.02			0.4	OK	
S4.002	P08	-0.055	0.000	0.41			2.3	OK	

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5 Manchester Square London W1U 3PD				Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)				
Date 15/04/2025 File 250404 Combined Network...				Designed by L. Hulka Checked by L. Hulka				
Innovyze				Network 2020.1				
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>								
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S4.003	P08	15 Summer	30	+0%				
S6.000	P18	15 Summer	30	+0%				
S6.001	P18	15 Summer	30	+0%				
S7.000	P18	15 Summer	30	+0%				
S6.002	P18	15 Summer	30	+0%	100/15 Summer			
S6.003	P18	15 Summer	30	+0%	30/15 Summer			
S4.004	SW10	15 Summer	30	+0%	100/15 Summer			
S1.011	SW11	15 Summer	30	+0%	30/15 Summer			
S1.012	SW12	15 Summer	30	+0%	30/15 Summer			
S1.013	SW13	15 Summer	30	+0%	30/15 Summer			
S1.014	SW14	15 Summer	30	+0%	100/15 Summer			
S1.015	SW15	15 Summer	30	+0%	100/15 Summer			
S1.016	SW16	15 Summer	30	+0%	100/15 Summer			
S1.017	SW17	15 Summer	30	+0%	100/15 Summer			
S8.000	SW18	15 Summer	30	+0%	100/15 Summer			
S8.001	SW19	15 Summer	30	+0%	100/15 Summer			
S8.002	SW20	15 Summer	30	+0%				
S9.000	SW21	15 Summer	30	+0%	100/15 Summer			
S9.001	SW22	15 Summer	30	+0%	100/15 Summer			
S1.018	SW23	15 Summer	30	+0%	100/15 Summer			
S1.019	SW24	15 Summer	30	+0%	100/15 Summer			
S1.020	SW25	480 Summer	30	+0%	100/15 Summer			
S10.000	HD26	15 Summer	30	+0%	100/15 Summer			
S11.000	HD27	15 Summer	30	+0%	100/15 Summer			
S10.001	HD28	15 Summer	30	+0%	30/15 Summer			
S10.002	SW29	15 Summer	30	+0%	30/15 Summer			
S12.000	P47	15 Summer	30	+0%	100/15 Summer			
S12.001	P46	15 Summer	30	+0%	100/15 Summer			
S12.002	P46	15 Summer	30	+0%	100/15 Summer			
S13.000	P49	15 Summer	30	+0%	100/15 Summer			
S12.003	P49	15 Summer	30	+0%	100/15 Summer			
S12.004	SW30	15 Summer	30	+0%	100/15 Summer			
S14.000	P49	15 Summer	30	+0%	100/15 Summer			
S14.001	P50	15 Summer	30	+0%	100/15 Summer			
S15.000	P49	15 Summer	30	+0%	100/15 Summer			
S14.002	P50	15 Summer	30	+0%	100/15 Summer			
S12.005	SW31	15 Summer	30	+0%	30/15 Summer			
S10.003	SW32	15 Summer	30	+0%				
S16.000	P71	15 Summer	30	+0%	100/15 Summer			
S17.000	P71	15 Summer	30	+0%	100/15 Summer			
S16.001	P71	15 Summer	30	+0%	100/15 Summer			
S16.002	P71	15 Summer	30	+0%	100/15 Summer			
S18.000	P71	15 Summer	30	+0%				
S16.003	P71	15 Summer	30	+0%	30/15 Summer			
S16.004	P71	15 Summer	30	+0%	100/15 Summer			
S16.005	SW34	15 Summer	30	+0%				
S19.000	P72	15 Summer	30	+0%				
S19.001	P72	15 Summer	30	+0%				
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5 Manchester Square				Ratby Phase 2					
London				RM Condition 7 SWS Results					
W1U 3PD				(Private Drainage Included)					
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File 250404 Combined Network...				Checked by L. Hulka					
Innovyze				Network 2020.1					
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>									
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S4.003	P08	109.825	-0.065	0.000	0.27			5.2	OK
S6.000	P18	110.396	-0.084	0.000	0.06			0.4	OK
S6.001	P18	110.269	-0.081	0.000	0.08			1.4	OK
S7.000	P18	110.031	-0.089	0.000	0.02			0.4	OK
S6.002	P18	109.253	-0.042	0.000	0.51			2.8	OK
S6.003	P18	109.234	0.004	0.000	1.09			5.7	SURCHARGED
S4.004	SW10	109.054	-0.131	0.000	0.37			30.9	OK
S1.011	SW11	108.300	0.060	0.000	1.04			108.8	SURCHARGED
S1.012	SW12	108.227	0.052	0.000	1.00			105.6	SURCHARGED
S1.013	SW13	108.115	0.050	0.000	1.25			124.6	SURCHARGED
S1.014	SW14	107.985	0.000	0.000	1.05			133.3	OK
S1.015	SW15	107.643	-0.237	0.000	0.45			131.9	OK
S1.016	SW16	107.507	-0.093	0.000	0.97			140.2	OK
S1.017	SW17	107.413	-0.107	0.000	0.92			149.7	OK
S8.000	SW18	109.710	-0.065	0.000	0.84			30.6	OK
S8.001	SW19	109.579	-0.096	0.000	0.77			72.4	OK
S8.002	SW20	109.190	-0.155	0.000	0.46			129.0	OK
S9.000	SW21	107.920	-0.095	0.000	0.62			29.9	OK
S9.001	SW22	107.598	-0.082	0.000	0.71			53.2	OK
