



STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm_Rev.C

Pipe Sizes STANDARD Manhole Sizes STANDARD

FEH Rainfall Model			
Return Period (years)	100	Volumetric Runoff Coeff.	0.750
		PIMP (%)	100
FEH Rainfall Version	2013	Add Flow / Climate Change (%)	0
Site Location	GB 497682 103581 SU 97682 03581	Minimum Backdrop Height (m)	0.200
Data Type	Point	Maximum Backdrop Height (m)	1.500
Maximum Rainfall (mm/hr)	350	Min Design Depth for Optimisation (m)	0.400
Maximum Time of Concentration (mins)	30	Min Vel for Auto Design only (m/s)	1.00
Foul Sewage (l/s/ha)	0.000	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm_Rev.C

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.140	4-8	0.244	8-12	0.019	12-16	0.000	16-20	0.000	20-24	0.002	24-28	0.016
												28-32	0.002

Total Area Contributing (ha) = 0.422

Total Pipe Volume (m³) = 67.957

Network Design Table for Storm_Rev.C

« - Indicates pipe capacity < flow

PN	Length	Fall	Slope	I.Area	T.E.	Base	k	n	HYD	DIA	Section	Type	Auto
	(m)	(m)	(1:X)	(ha)	(mins)	Flow	(l/s)	(mm)	SECT	(mm)			Design

Network Results Table

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Tuscany House White Hart Lane Basingstoke RG21 4AF	NORTH END ROAD YAPTON 70 UNITS_RevC	
Date 20/04/2021 14:32 File 19-156 70 Units Drainage Strategy.MDX	Designed by AK Checked by	
Micro Drainage	Network 2020.1.3	

Network Design Table for Storm_Rev.C

PN	Rain	T.C.	US/IL	Σ I	Area	Σ Base	Foul	Add Flow	Vel	Cap	Flow
	(mm/hr)	(mins)	(m)		(ha)	Flow (l/s)	(l/s)	(l/s)	(m/s)	(l/s)	(l/s)

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Tuscany House White Hart Lane Basingstoke RG21 4AF	NORTH END ROAD YAPTON 70 UNITS_RevC	
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Network Design Table for Storm_Rev.C

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	32.601	0.322	101.2	0.017	5.00	0.0	0.600		o	150	Pipe/Conduit	☒
S1.001	8.093	0.159	50.9	0.009	0.00	0.0	0.600		o	150	Pipe/Conduit	☒
S2.000	20.729	0.205	101.0	0.021	5.00	0.0	0.600		o	150	Pipe/Conduit	☒
S2.001	10.870	0.108	101.0	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	☒
S1.002	23.178	0.139	166.7	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	☒
S3.000	11.273	0.039	286.0	0.020	5.00	0.0		0.300	3 \=/	300	1:3 Swale	☒
S3.001	12.799	0.045	284.4	0.000	0.00	0.0		0.300	3 \=/	300	1:3 Swale	☒
S3.002	5.309	0.019	286.0	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	☒
S3.003	5.309	0.019	286.0	0.000	0.00	0.0		0.300	3 \=/	300	1:3 Swale	☒
S3.004	17.529	0.061	286.0	0.000	0.00	0.0		0.300	3 \=/	300	1:3 Swale	☒
S3.005	9.695	0.442	21.9	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	☒
S3.006	10.902	0.109	100.0	0.017	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	158.22	5.54	6.761	0.017	0.0	0.0	0.0	1.00	17.6	7.4
S1.001	157.31	5.64	6.439	0.026	0.0	0.0	0.0	1.41	25.0	11.0
S2.000	160.13	5.35	6.593	0.021	0.0	0.0	0.0	1.00	17.7	9.2
S2.001	158.38	5.53	6.388	0.021	0.0	0.0	0.0	1.00	17.7	9.2
S1.002	153.73	6.02	6.205	0.047	0.0	0.0	0.0	1.01	40.1	19.7
S3.000	125.53	9.74	6.875	0.020	0.0	0.0	0.0	0.04	4.5	6.8
S3.001	100.42	15.11	6.836	0.020	0.0	0.0	0.0	0.04	4.5	6.8
S3.002	99.89	15.26	6.791	0.020	0.0	0.0	0.0	0.59	10.4	6.8
S3.003	92.67	17.50	6.772	0.020	0.0	0.0	0.0	0.04	4.5	6.8
S3.004	75.69	24.87	6.753	0.020	0.0	0.0	0.0	0.04	4.5	6.8
S3.005	75.56	24.95	6.692	0.020	0.0	0.0	0.0	2.16	38.2	6.8
S3.006	75.24	25.13	6.250	0.037	0.0	0.0	0.0	1.00	17.8	7.6

