Appendix H

Micro-drainage Calculations

STORM SEWER DESIGN by the Modified Rational Method

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
S1.000	23.265	0.235	99.0	0.097	4.00	0.0	0.600	o	225	Pipe/Conduit	
S1.001	41.175	0.275	150.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S2.000	8.340	0.085	98.1	0.038	4.00	0.0	0.600	o	150	Pipe/Conduit	
S3.000	26.320	0.265	99.3	0.010	4.00	0.0	0.600	o	150	Pipe/Conduit	
S1.002	55.735	0.370	150.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S4.000	14.130	0.140	100.9	0.343	4.00	0.0	0.600	o	300	Pipe/Conduit	
S1.003	48.987	0.170	288.2	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S5.000	8.763	0.090	97.4	0.070	4.00	0.0	0.600	o	225	Pipe/Conduit	
S1.004	52.170	0.875	59.6	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S6.000	20.020	0.400	50.1	0.174	4.00	0.0	0.600	o	300	Pipe/Conduit	
S7.000	20.080	0.275	73.0	0.402	4.00	0.0	0.600	o	375	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	4.30	135.400	0.097	0.0	0.0	0.0	1.31	52.2	13.1
S1.001	50.00	4.94	135.165	0.097	0.0	0.0	0.0	1.07	42.4	13.1
S2.000	50.00	4.14	135.050	0.038	0.0	0.0	0.0	1.01	17.9	5.1
S3.000	50.00	4.44	135.230	0.010	0.0	0.0	0.0	1.01	17.8	1.4
S1.002	50.00	5.81	134.890	0.145	0.0	0.0	0.0	1.06	42.3	19.6
S4.000	50.00	4.15	134.660	0.343	0.0	0.0	0.0	1.56	110.6	46.4
S1.003	50.00	6.58	134.370	0.488	0.0	0.0	0.0	1.06	117.3	66.1
S5.000	50.00	4.11	134.440	0.070	0.0	0.0	0.0	1.33	52.7	9.5
S1.004	50.00	6.95	134.200	0.558	0.0	0.0	0.0	2.35	259.6	75.6
S6.000	50.00	4.15	133.800	0.174	0.0	0.0	0.0	2.23	157.5	23.6
S7.000	50.00	4.16	133.600	0.402	0.0	0.0	0.0	2.12	234.4	54.4

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STORM SEWER DESIGN by the Modified Rational Method

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
S1.005	60.695	0.200	303.5	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S8.000	16.770	0.170	98.6	0.122	4.00	0.0	0.600	o	225	Pipe/Conduit	
S1.006	10.890	0.035	311.1	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S1.007	9.990	0.035	285.4	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S1.008	35.205	0.120	293.4	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S9.000	5.000	5.000	1.0	0.274	4.00	0.0	0.600	o	300	Pipe/Conduit	
S9.001	5.000	5.000	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S9.002	9.540	0.500	19.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.009	28.695	0.100	287.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S10.000	5.000	5.000	1.0	0.541	4.00	0.0	0.600	o	300	Pipe/Conduit	
S10.001	5.000	5.000	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S10.002	7.495	0.500	15.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.010	30.780	0.105	293.1	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
S11.000	5.000	5.000	1.0	0.541	4.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.005	50.00	7.68	133.100	1.134	0.0	0.0	0.0	1.39	393.7	153.6
S8.000	50.00	4.21	133.595	0.122	0.0	0.0	0.0	1.32	52.3	16.5
S1.006	50.00	7.81	132.900	1.256	0.0	0.0	0.0	1.38	388.8	170.1
S1.007	50.00	7.93	132.765	1.256	0.0	0.0	0.0	1.44	406.1	170.1
S1.008	50.00	8.34	132.730	1.256	0.0	0.0	0.0	1.42	400.5	170.1
S9.000	50.00	4.01	145.000	0.274	0.0	0.0	0.0	15.84	1119.6	37.1
S9.001	50.00	4.01	140.000	0.274	0.0	0.0	0.0	15.84	1119.6	37.1
S9.002	50.00	4.05	135.000	0.274	0.0	0.0	0.0	3.62	255.6	37.1
S1.009	50.00	8.67	132.610	1.530	0.0	0.0	0.0	1.43	405.0	207.2
S10.000	50.00	4.01	145.000	0.541	0.0	0.0	0.0	15.84	1119.6	73.3
S10.001	50.00	4.01	140.000	0.541	0.0	0.0	0.0	15.84	1119.6	73.3
S10.002	50.00	4.04	135.000	0.541	0.0	0.0	0.0	4.08	288.5	73.3
S1.010	50.00	8.99	132.360	2.071	0.0	0.0	0.0	1.63	719.8	280.4
S11.000	50.00	4.01	145.000	0.541	0.0	0.0	0.0	15.84	1119.6	73.3

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STORM SEWER DESIGN by the Modified Rational Method

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
S11.001	5.000	5.000	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S11.002	7.110	0.500	14.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.011	20.835	0.070	297.6	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
S12.000	14.160	0.140	101.1	0.029	4.00	0.0	0.600	o	150	Pipe/Conduit	
S12.001	15.200	0.150	101.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S13.000	5.000	5.000	1.0	0.033	4.00	0.0	0.600	o	150	Pipe/Conduit	
S13.001	12.340	0.125	98.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S12.002	60.020	0.600	100.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S14.000	13.455	0.135	99.7	0.173	4.00	0.0	0.600	o	300	Pipe/Conduit	
S15.000	8.055	0.080	100.7	0.125	4.00	0.0	0.600	o	225	Pipe/Conduit	
S14.001	22.676	0.110	206.1	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S16.000	5.060	0.050	101.2	0.052	4.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S11.001	50.00	4.01	140.000	0.541	0.0	0.0	0.0	15.84	1119.6	73.3
S11.002	50.00	4.04	135.000	0.541	0.0	0.0	0.0	4.19	296.2	73.3
S1.011	50.00	9.20	132.255	2.612	0.0	0.0	0.0	1.62	714.3	353.7
S12.000	50.00	4.24	134.600	0.029	0.0	0.0	0.0	1.00	17.7	3.9
S12.001	50.00	4.49	134.460	0.029	0.0	0.0	0.0	1.00	17.6	3.9
S13.000	50.00	4.01	140.000	0.033	0.0	0.0	0.0	10.16	179.6	4.5
S13.001	50.00	4.21	135.000	0.033	0.0	0.0	0.0	1.01	17.9	4.5
S12.002	50.00	5.49	134.310	0.062	0.0	0.0	0.0	1.00	17.8	8.4
S14.000	50.00	4.14	134.475	0.173	0.0	0.0	0.0	1.57	111.3	23.4
S15.000	50.00	4.10	134.495	0.125	0.0	0.0	0.0	1.30	51.8	16.9
S14.001	50.00	4.44	134.265	0.298	0.0	0.0	0.0	1.26	139.0	40.4
S16.000	50.00	4.06	134.355	0.052	0.0	0.0	0.0	1.30	51.7	7.0

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STORM SEWER DESIGN by the Modified Rational Method

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
S17.000	8.579	0.090	95.3	0.082	4.00	0.0	0.600	o	300	Pipe/Conduit	
S14.002	7.636	0.040	190.9	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S14.003	9.415	0.050	188.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S14.004	14.150	0.480	29.5	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S18.000	5.000	5.000	1.0	0.033	4.00	0.0	0.600	o	150	Pipe/Conduit	
S18.001	10.270	0.105	97.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S12.003	8.968	0.030	298.9	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S19.000	21.485	0.215	100.0	0.076	4.00	0.0	0.600	o	225	Pipe/Conduit	
S19.001	31.844	0.360	88.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S20.000	11.867	0.200	59.3	0.066	4.00	0.0	0.600	o	225	Pipe/Conduit	
S12.004	34.092	0.110	309.9	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S21.000	4.850	0.175	27.7	0.066	4.00	0.0	0.600	o	300	Pipe/Conduit	
S12.005	41.460	0.140	296.1	0.000	0.00	0.0	0.600	o	450	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)
S17.000	50.00	4.09	134.320	0.082	0.0	0.0	0.0	1.61	113.9	11.1
S14.002	50.00	4.54	134.155	0.432	0.0	0.0	0.0	1.31	144.5	58.5
S14.003	50.00	4.66	134.015	0.432	0.0	0.0	0.0	1.32	145.5	58.5
S14.004	50.00	4.73	133.965	0.432	0.0	0.0	0.0	3.35	369.8	58.5
S18.000	50.00	4.01	140.000	0.033	0.0	0.0	0.0	10.16	179.6	4.5
S18.001	50.00	4.18	135.000	0.033	0.0	0.0	0.0	1.02	18.0	4.5
S12.003	50.00	5.61	133.410	0.527	0.0	0.0	0.0	1.17	186.2	71.4
S19.000	50.00	4.27	134.180	0.076	0.0	0.0	0.0	1.31	52.0	10.3
S19.001	50.00	4.66	133.965	0.076	0.0	0.0	0.0	1.39	55.3	10.3
S20.000	50.00	4.12	133.805	0.066	0.0	0.0	0.0	1.70	67.6	8.9
S12.004	50.00	6.11	133.380	0.669	0.0	0.0	0.0	1.15	182.8	90.6
S21.000	50.00	4.03	133.595	0.066	0.0	0.0	0.0	3.00	211.9	8.9
S12.005	50.00	6.70	133.270	0.735	0.0	0.0	0.0	1.18	187.1	99.5

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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
S22.000	4.850	0.100	48.5	0.062	4.00	0.0	0.600	o	225	Pipe/Conduit	
S12.006	41.460	0.140	296.1	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S23.000	4.850	0.175	27.7	0.062	4.00	0.0	0.600	o	300	Pipe/Conduit	
S12.007	45.950	0.155	296.5	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S24.000	4.850	0.100	48.5	0.063	4.00	0.0	0.600	o	225	Pipe/Conduit	
S12.008	26.540	0.090	294.9	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S25.000	6.070	0.120	50.6	0.089	4.00	0.0	0.600	o	225	Pipe/Conduit	
S12.009	13.750	0.260	52.9	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S26.000	5.000	5.000	1.0	0.274	4.00	0.0	0.600	o	300	Pipe/Conduit	
S26.001	6.500	6.500	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S26.002	7.625	0.075	101.7	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S22.000	50.00	4.04	133.455	0.062	0.0	0.0	0.0	1.88	74.9	8.4
S12.006	50.00	7.28	133.130	0.797	0.0	0.0	0.0	1.18	187.1	107.9
S23.000	50.00	4.03	133.315	0.062	0.0	0.0	0.0	3.00	211.9	8.4
S12.007	50.00	7.83	132.840	0.859	0.0	0.0	0.0	1.41	398.4	116.3
S24.000	50.00	4.04	133.160	0.063	0.0	0.0	0.0	1.88	74.9	8.5
S12.008	50.00	8.14	132.685	0.922	0.0	0.0	0.0	1.41	399.5	124.9
S25.000	50.00	4.05	133.090	0.089	0.0	0.0	0.0	1.84	73.3	12.1
S12.009	50.00	8.21	132.595	1.011	0.0	0.0	0.0	3.35	948.2	136.9
S26.000	50.00	4.01	145.000	0.274	0.0	0.0	0.0	15.84	1119.6	37.1
S26.001	50.00	4.01	140.000	0.274	0.0	0.0	0.0	15.84	1119.6	37.1
S26.002	50.00	4.09	133.500	0.274	0.0	0.0	0.0	1.56	110.2	37.1

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STORM SEWER DESIGN by the Modified Rational Method

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
S1.012	10.955	0.220	49.8	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
S27.000	34.995	0.350	100.0	0.299	4.00	0.0	0.600	o	300	Pipe/Conduit	
S27.001	42.275	0.440	96.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S28.000	38.860	0.390	99.6	0.370	4.00	0.0	0.600	o	300	Pipe/Conduit	
S27.002	61.370	0.205	299.4	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S29.000	37.240	0.370	100.6	0.370	4.00	0.0	0.600	o	300	Pipe/Conduit	
S27.003	43.105	0.145	297.3	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S30.000	20.740	0.205	101.2	0.178	4.00	0.0	0.600	o	225	Pipe/Conduit	
S31.000	26.330	0.265	99.4	0.085	4.00	0.0	0.600	o	225	Pipe/Conduit	
S32.000	10.150	0.100	101.5	0.020	4.00	0.0	0.600	o	150	Pipe/Conduit	
S31.001	29.635	0.200	148.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.012	50.00	9.25	130.685	3.897	0.0	0.0	0.0	3.97	1754.6	527.7
S27.000	50.00	4.37	134.000	0.299	0.0	0.0	0.0	1.57	111.1	40.5
S27.001	50.00	4.81	133.650	0.299	0.0	0.0	0.0	1.60	113.4	40.5
S28.000	50.00	4.41	133.600	0.370	0.0	0.0	0.0	1.58	111.3	50.1
S27.002	50.00	5.68	133.060	0.669	0.0	0.0	0.0	1.17	186.0	90.6
S29.000	50.00	4.40	133.375	0.370	0.0	0.0	0.0	1.57	110.8	50.1
S27.003	50.00	6.20	132.705	1.039	0.0	0.0	0.0	1.41	397.9	140.7
S30.000	50.00	4.27	133.140	0.178	0.0	0.0	0.0	1.30	51.7	24.1
S31.000	50.00	4.33	133.600	0.085	0.0	0.0	0.0	1.31	52.2	11.5
S32.000	50.00	4.17	133.510	0.020	0.0	0.0	0.0	1.00	17.6	2.7
S31.001	50.00	4.80	133.335	0.105	0.0	0.0	0.0	1.07	42.6	14.2

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STORM SEWER DESIGN by the Modified Rational Method