S1.018	SW23	107.247	-0.153	0.000	0.90			311.5	OK
S1.019	SW24	107.066	-0.234	0.000	0.67			323.9	OK
S1.020	SW25	106.884	-0.166	0.000	0.13			63.5	OK
S10.000	HD26	110.026	-0.124	0.000	0.40			18.5	OK
S11.000	HD27	109.838	-0.032	0.000	0.43			19.4	OK
S10.001	HD28	109.792	0.162	0.000	1.33			66.2	SURCHARGED
S10.002	SW29	109.428	0.003	0.000	1.02			74.0	SURCHARGED
S12.000	P47	109.907	-0.113	0.000	0.14			3.1	OK
S12.001	P46	109.789	-0.101	0.000	0.23			3.0	OK
S12.002	P46	109.724	-0.076	0.000	0.47			6.3	OK
S13.000	P49	109.834	-0.026	0.000	0.89			5.6	OK
S12.003	P49	109.659	-0.041	0.000	0.86			15.6	OK
S12.004	SW30	109.501	-0.114	0.000	0.48			25.2	OK
S14.000	P49	110.055	-0.065	0.000	0.26			3.5	OK
S14.001	P50	109.677	-0.043	0.000	0.62			3.5	OK
S15.000	P49	109.944	-0.066	0.000	0.25			3.5	OK
S14.002	P50	109.558	-0.042	0.000	0.62			6.9	OK
S12.005	SW31	109.417	0.007	0.000	1.04			40.4	SURCHARGED
S10.003	SW32	109.052	-0.208	0.000	0.41			136.8	OK
S16.000	P71	109.099	-0.101	0.000	0.14			1.7	OK
S17.000	P71	109.102	-0.098	0.000	0.17			2.2	OK
S16.001	P71	109.092	-0.008	0.000	0.99			3.9	OK
S16.002	P71	109.074	-0.056	0.000	0.51			6.9	OK
S18.000	P71	109.364	-0.126	0.000	0.06			2.2	OK
S16.003	P71	109.046	0.006	0.000	1.13			13.2	SURCHARGED
S16.004	P71	108.946	-0.059	0.000	0.65			13.1	OK
S16.005	SW34	108.703	-0.127	0.000	0.38			25.2	OK
S19.000	P72	109.576	-0.074	0.000	0.15			1.3	OK
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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)																												
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	US/MH	Level																											
PN	Name	Exceeded																											
S16.002	P71																												
S18.000	P71																												
S16.003	P71																												
S16.004	P71																												
S16.005	SW34																												
S19.000	P72																												
S19.001	P72																												
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5 Manchester Square London W1U 3PD				Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)				
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<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>								
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S20.000	P72	15 Summer	30	+0%				
S19.002	P72	15 Summer	30	+0%				
S21.000	P73	15 Summer	30	+0%	100/15 Summer			
S19.003	P73	15 Summer	30	+0%				
S16.006	SW35	15 Summer	30	+0%	100/15 Summer			
S22.000	P75	15 Summer	30	+0%	100/15 Summer			
S23.000	P75	15 Summer	30	+0%	100/15 Summer			
S24.000	P75	15 Summer	30	+0%	100/15 Summer			
S24.001	P75	15 Summer	30	+0%	100/15 Summer			
S23.001	P75	15 Summer	30	+0%	100/15 Summer			
S22.001	P75	15 Summer	30	+0%	100/15 Summer			
S22.002	P75	15 Summer	30	+0%	30/15 Summer			
S25.000	P74	15 Summer	30	+0%				
S22.003	P74	15 Summer	30	+0%	100/15 Summer			
S16.007	SW36	15 Summer	30	+0%	100/15 Summer			
S26.000	SW38	15 Summer	30	+0%				
S26.001	SW39	15 Summer	30	+0%	100/15 Summer			
S26.002	SW40	15 Summer	30	+0%	100/15 Summer			
S16.008	SW41	15 Summer	30	+0%	100/15 Summer			
S27.000	P58	15 Summer	30	+0%				
S27.001	P58	15 Summer	30	+0%				
S28.000	P58	15 Summer	30	+0%				
S28.001	P58	15 Summer	30	+0%				
S28.002	P57	15 Summer	30	+0%				
S27.002	93	15 Summer	30	+0%				
S29.000	P56	15 Summer	30	+0%				
S29.001	P56	15 Summer	30	+0%				
S27.003	P56	15 Summer	30	+0%	100/15 Summer			
S10.004	SW42	15 Summer	30	+0%	100/15 Summer			
S30.000	P62	15 Summer	30	+0%				
S31.000	P62	15 Summer	30	+0%				
S30.001	P62	15 Summer	30	+0%				
S30.002	P62	15 Summer	30	+0%				
S32.000	P62	15 Summer	30	+0%				
S30.003	P62	15 Summer	30	+0%				
S33.000	P61	15 Summer	30	+0%				
S30.004	SW43	15 Summer	30	+0%	100/15 Summer			
S34.000	P59	15 Summer	30	+0%	100/15 Summer			
S34.001	P59	15 Summer	30	+0%	100/15 Summer			
S35.000	P60	15 Summer	30	+0%				
S35.001	P60	15 Summer	30	+0%				
S36.000	P59	15 Summer	30	+0%	100/15 Summer			