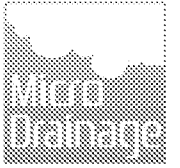
Odyssey		Page 4
Tuscany House White Hart Lane Basingstoke RG21 4AF	NORTH END ROAD YAPTON 70 UNITS_RevC	
Date 20/04/2021 14:32 File 19-156 70 Units Drainage Strategy.MDX	Designed by AK Checked by	
Micro Drainage	Network 2020.1.3	

Network Design Table for Storm_Rev.C

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.003	28.182	0.168	167.8	0.023	0.00	0.0	0.600		o	225	Pipe/Conduit	☺
S1.004	19.944	0.118	169.0	0.012	0.00	0.0	0.600		o	225	Pipe/Conduit	☺
S4.000	25.562	0.253	101.0	0.023	5.00	0.0	0.600		o	150	Pipe/Conduit	☺
S4.001	20.186	0.200	100.9	0.004	0.00	0.0	0.600		o	150	Pipe/Conduit	☺
S4.002	14.840	0.088	168.6	0.025	0.00	0.0	0.600		o	225	Pipe/Conduit	☺
S5.000	31.947	0.314	101.7	0.021	5.00	0.0	0.600		o	150	Pipe/Conduit	☺
S5.001	12.101	0.121	100.0	0.008	0.00	0.0	0.600		o	150	Pipe/Conduit	☺
S4.003	16.920	0.101	167.5	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	☺
S4.004	15.016	0.139	108.0	0.006	0.00	0.0	0.600		o	225	Pipe/Conduit	☺
S1.005	46.951	0.192	244.5	0.009	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)
S1.003	74.42	25.59	6.066	0.108	0.0	0.0	0.0	1.01	40.0	21.7
S1.004	73.85	25.93	5.898	0.119	0.0	0.0	0.0	1.00	39.9	23.9
S4.000	159.35	5.43	6.836	0.023	0.0	0.0	0.0	1.00	17.7	10.1
S4.001	156.14	5.76	6.383	0.028	0.0	0.0	0.0	1.00	17.7	11.7
S4.002	153.85	6.01	6.108	0.053	0.0	0.0	0.0	1.00	39.9	22.0
S5.000	158.31	5.53	6.530	0.021	0.0	0.0	0.0	1.00	17.6	8.9
S5.001	156.40	5.74	6.216	0.029	0.0	0.0	0.0	1.00	17.8	12.2
S4.003	151.30	6.29	6.020	0.082	0.0	0.0	0.0	1.01	40.1	33.5
S4.004	149.53	6.49	5.919	0.088	0.0	0.0	0.0	1.26	50.0	35.6
S1.005	72.55	26.71	5.705	0.217	0.0	0.0	0.0	1.00	70.8	42.6

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Network Design Table for Storm_Rev.C