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
S33.000	12.095	0.120	100.8	0.010	4.00	0.0	0.600	o	150	Pipe/Conduit	
S34.000	15.730	0.155	101.5	0.019	4.00	0.0	0.600	o	150	Pipe/Conduit	
S35.000	7.685	0.075	102.5	0.005	4.00	0.0	0.600	o	150	Pipe/Conduit	
S31.002	22.670	0.200	113.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S27.004	8.955	0.030	298.5	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S27.005	63.190	0.505	125.1	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S36.000	17.440	0.175	99.7	0.048	4.00	0.0	0.600	o	375	Pipe/Conduit	
S36.001	49.562	0.480	103.3	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S37.000	10.755	0.260	41.4	0.048	4.00	0.0	0.600	o	375	Pipe/Conduit	
S36.002	22.340	0.150	148.9	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S36.003	40.570	0.270	150.0	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S38.000	9.085	0.090	100.9	0.053	4.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S33.000	50.00	4.20	133.330	0.010	0.0	0.0	0.0	1.00	17.7	1.4
S34.000	50.00	4.26	133.365	0.019	0.0	0.0	0.0	1.00	17.6	2.6
S35.000	50.00	4.13	133.285	0.005	0.0	0.0	0.0	0.99	17.5	0.7
S31.002	50.00	5.10	133.135	0.139	0.0	0.0	0.0	1.23	48.8	18.8
S27.004	50.00	6.30	132.560	1.356	0.0	0.0	0.0	1.40	397.0	183.6
S27.005	50.00	6.79	132.430	1.356	0.0	0.0	0.0	2.18	615.2	183.6
S36.000	50.00	4.16	134.600	0.048	0.0	0.0	0.0	1.82	200.5	6.5
S36.001	50.00	4.62	134.425	0.048	0.0	0.0	0.0	1.78	196.9	6.5
S37.000	50.00	4.06	134.205	0.048	0.0	0.0	0.0	2.82	311.9	6.5
S36.002	50.00	4.85	133.870	0.096	0.0	0.0	0.0	1.66	264.6	13.0
S36.003	50.00	5.26	133.720	0.096	0.0	0.0	0.0	1.66	263.6	13.0
S38.000	50.00	4.12	133.765	0.053	0.0	0.0	0.0	1.30	51.7	7.2

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STORM SEWER DESIGN by the Modified Rational Method

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
S36.004	40.570	0.185	219.3	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S39.000	9.085	0.090	100.9	0.035	4.00	0.0	0.600	o	150	Pipe/Conduit	
S36.005	40.570	0.185	219.3	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S40.000	9.085	0.090	100.9	0.035	4.00	0.0	0.600	o	150	Pipe/Conduit	
S36.006	40.570	0.185	219.3	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S41.000	9.085	0.090	100.9	0.035	4.00	0.0	0.600	o	150	Pipe/Conduit	
S36.007	40.570	0.185	219.3	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S42.000	9.085	0.090	100.9	0.000	4.00	0.0	0.600	o	150	Pipe/Conduit	
S36.008	22.520	0.100	225.2	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S36.009	6.360	0.090	70.7	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S43.000	5.000	5.000	1.0	0.302	4.00	0.0	0.600	o	300	Pipe/Conduit	
S43.001	5.000	5.000	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S36.004	50.00	5.75	133.450	0.149	0.0	0.0	0.0	1.37	217.7	20.2
S39.000	50.00	4.15	133.655	0.035	0.0	0.0	0.0	1.00	17.7	4.7
S36.005	50.00	6.24	133.265	0.184	0.0	0.0	0.0	1.37	217.7	24.9
S40.000	50.00	4.15	133.470	0.035	0.0	0.0	0.0	1.00	17.7	4.7
S36.006	50.00	6.74	133.080	0.219	0.0	0.0	0.0	1.37	217.7	29.7
S41.000	50.00	4.15	133.285	0.035	0.0	0.0	0.0	1.00	17.7	4.7
S36.007	50.00	7.23	132.895	0.254	0.0	0.0	0.0	1.37	217.7	34.4
S42.000	50.00	4.15	133.100	0.000	0.0	0.0	0.0	1.00	17.7	0.0
S36.008	50.00	7.46	132.560	0.254	0.0	0.0	0.0	1.62	457.7	34.4
S36.009	50.00	7.50	132.460	0.254	0.0	0.0	0.0	2.90	819.8	34.4
S43.000	50.00	4.01	145.000	0.302	0.0	0.0	0.0	15.84	1119.6	40.9
S43.001	50.00	4.01	140.000	0.302	0.0	0.0	0.0	15.84	1119.6	40.9

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STORM SEWER DESIGN by the Modified Rational Method

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
S43.002	11.935	0.600	19.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S44.000	5.000	5.000	1.0	0.596	4.00	0.0	0.600	o	300	Pipe/Conduit	
S44.001	5.000	5.000	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S44.002	12.340	0.120	102.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S36.010	13.020	0.135	96.4	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S45.000	5.000	5.000	1.0	0.588	4.00	0.0	0.600	o	300	Pipe/Conduit	
S45.001	5.000	5.000	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S45.002	11.905	0.120	99.2	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S36.011	12.640	0.125	101.1	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S46.000	5.000	5.000	1.0	0.033	4.00	0.0	0.600	o	225	Pipe/Conduit	
S46.001	12.330	0.620	19.9	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S36.012	67.490	0.675	100.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S47.000	5.000	5.000	1.0	0.033	4.00	0.0	0.600	o	225	Pipe/Conduit	
S47.001	12.380	0.620	20.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S43.002	50.00	4.07	135.000	0.302	0.0	0.0	0.0	3.54	250.3	40.9
S44.000	50.00	4.01	145.000	0.596	0.0	0.0	0.0	15.84	1119.6	80.7
S44.001	50.00	4.01	140.000	0.596	0.0	0.0	0.0	15.84	1119.6	80.7
S44.002	50.00	4.13	134.925	0.596	0.0	0.0	0.0	1.79	197.3	80.7
S36.010	50.00	7.59	132.370	1.152	0.0	0.0	0.0	2.48	701.2	156.0
S45.000	50.00	4.01	145.000	0.588	0.0	0.0	0.0	15.84	1119.6	79.6
S45.001	50.00	4.01	140.000	0.588	0.0	0.0	0.0	15.84	1119.6	79.6
S45.002	50.00	4.12	134.925	0.588	0.0	0.0	0.0	1.82	200.9	79.6
S36.011	50.00	7.67	132.235	1.740	0.0	0.0	0.0	2.42	684.7	235.6
S46.000	50.00	4.01	140.000	0.033	0.0	0.0	0.0	13.19	524.5	4.5
S46.001	50.00	4.08	135.000	0.033	0.0	0.0	0.0	2.95	117.2	4.5
S36.012	50.00	8.14	132.110	1.773	0.0	0.0	0.0	2.44	688.6	240.1
S47.000	50.00	4.01	140.000	0.033	0.0	0.0	0.0	13.19	524.5	4.5
S47.001	50.00	4.08	135.000	0.033	0.0	0.0	0.0	2.94	117.0	4.5

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STORM SEWER DESIGN by the Modified Rational Method

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
S36.013	31.895	0.320	99.7	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit	
S48.000	5.000	5.000	1.0	0.585	4.00	0.0	0.600	o	300	Pipe/Conduit	
S48.001	5.000	5.000	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S48.002	9.975	0.500	20.0	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S49.000	5.000	5.000	1.0	0.292	4.00	0.0	0.600	o	300	Pipe/Conduit	
S49.001	5.000	5.000	1.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S49.002	9.820	0.500	19.6	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S48.003	15.095	0.305	49.5	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S36.014	17.785	0.090	197.6	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
S50.000	28.900	0.290	99.7	0.059	4.00	0.0	0.600	o	225	Pipe/Conduit	
S51.000	25.250	0.255	99.0	0.121	4.00	0.0	0.600	o	225	Pipe/Conduit	
S52.000	7.110	0.070	101.6	0.148	4.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S36.013	50.00	8.35	131.435	1.806	0.0	0.0	0.0	2.44	689.7	244.6
S48.000	50.00	4.01	145.000	0.585	0.0	0.0	0.0	15.84	1119.6	79.2
S48.001	50.00	4.01	140.000	0.585	0.0	0.0	0.0	15.84	1119.6	79.2
S48.002	50.00	4.05	134.925	0.585	0.0	0.0	0.0	4.07	449.8	79.2
S49.000	50.00	4.01	145.000	0.292	0.0	0.0	0.0	15.84	1119.6	39.5
S49.001	50.00	4.01	140.000	0.292	0.0	0.0	0.0	15.84	1119.6	39.5
S49.002	50.00	4.05	134.925	0.292	0.0	0.0	0.0	4.10	453.4	39.5
S48.003	50.00	4.14	133.070	0.877	0.0	0.0	0.0	2.90	460.5	118.8
S36.014	50.00	8.50	130.965	2.683	0.0	0.0	0.0	1.99	877.9	363.3
S50.000	50.00	4.37	134.000	0.059	0.0	0.0	0.0	1.31	52.1	8.0
S51.000	50.00	4.32	133.965	0.121	0.0	0.0	0.0	1.31	52.2	16.4
S52.000	50.00	4.09	133.780	0.148	0.0	0.0	0.0	1.30	51.6	20.0

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STORM SEWER DESIGN by the Modified Rational Method

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
S50.001	44.895	0.450	99.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S53.000	17.610	0.175	100.6	0.071	4.00	0.0	0.600	o	225	Pipe/Conduit	
S54.000	9.315	0.095	98.1	0.067	4.00	0.0	0.600	o	225	Pipe/Conduit	
S55.000	18.750	0.190	98.7	0.034	4.00	0.0	0.600	o	225	Pipe/Conduit	
S56.000	14.850	0.150	99.0	0.046	4.00	0.0	0.600	o	225	Pipe/Conduit	
S57.000	26.700	0.270	98.9	0.074	4.00	0.0	0.600	o	225	Pipe/Conduit	
S55.001	7.340	0.150	48.9	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S50.002	6.665	0.070	95.2	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S50.003	12.800	0.600	21.3	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S36.015	11.215	0.110	102.0	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit	
S36.016	42.410	0.205	206.9	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit	
S27.006	28.290	0.280	101.0	0.000	0.00	0.0	0.600	o	900	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)
S50.001	50.00	4.84	133.635	0.328	0.0	0.0	0.0	1.57	111.3	44.4
S53.000	50.00	4.23	133.435	0.071	0.0	0.0	0.0	1.30	51.8	9.6
S54.000	50.00	4.12	133.355	0.067	0.0	0.0	0.0	1.32	52.5	9.1
S55.000	50.00	4.24	133.600	0.034	0.0	0.0	0.0	1.32	52.3	4.6
S56.000	50.00	4.19	133.560	0.046	0.0	0.0	0.0	1.31	52.2	6.2
S57.000	50.00	4.34	133.680	0.074	0.0	0.0	0.0	1.31	52.3	10.0
S55.001	50.00	4.40	133.410	0.154	0.0	0.0	0.0	1.87	74.5	20.9
S50.002	50.00	4.90	133.035	0.620	0.0	0.0	0.0	2.08	331.4	84.0
S50.003	50.00	4.94	132.865	0.620	0.0	0.0	0.0	4.42	702.5	84.0
S36.015	50.00	8.56	130.725	3.303	0.0	0.0	0.0	3.10	1974.2	447.3
S36.016	50.00	8.89	130.615	3.303	0.0	0.0	0.0	2.17	1383.5	447.3
S27.006	50.00	9.04	130.410	4.659	0.0	0.0	0.0	3.12	1983.2	630.9

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STORM SEWER DESIGN by the Modified Rational Method

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
S1.013	9.830	0.200	49.2	0.000	0.00	0.0	0.600	o	1050	Pipe/Conduit	
S58.000	22.575	0.450	50.2	0.056	4.00	0.0	0.600	o	225	Pipe/Conduit	
S58.001	45.770	0.460	99.5	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S59.000	14.445	0.290	49.8	0.097	4.00	0.0	0.600	o	225	Pipe/Conduit	
S60.000	10.000	0.100	100.0	0.204	8.00	0.0	0.600	o	300	Pipe/Conduit	
S60.001	9.385	0.200	46.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S58.002	20.525	0.205	100.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.014	47.095	3.925	12.0	0.000	0.00	0.0	0.600	o	1050	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)
S1.013	50.00	9.28	128.665	8.556	0.0	0.0	0.0	4.92	4261.6	1158.6
S58.000	50.00	4.20	129.420	0.056	0.0	0.0	0.0	1.85	73.6	7.6
S58.001	50.00	4.79	128.970	0.056	0.0	0.0	0.0	1.31	52.1	7.6
S59.000	50.00	4.13	128.800	0.097	0.0	0.0	0.0	1.86	73.9	13.1
S60.000	50.00	8.11	128.900	0.204	0.0	0.0	0.0	1.57	111.1	27.6
S60.001	50.00	8.17	128.635	0.204	0.0	0.0	0.0	2.30	162.7	27.6
S58.002	50.00	8.39	128.435	0.357	0.0	0.0	0.0	1.57	111.1	48.3
S1.014	50.00	9.36	127.090	8.913	0.0	0.0	0.0	9.97	8636.9	1206.9

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	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	9	Number of Time/Area Diagrams	0
Number of Offline Controls	9	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model		FSR	Ratio R 0.360
Region	England and Wales	Cv (Summer)	0.785
M5-60 (mm)	19.000	Cv (Winter)	0.827

Margin for Flood Risk Warning (mm)	300.0	DVD Status	OFF
Analysis Timestep	Fine	Inertia Status	OFF
DTS Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	2, 30, 100
Climate Change (%)	0, 0, 30

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S1.000	SOB1	15 Summer	2	+0%	100/15 Summer	
S1.001	SS1	15 Summer	2	+0%	100/15 Summer	
S2.000	SOB2	15 Summer	2	+0%	30/15 Summer	
S3.000	SGatehouse RWP	15 Summer	2	+0%	100/15 Summer	
S1.002	SS2	15 Summer	2	+0%	30/15 Summer	
S4.000	SOB3	15 Summer	2	+0%	30/15 Summer	100/15 Summer
S1.003	SS3	15 Summer	2	+0%	30/15 Summer	
S5.000	SOB4	15 Summer	2	+0%	100/15 Summer	
S1.004	SS4	15 Summer	2	+0%	100/15 Summer	
S6.000	SOB5	15 Summer	2	+0%	100/15 Summer	
S7.000	SOB6	15 Summer	2	+0%	100/15 Summer	100/15 Summer
S1.005	SS5	15 Summer	2	+0%	30/15 Summer	
S8.000	SOB7	15 Summer	2	+0%	100/15 Summer	
S1.006	SS6	15 Summer	2	+0%	30/15 Summer	
S1.007	SFRS1	15 Summer	2	+0%	30/15 Summer	
S1.008	SS7	15 Summer	2	+0%	30/15 Summer	
S9.000	SSDP1	15 Summer	2	+0%		
S9.001	SSDP1 Dummy	15 Summer	2	+0%	30/15 Summer	
S9.002	SSiphonic Outlet	15 Summer	2	+0%		
S1.009	SS8	15 Summer	2	+0%	30/15 Summer	
S10.000	SSDP2	15 Summer	2	+0%		