S36.001	P59	15 Summer	30	+0%	100/15 Summer			
S35.002	P59	15 Summer	30	+0%	100/15 Summer			
S30.005	SW44	15 Summer	30	+0%	100/15 Summer			
S10.005	SW45	15 Summer	30	+0%	30/15 Summer			
S10.006	SW46	15 Summer	30	+0%	30/15 Summer			
S1.021	SW47	480 Summer	30	+0%	1/15 Summer			
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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm								
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S20.000	P72	109.574	-0.076	0.000	0.13		1.3	OK
S19.002	P72	109.278	-0.062	0.000	0.30		2.6	OK
S21.000	P73	109.165	-0.035	0.000	0.75		4.4	OK
S19.003	P73	109.016	-0.064	0.000	0.28		6.9	OK
S16.006	SW35	108.221	-0.119	0.000	0.44		42.0	OK
S22.000	P75	107.993	-0.077	0.000	0.30		3.9	OK
S23.000	P75	108.020	-0.130	0.000	0.03		0.4	OK
S24.000	P75	108.018	-0.132	0.000	0.03		0.4	OK
S24.001	P75	108.003	-0.087	0.000	0.22		2.3	OK
S23.001	P75	108.000	-0.070	0.000	0.44		6.0	OK
S22.001	P75	107.978	-0.012	0.000	0.86		11.1	OK
S22.002	P75	107.933	0.003	0.000	1.10		13.7	SURCHARGED
S25.000	P74	108.508	-0.142	0.000	0.01		0.4	OK
S22.003	P74	107.782	-0.108	0.000	0.52		16.2	OK
S16.007	SW36	107.739	-0.101	0.000	0.75		57.8	OK
S26.000	SW38	109.440	-0.105	0.000	0.19		5.2	OK
S26.001	SW39	108.659	-0.131	0.000	0.36		30.0	OK
S26.002	SW40	108.047	-0.078	0.000	0.76		70.4	OK
S16.008	SW41	107.558	-0.132	0.000	0.82		129.8	OK
S27.000	P58	108.160	-0.100	0.000	0.00		0.0	OK
S27.001	P58	108.050	-0.100	0.000	0.00		0.0	OK
S28.000	P58	108.360	-0.100	0.000	0.00		0.0	OK
S28.001	P58	108.220	-0.100	0.000	0.00		0.0	OK
S28.002	P57	108.170	-0.100	0.000	0.00		0.0	OK
S27.002	93	107.930	-0.100	0.000	0.00		0.0	OK
S29.000	P56	108.720	-0.100	0.000	0.00		0.0	OK
S29.001	P56	108.530	-0.290	0.000	0.00		0.0	OK
S27.003	P56	107.870	-0.100	0.000	0.00		0.0	OK
S10.004	SW42	107.412	-0.228	0.000	0.60		316.6	OK
S30.000	P62	108.530	-0.100	0.000	0.00		0.0	OK
S31.000	P62	108.530	-0.100	0.000	0.00		0.0	OK
S30.001	P62	108.230	-0.120	0.000	0.00		0.0	OK
S30.002	P62	108.230	-0.100	0.000	0.00		0.0	OK
S32.000	P62	108.460	-0.100	0.000	0.00		0.0	OK
S30.003	P62	107.920	-0.100	0.000	0.00		0.0	OK
S33.000	P61	108.050	-0.100	0.000	0.00		0.0	OK
S30.004	SW43	107.500	-0.065	0.000	0.62		16.1	OK
S34.000	P59	107.140	-0.150	0.000	0.00		0.0	OK
S34.001	P59	107.084	-0.146	0.000	0.00		0.0	OK
S35.000	P60	107.650	-0.100	0.000	0.00		0.0	OK
S35.001	P60	107.460	-0.100	0.000	0.00		0.0	OK
S36.000	P59	107.300	-0.100	0.000	0.00		0.0	OK
S36.001	P59	107.230	-0.100	0.000	0.00		0.0	OK
S35.002	P59	107.110	-0.100	0.000	0.00		0.0	OK
S30.005	SW44	107.101	-0.049	0.000	0.63		31.1	OK
S10.005	SW45	107.046	0.026	0.000	1.41		341.8	SURCHARGED
S10.006	SW46	106.902	0.007	0.000	1.06		336.9	SURCHARGED
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Innovyze	Network 2020.1																												
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>																													
	<table><tr><td></td><td>US/MH</td><td>Level</td></tr><tr><td>PN</td><td>Name</td><td>Exceeded</td></tr><tr><td>S36.000</td><td>P59</td><td></td></tr><tr><td>S36.001</td><td>P59</td><td></td></tr><tr><td>S35.002</td><td>P59</td><td></td></tr><tr><td>S30.005</td><td>SW44</td><td></td></tr><tr><td>S10.005</td><td>SW45</td><td></td></tr><tr><td>S10.006</td><td>SW46</td><td></td></tr><tr><td>S1.021</td><td>SW47</td><td></td></tr></table>		US/MH	Level	PN	Name	Exceeded	S36.000	P59		S36.001	P59		S35.002	P59		S30.005	SW44		S10.005	SW45		S10.006	SW46		S1.021	SW47		
	US/MH	Level																											
PN	Name	Exceeded																											
S36.000	P59																												
S36.001	P59																												
S35.002	P59																												
S30.005	SW44																												
S10.005	SW45																												
S10.006	SW46																												
S1.021	SW47																												
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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

									Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
S1.022	SW48	60 Winter	30	+0%					106.150

US/MH		Surcharged	Flooded	Flow / Overflow		Half Drain	Pipe	Level	
PN	Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Exceeded
S1.022	SW48	-0.100	0.000	0.24			9.9	OK	

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

Simulation Criteria

Areal Reduction Factor 1.000

Additional Flow - % of Total Flow 0.000

Hot Start (mins) 0

MADD Factor * 10m³/ha Storage 0.000

Hot Start Level (mm) 0

Inlet Coefficient 0.800

Manhole Headloss Coeff (Global) 0.500

Flow per Person per Day (l/per/day) 0.000

Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0

Number of Storage Structures 1

Number of Online Controls 1

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR

Ratio R 0.400

Region England and Wales Cv (Summer) 1.000

M5-60 (mm) 20.000

Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0

DVD Status OFF

Analysis Timestep Fine

Inertia Status OFF

DTS Status OFF

Profile(s) Summer and Winter

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

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

Climate Change (%) 0, 0, 40

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level
S1.000	P04	15 Summer	100	+40%	100/15 Summer				110.519
S2.000	P04	15 Summer	100	+40%	100/15 Summer				110.570
S2.001	P04	15 Summer	100	+40%	100/15 Summer				110.562
S3.000	P04	15 Summer	100	+40%	100/15 Summer				110.564
S3.001	P04	15 Summer	100	+40%	100/15 Summer				110.562
S3.002	P04	15 Summer	100	+40%	100/15 Summer				110.559
S2.002	P04	15 Summer	100	+40%	100/15 Summer				110.550
S1.001	P04	15 Summer	100	+40%	100/15 Summer				110.517
S1.002	SW01	15 Summer	100	+40%	100/15 Summer				110.422
S1.003	SW02	15 Summer	100	+40%	100/15 Summer				110.398
S1.004	SW03	15 Summer	100	+40%	30/15 Summer				110.333
S1.005	SW04	15 Summer	100	+40%	30/15 Summer				110.159
S1.006	SW05	15 Summer	100	+40%	30/15 Summer				109.906
S1.007	SW06	15 Summer	100	+40%	30/15 Summer				109.787
S1.008	SW07	15 Summer	100	+40%	100/15 Summer				109.612
S1.009	SW08	15 Summer	100	+40%	100/15 Summer				109.512
S1.010	SW09	15 Summer	100	+40%	30/15 Summer				109.417
S4.000	P08	15 Summer	100	+40%					110.392
S4.001	P08	15 Summer	100	+40%					110.276
S5.000	P08	15 Summer	100	+40%					110.083
S4.002	P08	15 Summer	100	+40%					109.935