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S6.000	8.136	0.136	60.0	0.018	5.00	0.0	0.600		o	100	Pipe/Conduit	⚠
S6.001	18.309	0.181	101.2	0.000	0.00	0.0	0.600		o	150	Pipe/Conduit	⚠
S6.002	6.527	0.065	101.0	0.006	0.00	0.0	0.600		o	150	Pipe/Conduit	⚠
S6.003	8.304	0.087	95.4	0.024	0.00	0.0	0.600		o	150	Pipe/Conduit	⚠
S1.006	42.988	0.175	245.6	0.007	0.00	0.0	0.600		o	300	Pipe/Conduit	⚠
S1.007	15.269	0.062	246.3	0.015	0.00	0.0	0.600		o	300	Pipe/Conduit	⚠
S1.008	30.192	0.117	258.1	0.012	0.00	0.0	0.600		o	300	Pipe/Conduit	⚠
S1.009	10.101	0.159	63.5	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	⚠
S7.000	14.852	0.252	59.0	0.008	5.00	0.0	0.600		o	100	Pipe/Conduit	⚠
S7.001	40.956	0.243	168.3	0.025	0.00	0.0	0.600		o	225	Pipe/Conduit	⚠
S7.002	13.967	0.083	168.3	0.022	0.00	0.0	0.600		o	225	Pipe/Conduit	⚠
S7.003	41.442	0.246	168.3	0.016	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)
S6.000	162.17	5.14	6.181	0.018	0.0	0.0	0.0	1.00	7.8	7.8
S6.001	159.20	5.44	5.995	0.018	0.0	0.0	0.0	1.00	17.7	7.8
S6.002	158.16	5.55	5.814	0.023	0.0	0.0	0.0	1.00	17.7	10.0
S6.003	156.88	5.68	5.750	0.047	0.0	0.0	0.0	1.03	18.2	20.0
S1.006	71.41	27.43	5.513	0.271	0.0	0.0	0.0	1.00	70.6	52.4
S1.007	71.01	27.68	5.338	0.286	0.0	0.0	0.0	1.00	70.5	54.9
S1.008	70.23	28.20	5.276	0.298	0.0	0.0	0.0	0.97	68.9	56.6
S1.009	70.10	28.28	5.159	0.298	0.0	0.0	0.0	1.98	139.7	56.6
S7.000	161.09	5.25	6.332	0.008	0.0	0.0	0.0	1.00	7.9	3.7
S7.001	154.62	5.93	5.955	0.033	0.0	0.0	0.0	1.00	40.0	13.9
S7.002	152.49	6.16	5.712	0.056	0.0	0.0	0.0	1.01	40.0	23.0
S7.003	146.45	6.84	5.629	0.072	0.0	0.0	0.0	1.00	40.0	28.5

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Tuscany House White Hart Lane Basingstoke RG21 4AF	NORTH END ROAD YAPTON 70 UNITS_RevC	
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Micro Drainage	Network 2020.1.3	

Network Design Table for Storm_Rev.C

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
S7.004	6.564	0.224	29.3	0.014	0.00	0.0	0.600		o	225	Pipe/Conduit	
S7.005	32.374	0.159	203.6	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
S8.000	10.000	0.157	63.7	0.038	5.00	0.0	0.600		o	225	Pipe/Conduit	
S1.010	11.334	0.035	323.8	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)
S7.004	146.07	6.89	5.383	0.086	0.0	0.0	0.0	2.43	96.5	34.2
S7.005	141.24	7.48	5.159	0.086	0.0	0.0	0.0	0.91	36.3	34.2
S8.000	162.51	5.10	5.157	0.038	0.0	0.0	0.0	1.64	65.3	16.7
S1.010	161.37	5.22	5.000	0.000	5.0	0.0	0.0	0.87	61.4	5.0

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Tuscany House White Hart Lane Basingstoke RG21 4AF			NORTH END ROAD YAPTON 70 UNITS_RevC		
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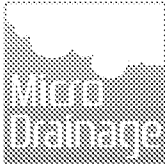
Manhole Schedules for Storm_Rev.C

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)
S1	7.300	0.539	Open Manhole	450	S1.000	6.761	150				
S2	7.285	0.846	Open Manhole	450	S1.001	6.439	150	S1.000	6.439	150	
S3	7.182	0.589	Open Manhole	450	S2.000	6.593	150				
S4	7.182	0.794	Open Manhole	450	S2.001	6.388	150	S2.000	6.388	150	
S5	7.185	0.980	Open Manhole	750 x 600	S1.002	6.205	225	S1.001	6.280	150	
								S2.001	6.280	150	
S6 - swale	7.325	0.450	Junction		S3.000	6.875	300				
S7 - swale	7.300	0.464	Junction		S3.001	6.836	300	S3.000	6.836	300	
S8 - swale link	7.300	0.509	Junction		S3.002	6.791	150	S3.001	6.791	300	
S9 - swale	7.300	0.528	Junction		S3.003	6.772	300	S3.002	6.772	150	
S10 - swale	7.300	0.547	Junction		S3.004	6.753	300	S3.003	6.753	300	
S11 - swale out	7.300	0.608	Junction		S3.005	6.692	150	S3.004	6.692	300	
S36	7.400	1.150	Open Manhole	750 x 600	S3.006	6.250	150	S3.005	6.250	150	
S12	7.380	1.314	Open Manhole	750 x 600	S1.003	6.066	225	S1.002	6.066	225	
								S3.006	6.141	150	
S13	7.320	1.422	Open Manhole	750 x 600	S1.004	5.898	225	S1.003	5.898	225	
S14	7.160	0.524	Open Manhole	750 x 600	S4.000	6.636	150				
S15	7.160	0.757	Open Manhole	750 x 600	S4.001	6.383	150	S4.000	6.383	150	
S16	7.235	1.127	Open Manhole	750 x 600	S4.002	6.108	225	S4.001	6.183	150	
S17	7.125	0.595	Open Manhole	250	S5.000	6.530	150				
S18	7.175	0.959	Open Manhole	450	S5.001	6.216	150	S5.000	6.216	150	
S19	7.235	1.215	Junction		S4.003	6.020	225	S4.002	6.020	225	
								S5.001	6.095	150	
S20	7.325	1.406	Open Manhole	750 x 600	S4.004	5.919	225	S4.003	5.919	225	
S21	7.285	1.580	Open Manhole	1200	S1.005	5.705	300	S1.004	5.780	225	
								S4.004	5.780	225	