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S1.000	SOB1			135.495	-0.130	0.000	0.37	
S1.001	SS1			135.270	-0.120	0.000	0.43	
S2.000	SOB2			135.121	-0.079	0.000	0.45	
S3.000	SGatehouse RWP			135.263	-0.117	0.000	0.11	
S1.002	SS2			135.020	-0.095	0.000	0.59	
S4.000	SOB3			134.844	-0.116	0.000	0.69	
S1.003	SS3			134.621	-0.124	0.000	0.74	
S5.000	SOB4			134.525	-0.140	0.000	0.31	
S1.004	SS4			134.360	-0.215	0.000	0.37	
S6.000	SOB5			133.898	-0.202	0.000	0.23	
S7.000	SOB6			133.760	-0.215	0.000	0.38	
S1.005	SS5			133.415	-0.285	0.000	0.50	
S8.000	SOB7			133.705	-0.115	0.000	0.48	
S1.006	SS6			133.295	-0.205	0.000	0.77	
S1.007	SFRS1			133.152	-0.213	0.000	0.73	
S1.008	SS7			133.065	-0.265	0.000	0.56	
S9.000	SSDP1			145.061	-0.239	0.000	0.09	
S9.001	SSDP1 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.09	0.0
S9.002	SSiphonic Outlet			135.110	-0.190	0.000	0.29	
S1.009	SS8			132.960	-0.250	0.000	0.64	
S10.000	SSDP2			145.085	-0.215	0.000	0.18	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SOB1		17.9	OK	
S1.001	SS1		17.3	OK	
S2.000	SOB2		7.0	OK	
S3.000	SGatehouse RWP		1.8	OK	
S1.002	SS2		24.1	OK	
S4.000	SOB3		63.4	OK	2
S1.003	SS3		80.4	OK	
S5.000	SOB4		13.0	OK	
S1.004	SS4		90.1	OK	
S6.000	SOB5		32.2	OK	
S7.000	SOB6		74.5	OK	4
S1.005	SS5		176.4	OK	
S8.000	SOB7		22.6	OK	
S1.006	SS6		189.1	OK	
S1.007	SFRS1		186.9	OK	
S1.008	SS7		187.0	OK	
S9.000	SSDP1		50.6	OK	
S9.001	SSDP1 Dummy		50.7	OK	
S9.002	SSiphonic Outlet		50.7	OK	
S1.009	SS8		209.1	OK	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.000	SSDP2		100.1	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S10.001	SSDP2 Dummy	15 Summer	2	+0%	30/15 Summer	
S10.002	SSiphonic Outlet	15 Summer	2	+0%		
S1.010	SS9	15 Winter	2	+0%	100/15 Summer	
S11.000	SSDP3	15 Summer	2	+0%		
S11.001	SSDP3 Dummy	15 Summer	2	+0%	30/15 Summer	
S11.002	SSiphonic Outlet	15 Summer	2	+0%		
S1.011	SS10	15 Winter	2	+0%	100/15 Summer	
S12.000	SGullies	15 Summer	2	+0%	100/15 Summer	
S12.001	SS11	15 Summer	2	+0%	30/15 Summer	
S13.000	SSDP5	15 Summer	2	+0%		
S13.001	SSiphonic Outlet	15 Summer	2	+0%	100/15 Summer	
S12.002	SS12	15 Summer	2	+0%	30/15 Summer	
S14.000	SOB8	15 Summer	2	+0%	100/15 Summer	
S15.000	SKO1	15 Summer	2	+0%	30/15 Summer	
S14.001	SS13	15 Summer	2	+0%	30/15 Summer	
S16.000	SKO2	15 Summer	2	+0%	30/15 Summer	
S17.000	SOB9	15 Summer	2	+0%	100/15 Summer	
S14.002	SS14	15 Summer	2	+0%	30/15 Summer	
S14.003	SBPS1	15 Summer	2	+0%	30/15 Summer	
S14.004	SS15	15 Summer	2	+0%	100/15 Summer	
S18.000	SSDP6	15 Summer	2	+0%		
S18.001	SSiphonic Outlet	15 Summer	2	+0%	100/15 Summer	
S12.003	SS16	15 Summer	2	+0%	30/15 Summer	
S19.000	SOB10	15 Summer	2	+0%	100/15 Summer	
S19.001	SS17	15 Summer	2	+0%	100/15 Summer	
S20.000	SOB11	15 Summer	2	+0%	100/15 Summer	
S12.004	SS18	15 Summer	2	+0%	30/15 Summer	
S21.000	SOB12	15 Summer	2	+0%	100/15 Summer	
S12.005	SS19	15 Summer	2	+0%	30/15 Summer	
S22.000	SOB13	15 Summer	2	+0%	100/15 Summer	
S12.006	SS20	15 Summer	2	+0%	30/15 Summer	
S23.000	SOB14	15 Summer	2	+0%	100/15 Summer	
S12.007	SS21	15 Summer	2	+0%	100/15 Summer	
S24.000	SOB15	15 Summer	2	+0%		
S12.008	SS22	15 Winter	2	+0%	100/15 Summer	
S25.000	SOB16	15 Summer	2	+0%	100/15 Summer	
S12.009	SS23	15 Winter	2	+0%		
S26.000	SSDP4	15 Summer	2	+0%		
S26.001	SSDP4 Dummy	15 Summer	2	+0%	30/15 Summer	
S26.002	SSiphonic Outlet	15 Summer	2	+0%	30/15 Summer	
S1.012	SS24P-BD	15 Winter	2	+0%	30/15 Summer	
S27.000	SOB17	15 Summer	2	+0%	100/15 Summer	100/15 Summer
S27.001	SS50	15 Summer	2	+0%	100/15 Summer	
S28.000	SOB18	15 Summer	2	+0%	30/15 Summer	100/15 Summer
S27.002	SS51	15 Summer	2	+0%	30/15 Summer	
S29.000	SOB19	15 Summer	2	+0%	30/15 Summer	100/15 Summer
S27.003	SS52	15 Summer	2	+0%	30/15 Summer	
S30.000	SOB20	15 Summer	2	+0%	30/15 Summer	

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S10.001	SSDP2 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.18	0.0
S10.002	SSiphonic Outlet			135.163	-0.137	0.000	0.57	
S1.010	SS9			132.767	-0.343	0.000	0.48	
S11.000	SSDP3			145.085	-0.215	0.000	0.18	
S11.001	SSDP3 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.18	0.0
S11.002	SSiphonic Outlet			135.163	-0.137	0.000	0.57	
S1.011	SS10			132.696	-0.309	0.000	0.65	
S12.000	SGullies			134.659	-0.091	0.000	0.33	
S12.001	SS11			134.519	-0.091	0.000	0.33	
S13.000	SSDP5			140.020	-0.130	0.000	0.04	
S13.001	SSiphonic Outlet			135.064	-0.086	0.000	0.38	
S12.002	SS12			134.399	-0.061	0.000	0.66	
S14.000	SOB8			134.597	-0.178	0.000	0.35	
S15.000	SKO1			134.618	-0.102	0.000	0.58	
S14.001	SS13			134.463	-0.177	0.000	0.46	
S16.000	SKO2			134.440	-0.140	0.000	0.31	
S17.000	SOB9			134.424	-0.196	0.000	0.20	
S14.002	SS14			134.408	-0.122	0.000	0.78	
S14.003	SBPS1			134.256	-0.134	0.000	0.74	
S14.004	SS15			134.101	-0.239	0.000	0.29	
S18.000	SSDP6			140.020	-0.130	0.000	0.04	
S18.001	SSiphonic Outlet			135.064	-0.086	0.000	0.38	
S12.003	SS16			133.703	-0.157	0.000	0.74	
S19.000	SOB10			134.263	-0.142	0.000	0.30	
S19.001	SS17			134.044	-0.146	0.000	0.27	
S20.000	SOB11			133.875	-0.155	0.000	0.21	
S12.004	SS18			133.668	-0.161	0.000	0.72	
S21.000	SOB12			133.663	-0.232	0.000	0.12	
S12.005	SS19			133.555	-0.165	0.000	0.71	
S22.000	SOB13			133.532	-0.148	0.000	0.26	
S12.006	SS20			133.416	-0.163	0.000	0.71	
S23.000	SOB14			133.381	-0.234	0.000	0.11	
S12.007	SS21			133.088	-0.352	0.000	0.35	
S24.000	SOB15			133.238	-0.147	0.000	0.26	
S12.008	SS22			132.944	-0.341	0.000	0.39	
S25.000	SOB16			133.180	-0.135	0.000	0.34	
S12.009	SS23			132.797	-0.398	0.000	0.25	
S26.000	SSDP4			145.061	-0.239	0.000	0.09	
S26.001	SSDP4 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.08	0.0
S26.002	SSiphonic Outlet			133.695	-0.105	0.000	0.74	
S1.012	SS24P-BD			131.124	-0.311	0.000	0.64	
S27.000	SOB17			134.157	-0.143	0.000	0.54	
S27.001	SS50			133.804	-0.146	0.000	0.51	
S28.000	SOB18			133.779	-0.121	0.000	0.65	
S27.002	SS51			133.341	-0.169	0.000	0.66	
S29.000	SOB19			133.555	-0.120	0.000	0.67	
S27.003	SS52			133.064	-0.241	0.000	0.48	

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S30.000	SOB20			133.279	-0.086	0.000	0.70	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.001	SSDP2 Dummy		100.1	OK	
S10.002	SSiphonic Outlet		100.2	OK	
S1.010	SS9		266.4	OK	
S11.000	SSDP3		100.1	OK	
S11.001	SSDP3 Dummy		100.1	OK	
S11.002	SSiphonic Outlet		100.2	OK	
S1.011	SS10		331.9	OK	
S12.000	SGullies		5.4	OK	
S12.001	SS11		5.3	OK	
S13.000	SSDP5		6.1	OK	
S13.001	SSiphonic Outlet		6.1	OK	
S12.002	SS12		11.4	OK	
S14.000	SOB8		32.0	OK	
S15.000	SKO1		23.1	OK	
S14.001	SS13		54.3	OK	
S16.000	SKO2		9.6	OK	
S17.000	SOB9		14.7	OK	
S14.002	SS14		77.6	OK	
S14.003	SBPS1		78.1	OK	
S14.004	SS15		77.8	OK	
S18.000	SSDP6		6.1	OK	
S18.001	SSiphonic Outlet		6.1	OK	
S12.003	SS16		93.8	OK	
S19.000	SOB10		14.0	OK	
S19.001	SS17		13.9	OK	
S20.000	SOB11		12.2	OK	
S12.004	SS18		115.1	OK	
S21.000	SOB12		12.2	OK	
S12.005	SS19		118.1	OK	
S22.000	SOB13		11.5	OK	
S12.006	SS20		118.9	OK	
S23.000	SOB14		11.5	OK	
S12.007	SS21		121.4	OK	
S24.000	SOB15		11.7	OK	
S12.008	SS22		122.9	OK	
S25.000	SOB16		16.5	OK	
S12.009	SS23		127.2	OK	
S26.000	SSDP4		50.6	OK	
S26.001	SSDP4 Dummy		50.7	OK	
S26.002	SSiphonic Outlet		50.7	OK	
S1.012	SS24P-BD		471.0	OK	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S27.000	SOB17		54.7	OK	1
S27.001	SS50		53.6	OK	
S28.000	SOB18		67.1	OK	3
S27.002	SS51		112.8	OK	
S29.000	SOB19		68.2	OK	1
S27.003	SS52		165.9	OK	
S30.000	SOB20		32.9	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S31.000	SOB21	15 Summer	2	+0%	100/15 Summer	
S32.000	SOB22	15 Summer	2	+0%	100/15 Summer	
S31.001	SS53	15 Summer	2	+0%	100/15 Summer	
S33.000	SOB23	15 Summer	2	+0%	100/15 Summer	
S34.000	SGatehouse Gully	15 Summer	2	+0%	100/15 Summer	
S35.000	SGatehouse RWP	15 Summer	2	+0%	100/15 Summer	
S31.002	SS54	15 Summer	2	+0%	100/15 Summer	
S27.004	SS55	15 Summer	2	+0%	30/15 Summer	
S27.005	SFRS2	15 Summer	2	+0%		
S36.000	SKO3	15 Summer	2	+0%	100/15 Summer	100/15 Summer
S36.001	SS56	15 Summer	2	+0%	100/15 Summer	
S37.000	SKO4	15 Summer	2	+0%	100/15 Summer	100/15 Summer
S36.002	SS57	15 Summer	2	+0%	100/15 Summer	
S36.003	SS58	15 Summer	2	+0%	100/15 Summer	
S38.000	SKO5	15 Summer	2	+0%	100/15 Summer	
S36.004	SS59	15 Summer	2	+0%	100/15 Summer	
S39.000	SKO6	15 Summer	2	+0%	100/15 Summer	
S36.005	SS60	15 Summer	2	+0%	100/15 Summer	
S40.000	SKO7	15 Summer	2	+0%	100/15 Summer	
S36.006	SS61	15 Summer	2	+0%	100/15 Summer	
S41.000	SKO8	15 Summer	2	+0%	100/15 Summer	
S36.007	SS62	15 Summer	2	+0%	100/15 Summer	
S42.000	SKO9	15 Summer	2	+0%	100/15 Summer	
S36.008	SS63	15 Summer	2	+0%	100/15 Summer	
S36.009	SS64	15 Summer	2	+0%	100/15 Summer	
S43.000	SSDP11	15 Summer	2	+0%		
S43.001	SSDP11 Dummy	15 Summer	2	+0%	30/15 Summer	
S43.002	SSiphonic Outlet	15 Summer	2	+0%		
S44.000	SSDP10	15 Summer	2	+0%		
S44.001	SSDP10 Dummy	15 Summer	2	+0%	30/15 Summer	
S44.002	SSiphonic Outlet	15 Summer	2	+0%	30/15 Summer	
S36.010	SS65	15 Summer	2	+0%	100/15 Summer	
S45.000	SSDP9	15 Summer	2	+0%		
S45.001	SSDP9 Dummy	15 Summer	2	+0%	30/15 Summer	
S45.002	SSiphonic Outlet	15 Summer	2	+0%	30/15 Summer	
S36.011	SS66	15 Summer	2	+0%	30/15 Summer	
S46.000	SSDP13	15 Summer	2	+0%		
S46.001	SSiphonic Outlet	15 Summer	2	+0%		
S36.012	SS67	15 Summer	2	+0%	100/15 Summer	
S47.000	SSDP12	15 Summer	2	+0%		
S47.001	SSiphonic Outlet	15 Summer	2	+0%		
S36.013	SS68	15 Summer	2	+0%	100/15 Summer	
S48.000	SSDP8	15 Summer	2	+0%		
S48.001	SSDP8 Dummy	15 Summer	2	+0%	30/15 Summer	
S48.002	SSiphonic Outlet	15 Summer	2	+0%		
S49.000	SSDP7	15 Summer	2	+0%		
S49.001	SSDP7 Dummy	15 Summer	2	+0%	30/15 Summer	
S49.002	SSiphonic Outlet	15 Summer	2	+0%		