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

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)						
S1.000	P04	0.269	0.000	0.03			0.8	SURCHARGED	
S2.000	P04	0.050	0.000	0.14			2.4	SURCHARGED	
S2.001	P04	0.162	0.000	0.16			5.0	SURCHARGED	
S3.000	P04	0.014	0.000	0.02			0.8	SURCHARGED	
S3.001	P04	0.432	0.000	0.17			3.2	SURCHARGED	
S3.002	P04	0.519	0.000	0.35			5.3	SURCHARGED	
S2.002	P04	0.585	0.000	1.17			16.4	SURCHARGED	
S1.001	P04	0.602	0.000	0.85			25.4	SURCHARGED	
S1.002	SW01	0.737	0.000	0.44			22.3	SURCHARGED	
S1.003	SW02	0.883	0.000	0.72			37.0	SURCHARGED	
S1.004	SW03	0.983	0.000	1.14			61.2	FLOOD RISK	
S1.005	SW04	0.984	0.000	1.40			54.4	FLOOD RISK	
S1.006	SW05	0.891	0.000	1.62			54.2	SURCHARGED	
S1.007	SW06	0.832	0.000	1.50			58.8	SURCHARGED	
S1.008	SW07	0.812	0.000	0.64			79.3	SURCHARGED	
S1.009	SW08	0.957	0.000	0.68			84.4	FLOOD RISK	
S1.010	SW09	1.107	0.000	1.59			99.5	FLOOD RISK	
S4.000	P08	-0.078	0.000	0.11			0.8	OK	
S4.001	P08	-0.074	0.000	0.15			1.7	OK	
S5.000	P08	-0.087	0.000	0.04			0.8	OK	
S4.002	P08	-0.035	0.000	0.75			4.2	OK	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm								
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S4.003	P08	15 Summer	100	+40%				
S6.000	P18	15 Summer	100	+40%				
S6.001	P18	15 Summer	100	+40%				
S7.000	P18	15 Summer	100	+40%				
S6.002	P18	15 Summer	100	+40%	100/15 Summer			
S6.003	P18	15 Summer	100	+40%	30/15 Summer			
S4.004	SW10	15 Summer	100	+40%	100/15 Summer			
S1.011	SW11	15 Summer	100	+40%	30/15 Summer			
S1.012	SW12	15 Summer	100	+40%	30/15 Summer			
S1.013	SW13	15 Summer	100	+40%	30/15 Summer			
S1.014	SW14	15 Summer	100	+40%	100/15 Summer			
S1.015	SW15	15 Summer	100	+40%	100/15 Summer			
S1.016	SW16	15 Summer	100	+40%	100/15 Summer			
S1.017	SW17	15 Summer	100	+40%	100/15 Summer			
S8.000	SW18	15 Summer	100	+40%	100/15 Summer			
S8.001	SW19	15 Summer	100	+40%	100/15 Summer			
S8.002	SW20	15 Summer	100	+40%				
S9.000	SW21	15 Summer	100	+40%	100/15 Summer			
S9.001	SW22	15 Summer	100	+40%	100/15 Summer			
S1.018	SW23	15 Summer	100	+40%	100/15 Summer			
S1.019	SW24	15 Summer	100	+40%	100/15 Summer			
S1.020	SW25	960 Summer	100	+40%	100/15 Summer			
S10.000	HD26	15 Summer	100	+40%	100/15 Summer			
S11.000	HD27	15 Summer	100	+40%	100/15 Summer			
S10.001	HD28	15 Summer	100	+40%	30/15 Summer			
S10.002	SW29	15 Summer	100	+40%	30/15 Summer			
S12.000	P47	15 Summer	100	+40%	100/15 Summer			
S12.001	P46	15 Summer	100	+40%	100/15 Summer			
S12.002	P46	15 Summer	100	+40%	100/15 Summer			
S13.000	P49	15 Summer	100	+40%	100/15 Summer			
S12.003	P49	15 Summer	100	+40%	100/15 Summer			
S12.004	SW30	15 Summer	100	+40%	100/15 Summer			
S14.000	P49	15 Summer	100	+40%	100/15 Summer			
S14.001	P50	15 Summer	100	+40%	100/15 Summer			
S15.000	P49	15 Summer	100	+40%	100/15 Summer			
S14.002	P50	15 Summer	100	+40%	100/15 Summer			
S12.005	SW31	15 Summer	100	+40%	30/15 Summer			
S10.003	SW32	15 Summer	100	+40%				
S16.000	P71	15 Summer	100	+40%	100/15 Summer			
S17.000	P71	15 Summer	100	+40%	100/15 Summer			
S16.001	P71	15 Summer	100	+40%	100/15 Summer			
S16.002	P71	15 Summer	100	+40%	100/15 Summer			
S18.000	P71	15 Summer	100	+40%				
S16.003	P71	15 Summer	100	+40%	30/15 Summer			
S16.004	P71	15 Summer	100	+40%	100/15 Summer			
S16.005	SW34	15 Summer	100	+40%				
S19.000	P72	15 Summer	100	+40%				
S19.001	P72	15 Summer	100	+40%				
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<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>									
		Water	Surcharged	Flooded			Half Drain	Pipe	
	US/MH	Level	Depth	Volume	Flow /	Overflow	Time	Flow	
PN	Name	(m)	(m)	(m³)	Cap.	(l/s)	(mins)	(l/s)	Status
S4.003	P08	109.840	-0.050	0.000	0.49			9.5	OK
S6.000	P18	110.402	-0.078	0.000	0.11			0.8	OK
S6.001	P18	110.275	-0.075	0.000	0.15			2.6	OK