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Tuscany House	NORTH END ROAD	
White Hart Lane	YAPTON	
Basingstoke RG21 4AF	70 UNITS_RevC	
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Micro Drainage	Network 2020.1.3	

Manhole Schedules for Storm_Rev.C

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)
S22	7.122	0.951	Open Manhole	450	S6.000	6.181	100				
S23	6.859	0.855	Open Manhole	450	S6.001	5.995	150	S6.000	6.045	100	
S24	6.930	1.116	Open Manhole	450	S6.002	5.814	150	S6.001	5.814	150	
S25	6.955	1.205	Open Manhole	600	S6.003	5.750	150	S6.002	5.750	150	
S26	6.993	1.480	Open Manhole	1200	S1.006	5.513	300	S1.005	5.513	300	
								S6.003	5.663	150	
S27	6.305	0.967	Open Manhole	1200	S1.007	5.338	300	S1.006	5.338	300	
S28	6.175	0.899	Open Manhole	1200	S1.008	5.276	300	S1.007	5.276	300	
S29	6.125	0.966	Open Manhole	1200	S1.009	5.159	300	S1.008	5.159	300	
S30	6.892	0.500	Open Manhole	450	S7.000	6.332	100				
S31	6.620	0.675	Open Manhole	750 x 600	S7.001	5.955	225	S7.000	6.080	100	
S32	6.230	0.518	Open Manhole	750 x 600	S7.002	5.712	225	S7.001	5.712	225	
S33	6.130	0.501	Open Manhole	750 x 600	S7.003	5.629	225	S7.002	5.629	225	
S34	5.930	0.547	Open Manhole	750 x 600	S7.004	5.383	225	S7.003	5.383	225	
S35	5.830	0.671	Open Manhole	750 x 600	S7.005	5.159	225	S7.004	5.159	225	
Screep	5.750	0.593	Open Manhole	1200	S8.000	5.157	225				
Spond	5.750	0.750	Open Manhole	1350	S1.010	5.060	300	S1.009	5.000	300	
								S7.005	5.000	225	
								S8.000	5.000	225	
S	5.750	0.785	Open Manhole	0		OUTFALL		S1.010	4.965	300	

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Manhole Schedules for Storm_Rev.C

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S1	497591.632	103527.324	497591.632	103527.324	Required	
S2	497609.516	103554.582	497609.516	103554.582	Required	
S3	497604.191	103523.822	497604.191	103523.822	Required	
S4	497615.447	103541.229	497615.447	103541.229	Required	
S5	497617.173	103551.961	497617.173	103551.961	Required	
S6 - swale	497683.386	103605.398			No Entry	
S7 - swale	497675.563	103599.331			No Entry	
S8 - swale link	497664.547	103595.978			No Entry	
S9 - swale	497663.629	103590.749			No Entry	
S10 - swale	497662.711	103585.521			No Entry	
S11 - swale out	497649.140	103574.425			No Entry	

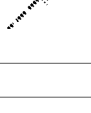
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Micro Drainage	Network 2020.1.3	

Manhole Schedules for Storm_Rev.C

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S36	497639.935	103571.384	497639.935	103571.384	Required	
S12	497629.044	103571.868	497629.044	103571.868	Required	
S13	497605.548	103587.430	497605.548	103587.430	Required	
S14	497518.409	103603.577	497518.409	103603.577	Required	
S15	497537.255	103586.307	497537.255	103586.307	Required	
S16	497554.633	103576.037	497554.633	103576.037	Required	
S17	497556.317	103551.302	497556.317	103551.302	Required	
S18	497573.354	103578.326	497573.354	103578.326	Required	
S19	497564.780	103586.866			No Entry	
S20	497576.351	103599.212	497576.351	103599.212	Required	
S21	497591.220	103601.303	497591.220	103601.303	Required	