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S31.000	SOB21			133.688	-0.137	0.000	0.32	
S32.000	SOB22			133.559	-0.101	0.000	0.24	
S31.001	SS53			133.446	-0.114	0.000	0.47	
S33.000	SOB23			133.364	-0.116	0.000	0.12	
S34.000	SGatehouse Gully			133.412	-0.103	0.000	0.21	
S35.000	SGatehouse RWP			133.309	-0.126	0.000	0.06	
S31.002	SS54			133.255	-0.105	0.000	0.56	
S27.004	SS55			132.993	-0.167	0.000	0.87	
S27.005	SFRS2			132.686	-0.344	0.000	0.38	
S36.000	SKO3			134.656	-0.319	0.000	0.05	
S36.001	SS56			134.478	-0.322	0.000	0.05	
S37.000	SKO4			134.255	-0.325	0.000	0.04	
S36.002	SS57			133.955	-0.365	0.000	0.08	
S36.003	SS58			133.802	-0.368	0.000	0.07	
S38.000	SKO5			133.838	-0.152	0.000	0.23	
S36.004	SS59			133.560	-0.339	0.000	0.13	
S39.000	SKO6			133.722	-0.083	0.000	0.42	
S36.005	SS60			133.385	-0.329	0.000	0.16	
S40.000	SKO7			133.537	-0.083	0.000	0.42	
S36.006	SS61			133.208	-0.322	0.000	0.18	
S41.000	SKO8			133.352	-0.083	0.000	0.42	
S36.007	SS62			133.029	-0.316	0.000	0.20	
S42.000	SKO9			133.100	-0.150	0.000	0.00	
S36.008	SS63			132.714	-0.445	0.000	0.11	
S36.009	SS64			132.692	-0.368	0.000	0.13	
S43.000	SSDP11			145.063	-0.237	0.000	0.10	
S43.001	SSDP11 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.10	0.0
S43.002	SSiphonic Outlet			135.110	-0.190	0.000	0.29	
S44.000	SSDP10			145.090	-0.210	0.000	0.20	
S44.001	SSDP10 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.20	0.0
S44.002	SSiphonic Outlet			135.186	-0.114	0.000	0.81	
S36.010	SS65			132.689	-0.281	0.000	0.51	
S45.000	SSDP9			145.089	-0.211	0.000	0.19	
S45.001	SSDP9 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.19	0.0
S45.002	SSiphonic Outlet			135.183	-0.117	0.000	0.80	
S36.011	SS66			132.653	-0.182	0.000	0.83	
S46.000	SSDP13			140.021	-0.204	0.000	0.02	
S46.001	SSiphonic Outlet			135.036	-0.189	0.000	0.06	
S36.012	SS67			132.400	-0.310	0.000	0.47	
S47.000	SSDP12			140.021	-0.204	0.000	0.02	
S47.001	SSiphonic Outlet			135.036	-0.189	0.000	0.06	
S36.013	SS68			131.747	-0.288	0.000	0.52	
S48.000	SSDP8			145.089	-0.211	0.000	0.19	
S48.001	SSDP8 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.19	0.0
S48.002	SSiphonic Outlet			135.089	-0.211	0.000	0.39	
S49.000	SSDP7			145.062	-0.238	0.000	0.10	
S49.001	SSDP7 Dummy	30/15 Summer	8	140.063	-0.237	0.000	0.10	0.0

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S49.002	SSiphonic Outlet			135.038	-0.262	0.000	0.20	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S31.000	SOB21		15.6	OK	
S32.000	SOB22		3.7	OK	
S31.001	SS53		18.8	OK	
S33.000	SOB23		1.9	OK	
S34.000	SGatehouse Gully		3.5	OK	
S35.000	SGatehouse RWP		0.9	OK	
S31.002	SS54		24.8	OK	
S27.004	SS55		210.9	OK	
S27.005	SFRS2		209.9	OK	
S36.000	SKO3		8.9	OK	3
S36.001	SS56		8.8	OK	
S37.000	SKO4		8.9	OK	3
S36.002	SS57		17.6	OK	
S36.003	SS58		17.4	OK	
S38.000	SKO5		9.8	OK	
S36.004	SS59		26.0	OK	
S39.000	SKO6		6.5	OK	
S36.005	SS60		30.7	OK	
S40.000	SKO7		6.5	OK	
S36.006	SS61		34.3	OK	
S41.000	SKO8		6.5	OK	
S36.007	SS62		37.8	OK	
S42.000	SKO9		0.0	OK	
S36.008	SS63		38.1	OK	
S36.009	SS64		44.2	OK	
S43.000	SSDP11		55.8	OK	
S43.001	SSDP11 Dummy		55.8	OK	
S43.002	SSiphonic Outlet		55.9	OK	
S44.000	SSDP10		110.2	OK	
S44.001	SSDP10 Dummy		110.3	OK	
S44.002	SSiphonic Outlet		110.4	OK	
S36.010	SS65		187.1	OK	
S45.000	SSDP9		108.8	OK	
S45.001	SSDP9 Dummy		108.8	OK	
S45.002	SSiphonic Outlet		108.9	OK	
S36.011	SS66		292.7	OK	
S46.000	SSDP13		6.1	OK	
S46.001	SSiphonic Outlet		6.1	OK	
S36.012	SS67		290.2	OK	
S47.000	SSDP12		6.1	OK	
S47.001	SSiphonic Outlet		6.1	OK	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S36.013	SS68		297.0	OK	
S48.000	SSDP8		108.2	OK	
S48.001	SSDP8 Dummy		108.3	OK	
S48.002	SSiphonic Outlet		108.3	OK	
S49.000	SSDP7		54.0	OK	
S49.001	SSDP7 Dummy		54.0	OK	
S49.002	SSiphonic Outlet		54.0	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S48.003	SS69	15 Summer	2	+0%			
S36.014	SS70BD	15 Summer	2	+0%	30/15 Summer		
S50.000	SKO10	15 Summer	2	+0%	100/15 Summer		
S51.000	SKO11	15 Summer	2	+0%	100/15 Summer		
S52.000	SKO12	15 Summer	2	+0%	30/15 Summer		
S50.001	SS71	15 Summer	2	+0%	30/15 Summer		
S53.000	SKO13	15 Summer	2	+0%	100/15 Summer		
S54.000	SKO14	15 Summer	2	+0%	100/15 Summer		
S55.000	SKO15	15 Summer	2	+0%	100/15 Summer		
S56.000	SKO16	15 Summer	2	+0%	100/15 Summer		
S57.000	SKO17	15 Summer	2	+0%	100/15 Summer		
S55.001	SS72	15 Summer	2	+0%	100/15 Summer		
S50.002	SS73	15 Summer	2	+0%	30/15 Summer		
S50.003	SBPS2	15 Summer	2	+0%			
S36.015	SS74BD	15 Summer	2	+0%	100/15 Summer		
S36.016	SS75	15 Summer	2	+0%	100/15 Summer		
S27.006	SS76P	15 Summer	2	+0%	100/15 Summer		
S1.013	SS25BD	15 Summer	2	+0%	30/15 Summer		
S58.000	SOB24	15 Summer	2	+0%			
S58.001	SS77	15 Summer	2	+0%			
S59.000	SOB25	15 Summer	2	+0%	100/15 Summer		
S60.000	SDummy	15 Winter	2	+0%			
S60.001	SCP4	15 Winter	2	+0%	100/15 Summer		
S58.002	SS78	15 Summer	2	+0%	100/15 Summer		
S1.014	SC2.3 BD Outfall	15 Summer	2	+0%			

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)
S48.003	SS69		133.303	-0.217	0.000	0.52		
S36.014	SS70BD		131.446	-0.269	0.000	0.73		
S50.000	SKO10		134.072	-0.153	0.000	0.22		
S51.000	SKO11		134.072	-0.118	0.000	0.46		
S52.000	SKO12		133.924	-0.081	0.000	0.74		
S50.001	SS71		133.799	-0.136	0.000	0.56		
S53.000	SKO13		133.516	-0.144	0.000	0.28		
S54.000	SKO14		133.437	-0.143	0.000	0.29		
S55.000	SKO15		133.654	-0.171	0.000	0.13		
S56.000	SKO16		133.625	-0.160	0.000	0.19		
S57.000	SKO17		133.761	-0.144	0.000	0.28		
S55.001	SS72		133.525	-0.110	0.000	0.51		
S50.002	SS73		133.306	-0.179	0.000	0.66		
S50.003	SBPS2		133.020	-0.295	0.000	0.26		
S36.015	SS74BD		131.219	-0.406	0.000	0.57		
S36.016	SS75		131.088	-0.427	0.000	0.54		
S27.006	SS76P		130.932	-0.378	0.000	0.62		

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)
S1.013	SS25BD		129.423	-0.292	0.000	0.86		
S58.000	SOB24		129.479	-0.166	0.000	0.15		
S58.001	SS77		129.039	-0.156	0.000	0.20		
S59.000	SOB25		128.880	-0.145	0.000	0.28		
S60.000	SDummy		129.018	-0.182	0.000	0.33		
S60.001	SCP4		128.733	-0.202	0.000	0.23		7
S58.002	SS78		128.592	-0.143	0.000	0.53		
S1.014	SC2.3 BD Outfall		127.413	-0.727	0.000	0.21		

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
S48.003	SS69	162.1	OK	
S36.014	SS70BD	436.4	OK	
S50.000	SKO10	10.9	OK	
S51.000	SKO11	22.3	OK	
S52.000	SKO12	27.4	OK	
S50.001	SS71	58.5	OK	
S53.000	SKO13	13.1	OK	
S54.000	SKO14	12.4	OK	
S55.000	SKO15	6.3	OK	
S56.000	SKO16	8.5	OK	
S57.000	SKO17	13.6	OK	
S55.001	SS72	28.1	OK	
S50.002	SS73	110.9	OK	
S50.003	SBPS2	112.0	OK	
S36.015	SS74BD	544.5	OK	
S36.016	SS75	546.5	OK	
S27.006	SS76P	744.3	OK	
S1.013	SS25BD	1208.3	OK	
S58.000	SOB24	10.4	OK	
S58.001	SS77	10.0	OK	
S59.000	SOB25	17.9	OK	
S60.000	SDummy	26.2	OK	
S60.001	SCP4	26.2	OK	
S58.002	SS78	51.0	OK	
S1.014	SC2.3 BD Outfall	1251.7	OK	

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	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	9	Number of Time/Area Diagrams	0
Number of Offline Controls	9	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model		FSR	Ratio R 0.360
Region	England and Wales	Cv (Summer)	0.785
M5-60 (mm)	19.000	Cv (Winter)	0.827

Margin for Flood Risk Warning (mm)	300.0	DVD Status	OFF
Analysis Timestep	Fine	Inertia Status	OFF
DTS Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	2, 30, 100
Climate Change (%)	0, 0, 30

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S1.000	SOB1	15 Summer	30	+0%	100/15 Summer	
S1.001	SS1	15 Summer	30	+0%	100/15 Summer	
S2.000	SOB2	15 Summer	30	+0%	30/15 Summer	
S3.000	SGatehouse RWP	15 Summer	30	+0%	100/15 Summer	
S1.002	SS2	15 Summer	30	+0%	30/15 Summer	
S4.000	SOB3	15 Summer	30	+0%	30/15 Summer	100/15 Summer
S1.003	SS3	15 Summer	30	+0%	30/15 Summer	
S5.000	SOB4	15 Summer	30	+0%	100/15 Summer	
S1.004	SS4	15 Summer	30	+0%	100/15 Summer	
S6.000	SOB5	15 Summer	30	+0%	100/15 Summer	
S7.000	SOB6	15 Summer	30	+0%	100/15 Summer	100/15 Summer
S1.005	SS5	15 Summer	30	+0%	30/15 Summer	
S8.000	SOB7	15 Summer	30	+0%	100/15 Summer	
S1.006	SS6	15 Summer	30	+0%	30/15 Summer	
S1.007	SFRS1	15 Summer	30	+0%	30/15 Summer	
S1.008	SS7	15 Winter	30	+0%	30/15 Summer	
S9.000	SSDP1	15 Summer	30	+0%		
S9.001	SSDP1 Dummy	15 Summer	30	+0%	30/15 Summer	
S9.002	SSiphonic Outlet	15 Summer	30	+0%		
S1.009	SS8	15 Winter	30	+0%	30/15 Summer	
S10.000	SSDP2	15 Summer	30	+0%		

