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Micro Drainage	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm N

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.250	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	1.000	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm N

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	53.762	0.610	88.1	0.108	5.00	0.0	0.600	o	225	Pipe/Conduit	
S1.001	7.758	0.020	387.9	0.113	0.00	0.0	0.600	o	1050	Pipe/Conduit	
S1.002	7.593	0.020	379.7	0.015	0.00	0.0	0.600	o	1050	Pipe/Conduit	
S1.003	55.804	0.140	398.6	0.088	0.00	0.0	0.600	o	1050	Pipe/Conduit	
S1.004	16.814	0.045	373.6	0.100	0.00	0.0	0.600	o	1050	Pipe/Conduit	
S1.005	11.321	0.050	226.4	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)
S1.000	50.00	5.64	165.300	0.108	0.0	0.0	0.0	1.39	55.4	19.5
S1.001	49.89	5.72	162.365	0.221	0.0	0.0	0.0	1.74	1509.8	39.8
S1.002	49.66	5.79	162.345	0.236	0.0	0.0	0.0	1.76	1526.2	42.3
S1.003	47.99	6.33	162.325	0.324	0.0	0.0	0.0	1.72	1489.3	56.1
S1.004	47.53	6.49	162.185	0.424	0.0	0.0	0.0	1.78	1538.5	72.8
S1.005	47.01	6.67	162.140	0.424	0.0	0.0	0.0	1.04	73.6	72.8

Manhole Schedules for Storm N

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)
S01	168.100	2.800	Open Manhole	1350	S1.000	165.300	225				
S02	166.600	4.235	Open Manhole	2700	S1.001	162.365	1050	S1.000	164.690	225	1500
S03	166.350	4.005	Open Manhole	2700	S1.002	162.345	1050	S1.001	162.345	1050	
S04	166.100	3.775	Open Manhole	2700	S1.003	162.325	1050	S1.002	162.325	1050	
S05	165.300	3.115	Open Manhole	2700	S1.004	162.185	1050	S1.003	162.185	1050	
S06 H/B	164.400	2.260	Open Manhole	2700	S1.005	162.140	300	S1.004	162.140	1050	
S	163.900	1.810	Open Manhole	0		OUTFALL		S1.005	162.090	300	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S01	385667.946	414806.417	385667.946	414806.417	Required	
S02	385673.315	414752.923	385673.315	414752.923	Required	
S03	385675.871	414745.598	385675.871	414745.598	Required	
S04	385681.911	414740.997	385681.911	414740.997	Required	
S05	385735.292	414724.732	385735.292	414724.732	Required	
S06 H/B	385751.476	414720.174	385751.476	414720.174	Required	
S	385759.800	414712.500			No Entry	

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Online Controls for Storm N

Hydro-Brake® Optimum Manhole: S06 H/B, DS/PN: S1.005, Volume (m³): 25.2

Unit Reference	MD-SFP-0288-6000-2500-6000
Design Head (m)	2.500
Design Flow (l/s)	60.0
Flush-Flo™	Calculated
Objective	Future Proof
Application	Surface
Sump Available	Yes
Diameter (mm)	288
Invert Level (m)	162.140
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm) Site Specific Design (Contact Hydro International)	

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.500	60.0	Kick-Flo®	1.470	46.4
Flush-Flo™	0.624	59.9	Mean Flow over Head Range	-	51.2

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

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	9.4	0.800	59.3	2.000	53.8	4.000	75.2	7.000	98.7
0.200	31.3	1.000	57.5	2.200	56.4	4.500	79.7	7.500	102.1
0.300	51.8	1.200	54.8	2.400	58.8	5.000	83.8	8.000	105.4
0.400	57.8	1.400	49.5	2.600	61.1	5.500	87.8	8.500	108.5
0.500	59.4	1.600	48.4	3.000	65.5	6.000	91.6	9.000	111.6
0.600	59.9	1.800	51.2	3.500	70.5	6.500	95.2	9.500	114.6

Summary of Critical Results by Maximum Level (Rank 1) for Storm N

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	10.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	0.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