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Manhole Schedules for Storm_Rev.C

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S22	497649.102	103613.050	497649.102	103613.050	Required	
S23	497647.759	103621.074	497647.759	103621.074	Required	
S24	497634.564	103633.767	497634.564	103633.767	Required	
S25	497629.844	103629.259	497629.844	103629.259	Required	
S26	497623.878	103635.035	497623.878	103635.035	Required	
S27	497653.780	103665.919	497653.780	103665.919	Required	
S28	497661.681	103678.985	497661.681	103678.985	Required	
S29	497669.475	103708.154	497669.475	103708.154	Required	
S30	497546.977	103635.752	497546.977	103635.752	Required	
S31	497557.317	103646.414	497557.317	103646.414	Required	
S32	497585.830	103675.815	497585.830	103675.815	Required	

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Manhole Schedules for Storm_Rev.C

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S33	497595.553	103685.841	497595.553	103685.841	Required	
S34	497624.404	103715.591	497624.404	103715.591	Required	
S35	497628.974	103720.303	497628.974	103720.303	Required	
Spond	497659.449	103709.379	497659.449	103709.379	Required	
S	497654.617	103719.631			No Entry	

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Area Summary for Storm_Rev.C

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	User	-	100	0.013	0.013	0.013
	User	-	100	0.004	0.004	0.017
1.001	User	-	100	0.009	0.009	0.009
2.000	User	-	100	0.020	0.020	0.020
	User	-	100	0.002	0.002	0.021
2.001	-	-	100	0.000	0.000	0.000
1.002	-	-	100	0.000	0.000	0.000
3.000	User	-	100	0.008	0.008	0.008
	User	-	100	0.004	0.004	0.012
	User	-	100	0.008	0.008	0.020
3.001	-	-	100	0.000	0.000	0.000
3.002	-	-	100	0.000	0.000	0.000
3.003	-	-	100	0.000	0.000	0.000
3.004	-	-	100	0.000	0.000	0.000
3.005	-	-	100	0.000	0.000	0.000
3.006	User	-	100	0.006	0.006	0.006
	User	-	100	0.011	0.011	0.017
1.003	User	-	100	0.006	0.006	0.006
	User	-	100	0.008	0.008	0.015
	User	-	100	0.008	0.008	0.023
1.004	User	-	100	0.006	0.006	0.006
	User	-	100	0.006	0.006	0.012
4.000	User	-	100	0.010	0.010	0.010
	User	-	100	0.008	0.008	0.018
	User	-	100	0.006	0.006	0.023
4.001	User	-	100	0.004	0.004	0.004
4.002	User	-	100	0.008	0.008	0.008
	User	-	100	0.006	0.006	0.014
	User	-	100	0.006	0.006	0.020
	User	-	100	0.006	0.006	0.025
5.000	User	-	100	0.013	0.013	0.013
	User	-	100	0.008	0.008	0.021
5.001	User	-	100	0.008	0.008	0.008
4.003	-	-	100	0.000	0.000	0.000
4.004	User	-	100	0.006	0.006	0.006
1.005	User	-	100	0.003	0.003	0.003
	User	-	100	0.006	0.006	0.009

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Area Summary for Storm_Rev.C