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S1.000	SOB1			135.540	-0.085	0.000	0.71	
S1.001	SS1			135.333	-0.057	0.000	0.79	
S2.000	SOB2			135.231	0.031	0.000	0.80	
S3.000	SGatehouse RWP			135.276	-0.104	0.000	0.20	
S1.002	SS2			135.198	0.083	0.000	1.00	
S4.000	SOB3			135.058	0.098	0.000	1.24	
S1.003	SS3			134.849	0.104	0.000	1.28	
S5.000	SOB4			134.563	-0.102	0.000	0.58	
S1.004	SS4			134.421	-0.154	0.000	0.65	
S6.000	SOB5			133.940	-0.160	0.000	0.44	
S7.000	SOB6			133.898	-0.077	0.000	0.92	
S1.005	SS5			133.746	0.046	0.000	0.92	
S8.000	SOB7			133.764	-0.056	0.000	0.92	
S1.006	SS6			133.569	0.069	0.000	1.43	
S1.007	SFRS1			133.467	0.102	0.000	1.36	
S1.008	SS7			133.379	0.049	0.000	1.01	
S9.000	SSDP1			145.083	-0.217	0.000	0.17	
S9.001	SSDP1 Dummy	30/15 Summer	8	140.362	0.062	0.000	0.14	15.1
S9.002	SSiphonic Outlet			135.142	-0.158	0.000	0.46	
S1.009	SS8			133.251	0.041	0.000	1.19	
S10.000	SSDP2			145.120	-0.180	0.000	0.34	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SOB1		33.9	OK	
S1.001	SS1		31.7	OK	
S2.000	SOB2		12.5	SURCHARGED	
S3.000	SGatehouse RWP		3.5	OK	
S1.002	SS2		40.7	SURCHARGED	
S4.000	SOB3		114.0	SURCHARGED	2
S1.003	SS3		138.9	SURCHARGED	
S5.000	SOB4		24.5	OK	
S1.004	SS4		155.4	OK	
S6.000	SOB5		60.9	OK	
S7.000	SOB6		180.2	OK	4
S1.005	SS5		325.0	SURCHARGED	
S8.000	SOB7		42.7	OK	
S1.006	SS6		351.5	SURCHARGED	
S1.007	SFRS1		346.8	SURCHARGED	
S1.008	SS7		338.9	SURCHARGED	
S9.000	SSDP1		95.9	OK	
S9.001	SSDP1 Dummy		80.9	SURCHARGED	
S9.002	SSiphonic Outlet		80.9	OK	
S1.009	SS8		388.9	SURCHARGED	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.000	SSDP2		189.3	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S10.001	SSDP2 Dummy	15 Summer	30	+0%	30/15 Summer	
S10.002	SSiphonic Outlet	15 Summer	30	+0%		
S1.010	SS9	15 Winter	30	+0%	100/15 Summer	
S11.000	SSDP3	15 Summer	30	+0%		
S11.001	SSDP3 Dummy	15 Summer	30	+0%	30/15 Summer	
S11.002	SSiphonic Outlet	15 Summer	30	+0%		
S1.011	SS10	15 Summer	30	+0%	100/15 Summer	
S12.000	SGullies	15 Summer	30	+0%	100/15 Summer	
S12.001	SS11	15 Summer	30	+0%	30/15 Summer	
S13.000	SSDP5	15 Summer	30	+0%		
S13.001	SSiphonic Outlet	15 Summer	30	+0%	100/15 Summer	
S12.002	SS12	15 Summer	30	+0%	30/15 Summer	
S14.000	SOB8	15 Summer	30	+0%	100/15 Summer	
S15.000	SKO1	15 Summer	30	+0%	30/15 Summer	
S14.001	SS13	15 Summer	30	+0%	30/15 Summer	
S16.000	SKO2	15 Summer	30	+0%	30/15 Summer	
S17.000	SOB9	15 Summer	30	+0%	100/15 Summer	
S14.002	SS14	15 Summer	30	+0%	30/15 Summer	
S14.003	SBPS1	15 Summer	30	+0%	30/15 Summer	
S14.004	SS15	15 Summer	30	+0%	100/15 Summer	
S18.000	SSDP6	15 Summer	30	+0%		
S18.001	SSiphonic Outlet	15 Summer	30	+0%	100/15 Summer	
S12.003	SS16	15 Summer	30	+0%	30/15 Summer	
S19.000	SOB10	15 Summer	30	+0%	100/15 Summer	
S19.001	SS17	15 Summer	30	+0%	100/15 Summer	
S20.000	SOB11	15 Summer	30	+0%	100/15 Summer	
S12.004	SS18	15 Summer	30	+0%	30/15 Summer	
S21.000	SOB12	15 Summer	30	+0%	100/15 Summer	
S12.005	SS19	15 Summer	30	+0%	30/15 Summer	
S22.000	SOB13	15 Summer	30	+0%	100/15 Summer	
S12.006	SS20	15 Summer	30	+0%	30/15 Summer	
S23.000	SOB14	15 Summer	30	+0%	100/15 Summer	
S12.007	SS21	15 Summer	30	+0%	100/15 Summer	
S24.000	SOB15	15 Summer	30	+0%		
S12.008	SS22	15 Winter	30	+0%	100/15 Summer	
S25.000	SOB16	15 Summer	30	+0%	100/15 Summer	
S12.009	SS23	15 Winter	30	+0%		
S26.000	SSDP4	15 Summer	30	+0%		
S26.001	SSDP4 Dummy	15 Summer	30	+0%	30/15 Summer	
S26.002	SSiphonic Outlet	15 Summer	30	+0%	30/15 Summer	
S1.012	SS24P-BD	15 Winter	30	+0%	30/15 Summer	
S27.000	SOB17	15 Summer	30	+0%	100/15 Summer	100/15 Summer
S27.001	SS50	15 Summer	30	+0%	100/15 Summer	
S28.000	SOB18	15 Summer	30	+0%	30/15 Summer	100/15 Summer
S27.002	SS51	15 Summer	30	+0%	30/15 Summer	
S29.000	SOB19	15 Summer	30	+0%	30/15 Summer	100/15 Summer
S27.003	SS52	15 Summer	30	+0%	30/15 Summer	
S30.000	SOB20	15 Summer	30	+0%	30/15 Summer	

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.		Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
S10.001	SSDP2 Dummy	30/15 Summer		8	140.380	0.080	0.000	0.29	29.6
S10.002	SSiphonic Outlet				135.222	-0.078	0.000	0.90	
S1.010	SS9				133.086	-0.024	0.000	0.87	
S11.000	SSDP3				145.120	-0.180	0.000	0.34	
S11.001	SSDP3 Dummy	30/15 Summer		8	140.380	0.080	0.000	0.29	29.6
S11.002	SSiphonic Outlet				135.222	-0.078	0.000	0.90	
S1.011	SS10				133.005	0.000	0.000	1.08	
S12.000	SGullies				134.686	-0.064	0.000	0.63	
S12.001	SS11				134.610	0.000	0.000	0.57	
S13.000	SSDP5				140.029	-0.121	0.000	0.08	
S13.001	SSiphonic Outlet				135.094	-0.056	0.000	0.71	
S12.002	SS12				134.573	0.113	0.000	1.02	
S14.000	SOB8				134.733	-0.042	0.000	0.62	
S15.000	SKO1				134.767	0.047	0.000	1.05	
S14.001	SS13				134.677	0.037	0.000	0.81	
S16.000	SKO2				134.615	0.035	0.000	0.53	
S17.000	SOB9				134.618	-0.002	0.000	0.35	
S14.002	SS14				134.602	0.072	0.000	1.39	
S14.003	SBPS1				134.450	0.060	0.000	1.32	
S14.004	SS15				134.156	-0.184	0.000	0.51	
S18.000	SSDP6				140.029	-0.121	0.000	0.08	
S18.001	SSiphonic Outlet				135.095	-0.055	0.000	0.72	
S12.003	SS16				133.990	0.130	0.000	1.26	
S19.000	SOB10				134.301	-0.104	0.000	0.56	
S19.001	SS17				134.079	-0.111	0.000	0.50	
S20.000	SOB11				133.969	-0.061	0.000	0.40	
S12.004	SS18				133.950	0.120	0.000	1.19	
S21.000	SOB12				133.815	-0.080	0.000	0.36	
S12.005	SS19				133.811	0.091	0.000	1.16	
S22.000	SOB13				133.624	-0.056	0.000	0.49	
S12.006	SS20				133.617	0.037	0.000	1.18	
S23.000	SOB14				133.473	-0.142	0.000	0.49	
S12.007	SS21				133.169	-0.271	0.000	0.58	
S24.000	SOB15				133.272	-0.113	0.000	0.49	
S12.008	SS22				133.034	-0.251	0.000	0.64	
S25.000	SOB16				133.221	-0.094	0.000	0.64	
S12.009	SS23				132.862	-0.333	0.000	0.41	
S26.000	SSDP4				145.083	-0.217	0.000	0.17	
S26.001	SSDP4 Dummy	30/15 Summer		8	140.362	0.062	0.000	0.13	15.1
S26.002	SSiphonic Outlet				133.817	0.017	0.000	1.18	
S1.012	SS24P-BD				131.471	0.036	0.000	1.16	
S27.000	SOB17				134.273	-0.027	0.000	0.99	
S27.001	SS50				133.937	-0.013	0.000	0.90	
S28.000	SOB18				134.054	0.154	0.000	1.10	
S27.002	SS51				133.584	0.074	0.000	1.14	
S29.000	SOB19				133.832	0.157	0.000	1.18	
S27.003	SS52				133.329	0.024	0.000	0.82	

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S30.000	SOB20			133.510	0.145	0.000	1.29	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.001	SSDP2 Dummy		159.9	SURCHARGED	
S10.002	SSiphonic Outlet		159.9	OK	
S1.010	SS9		487.5	OK	
S11.000	SSDP3		189.3	OK	
S11.001	SSDP3 Dummy		159.9	SURCHARGED	
S11.002	SSiphonic Outlet		159.9	OK	
S1.011	SS10		553.0	OK	
S12.000	SGullies		10.2	OK	
S12.001	SS11		9.3	SURCHARGED	
S13.000	SSDP5		11.5	OK	
S13.001	SSiphonic Outlet		11.6	OK	
S12.002	SS12		17.7	SURCHARGED	
S14.000	SOB8		56.7	OK	
S15.000	SKO1		41.8	SURCHARGED	
S14.001	SS13		96.1	SURCHARGED	
S16.000	SKO2		16.7	SURCHARGED	
S17.000	SOB9		26.7	OK	
S14.002	SS14		138.5	SURCHARGED	
S14.003	SBPS1		139.0	SURCHARGED	
S14.004	SS15		138.2	OK	
S18.000	SSDP6		11.5	OK	
S18.001	SSiphonic Outlet		11.6	OK	
S12.003	SS16		158.3	SURCHARGED	
S19.000	SOB10		26.6	OK	
S19.001	SS17		26.0	OK	
S20.000	SOB11		23.1	OK	
S12.004	SS18		189.4	SURCHARGED	
S21.000	SOB12		37.8	OK	
S12.005	SS19		193.3	SURCHARGED	
S22.000	SOB13		21.7	OK	
S12.006	SS20		196.3	SURCHARGED	
S23.000	SOB14		51.3	OK	
S12.007	SS21		198.8	OK	
S24.000	SOB15		22.1	OK	
S12.008	SS22		203.5	OK	
S25.000	SOB16		31.2	OK	
S12.009	SS23		210.5	OK	
S26.000	SSDP4		95.9	OK	
S26.001	SSDP4 Dummy		80.9	SURCHARGED	
S26.002	SSiphonic Outlet		80.9	SURCHARGED	
S1.012	SS24P-BD		850.9	SURCHARGED	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S27.000	SOB17		101.6	OK	1
S27.001	SS50		95.6	OK	
S28.000	SOB18		114.0	SURCHARGED	3
S27.002	SS51		196.4	SURCHARGED	
S29.000	SOB19		120.5	SURCHARGED	1
S27.003	SS52		281.0	SURCHARGED	
S30.000	SOB20		60.4	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S31.000	SOB21	15 Summer	30	+0%	100/15 Summer	
S32.000	SOB22	15 Summer	30	+0%	100/15 Summer	
S31.001	SS53	15 Summer	30	+0%	100/15 Summer	
S33.000	SOB23	15 Summer	30	+0%	100/15 Summer	
S34.000	SGatehouse Gully	15 Summer	30	+0%	100/15 Summer	
S35.000	SGatehouse RWP	15 Summer	30	+0%	100/15 Summer	
S31.002	SS54	15 Summer	30	+0%	100/15 Summer	
S27.004	SS55	15 Summer	30	+0%	30/15 Summer	
S27.005	SFRS2	15 Summer	30	+0%		
S36.000	SKO3	15 Summer	30	+0%	100/15 Summer	100/15 Summer
S36.001	SS56	15 Summer	30	+0%	100/15 Summer	
S37.000	SKO4	15 Summer	30	+0%	100/15 Summer	100/15 Summer
S36.002	SS57	15 Summer	30	+0%	100/15 Summer	
S36.003	SS58	15 Summer	30	+0%	100/15 Summer	
S38.000	SKO5	15 Summer	30	+0%	100/15 Summer	
S36.004	SS59	15 Summer	30	+0%	100/15 Summer	
S39.000	SKO6	15 Summer	30	+0%	100/15 Summer	
S36.005	SS60	15 Summer	30	+0%	100/15 Summer	
S40.000	SKO7	15 Summer	30	+0%	100/15 Summer	
S36.006	SS61	15 Summer	30	+0%	100/15 Summer	
S41.000	SKO8	15 Summer	30	+0%	100/15 Summer	
S36.007	SS62	15 Summer	30	+0%	100/15 Summer	
S42.000	SKO9	15 Summer	30	+0%	100/15 Summer	
S36.008	SS63	15 Winter	30	+0%	100/15 Summer	
S36.009	SS64	15 Winter	30	+0%	100/15 Summer	
S43.000	SSDP11	15 Summer	30	+0%		
S43.001	SSDP11 Dummy	15 Summer	30	+0%	30/15 Summer	
S43.002	SSiphonic Outlet	15 Summer	30	+0%		
S44.000	SSDP10	15 Summer	30	+0%		
S44.001	SSDP10 Dummy	15 Summer	30	+0%	30/15 Summer	
S44.002	SSiphonic Outlet	15 Summer	30	+0%	30/15 Summer	
S36.010	SS65	15 Winter	30	+0%	100/15 Summer	
S45.000	SSDP9	15 Summer	30	+0%		
S45.001	SSDP9 Dummy	15 Summer	30	+0%	30/15 Summer	
S45.002	SSiphonic Outlet	15 Summer	30	+0%	30/15 Summer	
S36.011	SS66	15 Winter	30	+0%	30/15 Summer	
S46.000	SSDP13	15 Summer	30	+0%		
S46.001	SSiphonic Outlet	15 Summer	30	+0%		
S36.012	SS67	15 Winter	30	+0%	100/15 Summer	
S47.000	SSDP12	15 Summer	30	+0%		
S47.001	SSiphonic Outlet	15 Summer	30	+0%		
S36.013	SS68	15 Winter	30	+0%	100/15 Summer	
S48.000	SSDP8	15 Summer	30	+0%		
S48.001	SSDP8 Dummy	15 Summer	30	+0%	30/15 Summer	
S48.002	SSiphonic Outlet	15 Summer	30	+0%		
S49.000	SSDP7	15 Summer	30	+0%		
S49.001	SSDP7 Dummy	15 Summer	30	+0%	30/15 Summer	
S49.002	SSiphonic Outlet	15 Summer	30	+0%		