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

Synthetic Rainfall Details

Rainfall Model	FSR M5-60 (mm)	19.000	Cv (Summer)	1.000	
Region	England and Wales	Ratio R	0.250	Cv (Winter)	1.000

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 1, 100
Climate Change (%) 0, 45

										Water	Surcharged	Flooded
PN	US/MH			Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level	Depth	Volume
	Name	Storm	Period	Change		Surcharge	Flood	Overflow	Act.	(m)	(m)	(m³)
S1.000	S01	15 Summer		100	+45%	100/15 Summer				166.157	0.632	0.000
S1.001	S02	60 Summer		100	+45%	100/30 Summer				164.233	0.818	0.000
S1.002	S03	60 Summer		100	+45%	100/30 Summer				164.232	0.837	0.000
S1.003	S04	60 Summer		100	+45%	100/30 Summer				164.231	0.856	0.000
S1.004	S05	60 Summer		100	+45%	100/30 Summer				164.228	0.993	0.000
S1.005	S06	H/B 60 Summer		100	+45%	100/15 Summer				164.226	1.786	0.000
										Half Drain	Pipe	
	US/MH	Flow /	Overflow	Time	Flow				Level			
PN	Name	Cap.	(l/s)	(mins)	(l/s)	Status			Exceeded			
	S1.000	S01	1.42		75.5	SURCHARGED						
	S1.001	S02	0.19		115.3	SURCHARGED						
	S1.002	S03	0.17		102.7	SURCHARGED						
	S1.003	S04	0.11		134.1	SURCHARGED						
	S1.004	S05	0.11		92.6	SURCHARGED						
	S1.005	S06	H/B	1.02	59.8	FLOOD RISK						

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm S

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.260	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	1.000	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm S

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	24.158	0.080	302.0	0.081	5.00	0.0	0.600	o	375	Pipe/Conduit	
S1.001	16.358	0.055	297.4	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.002	27.164	0.090	301.8	0.077	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.003	9.283	0.030	309.4	0.032	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.004	2.050	0.105	19.5	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)
S1.000	50.00	5.39	158.410	0.081	0.0	0.0	0.0	1.04	114.6	14.6
S1.001	50.00	5.65	158.330	0.081	0.0	0.0	0.0	1.05	115.5	14.6
S1.002	49.66	6.09	158.275	0.158	0.0	0.0	0.0	1.04	114.6	28.3
S1.003	49.19	6.24	158.185	0.190	0.0	0.0	0.0	1.02	113.2	33.7
S1.004	49.16	6.25	158.155	0.190	0.0	0.0	0.0	3.57	252.7	33.7

Manhole Schedules for Storm S

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)
S15	161.600	3.190	Open Manhole	1800	S1.000	158.410	375				
S16	161.400	3.070	Open Manhole	1800	S1.001	158.330	375	S1.000	158.330	375	
S17	161.400	3.125	Open Manhole	1800	S1.002	158.275	375	S1.001	158.275	375	
S18	161.300	3.115	Open Manhole	1800	S1.003	158.185	375	S1.002	158.185	375	
S19	161.400	3.245	Open Manhole	2100	S1.004	158.155	300	S1.003	158.155	375	
S	160.000	1.950	Open Manhole	0		OUTFALL		S1.004	158.050	300	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S15	385878.685	414609.960	385878.685	414609.960	Required	
S16	385856.666	414619.898	385856.666	414619.898	Required	
S17	385842.440	414627.972	385842.440	414627.972	Required	
S18	385821.610	414645.408	385821.610	414645.408	Required	
S19	385816.263	414652.996	385816.263	414652.996	Required	
S	385814.457	414653.965			No Entry	

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Online Controls for Storm S

Hydro-Brake® Optimum Manhole: S19, DS/PN: S1.004, Volume (m³): 12.0

Unit Reference	MD-SHE-0223-3400-2900-3400
Design Head (m)	2.900
Design Flow (l/s)	34.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	223
Invert Level (m)	158.155
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	2100

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.900	34.0	Kick-Flo®	1.754	26.7
Flush-Flo™	0.843	34.0	Mean Flow over Head Range	-	29.7