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
6.000	User	-	100	0.010	0.010	0.010
	User	-	100	0.002	0.002	0.012
	User	-	100	0.006	0.006	0.018
6.001	-	-	100	0.000	0.000	0.000
6.002	User	-	100	0.006	0.006	0.006
6.003	User	-	100	0.006	0.006	0.006
	User	-	100	0.006	0.006	0.011
	User	-	100	0.006	0.006	0.017
	User	-	100	0.006	0.006	0.024
1.006	User	-	100	0.001	0.001	0.001
	User	-	100	0.006	0.006	0.007
1.007	User	-	100	0.006	0.006	0.006
	User	-	100	0.009	0.009	0.015
1.008	User	-	100	0.004	0.004	0.004
	User	-	100	0.008	0.008	0.012
1.009	-	-	100	0.000	0.000	0.000
7.000	User	-	100	0.006	0.006	0.006
	User	-	100	0.003	0.003	0.008
7.001	User	-	100	0.004	0.004	0.004
	User	-	100	0.006	0.006	0.010
	User	-	100	0.006	0.006	0.016
	User	-	100	0.006	0.006	0.022
	User	-	100	0.002	0.002	0.023
	User	-	100	0.001	0.001	0.025
7.002	User	-	100	0.006	0.006	0.006
	User	-	100	0.004	0.004	0.010
	User	-	100	0.005	0.005	0.015
	User	-	100	0.003	0.003	0.018
	User	-	100	0.005	0.005	0.022
7.003	User	-	100	0.003	0.003	0.003
	User	-	100	0.006	0.006	0.009
	User	-	100	0.004	0.004	0.014
	User	-	100	0.003	0.003	0.016
7.004	User	-	100	0.003	0.003	0.003
	User	-	100	0.006	0.006	0.009
	User	-	100	0.003	0.003	0.012
	User	-	100	0.003	0.003	0.014

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White Hart Lane	YAPTON	
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Area Summary for Storm_Rev.C

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
7.005	-	-	100	0.000	0.000	0.000
8.000	-	-	100	0.038	0.038	0.038
1.010	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.422	0.422	0.422

Free Flowing Outfall Details for Storm_Rev.C

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
S1.010	S	5.750	4.965	0.000	0	0

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Online Controls for Storm_Rev.C

Pump Manhole: Spond, DS/PN: S1.010, Volume (m³): 3.3

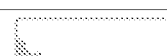
Invert Level (m) 5.000

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Storage Structures for Storm_Rev.C

Infiltration Blanket Manhole: Spond, DS/PN: S1.010

Infiltration Coefficient Base (m/hr) 0.00648 Invert Level (m) 5.000 Cap Volume Depth (m) 0.400
Safety Factor 2.0 Diameter/Width (m) 37.0
Porosity 0.95 Length (m) 37.5

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White Hart Lane	YAPTON	
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10 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm_Rev.C

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Maximum Flow Vol (m³)	Maximum Velocity (m/s)	Pipe Flow (l/s)	Status
S3.006	S36	30 minute 10 year Summer I+40%	7.400	6.323	-0.077	0.000	0.45	0.039	0.9	7.3	OK
S1.003	S12	15 minute 10 year Winter I+40%	7.380	6.240	-0.051	0.000	0.90	0.536	1.1	33.6	OK
S1.004	S13	15 minute 10 year Winter I+40%	7.320	6.145	0.022	0.000	0.97	0.852	1.0	35.1	SURCHARGED
S4.000	S14	15 minute 10 year Winter I+40%	7.160	6.716	-0.070	0.000	0.54	0.034	1.0	9.1	OK
S4.001	S15	15 minute 10 year Winter I+40%	7.140	6.472	-0.061	0.000	0.65	0.083	1.0	10.8	OK
S4.002	S16	15 minute 10 year Winter I+40%	7.235	6.235	-0.098	0.000	0.58	0.076	0.9	20.5	OK
S5.000	S17	15 minute 10 year Winter I+40%	7.125	6.604	-0.076	0.000	0.47	0.003	1.0	8.0	OK
S5.001	S18	15 minute 10 year Winter I+40%	7.175	6.311	-0.055	0.000	0.69	0.064	1.0	11.2	OK
S4.003	S19	15 minute 10 year Winter I+40%	7.235	6.173	-0.072	0.000	0.80	0.455	1.1	31.9	OK*
S4.004	S20	15 minute 10 year Winter I+40%	7.325	6.114	-0.030	0.000	0.75	0.510	1.2	33.0	OK
S1.005	S21	15 minute 10 year Winter I+40%	7.285	6.055	0.050	0.000	0.95	1.518	1.1	63.0	SURCHARGED
S6.000	S22	15 minute 10 year Winter I+40%	7.132	6.260	-0.021	0.000	0.98	0.012	1.1	7.0	OK
S6.001	S23	15 minute 10 year Winter I+40%	6.850	6.064	-0.081	0.000	0.42	0.013	0.9	6.9	OK
S6.002	S24	15 minute 10 year Winter I+40%	6.930	5.954	-0.011	0.000	0.61	0.131	0.8	9.1	OK
S6.003	S25	15 minute 10 year Winter I+40%	6.955	5.937	0.037	0.000	1.14	0.147	1.0	16.0	SURCHARGED
S1.006	S26	15 minute 10 year Winter I+40%	6.993	5.902	0.083	0.000	1.10	3.498	1.1	72.2	SURCHARGED
S1.007	S27	15 minute 10 year Winter I+40%	6.305	5.701	0.063	0.000	1.22	2.977	1.0	72.5	SURCHARGED
S1.008	S28	15 minute 10 year Winter I+40%	6.175	5.608	0.032	0.000	1.18	1.320	1.0	73.6	SURCHARGED
S1.009	S29	15 minute 10 year Winter I+40%	6.125	5.351	-0.108	0.000	0.74	1.069	1.5	73.4	OK
S7.000	S30	15 minute 10 year Winter I+40%	6.832	6.379	-0.053	0.000	0.44	0.007	0.9	3.3	OK
S7.001	S31	15 minute 10 year Winter I+40%	6.630	6.049	-0.131	0.000	0.35	0.040	0.9	13.2	OK
S7.002	S32	15 minute 10 year Winter I+40%	6.230	5.845	-0.092	0.000	0.63	0.303	0.9	22.1	OK
S7.003	S33	15 minute 10 year Winter I+40%	6.130	5.777	-0.077	0.000	0.73	0.297	1.0	27.8	OK
S7.004	S34	15 minute 10 year Winter I+40%	5.930	5.495	-0.113	0.000	0.49	0.201	1.7	32.8	OK
S7.005	S35	15 minute 10 year Winter I+40%	5.830	5.335	-0.049	0.000	0.97	0.148	1.0	33.0	OK
S8.000	Screep	15 minute 10 year Winter I+40%	5.750	5.238	-0.144	0.000	0.27	0.086	1.2	14.9	OK
S1.010	Spond	960 minute 10 year Winter I+40%	5.750	5.156	-0.144	0.000	0.00	206.325	0.0	0.0	OK