S7.000	P18	110.034	-0.086	0.000	0.05			0.8	OK
S6.002	P18	109.575	0.280	0.000	0.91			5.0	SURCHARGED
S6.003	P18	109.549	0.319	0.000	1.94			10.2	SURCHARGED
S4.004	SW10	109.461	0.276	0.000	0.63			52.7	SURCHARGED
S1.011	SW11	109.231	0.991	0.000	1.42			147.9	SURCHARGED
S1.012	SW12	109.087	0.912	0.000	1.43			150.9	SURCHARGED
S1.013	SW13	108.886	0.821	0.000	1.81			180.7	SURCHARGED
S1.014	SW14	108.613	0.628	0.000	1.60			203.1	SURCHARGED
S1.015	SW15	108.336	0.456	0.000	0.71			205.5	SURCHARGED
S1.016	SW16	108.204	0.604	0.000	1.55			224.7	FLOOD RISK
S1.017	SW17	108.015	0.495	0.000	1.53			247.3	SURCHARGED
S8.000	SW18	110.241	0.466	0.000	1.56			56.7	SURCHARGED
S8.001	SW19	110.008	0.333	0.000	1.37			128.4	SURCHARGED
S8.002	SW20	109.257	-0.088	0.000	0.81			227.3	OK
S9.000	SW21	108.451	0.436	0.000	1.05			51.1	SURCHARGED
S9.001	SW22	108.079	0.399	0.000	1.14			85.3	SURCHARGED
S1.018	SW23	107.724	0.324	0.000	1.55			539.6	SURCHARGED
S1.019	SW24	107.421	0.121	0.000	1.16			557.1	SURCHARGED
S1.020	SW25	107.393	0.343	0.000	0.13			64.8	SURCHARGED
S10.000	HD26	111.145	0.995	0.000	0.69			31.8	FLOOD RISK
S11.000	HD27	111.038	1.168	0.000	0.80			36.4	FLOOD RISK
S10.001	HD28	110.907	1.277	0.000	2.27			113.3	FLOOD RISK
S10.002	SW29	109.798	0.373	0.000	1.77			128.9	SURCHARGED
S12.000	P47	110.137	0.117	0.000	0.24			5.4	SURCHARGED
S12.001	P46	110.124	0.234	0.000	0.45			6.0	SURCHARGED
S12.002	P46	110.105	0.305	0.000	0.78			10.4	SURCHARGED
S13.000	P49	110.458	0.598	0.000	1.59			10.0	FLOOD RISK
S12.003	P49	110.042	0.342	0.000	1.45			26.5	SURCHARGED
S12.004	SW30	109.855	0.240	0.000	0.79			41.7	SURCHARGED
S14.000	P49	110.166	0.046	0.000	0.47			6.3	SURCHARGED
S14.001	P50	110.083	0.363	0.000	1.10			6.2	SURCHARGED
S15.000	P49	110.015	0.005	0.000	0.44			6.3	SURCHARGED
S14.002	P50	109.939	0.339	0.000	1.10			12.2	SURCHARGED
S12.005	SW31	109.723	0.313	0.000	1.75			68.2	SURCHARGED
S10.003	SW32	109.121	-0.139	0.000	0.71			238.7	OK
S16.000	P71	109.394	0.194	0.000	0.24			3.1	SURCHARGED
S17.000	P71	109.396	0.196	0.000	0.30			3.9	SURCHARGED
S16.001	P71	109.386	0.286	0.000	1.81			7.1	SURCHARGED
S16.002	P71	109.322	0.192	0.000	0.93			12.6	SURCHARGED
S18.000	P71	109.373	-0.117	0.000	0.11			4.0	OK
S16.003	P71	109.238	0.198	0.000	2.02			23.7	SURCHARGED
S16.004	P71	109.082	0.077	0.000	1.19			23.9	SURCHARGED
S16.005	SW34	108.773	-0.057	0.000	0.68			45.1	OK
S19.000	P72	109.586	-0.064	0.000	0.27			2.4	OK
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PN	US/MH Name	Level Exceeded																								
S16.002	P71																									
S18.000	P71																									
S16.003	P71																									
S16.004	P71																									
S16.005	SW34																									
S19.000	P72																									
S19.001	P72																									
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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm								
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S20.000	P72	15 Summer	100	+40%				
S19.002	P72	15 Summer	100	+40%				
S21.000	P73	15 Summer	100	+40%	100/15 Summer			
S19.003	P73	15 Summer	100	+40%				
S16.006	SW35	15 Summer	100	+40%	100/15 Summer			
S22.000	P75	15 Summer	100	+40%	100/15 Summer			
S23.000	P75	15 Summer	100	+40%	100/15 Summer			
S24.000	P75	15 Summer	100	+40%	100/15 Summer			
S24.001	P75	15 Summer	100	+40%	100/15 Summer			
S23.001	P75	15 Summer	100	+40%	100/15 Summer			
S22.001	P75	15 Summer	100	+40%	100/15 Summer			
S22.002	P75	15 Summer	100	+40%	30/15 Summer			
S25.000	P74	15 Summer	100	+40%				
S22.003	P74	15 Summer	100	+40%	100/15 Summer			
S16.007	SW36	15 Summer	100	+40%	100/15 Summer			
S26.000	SW38	15 Summer	100	+40%				
S26.001	SW39	15 Summer	100	+40%	100/15 Summer			
S26.002	SW40	15 Summer	100	+40%	100/15 Summer			