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
S31.000	SOB21			133.728	-0.097	0.000	0.61	
S32.000	SOB22			133.580	-0.080	0.000	0.45	
S31.001	SS53			133.504	-0.056	0.000	0.89	
S33.000	SOB23			133.377	-0.103	0.000	0.22	
S34.000	SGatehouse Gully			133.431	-0.084	0.000	0.41	
S35.000	SGatehouse RWP			133.361	-0.074	0.000	0.11	
S31.002	SS54			133.357	-0.003	0.000	0.95	
S27.004	SS55			133.225	0.065	0.000	1.45	
S27.005	SFRS2			132.779	-0.251	0.000	0.64	
S36.000	SKO3			134.780	-0.195	0.000	0.41	
S36.001	SS56			134.581	-0.219	0.000	0.34	
S37.000	SKO4			134.407	-0.173	0.000	0.49	
S36.002	SS57			134.157	-0.163	0.000	0.70	
S36.003	SS58			133.978	-0.192	0.000	0.59	
S38.000	SKO5			133.869	-0.121	0.000	0.44	
S36.004	SS59			133.759	-0.141	0.000	0.75	
S39.000	SKO6			133.756	-0.049	0.000	0.79	
S36.005	SS60			133.563	-0.152	0.000	0.71	
S40.000	SKO7			133.571	-0.049	0.000	0.79	
S36.006	SS61			133.363	-0.167	0.000	0.68	
S41.000	SKO8			133.386	-0.049	0.000	0.79	
S36.007	SS62			133.167	-0.178	0.000	0.66	
S42.000	SKO9			133.100	-0.150	0.000	0.00	
S36.008	SS63			132.987	-0.172	0.000	0.33	
S36.009	SS64			132.975	-0.085	0.000	0.41	
S43.000	SSDP11			145.088	-0.212	0.000	0.19	
S43.001	SSDP11 Dummy	30/15 Summer	8	140.364	0.064	0.000	0.16	16.9
S43.002	SSiphonic Outlet			135.142	-0.158	0.000	0.46	
S44.000	SSDP10			145.126	-0.174	0.000	0.37	
S44.001	SSDP10 Dummy	30/15 Summer	8	140.383	0.083	0.000	0.31	32.9
S44.002	SSiphonic Outlet			135.368	0.068	0.000	1.30	
S36.010	SS65			132.969	-0.001	0.000	0.84	
S45.000	SSDP9			145.125	-0.175	0.000	0.37	
S45.001	SSDP9 Dummy	30/15 Summer	8	140.383	0.083	0.000	0.31	33.1
S45.002	SSiphonic Outlet			135.361	0.061	0.000	1.27	
S36.011	SS66			132.911	0.076	0.000	1.33	
S46.000	SSDP13			140.028	-0.197	0.000	0.04	
S46.001	SSiphonic Outlet			135.050	-0.175	0.000	0.11	
S36.012	SS67			132.511	-0.199	0.000	0.77	
S47.000	SSDP12			140.028	-0.197	0.000	0.04	
S47.001	SSiphonic Outlet			135.051	-0.174	0.000	0.12	
S36.013	SS68			132.028	-0.007	0.000	0.86	
S48.000	SSDP8			145.125	-0.175	0.000	0.37	
S48.001	SSDP8 Dummy	30/15 Summer	8	140.382	0.082	0.000	0.31	32.0
S48.002	SSiphonic Outlet			135.140	-0.160	0.000	0.62	
S49.000	SSDP7			145.086	-0.214	0.000	0.18	
S49.001	SSDP7 Dummy	30/15 Summer	8	140.363	0.063	0.000	0.15	16.4

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S49.002	SSiphonic Outlet			135.068	-0.232	0.000	0.31	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S31.000	SOB21		29.6	OK	
S32.000	SOB22		7.0	OK	
S31.001	SS53		35.5	OK	
S33.000	SOB23		3.5	OK	
S34.000	SGatehouse Gully		6.6	OK	
S35.000	SGatehouse RWP		1.6	OK	
S31.002	SS54		42.3	OK	
S27.004	SS55		351.1	SURCHARGED	
S27.005	SFRS2		351.9	OK	
S36.000	SKO3		66.3	OK	3
S36.001	SS56		61.3	OK	
S37.000	SKO4		98.1	OK	3
S36.002	SS57		151.7	OK	
S36.003	SS58		138.5	OK	
S38.000	SKO5		18.6	OK	
S36.004	SS59		144.8	OK	
S39.000	SKO6		12.3	OK	
S36.005	SS60		138.2	OK	
S40.000	SKO7		12.3	OK	
S36.006	SS61		131.5	OK	
S41.000	SKO8		12.3	OK	
S36.007	SS62		127.7	OK	
S42.000	SKO9		0.0	OK	
S36.008	SS63		114.2	OK	
S36.009	SS64		141.8	OK	
S43.000	SSDP11		105.7	OK	
S43.001	SSDP11 Dummy		88.9	SURCHARGED	
S43.002	SSiphonic Outlet		88.9	OK	
S44.000	SSDP10		208.6	OK	
S44.001	SSDP10 Dummy		175.9	SURCHARGED	
S44.002	SSiphonic Outlet		175.9	SURCHARGED	
S36.010	SS65		310.1	OK	
S45.000	SSDP9		205.8	OK	
S45.001	SSDP9 Dummy		172.9	SURCHARGED	
S45.002	SSiphonic Outlet		172.9	SURCHARGED	
S36.011	SS66		469.5	SURCHARGED	
S46.000	SSDP13		11.5	OK	
S46.001	SSiphonic Outlet		11.6	OK	
S36.012	SS67		481.3	OK	
S47.000	SSDP12		11.5	OK	
S47.001	SSiphonic Outlet		11.6	OK	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S36.013	SS68		489.2	OK	
S48.000	SSDP8		204.8	OK	
S48.001	SSDP8 Dummy		172.9	SURCHARGED	
S48.002	SSiphonic Outlet		172.9	OK	
S49.000	SSDP7		102.2	OK	
S49.001	SSDP7 Dummy		85.9	SURCHARGED	
S49.002	SSiphonic Outlet		85.9	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S48.003	SS69	15 Winter	30	+0%			
S36.014	SS70BD	15 Winter	30	+0%	30/15 Summer		
S50.000	SKO10	15 Summer	30	+0%	100/15 Summer		
S51.000	SKO11	15 Summer	30	+0%	100/15 Summer		
S52.000	SKO12	15 Summer	30	+0%	30/15 Summer		
S50.001	SS71	15 Summer	30	+0%	30/15 Summer		
S53.000	SKO13	15 Summer	30	+0%	100/15 Summer		
S54.000	SKO14	15 Summer	30	+0%	100/15 Summer		
S55.000	SKO15	15 Summer	30	+0%	100/15 Summer		
S56.000	SKO16	15 Summer	30	+0%	100/15 Summer		
S57.000	SKO17	15 Summer	30	+0%	100/15 Summer		
S55.001	SS72	15 Summer	30	+0%	100/15 Summer		
S50.002	SS73	15 Summer	30	+0%	30/15 Summer		
S50.003	SBPS2	15 Summer	30	+0%			
S36.015	SS74BD	15 Winter	30	+0%	100/15 Summer		
S36.016	SS75	15 Winter	30	+0%	100/15 Summer		
S27.006	SS76P	15 Winter	30	+0%	100/15 Summer		
S1.013	SS25BD	15 Winter	30	+0%	30/15 Summer		
S58.000	SOB24	15 Summer	30	+0%			
S58.001	SS77	15 Summer	30	+0%			
S59.000	SOB25	15 Summer	30	+0%	100/15 Summer		
S60.000	SDummy	15 Winter	30	+0%			
S60.001	SCP4	15 Winter	30	+0%	100/15 Summer		
S58.002	SS78	15 Summer	30	+0%	100/15 Summer		
S1.014	SC2.3 BD Outfall	15 Winter	30	+0%			

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)
S48.003	SS69		133.384	-0.136	0.000	0.83		
S36.014	SS70BD		131.790	0.075	0.000	1.17		
S50.000	SKO10		134.102	-0.123	0.000	0.42		
S51.000	SKO11		134.145	-0.045	0.000	0.87		
S52.000	SKO12		134.086	0.081	0.000	1.36		
S50.001	SS71		133.967	0.032	0.000	1.00		
S53.000	SKO13		133.561	-0.099	0.000	0.53		
S54.000	SKO14		133.543	-0.037	0.000	0.52		
S55.000	SKO15		133.676	-0.149	0.000	0.25		
S56.000	SKO16		133.659	-0.126	0.000	0.35		
S57.000	SKO17		133.797	-0.108	0.000	0.53		
S55.001	SS72		133.628	-0.007	0.000	0.88		
S50.002	SS73		133.513	0.028	0.000	1.15		
S50.003	SBPS2		133.075	-0.240	0.000	0.44		
S36.015	SS74BD		131.403	-0.222	0.000	0.92		
S36.016	SS75		131.310	-0.205	0.000	0.85		
S27.006	SS76P		131.193	-0.117	0.000	1.00		

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	
S1.013	SS25BD		129.908	0.193	0.000	1.45			
S58.000	SOB24		129.503	-0.142	0.000	0.29			
S58.001	SS77		129.068	-0.127	0.000	0.38			
S59.000	SOB25		128.916	-0.109	0.000	0.53			
S60.000	SDummy		129.072	-0.128	0.000	0.63			
S60.001	SCP4		128.775	-0.160	0.000	0.44			7
S58.002	SS78		128.681	-0.054	0.000	1.00			
S1.014	SC2.3 BD Outfall		127.519	-0.621	0.000	0.35			

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
S48.003	SS69	258.7	OK	
S36.014	SS70BD	705.5	SURCHARGED	
S50.000	SKO10	20.6	OK	
S51.000	SKO11	41.9	OK	
S52.000	SKO12	50.7	SURCHARGED	
S50.001	SS71	104.0	SURCHARGED	
S53.000	SKO13	24.6	OK	
S54.000	SKO14	22.4	OK	
S55.000	SKO15	11.9	OK	
S56.000	SKO16	15.9	OK	
S57.000	SKO17	25.8	OK	
S55.001	SS72	48.1	OK	
S50.002	SS73	194.4	SURCHARGED	
S50.003	SBPS2	193.7	OK	
S36.015	SS74BD	884.0	OK	
S36.016	SS75	867.9	OK	
S27.006	SS76P	1193.0	OK	
S1.013	SS25BD	2044.3	SURCHARGED	
S58.000	SOB24	19.6	OK	
S58.001	SS77	19.0	OK	
S59.000	SOB25	33.9	OK	
S60.000	SDummy	49.6	OK	
S60.001	SCP4	49.6	OK	
S58.002	SS78	96.8	OK	
S1.014	SC2.3 BD Outfall	2123.2	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	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	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	9	Number of Time/Area Diagrams	0
Number of Offline Controls	9	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.360
Region	England and Wales	Cv (Summer)	0.785
M5-60 (mm)	19.000	Cv (Winter)	0.827

Margin for Flood Risk Warning (mm)	300.0	DVD Status	OFF
Analysis Timestep	Fine	Inertia Status	OFF
DTS Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	2, 30, 100
Climate Change (%)	0, 0, 30

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S1.000	SOB1	15 Summer	100	+30%	100/15 Summer	
S1.001	SS1	15 Winter	100	+30%	100/15 Summer	
S2.000	SOB2	15 Winter	100	+30%	30/15 Summer	
S3.000	SGatehouse RWP	15 Winter	100	+30%	100/15 Summer	
S1.002	SS2	15 Winter	100	+30%	30/15 Summer	
S4.000	SOB3	15 Summer	100	+30%	30/15 Summer	100/15 Summer
S1.003	SS3	15 Summer	100	+30%	30/15 Summer	
S5.000	SOB4	15 Winter	100	+30%	100/15 Summer	
S1.004	SS4	15 Winter	100	+30%	100/15 Summer	
S6.000	SOB5	15 Winter	100	+30%	100/15 Summer	
S7.000	SOB6	15 Summer	100	+30%	100/15 Summer	100/15 Summer
S1.005	SS5	15 Summer	100	+30%	30/15 Summer	
S8.000	SOB7	15 Winter	100	+30%	100/15 Summer	
S1.006	SS6	15 Summer	100	+30%	30/15 Summer	
S1.007	SFRS1	15 Winter	100	+30%	30/15 Summer	
S1.008	SS7	15 Winter	100	+30%	30/15 Summer	
S9.000	SSDP1	15 Summer	100	+30%		
S9.001	SSDP1 Dummy	15 Summer	100	+30%	30/15 Summer	
S9.002	SSiphonic Outlet	15 Summer	100	+30%		
S1.009	SS8	15 Winter	100	+30%	30/15 Summer	
S10.000	SSDP2	15 Summer	100	+30%		

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
S1.000	SOB1			136.211	0.586	0.000	0.99	
S1.001	SS1			136.062	0.672	0.000	0.87	
S2.000	SOB2			135.930	0.730	0.000	0.99	
S3.000	SGatehouse RWP			135.894	0.514	0.000	0.29	
S1.002	SS2			135.878	0.763	0.000	1.16	
S4.000	SOB3			135.568	0.608	2.640	1.76	
S1.003	SS3			135.390	0.645	0.000	1.65	
S5.000	SOB4			135.090	0.425	0.000	0.87	
S1.004	SS4			135.053	0.478	0.000	0.77	
S6.000	SOB5			134.643	0.543	0.000	0.60	
S7.000	SOB6			134.645	0.670	34.644	1.46	
S1.005	SS5			134.522	0.822	0.000	1.23	
S8.000	SOB7			134.472	0.652	0.000	1.31	
S1.006	SS6			134.266	0.766	0.000	1.95	
S1.007	SFRS1			134.068	0.703	0.000	1.82	
S1.008	SS7			133.876	0.546	0.000	1.35	
S9.000	SSDP1			145.109	-0.191	0.000	0.29	
S9.001	SSDP1 Dummy	30/15 Summer	8	140.431	0.131	0.000	0.14	80.4
S9.002	SSiphonic Outlet			135.142	-0.158	0.000	0.46	
S1.009	SS8			133.666	0.456	0.000	1.62	
S10.000	SSDP2			145.162	-0.138	0.000	0.57	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SOB1		47.4	SURCHARGED	
S1.001	SS1		35.1	SURCHARGED	
S2.000	SOB2		15.5	FLOOD RISK	
S3.000	SGatehouse RWP		5.0	SURCHARGED	
S1.002	SS2		47.2	FLOOD RISK	
S4.000	SOB3		161.5	FLOOD	2
S1.003	SS3		178.4	SURCHARGED	
S5.000	SOB4		37.0	FLOOD RISK	
S1.004	SS4		186.1	FLOOD RISK	
S6.000	SOB5		82.7	SURCHARGED	
S7.000	SOB6		287.2	FLOOD	4
S1.005	SS5		433.2	SURCHARGED	
S8.000	SOB7		61.1	SURCHARGED	
S1.006	SS6		480.2	SURCHARGED	
S1.007	SFRS1		463.9	SURCHARGED	
S1.008	SS7		453.5	SURCHARGED	
S9.000	SSDP1		161.3	OK	
S9.001	SSDP1 Dummy		80.9	SURCHARGED	
S9.002	SSiphonic Outlet		80.9	OK	
S1.009	SS8		530.0	SURCHARGED	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.000	SSDP2		318.4	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S10.001	SSDP2 Dummy	15 Summer	100	+30%	30/15 Summer	
S10.002	SSiphonic Outlet	15 Summer	100	+30%		
S1.010	SS9	15 Winter	100	+30%	100/15 Summer	
S11.000	SSDP3	15 Summer	100	+30%		
S11.001	SSDP3 Dummy	15 Summer	100	+30%	30/15 Summer	
S11.002	SSiphonic Outlet	15 Summer	100	+30%		
S1.011	SS10	15 Winter	100	+30%	100/15 Summer	
S12.000	SGullies	15 Summer	100	+30%	100/15 Summer	
S12.001	SS11	15 Summer	100	+30%	30/15 Summer	
S13.000	SSDP5	15 Summer	100	+30%		
S13.001	SSiphonic Outlet	15 Winter	100	+30%	100/15 Summer	
S12.002	SS12	15 Summer	100	+30%	30/15 Summer	
S14.000	SOB8	15 Summer	100	+30%	100/15 Summer	
S15.000	SKO1	15 Summer	100	+30%	30/15 Summer	
S14.001	SS13	15 Summer	100	+30%	30/15 Summer	
S16.000	SKO2	15 Summer	100	+30%	30/15 Summer	
S17.000	SOB9	15 Summer	100	+30%	100/15 Summer	
S14.002	SS14	15 Summer	100	+30%	30/15 Summer	
S14.003	SBPS1	15 Summer	100	+30%	30/15 Summer	
S14.004	SS15	15 Summer	100	+30%	100/15 Summer	
S18.000	SSDP6	15 Summer	100	+30%		
S18.001	SSiphonic Outlet	15 Summer	100	+30%	100/15 Summer	
S12.003	SS16	15 Summer	100	+30%	30/15 Summer	
S19.000	SOB10	15 Summer	100	+30%	100/15 Summer	
S19.001	SS17	15 Summer	100	+30%	100/15 Summer	
S20.000	SOB11	15 Summer	100	+30%	100/15 Summer	
S12.004	SS18	15 Summer	100	+30%	30/15 Summer	
S21.000	SOB12	15 Summer	100	+30%	100/15 Summer	
S12.005	SS19	15 Summer	100	+30%	30/15 Summer	
S22.000	SOB13	15 Summer	100	+30%	100/15 Summer	
S12.006	SS20	15 Summer	100	+30%	30/15 Summer	
S23.000	SOB14	15 Summer	100	+30%	100/15 Summer	
S12.007	SS21	15 Summer	100	+30%	100/15 Summer	
S24.000	SOB15	15 Winter	100	+30%		
S12.008	SS22	15 Summer	100	+30%	100/15 Summer	
S25.000	SOB16	15 Summer	100	+30%	100/15 Summer	
S12.009	SS23	15 Summer	100	+30%		
S26.000	SSDP4	15 Summer	100	+30%		
S26.001	SSDP4 Dummy	15 Summer	100	+30%	30/15 Summer	
S26.002	SSiphonic Outlet	15 Summer	100	+30%	30/15 Summer	
S1.012	SS24P-BD	15 Summer	100	+30%	30/15 Summer	
S27.000	SOB17	15 Summer	100	+30%	100/15 Summer	100/15 Summer
S27.001	SS50	15 Summer	100	+30%	100/15 Summer	
S28.000	SOB18	15 Summer	100	+30%	30/15 Summer	100/15 Summer
S27.002	SS51	15 Summer	100	+30%	30/15 Summer	
S29.000	SOB19	15 Summer	100	+30%	30/15 Summer	100/15 Summer
S27.003	SS52	15 Summer	100	+30%	30/15 Summer	
S30.000	SOB20	15 Summer	100	+30%	30/15 Summer	