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

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Site Location GB 497682 103581 SU 97682 03581 Cv (Summer) 0.750
FEH Rainfall Version 2013 Data Type Point Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 150.0 DVD Status OFF
Analysis Timestep 2.5 Second Increment (Extended) Inertia Status OFF
DTS Status ON

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320,
5760, 7200, 8640, 10080
Return Period(s) (years) 10, 100
Climate Change (%) 40, 40

PN	US/MH Name	Event	US/CL (m)	Water Surcharged Flooded			Flow / Cap.	Maximum Vol (m³)	Maximum Pipe		Status
				Level (m)	Depth (m)	Volume (m³)			Velocity (m/s)	Flow (l/s)	
S1.000	S1	15 minute 100 year Winter I+40%	7.300	7.010	0.099	0.000	0.62	0.039	1.0	10.5	SURCHARGED
S1.001	S2	15 minute 100 year Winter I+40%	7.285	6.939	0.350	0.000	0.67	0.646	1.3	14.5	SURCHARGED
S2.000	S3	15 minute 100 year Winter I+40%	7.182	7.009	0.266	0.000	0.77	0.065	1.0	12.8	SURCHARGED
S2.001	S4	15 minute 100 year Winter I+40%	7.182	6.936	0.398	0.000	0.72	0.445	1.0	11.4	SURCHARGED
S1.002	S5	15 minute 100 year Winter I+40%	7.185	6.895	0.465	0.000	0.59	0.622	0.9	21.8	SURCHARGED
S3.000	S6 - swale	15 minute 100 year Winter I+40%	7.325	7.115	-0.210	0.000	0.22	0.236	0.1	12.5	OK
S3.001	S7 - swale	15 minute 100 year Winter I+40%	7.300	7.052	-0.248	0.000	0.17	1.756	0.0	10.1	OK
S3.002	S8 - swale link	15 minute 100 year Winter I+40%	7.300	6.977	0.036	0.000	0.72	1.424	0.4	7.8	SURCHARGED*
S3.003	S9 - swale	15 minute 100 year Winter I+40%	7.300	6.964	-0.336	0.000	0.09	0.275	0.0	7.7	OK
S3.004	S10 - swale	30 minute 100 year Winter I+40%	7.300	6.941	-0.359	0.000	0.08	0.670	0.0	7.5	OK
S3.005	S11 - swale out	15 minute 100 year Winter I+40%	7.300	6.820	-0.022	0.000	0.32	0.820	1.7	12.1	OK*