S16.008	SW41	15 Summer	100	+40%	100/15 Summer			
S27.000	P58	15 Summer	100	+40%				
S27.001	P58	15 Summer	100	+40%				
S28.000	P58	15 Summer	100	+40%				
S28.001	P58	15 Summer	100	+40%				
S28.002	P57	15 Summer	100	+40%				
S27.002	93	15 Summer	100	+40%				
S29.000	P56	15 Summer	100	+40%				
S29.001	P56	15 Summer	100	+40%				
S27.003	P56	15 Summer	100	+40%	100/15 Summer			
S10.004	SW42	15 Summer	100	+40%	100/15 Summer			
S30.000	P62	15 Summer	100	+40%				
S31.000	P62	15 Summer	100	+40%				
S30.001	P62	15 Summer	100	+40%				
S30.002	P62	15 Summer	100	+40%				
S32.000	P62	15 Summer	100	+40%				
S30.003	P62	15 Summer	100	+40%				
S33.000	P61	15 Summer	100	+40%				
S30.004	SW43	15 Summer	100	+40%	100/15 Summer			
S34.000	P59	15 Summer	100	+40%	100/15 Summer			
S34.001	P59	15 Summer	100	+40%	100/15 Summer			
S35.000	P60	15 Summer	100	+40%				
S35.001	P60	15 Summer	100	+40%				
S36.000	P59	15 Summer	100	+40%	100/15 Summer			
S36.001	P59	15 Summer	100	+40%	100/15 Summer			
S35.002	P59	15 Summer	100	+40%	100/15 Summer			
S30.005	SW44	15 Summer	100	+40%	100/15 Summer			
S10.005	SW45	15 Summer	100	+40%	30/15 Summer			
S10.006	SW46	960 Summer	100	+40%	30/15 Summer			
S1.021	SW47	960 Summer	100	+40%	1/15 Summer			
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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S20.000	P72	109.582	-0.068	0.000	0.23			2.4	OK
S19.002	P72	109.294	-0.046	0.000	0.55			4.7	OK
S21.000	P73	109.303	0.103	0.000	1.36			7.9	SURCHARGED
S19.003	P73	109.031	-0.049	0.000	0.50			12.5	OK
S16.006	SW35	108.600	0.260	0.000	0.71			67.7	SURCHARGED
S22.000	P75	108.652	0.582	0.000	0.51			6.7	FLOOD RISK
S23.000	P75	108.663	0.513	0.000	0.06			0.7	FLOOD RISK
S24.000	P75	108.666	0.516	0.000	0.05			0.7	FLOOD RISK
S24.001	P75	108.665	0.575	0.000	0.31			3.3	SURCHARGED
S23.001	P75	108.660	0.590	0.000	0.66			9.0	SURCHARGED
S22.001	P75	108.627	0.637	0.000	1.36			17.6	SURCHARGED
S22.002	P75	108.519	0.589	0.000	1.75			21.8	SURCHARGED
S25.000	P74	108.514	-0.136	0.000	0.02			0.8	OK
S22.003	P74	108.400	0.510	0.000	0.80			25.2	SURCHARGED
S16.007	SW36	108.382	0.542	0.000	1.18			91.0	SURCHARGED
S26.000	SW38	109.456	-0.089	0.000	0.35			9.4	OK
S26.001	SW39	108.921	0.131	0.000	0.62			51.2	SURCHARGED
S26.002	SW40	108.731	0.606	0.000	1.24			115.5	SURCHARGED
S16.008	SW41	108.190	0.500	0.000	1.26			199.5	SURCHARGED
S27.000	P58	108.160	-0.100	0.000	0.00			0.0	OK
S27.001	P58	108.050	-0.100	0.000	0.00			0.0	OK
S28.000	P58	108.360	-0.100	0.000	0.00			0.0	OK
S28.001	P58	108.220	-0.100	0.000	0.00			0.0	OK
S28.002	P57	108.170	-0.100	0.000	0.00			0.0	OK
S27.002	93	107.964	-0.066	0.000	0.09			0.5	OK
S29.000	P56	108.720	-0.100	0.000	0.00			0.0	OK
S29.001	P56	108.530	-0.290	0.000	0.00			0.0	OK
S27.003	P56	108.053	0.083	0.000	0.12			1.4	SURCHARGED
S10.004	SW42	108.069	0.429	0.000	0.95			505.6	SURCHARGED
S30.000	P62	108.530	-0.100	0.000	0.00			0.0	OK
S31.000	P62	108.530	-0.100	0.000	0.00			0.0	OK
S30.001	P62	108.230	-0.120	0.000	0.00			0.0	OK
S30.002	P62	108.230	-0.100	0.000	0.00			0.0	OK
S32.000	P62	108.460	-0.100	0.000	0.00			0.0	OK
S30.003	P62	107.920	-0.100	0.000	0.00			0.0	OK
S33.000	P61	108.050	-0.100	0.000	0.00			0.0	OK
S30.004	SW43	107.900	0.335	0.000	0.97			25.4	SURCHARGED
S34.000	P59	107.598	0.308	0.000	0.00			0.0	FLOOD RISK
S34.001	P59	107.598	0.368	0.000	0.17			2.3	FLOOD RISK
S35.000	P60	107.650	-0.100	0.000	0.00			0.0	OK
S35.001	P60	107.528	-0.032	0.000	0.04			0.7	OK
S36.000	P59	107.576	0.176	0.000	0.00			0.0	SURCHARGED
S36.001	P59	107.576	0.246	0.000	0.17			1.0	SURCHARGED
S35.002	P59	107.576	0.366	0.000	0.33			2.2	SURCHARGED
S30.005	SW44	107.599	0.449	0.000	0.95			46.7	SURCHARGED
S10.005	SW45	107.492	0.472	0.000	2.23			539.4	SURCHARGED
S10.006	SW46	107.393	0.498	0.000	0.17			54.4	SURCHARGED

Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)
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Checked by L. Hulka

Network 2020.1

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

PN	US/MH Name	Water	Surcharged	Flooded			Half Drain	Pipe	Status
		Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	
S1.021	SW47	107.392	1.042	0.000	0.55			9.8	SURCHARGED

	US/MH	Level
PN	Name	Exceeded
S20.000	P72	
S19.002	P72	
S21.000	P73	
S19.003	P73	
S16.006	SW35	
S22.000	P75	
S23.000	P75	
S24.000	P75	
S24.001	P75	
S23.001	P75	
S22.001	P75	
S22.002	P75	
S25.000	P74	
S22.003	P74	
S16.007	SW36	
S26.000	SW38	
S26.001	SW39	
S26.002	SW40	
S16.008	SW41	
S27.000	P58	
S27.001	P58	
S28.000	P58	
S28.001	P58	
S28.002	P57	
S27.002	93	
S29.000	P56	
S29.001	P56	
S27.003	P56	
S10.004	SW42	
S30.000	P62	
S31.000	P62	
S30.001	P62	
S30.002	P62	
S32.000	P62	
S30.003	P62	
S33.000	P61	
S30.004	SW43	
S34.000	P59	
S34.001	P59	
S35.000	P60	
S35.001	P60	

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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)																												
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Innovyze	Network 2020.1																												
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>																													
	<table><tr><td></td><td>US/MH</td><td>Level</td></tr><tr><td>PN</td><td>Name</td><td>Exceeded</td></tr><tr><td>S36.000</td><td>P59</td><td></td></tr><tr><td>S36.001</td><td>P59</td><td></td></tr><tr><td>S35.002</td><td>P59</td><td></td></tr><tr><td>S30.005</td><td>SW44</td><td></td></tr><tr><td>S10.005</td><td>SW45</td><td></td></tr><tr><td>S10.006</td><td>SW46</td><td></td></tr><tr><td>S1.021</td><td>SW47</td><td></td></tr></table>		US/MH	Level	PN	Name	Exceeded	S36.000	P59		S36.001	P59		S35.002	P59		S30.005	SW44		S10.005	SW45		S10.006	SW46		S1.021	SW47		
	US/MH	Level																											
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5 Manchester Square London W1U 3PD	Ratby Phase 2 RM Condition 7 SWS Results (Private Drainage Included)	
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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

									Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
S1.022	SW48	1440 Winter	100	+40%					106.150

US/MH		Surcharged	Flooded	Flow / Overflow		Half Drain	Pipe	Level	
PN	Name	Depth (m)	Volume (m³)	Cap.	(l/s)	Time (mins)	Flow (l/s)	Status	Exceeded
S1.022	SW48	-0.100	0.000	0.24			9.9	OK	