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

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	7.5	0.800	34.0	2.000	28.5	4.000	39.7	7.000	52.0
0.200	22.0	1.000	33.8	2.200	29.8	4.500	42.0	7.500	53.8
0.300	28.7	1.200	33.1	2.400	31.0	5.000	44.2	8.000	55.5
0.400	31.0	1.400	31.9	2.600	32.3	5.500	46.3	8.500	57.2
0.500	32.4	1.600	29.6	3.000	34.6	6.000	48.3	9.000	58.8
0.600	33.3	1.800	27.1	3.500	37.2	6.500	50.2	9.500	60.3

Summary of Critical Results by Maximum Level (Rank 1) for Storm S

Simulation Criteria			
Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	10.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	0.000
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 Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details			
Rainfall Model	FSR M5-60 (mm)	19.000	Cv (Summer) 1.000
Region	England and Wales	Ratio R	0.250 Cv (Winter) 1.000

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 100
Climate Change (%)	0, 45

									Water	Surcharged	Flooded	
	US/MH			Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level	Depth	Volume
PN	Name	Storm	Period	Change	Surcharge		Flood	Overflow	Act.	(m)	(m)	(m³)
S1.000	S15 60 Summer		100	+45%	100/15 Summer					161.155	2.370	0.000
S1.001	S16 60 Summer		100	+45%	100/15 Summer					161.146	2.441	0.000
S1.002	S17 60 Summer		100	+45%	100/15 Summer					161.137	2.487	0.000
S1.003	S18 60 Summer		100	+45%	100/15 Summer					161.061	2.501	0.000
S1.004	S19 60 Summer		100	+45%	100/15 Summer					161.049	2.594	0.000

				Half Drain	Pipe		
	US/MH	Flow /	Overflow	Time	Flow		Level
PN	Name	Cap.	(l/s)	(mins)	(l/s)	Status	Exceeded
S1.000	S15	0.32			31.4	SURCHARGED	
S1.001	S16	0.19			18.1	FLOOD RISK	
S1.002	S17	0.48			47.7	FLOOD RISK	
S1.003	S18	0.65			52.4	FLOOD RISK	
S1.004	S19	0.42			33.9	SURCHARGED	

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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for STORM - C

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	19.300	Add Flow / Climate Change (%)	0
Ratio R	0.250	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for STORM - C

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	7.858	0.400	19.6	0.054	5.00	0.0	0.600	o	150	Pipe/Conduit	
S1.001	5.781	0.500	11.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.002	32.912	0.140	235.1	0.043	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.003	8.269	0.035	236.3	0.014	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.004	11.545	0.050	230.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.005	11.000	0.045	244.4	0.015	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.006	10.331	0.045	229.6	0.009	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.007	3.134	0.050	62.7	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)
S1.000	50.00	5.06	161.450	0.054	0.0	0.0	0.0	2.28	40.3	7.3
S1.001	50.00	5.09	160.550	0.054	0.0	0.0	0.0	2.98	52.7	7.3
S1.002	50.00	5.63	158.415	0.097	0.0	0.0	0.0	1.02	72.2	13.1
S1.003	50.00	5.76	158.275	0.111	0.0	0.0	0.0	1.02	72.0	15.0
S1.004	49.93	5.95	158.240	0.111	0.0	0.0	0.0	1.03	72.8	15.0
S1.005	49.35	6.13	158.190	0.126	0.0	0.0	0.0	1.00	70.8	16.8
S1.006	48.84	6.30	158.145	0.135	0.0	0.0	0.0	1.03	73.0	17.9
S1.007	48.76	6.32	158.100	0.135	0.0	0.0	0.0	1.99	140.6	17.9