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

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Maximum Vol (m³)	Maximum Velocity (m/s)	Pipe Flow (l/s)	Status
S3.006	S36	15 minute 100 year Winter I+40%	7.400	6.859	0.459	0.000	0.97	0.436	1.0	15.5	SURCHARGED
S1.003	S12	15 minute 100 year Winter I+40%	7.380	6.850	0.559	0.000	1.05	1.422	1.1	39.1	SURCHARGED
S1.004	S13	15 minute 100 year Winter I+40%	7.320	6.717	0.594	0.000	1.15	1.457	1.0	41.4	SURCHARGED
S4.000	S14	15 minute 100 year Winter I+40%	7.160	6.946	0.160	0.000	0.86	0.137	1.1	14.4	SURCHARGED
S4.001	S15	15 minute 100 year Winter I+40%	7.140	6.856	0.323	0.000	0.90	0.649	1.1	14.9	SURCHARGED
S4.002	S16	15 minute 100 year Winter I+40%	7.235	6.770	0.437	0.000	0.81	0.639	1.0	28.5	SURCHARGED
S5.000	S17	15 minute 100 year Winter I+40%	7.125	6.904	0.224	0.000	0.75	0.018	1.0	12.7	SURCHARGED
S5.001	S18	15 minute 100 year Winter I+40%	7.175	6.806	0.440	0.000	0.95	0.651	1.0	15.4	SURCHARGED
S4.003	S19	15 minute 100 year Summer I+40%	7.235	6.245	0.000	0.000	0.96	1.359	1.1	38.6	SURCHARGED*
S4.004	S20	15 minute 100 year Winter I+40%	7.325	6.668	0.524	0.000	0.84	0.993	1.2	37.1	SURCHARGED
S1.005	S21	15 minute 100 year Winter I+40%	7.285	6.584	0.579	0.000	1.13	2.301	1.1	75.1	SURCHARGED
S6.000	S22	15 minute 100 year Winter I+40%	7.132	6.754	0.475	0.000	1.39	0.090	1.3	10.0	SURCHARGED
S6.001	S23	15 minute 100 year Winter I+40%	6.850	6.561	0.416	0.000	0.55	0.150	0.9	9.0	SURCHARGED
S6.002	S24	15 minute 100 year Winter I+40%	6.930	6.512	0.548	0.000	0.78	0.426	0.8	11.6	SURCHARGED
S6.003	S25	15 minute 100 year Winter I+40%	6.955	6.479	0.579	0.000	1.40	0.311	1.4	25.3	SURCHARGED
S1.006	S26	15 minute 100 year Winter I+40%	6.993	6.337	0.524	0.000	1.46	4.291	1.4	96.5	SURCHARGED
S1.007	S27	15 minute 100 year Winter I+40%	6.305	5.955	0.317	0.000	1.70	3.646	1.4	100.9	SURCHARGED
S1.008	S28	15 minute 100 year Winter I+40%	6.175	5.773	0.197	0.000	1.45	1.551	1.5	103.3	SURCHARGED
S1.009	S29	15 minute 100 year Winter I+40%	6.125	5.442	-0.017	0.000	1.00	1.885	1.6	99.9	OK
S7.000	S30	15 minute 100 year Winter I+40%	6.832	6.395	-0.037	0.000	0.72	0.009	1.0	5.4	OK
S7.001	S31	15 minute 100 year Winter I+40%	6.630	6.079	-0.101	0.000	0.56	0.056	1.0	21.3	OK
S7.002	S32	15 minute 100 year Winter I+40%	6.230	5.965	0.028	0.000	0.92	0.987	0.9	32.2	SURCHARGED
S7.003	S33	15 minute 100 year Winter I+40%	6.130	5.895	0.041	0.000	1.07	0.590	1.1	40.6	SURCHARGED
S7.004	S34	15 minute 100 year Winter I+40%	5.930	5.608	0.001	0.000	0.69	0.808	1.7	45.8	SURCHARGED
S7.005	S35	15 minute 100 year Winter I+40%	5.830	5.502	0.118	0.000	1.34	0.353	1.1	45.6	SURCHARGED
S8.000	Screep	15 minute 100 year Winter I+40%	5.750	5.262	-0.120	0.000	0.44	0.114	1.3	24.0	OK
S1.010	Spond	960 minute 100 year Winter I+40%	5.750	5.247	-0.053	0.000	0.00	327.236	0.0	0.0	OK