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S10.001	SSDP2 Dummy	30/15 Summer	8	140.506	0.206	0.000	0.29	158.7
S10.002	SSiphonic Outlet			135.222	-0.078	0.000	0.90	
S1.010	SS9			133.386	0.276	0.000	1.23	
S11.000	SSDP3			145.162	-0.138	0.000	0.57	
S11.001	SSDP3 Dummy	30/15 Summer	8	140.506	0.206	0.000	0.29	158.7
S11.002	SSiphonic Outlet			135.222	-0.078	0.000	0.90	
S1.011	SS10			133.190	0.185	0.000	1.66	
S12.000	SGullies			135.422	0.672	0.000	0.78	
S12.001	SS11			135.382	0.772	0.000	0.76	
S13.000	SSDP5			140.037	-0.113	0.000	0.14	
S13.001	SSiphonic Outlet			135.400	0.250	0.000	1.11	
S12.002	SS12			135.350	0.890	0.000	1.12	
S14.000	SOB8			135.589	0.814	0.000	0.87	
S15.000	SKO1			135.642	0.922	0.000	1.49	
S14.001	SS13			135.511	0.871	0.000	1.13	
S16.000	SKO2			135.421	0.841	0.000	0.76	
S17.000	SOB9			135.425	0.805	0.000	0.52	
S14.002	SS14			135.406	0.876	0.000	1.84	
S14.003	SBPS1			135.229	0.839	0.000	1.66	
S14.004	SS15			135.063	0.723	0.000	0.61	
S18.000	SSDP6			140.037	-0.113	0.000	0.14	
S18.001	SSiphonic Outlet			135.194	0.044	0.000	1.21	
S12.003	SS16			134.906	1.046	0.000	1.55	
S19.000	SOB10			134.985	0.580	0.000	0.88	
S19.001	SS17			134.894	0.704	0.000	0.68	
S20.000	SOB11			134.846	0.816	0.000	0.56	
S12.004	SS18			134.802	0.973	0.000	1.54	
S21.000	SOB12			134.665	0.770	0.000	1.02	
S12.005	SS19			134.574	0.854	0.000	1.80	
S22.000	SOB13			134.134	0.454	0.000	0.78	
S12.006	SS20			134.114	0.534	0.000	1.89	
S23.000	SOB14			134.051	0.436	0.000	1.86	
S12.007	SS21			133.591	0.151	0.000	1.21	
S24.000	SOB15			133.369	-0.016	0.000	0.78	
S12.008	SS22			133.353	0.068	0.000	1.32	
S25.000	SOB16			133.322	0.007	0.000	1.06	
S12.009	SS23			133.042	-0.153	0.000	0.89	
S26.000	SSDP4			145.109	-0.191	0.000	0.29	
S26.001	SSDP4 Dummy	30/15 Summer	8	140.431	0.131	0.000	0.13	80.4
S26.002	SSiphonic Outlet			133.817	0.017	0.000	1.18	
S1.012	SS24P-BD			131.960	0.525	0.000	1.85	
S27.000	SOB17			135.265	0.965	0.197	1.34	
S27.001	SS50			134.703	0.753	0.000	1.21	
S28.000	SOB18			134.617	0.717	6.883	1.49	
S27.002	SS51			134.051	0.541	0.000	1.46	
S29.000	SOB19			134.611	0.936	0.928	1.72	
S27.003	SS52			133.600	0.295	0.000	1.19	

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)
S30.000	SOB20			134.195	0.830	0.000	2.01	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S10.001	SSDP2 Dummy		159.9	SURCHARGED	
S10.002	SSiphonic Outlet		159.9	OK	
S1.010	SS9		687.4	SURCHARGED	
S11.000	SSDP3		318.4	OK	
S11.001	SSDP3 Dummy		159.9	SURCHARGED	
S11.002	SSiphonic Outlet		159.9	OK	
S1.011	SS10		846.9	SURCHARGED	
S12.000	SGullies		12.7	SURCHARGED	
S12.001	SS11		12.4	SURCHARGED	
S13.000	SSDP5		19.4	OK	
S13.001	SSiphonic Outlet		18.1	SURCHARGED	
S12.002	SS12		19.4	SURCHARGED	
S14.000	SOB8		79.9	FLOOD RISK	
S15.000	SKO1		59.5	SURCHARGED	
S14.001	SS13		134.1	SURCHARGED	
S16.000	SKO2		23.9	SURCHARGED	
S17.000	SOB9		39.1	SURCHARGED	
S14.002	SS14		182.6	SURCHARGED	
S14.003	SBPS1		175.2	SURCHARGED	
S14.004	SS15		165.8	SURCHARGED	
S18.000	SSDP6		19.4	OK	
S18.001	SSiphonic Outlet		19.4	SURCHARGED	
S12.003	SS16		194.6	SURCHARGED	
S19.000	SOB10		41.8	SURCHARGED	
S19.001	SS17		35.0	SURCHARGED	
S20.000	SOB11		32.5	SURCHARGED	
S12.004	SS18		245.9	SURCHARGED	
S21.000	SOB12		106.7	SURCHARGED	
S12.005	SS19		300.8	SURCHARGED	
S22.000	SOB13		34.9	SURCHARGED	
S12.006	SS20		314.8	SURCHARGED	
S23.000	SOB14		194.7	SURCHARGED	
S12.007	SS21		419.6	SURCHARGED	
S24.000	SOB15		34.9	OK	
S12.008	SS22		419.1	SURCHARGED	
S25.000	SOB16		51.7	SURCHARGED	
S12.009	SS23		452.2	OK	
S26.000	SSDP4		161.3	OK	
S26.001	SSDP4 Dummy		80.9	SURCHARGED	
S26.002	SSiphonic Outlet		80.9	SURCHARGED	
S1.012	SS24P-BD		1361.9	SURCHARGED	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S27.000	SOB17		137.1	FLOOD	1
S27.001	SS50		127.6	SURCHARGED	
S28.000	SOB18		154.1	FLOOD	3
S27.002	SS51		250.5	SURCHARGED	
S29.000	SOB19		176.0	FLOOD	1
S27.003	SS52		406.8	SURCHARGED	
S30.000	SOB20		94.5	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood
S31.000	SOB21	15 Summer	100	+30%	100/15 Summer	
S32.000	SOB22	15 Summer	100	+30%	100/15 Summer	
S31.001	SS53	15 Summer	100	+30%	100/15 Summer	
S33.000	SOB23	15 Summer	100	+30%	100/15 Summer	
S34.000	SGatehouse Gully	15 Summer	100	+30%	100/15 Summer	
S35.000	SGatehouse RWP	15 Summer	100	+30%	100/15 Summer	
S31.002	SS54	15 Summer	100	+30%	100/15 Summer	
S27.004	SS55	15 Summer	100	+30%	30/15 Summer	
S27.005	SFRS2	15 Summer	100	+30%		
S36.000	SKO3	15 Summer	100	+30%	100/15 Summer	100/15 Summer
S36.001	SS56	15 Summer	100	+30%	100/15 Summer	
S37.000	SKO4	15 Summer	100	+30%	100/15 Summer	100/15 Summer
S36.002	SS57	15 Winter	100	+30%	100/15 Summer	
S36.003	SS58	15 Winter	100	+30%	100/15 Summer	
S38.000	SKO5	30 Summer	100	+30%	100/15 Summer	
S36.004	SS59	30 Summer	100	+30%	100/15 Summer	
S39.000	SKO6	30 Summer	100	+30%	100/15 Summer	
S36.005	SS60	30 Summer	100	+30%	100/15 Summer	
S40.000	SKO7	30 Summer	100	+30%	100/15 Summer	
S36.006	SS61	30 Summer	100	+30%	100/15 Summer	
S41.000	SKO8	30 Summer	100	+30%	100/15 Summer	
S36.007	SS62	30 Summer	100	+30%	100/15 Summer	
S42.000	SKO9	30 Summer	100	+30%	100/15 Summer	
S36.008	SS63	30 Summer	100	+30%	100/15 Summer	
S36.009	SS64	30 Summer	100	+30%	100/15 Summer	
S43.000	SSDP11	15 Summer	100	+30%		
S43.001	SSDP11 Dummy	15 Summer	100	+30%	30/15 Summer	
S43.002	SSiphonic Outlet	15 Summer	100	+30%		
S44.000	SSDP10	15 Summer	100	+30%		
S44.001	SSDP10 Dummy	15 Summer	100	+30%	30/15 Summer	
S44.002	SSiphonic Outlet	15 Summer	100	+30%	30/15 Summer	
S36.010	SS65	30 Summer	100	+30%	100/15 Summer	
S45.000	SSDP9	15 Summer	100	+30%		
S45.001	SSDP9 Dummy	15 Summer	100	+30%	30/15 Summer	
S45.002	SSiphonic Outlet	15 Summer	100	+30%	30/15 Summer	
S36.011	SS66	30 Winter	100	+30%	30/15 Summer	
S46.000	SSDP13	15 Summer	100	+30%		
S46.001	SSiphonic Outlet	15 Summer	100	+30%		
S36.012	SS67	30 Winter	100	+30%	100/15 Summer	
S47.000	SSDP12	15 Summer	100	+30%		
S47.001	SSiphonic Outlet	15 Summer	100	+30%		
S36.013	SS68	30 Winter	100	+30%	100/15 Summer	
S48.000	SSDP8	15 Summer	100	+30%		
S48.001	SSDP8 Dummy	15 Summer	100	+30%	30/15 Summer	
S48.002	SSiphonic Outlet	15 Summer	100	+30%		
S49.000	SSDP7	15 Summer	100	+30%		
S49.001	SSDP7 Dummy	15 Summer	100	+30%	30/15 Summer	
S49.002	SSiphonic Outlet	15 Summer	100	+30%		

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S31.000	SOB21			134.072	0.247	0.000	0.90	
S32.000	SOB22			133.943	0.283	0.000	0.61	
S31.001	SS53			133.915	0.355	0.000	1.12	
S33.000	SOB23			133.685	0.205	0.000	0.33	
S34.000	SGatehouse Gully			133.704	0.189	0.000	0.63	
S35.000	SGatehouse RWP			133.676	0.241	0.000	0.16	
S31.002	SS54			133.673	0.313	0.000	1.19	
S27.004	SS55			133.387	0.227	0.000	2.22	
S27.005	SFRS2			132.900	-0.130	0.000	0.97	
S36.000	SKO3			135.820	0.845	20.873	1.23	
S36.001	SS56			135.791	0.991	0.000	0.78	
S37.000	SKO4			135.826	1.246	27.684	1.58	
S36.002	SS57			135.673	1.353	0.000	1.84	
S36.003	SS58			135.501	1.331	0.000	1.51	
S38.000	SKO5			135.235	1.245	0.000	0.59	
S36.004	SS59			135.219	1.319	0.000	1.77	
S39.000	SKO6			134.930	1.125	0.000	1.14	
S36.005	SS60			134.901	1.187	0.000	1.66	
S40.000	SKO7			134.568	0.948	0.000	1.15	
S36.006	SS61			134.540	1.010	0.000	1.52	
S41.000	SKO8			134.166	0.731	0.000	1.15	
S36.007	SS62			134.134	0.790	0.000	1.53	
S42.000	SKO9			133.713	0.463	0.000	0.29	
S36.008	SS63			133.703	0.544	0.000	0.90	
S36.009	SS64			133.637	0.577	0.000	0.92	
S43.000	SSDP11			145.116	-0.184	0.000	0.32	
S43.001	SSDP11 Dummy	30/15 Summer	8	140.440	0.140	0.000	0.16	88.9
S43.002	SSiphonic Outlet			135.142	-0.158	0.000	0.46	
S44.000	SSDP10			145.172	-0.128	0.000	0.63	
S44.001	SSDP10 Dummy	30/15 Summer	8	140.520	0.220	0.000	0.31	175.1
S44.002	SSiphonic Outlet			135.367	0.067	0.000	1.30	
S36.010	SS65			133.601	0.631	0.000	1.25	
S45.000	SSDP9			145.171	-0.129	0.000	0.62	
S45.001	SSDP9 Dummy	30/15 Summer	8	140.519	0.219	0.000	0.31	173.4
S45.002	SSiphonic Outlet			135.360	0.060	0.000	1.27	
S36.011	SS66			133.406	0.571	0.000	1.69	
S46.000	SSDP13			140.036	-0.189	0.000	0.06	
S46.001	SSiphonic Outlet			135.067	-0.158	0.000	0.19	
S36.012	SS67			133.079	0.369	0.000	0.96	
S47.000	SSDP12			140.036	-0.189	0.000	0.06	
S47.001	SSiphonic Outlet			135.067	-0.158	0.000	0.19	
S36.013	SS68			132.463	0.428	0.000	1.08	
S48.000	SSDP8			145.170	-0.130	0.000	0.61	
S48.001	SSDP8 Dummy	30/15 Summer	8	140.517	0.217	0.000	0.31	171.6
S48.002	SSiphonic Outlet			135.140	-0.160	0.000	0.62	
S49.000	SSDP7			145.113	-0.187	0.000	0.31	
S49.001	SSDP7 Dummy	30/15 Summer	8	140.437	0.137	0.000	0.15	86.0