Manhole Schedules for STORM - 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)
S07	162.800	1.350	Open Manhole	1500	S1.000	161.450	150				
S08	162.400	1.850	Open Manhole	1200	S1.001	160.550	150	S1.000	161.050	150	500
S09	162.000	3.585	Open Manhole	1800	S1.002	158.415	300	S1.001	160.050	150	1485
S10	161.900	3.625	Open Manhole	1800	S1.003	158.275	300	S1.002	158.275	300	
S11	161.750	3.510	Open Manhole	1800	S1.004	158.240	300	S1.003	158.240	300	
S12	161.600	3.410	Open Manhole	1800	S1.005	158.190	300	S1.004	158.190	300	
S13	161.500	3.355	Open Manhole	1800	S1.006	158.145	300	S1.005	158.145	300	
S14	161.450	3.350	Open Manhole	1800	S1.007	158.100	300	S1.006	158.100	300	
S	161.400	3.350	Open Manhole	0		OUTFALL		S1.007	158.050	300	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S07	385766.010	414723.372	385766.010	414723.372	Required	
S08	385773.841	414722.718	385773.841	414722.718	Required	
S09	385779.041	414720.192	385779.041	414720.192	Required	
S10	385803.592	414698.273	385803.592	414698.273	Required	
S11	385806.493	414690.530	385806.493	414690.530	Required	
S12	385806.741	414679.151	385806.741	414679.151	Required	
S13	385808.906	414668.366	385808.906	414668.366	Required	
S14	385812.652	414658.738	385812.652	414658.738	Required	
S	385813.926	414655.875			No Entry	

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Online Controls for STORM - C

Hydro-Brake® Optimum Manhole: S14, DS/PN: S1.007, Volume (m³): 9.1

Unit Reference	MD-SHE-0236-3400-2000-3400
Design Head (m)	2.000
Design Flow (l/s)	34.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	236
Invert Level (m)	158.100
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	1800

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.000	34.0	Kick-Flo®	1.281	27.5
Flush-Flo™	0.590	34.0	Mean Flow over Head Range	-	29.4

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

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	7.8	0.800	33.5	2.000	34.0	4.000	47.5	7.000	62.3
0.200	23.8	1.000	32.3	2.200	35.6	4.500	50.3	7.500	64.4
0.300	31.5	1.200	29.5	2.400	37.1	5.000	52.9	8.000	66.4
0.400	33.1	1.400	28.7	2.600	38.6	5.500	55.4	8.500	68.4
0.500	33.8	1.600	30.6	3.000	41.3	6.000	57.8	9.000	70.3
0.600	34.0	1.800	32.3	3.500	44.5	6.500	60.1	9.500	72.2

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Summary of Critical Results by Maximum Level (Rank 1) for STORM - C

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	10.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	0.000
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 Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR M5-60 (mm)	19.000	Cv (Summer)	1.000	
Region	England and Wales	Ratio R	0.250	Cv (Winter)	1.000

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	1, 100
Climate Change (%)	0, 45

									Water	Surcharged	Flooded
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	Depth (m)	Volume (m³)
S1.000	S07	15 Summer	100	+45%	100/15 Summer				161.687	0.087	0.000
S1.001	S08	15 Summer	100	+45%					160.659	-0.041	0.000
S1.002	S09	60 Summer	100	+45%	100/15 Summer				159.797	1.082	0.000
S1.003	S10	60 Summer	100	+45%	100/15 Summer				159.740	1.165	0.000
S1.004	S11	60 Summer	100	+45%	100/15 Summer				159.695	1.155	0.000
S1.005	S12	30 Summer	100	+45%	100/15 Summer				159.665	1.175	0.000
S1.006	S13	30 Summer	100	+45%	100/15 Summer				159.611	1.166	0.000
S1.007	S14	30 Summer	100	+45%	100/15 Summer				159.530	1.130	0.000

Half Drain Pipe							
PN	US/MH Name	Flow / Cap.	Overflow (l/s)	Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	S07	1.10			38.4	SURCHARGED	
S1.001	S08	0.88			38.4	OK	
S1.002	S09	0.76			50.1	SURCHARGED	
S1.003	S10	0.99			53.4	SURCHARGED	
S1.004	S11	0.81			47.5	SURCHARGED	
S1.005	S12	0.96			54.1	SURCHARGED	
S1.006	S13	0.84			48.1	SURCHARGED	
S1.007	S14	0.55			33.9	SURCHARGED	