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

PN	US/MH Name	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)
S49.002	SSiphonic Outlet			135.068	-0.232	0.000	0.31	

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S31.000	SOB21		43.5	SURCHARGED	
S32.000	SOB22		9.5	SURCHARGED	
S31.001	SS53		44.5	SURCHARGED	
S33.000	SOB23		5.2	SURCHARGED	
S34.000	SGatehouse Gully		10.4	SURCHARGED	
S35.000	SGatehouse RWP		2.4	SURCHARGED	
S31.002	SS54		53.2	SURCHARGED	
S27.004	SS55		536.6	SURCHARGED	
S27.005	SFRS2		535.1	OK	
S36.000	SKO3		200.8	FLOOD	3
S36.001	SS56		142.5	FLOOD RISK	
S37.000	SKO4		316.2	FLOOD	3
S36.002	SS57		401.4	FLOOD RISK	
S36.003	SS58		354.3	FLOOD RISK	
S38.000	SKO5		25.1	SURCHARGED	
S36.004	SS59		343.8	SURCHARGED	
S39.000	SKO6		17.8	SURCHARGED	
S36.005	SS60		321.1	SURCHARGED	
S40.000	SKO7		17.9	SURCHARGED	
S36.006	SS61		295.6	SURCHARGED	
S41.000	SKO8		17.9	SURCHARGED	
S36.007	SS62		296.2	SURCHARGED	
S42.000	SKO9		4.5	SURCHARGED	
S36.008	SS63		310.8	SURCHARGED	
S36.009	SS64		318.6	SURCHARGED	
S43.000	SSDP11		177.8	OK	
S43.001	SSDP11 Dummy		88.9	SURCHARGED	
S43.002	SSiphonic Outlet		88.9	OK	
S44.000	SSDP10		350.8	OK	
S44.001	SSDP10 Dummy		175.9	SURCHARGED	
S44.002	SSiphonic Outlet		175.9	SURCHARGED	
S36.010	SS65		459.6	SURCHARGED	
S45.000	SSDP9		346.1	OK	
S45.001	SSDP9 Dummy		172.9	SURCHARGED	
S45.002	SSiphonic Outlet		172.9	SURCHARGED	
S36.011	SS66		597.0	SURCHARGED	
S46.000	SSDP13		19.4	OK	
S46.001	SSiphonic Outlet		19.4	OK	
S36.012	SS67		594.7	SURCHARGED	
S47.000	SSDP12		19.4	OK	
S47.001	SSiphonic Outlet		19.4	OK	

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

PN	US/MH Name	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S36.013	SS68		614.2	SURCHARGED	
S48.000	SSDP8		344.3	OK	
S48.001	SSDP8 Dummy		172.9	SURCHARGED	
S48.002	SSiphonic Outlet		172.9	OK	
S49.000	SSDP7		171.9	OK	
S49.001	SSDP7 Dummy		85.9	SURCHARGED	
S49.002	SSiphonic Outlet		85.9	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S48.003	SS69	15 Winter	100	+30%			
S36.014	SS70BD	15 Winter	100	+30%	30/15 Summer		
S50.000	SKO10	15 Summer	100	+30%	100/15 Summer		
S51.000	SKO11	15 Summer	100	+30%	100/15 Summer		
S52.000	SKO12	15 Summer	100	+30%	30/15 Summer		
S50.001	SS71	15 Summer	100	+30%	30/15 Summer		
S53.000	SKO13	15 Summer	100	+30%	100/15 Summer		
S54.000	SKO14	15 Summer	100	+30%	100/15 Summer		
S55.000	SKO15	15 Summer	100	+30%	100/15 Summer		
S56.000	SKO16	15 Summer	100	+30%	100/15 Summer		
S57.000	SKO17	15 Summer	100	+30%	100/15 Summer		
S55.001	SS72	15 Summer	100	+30%	100/15 Summer		
S50.002	SS73	15 Summer	100	+30%	30/15 Summer		
S50.003	SBPS2	15 Summer	100	+30%			
S36.015	SS74BD	15 Winter	100	+30%	100/15 Summer		
S36.016	SS75	15 Winter	100	+30%	100/15 Summer		
S27.006	SS76P	15 Winter	100	+30%	100/15 Summer		
S1.013	SS25BD	15 Winter	100	+30%	30/15 Summer		
S58.000	SOB24	15 Summer	100	+30%			
S58.001	SS77	15 Summer	100	+30%			
S59.000	SOB25	15 Summer	100	+30%	100/15 Summer		
S60.000	SDummy	15 Winter	100	+30%			
S60.001	SCP4	15 Winter	100	+30%	100/15 Summer		
S58.002	SS78	15 Summer	100	+30%	100/15 Summer		
S1.014	SC2.3 BD Outfall	15 Winter	100	+30%			

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)
S48.003	SS69		133.384	-0.136	0.000	0.83		
S36.014	SS70BD		132.094	0.379	0.000	1.28		
S50.000	SKO10		134.747	0.522	0.000	0.54		
S51.000	SKO11		135.014	0.824	0.000	1.19		
S52.000	SKO12		134.902	0.897	0.000	1.90		
S50.001	SS71		134.654	0.719	0.000	1.45		
S53.000	SKO13		133.788	0.128	0.000	0.86		
S54.000	SKO14		133.730	0.150	0.000	0.86		
S55.000	SKO15		133.989	0.164	0.000	0.35		
S56.000	SKO16		133.996	0.211	0.000	0.49		
S57.000	SKO17		134.120	0.215	0.000	0.76		
S55.001	SS72		133.956	0.321	0.000	1.39		
S50.002	SS73		133.665	0.180	0.000	1.73		
S50.003	SBPS2		133.136	-0.179	0.000	0.66		
S36.015	SS74BD		131.857	0.232	0.000	1.05		
S36.016	SS75		131.655	0.140	0.000	0.99		
S27.006	SS76P		131.451	0.141	0.000	1.28		

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)
S1.013	SS25BD		130.368	0.653	0.000	2.05		
S58.000	SOB24		129.531	-0.114	0.000	0.49		
S58.001	SS77		129.109	-0.086	0.000	0.64		
S59.000	SOB25		129.134	0.109	0.000	0.85		
S60.000	SDummy		129.200	0.000	0.000	1.05		
S60.001	SCP4		129.018	0.083	0.000	0.81		4
S58.002	SS78		128.934	0.199	0.000	1.42		
S1.014	SC2.3 BD Outfall		127.616	-0.524	0.000	0.50		

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
S48.003	SS69	258.7	OK	
S36.014	SS70BD	771.5	SURCHARGED	
S50.000	SKO10	26.4	SURCHARGED	
S51.000	SKO11	57.2	SURCHARGED	
S52.000	SKO12	70.7	SURCHARGED	
S50.001	SS71	151.2	SURCHARGED	
S53.000	SKO13	39.7	SURCHARGED	
S54.000	SKO14	37.3	SURCHARGED	
S55.000	SKO15	16.5	SURCHARGED	
S56.000	SKO16	22.5	SURCHARGED	
S57.000	SKO17	37.0	SURCHARGED	
S55.001	SS72	75.8	SURCHARGED	
S50.002	SS73	292.0	SURCHARGED	
S50.003	SBPS2	289.5	OK	
S36.015	SS74BD	1009.1	SURCHARGED	
S36.016	SS75	1009.9	SURCHARGED	
S27.006	SS76P	1526.4	SURCHARGED	
S1.013	SS25BD	2881.9	SURCHARGED	
S58.000	SOB24	33.0	OK	
S58.001	SS77	31.9	OK	
S59.000	SOB25	54.9	SURCHARGED	
S60.000	SDummy	83.4	OK	
S60.001	SCP4	91.2	SURCHARGED	
S58.002	SS78	137.5	SURCHARGED	
S1.014	SC2.3 BD Outfall	3012.9	OK	

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Summary of Results for 30 year Return Period

Half Drain Time : 6 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	134.583	1.433	0.0	121.4	121.4	66.3	O K
30 min Summer	134.717	1.567	0.0	127.4	127.4	75.9	Flood Risk
60 min Summer	134.620	1.470	0.0	123.1	123.1	69.1	O K
120 min Summer	134.369	1.219	0.0	111.1	111.1	49.8	O K
180 min Summer	134.155	1.005	0.0	99.8	99.8	34.1	O K
240 min Summer	133.983	0.833	0.0	89.7	89.7	23.6	O K
360 min Summer	133.751	0.601	0.0	73.9	73.9	12.2	O K
480 min Summer	133.612	0.462	0.0	62.5	62.5	7.1	O K
600 min Summer	133.526	0.376	0.0	54.2	54.2	4.5	O K
720 min Summer	133.470	0.320	0.0	48.1	48.1	3.2	O K
960 min Summer	133.425	0.275	0.0	38.8	38.8	2.4	O K
1440 min Summer	133.375	0.225	0.0	28.5	28.5	1.6	O K
2160 min Summer	133.337	0.187	0.0	21.0	21.0	1.1	O K
2880 min Summer	133.311	0.161	0.0	16.8	16.8	0.8	O K
4320 min Summer	133.281	0.131	0.0	12.3	12.3	0.5	O K
5760 min Summer	133.268	0.118	0.0	9.9	9.9	0.5	O K
7200 min Summer	133.260	0.110	0.0	8.4	8.4	0.4	O K
8640 min Summer	133.254	0.104	0.0	7.2	7.2	0.3	O K
10080 min Summer	133.247	0.097	0.0	6.4	6.4	0.3	O K
15 min Winter	134.741	1.591	0.0	128.5	128.5	77.5	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	69.495	0.0	161.8	19
30 min Summer	46.054	0.0	214.5	27
60 min Summer	29.238	0.0	272.4	42
120 min Summer	18.026	0.0	335.8	74
180 min Summer	13.436	0.0	375.5	104
240 min Summer	10.855	0.0	404.5	132
360 min Summer	8.011	0.0	447.7	192
480 min Summer	6.455	0.0	481.1	250
600 min Summer	5.457	0.0	508.3	308
720 min Summer	4.755	0.0	531.5	368
960 min Summer	3.823	0.0	569.8	488
1440 min Summer	2.809	0.0	627.9	730
2160 min Summer	2.060	0.0	690.9	1080
2880 min Summer	1.652	0.0	738.8	1428
4320 min Summer	1.209	0.0	811.1	2172
5760 min Summer	0.968	0.0	866.0	2912
7200 min Summer	0.815	0.0	910.7	3576
8640 min Summer	0.707	0.0	948.8	4344
10080 min Summer	0.628	0.0	982.8	5016
15 min Winter	69.495	0.0	181.3	19

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Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	134.889	1.739	0.0	134.8	134.8	86.6	Flood Risk
60 min Winter	134.669	1.519	0.0	125.3	125.3	72.6	O K
120 min Winter	134.260	1.110	0.0	105.6	105.6	41.5	O K
180 min Winter	133.973	0.823	0.0	89.1	89.1	23.0	O K
240 min Winter	133.778	0.628	0.0	75.9	75.9	13.4	O K
360 min Winter	133.563	0.413	0.0	58.0	58.0	5.5	O K
480 min Winter	133.466	0.316	0.0	47.1	47.1	3.1	O K
600 min Winter	133.431	0.281	0.0	40.0	40.0	2.5	O K
720 min Winter	133.406	0.256	0.0	34.8	34.8	2.1	O K
960 min Winter	133.373	0.223	0.0	28.1	28.1	1.6	O K
1440 min Winter	133.336	0.186	0.0	20.7	20.7	1.1	O K
2160 min Winter	133.300	0.150	0.0	15.1	15.1	0.7	O K
2880 min Winter	133.280	0.130	0.0	12.2	12.2	0.5	O K
4320 min Winter	133.263	0.113	0.0	9.0	9.0	0.4	O K
5760 min Winter	133.253	0.103	0.0	7.1	7.1	0.3	O K
7200 min Winter	133.243	0.093	0.0	6.0	6.0	0.3	O K
8640 min Winter	133.236	0.086	0.0	5.2	5.2	0.2	O K
10080 min Winter	133.231	0.081	0.0	4.6	4.6	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	46.054	0.0	240.2	28
60 min Winter	29.238	0.0	305.0	44
120 min Winter	18.026	0.0	376.1	76
180 min Winter	13.436	0.0	420.5	104
240 min Winter	10.855	0.0	453.0	132
360 min Winter	8.011	0.0	501.5	190
480 min Winter	6.455	0.0	538.8	248
600 min Winter	5.457	0.0	569.3	308
720 min Winter	4.755	0.0	595.2	366
960 min Winter	3.823	0.0	638.2	484
1440 min Winter	2.809	0.0	703.2	720
2160 min Winter	2.060	0.0	773.8	1092
2880 min Winter	1.652	0.0	827.4	1432
4320 min Winter	1.209	0.0	908.4	2136
5760 min Winter	0.968	0.0	969.9	2920
7200 min Winter	0.815	0.0	1020.0	3568
8640 min Winter	0.707	0.0	1062.6	4376
10080 min Winter	0.628	0.0	1100.7	4976

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Model Details

Storage is Online Cover Level (m) 135.000

Filter Drain Structure

Infiltration Coefficient Base (m/hr)	0.00000	Pipe Diameter (m)	0.150
Infiltration Coefficient Side (m/hr)	0.00000	Pipe Depth above Invert (m)	0.300
Safety Factor	2.0	Slope (1:X)	300.0
Porosity	0.30	Cap Volume Depth (m)	1.200
Invert Level (m)	133.150	Cap Infiltration Depth (m)	1.200
Trench Width (m)	0.7	Number of Pipes	1
Trench Length (m)	428.0		

Pipe Outflow Control

Diameter (m)	0.225	Entry Loss Coefficient	0.500
Slope (1:X)	50.0	Coefficient of Contraction	0.600
Length (m)	8.630	Upstream Invert Level (m)	133.150
Roughness k (mm)	0.600		

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