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Victoria Count Tennant St Nuneaton Warwickshire CV11 4LZ	CO22/293/07 Kennel Lane Plots 6 - 8 (Rev A)	
Date 04/07/2023 File MICRODRAINAGE NETWORK 0...	Designed by PG Checked by AB	
XP Solutions	Network 2018.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	20.000	Add Flow / Climate Change (%)	0
Ratio R	0.400	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.116	4-8	0.062

Total Area Contributing (ha) = 0.178

Total Pipe Volume (m³) = 4.988

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
1.000	19.700	0.245	80.4	0.010	5.00	0.0	0.600	o	100	Pipe/Conduit	
1.001	14.375	0.180	79.9	0.002	0.00	0.0	0.600	o	100	Pipe/Conduit	
1.002	17.390	0.115	151.2	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.003	11.630	0.075	155.1	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.000	44.490	0.480	92.7	0.040	5.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.38	71.690	0.010	0.0	0.0	0.0	0.86	6.7	1.4
1.001	50.00	5.66	71.445	0.012	0.0	0.0	0.0	0.86	6.8	1.6
1.002	50.00	6.02	71.215	0.019	0.0	0.0	0.0	0.81	14.4	2.6
1.003	50.00	6.26	71.100	0.029	0.0	0.0	0.0	0.80	14.2	3.9
2.000	50.00	5.71	71.430	0.040	0.0	0.0	0.0	1.04	18.5	5.4

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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
1.004	20.840	0.095	219.4	0.024	0.00	0.0	0.600	o	225	Pipe/Conduit	
3.000	10.355	0.130	79.7	0.005	5.00	0.0	0.600	o	100	Pipe/Conduit	
3.001	12.795	0.160	80.0	0.005	0.00	0.0	0.600	o	100	Pipe/Conduit	
3.002	3.745	0.045	83.2	0.005	0.00	0.0	0.600	o	100	Pipe/Conduit	
3.003	12.060	0.080	150.8	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.005	27.930	0.125	223.4	0.030	0.00	0.0	0.600	o	225	Pipe/Conduit	
4.000	18.165	0.230	79.0	0.008	5.00	0.0	0.600	o	100	Pipe/Conduit	
4.001	24.425	0.305	80.1	0.015	0.00	0.0	0.600	o	150	Pipe/Conduit	
4.002	10.550	0.070	150.7	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.006	7.465	0.030	248.8	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)
1.004	50.00	6.65	70.950	0.093	0.0	0.0	0.0	0.88	34.9	12.6
3.000	50.00	5.20	71.395	0.005	0.0	0.0	0.0	0.86	6.8	0.7
3.001	50.00	5.45	71.265	0.010	0.0	0.0	0.0	0.86	6.8	1.4
3.002	50.00	5.52	71.105	0.015	0.0	0.0	0.0	0.84	6.6	2.0
3.003	50.00	5.77	71.010	0.025	0.0	0.0	0.0	0.82	14.4	3.4
1.005	50.00	7.19	70.855	0.148	0.0	0.0	0.0	0.87	34.6	20.0
4.000	50.00	5.35	71.460	0.008	0.0	0.0	0.0	0.87	6.8	1.1
4.001	50.00	5.71	71.180	0.023	0.0	0.0	0.0	1.12	19.9	3.1
4.002	50.00	5.93	70.875	0.030	0.0	0.0	0.0	0.82	14.4	4.1
1.006	50.00	7.34	70.730	0.178	0.0	0.0	0.0	0.82	32.8	24.1

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
1	72.350	0.660	Open Manhole	1200	1.000	71.690	100				
2	72.250	0.805	Open Manhole	1200	1.001	71.445	100	1.000	71.445	100	
3	72.250	1.035	Open Manhole	1200	1.002	71.215	150	1.001	71.265	100	
4	72.300	1.200	Open Manhole	1200	1.003	71.100	150	1.002	71.100	150	
5	72.750	1.320	Open Manhole	1200	2.000	71.430	150				
5	72.250	1.300	Open Manhole	1200	1.004	70.950	225	1.003	71.025	150	
								2.000	70.950	150	
7	72.100	0.705	Open Manhole	1200	3.000	71.395	100				
7	72.100	0.835	Open Manhole	1200	3.001	71.265	100	3.000	71.265	100	
7	72.200	1.095	Open Manhole	1200	3.002	71.105	100	3.001	71.105	100	
7	72.200	1.190	Open Manhole	1200	3.003	71.010	150	3.002	71.060	100	
6	72.100	1.245	Open Manhole	1200	1.005	70.855	225	1.004	70.855	225	
								3.003	70.930	150	
12	72.100	0.640	Open Manhole	1200	4.000	71.460	100				
12	72.000	0.820	Open Manhole	1200	4.001	71.180	150	4.000	71.230	100	
12	72.000	1.125	Open Manhole	1200	4.002	70.875	150	4.001	70.875	150	
7	72.000	1.270	Open Manhole	1200	1.006	70.730	225	1.005	70.730	225	
								4.002	70.805	150	
	72.000	1.300	Open Manhole	0		OUTFALL		1.006	70.700	225	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	100	1	72.350	71.690	0.560	Open Manhole	1200
1.001	o	100	2	72.250	71.445	0.705	Open Manhole	1200
1.002	o	150	3	72.250	71.215	0.885	Open Manhole	1200
1.003	o	150	4	72.300	71.100	1.050	Open Manhole	1200
2.000	o	150	5	72.750	71.430	1.170	Open Manhole	1200
1.004	o	225	5	72.250	70.950	1.075	Open Manhole	1200
3.000	o	100	7	72.100	71.395	0.605	Open Manhole	1200
3.001	o	100	7	72.100	71.265	0.735	Open Manhole	1200
3.002	o	100	7	72.200	71.105	0.995	Open Manhole	1200
3.003	o	150	7	72.200	71.010	1.040	Open Manhole	1200
1.005	o	225	6	72.100	70.855	1.020	Open Manhole	1200
4.000	o	100	12	72.100	71.460	0.540	Open Manhole	1200
4.001	o	150	12	72.000	71.180	0.670	Open Manhole	1200
4.002	o	150	12	72.000	70.875	0.975	Open Manhole	1200
1.006	o	225	7	72.000	70.730	1.045	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	19.700	80.4	2	72.250	71.445	0.705	Open Manhole	1200
1.001	14.375	79.9	3	72.250	71.265	0.885	Open Manhole	1200
1.002	17.390	151.2	4	72.300	71.100	1.050	Open Manhole	1200
1.003	11.630	155.1	5	72.250	71.025	1.075	Open Manhole	1200
2.000	44.490	92.7	5	72.250	70.950	1.150	Open Manhole	1200
1.004	20.840	219.4	6	72.100	70.855	1.020	Open Manhole	1200
3.000	10.355	79.7	7	72.100	71.265	0.735	Open Manhole	1200
3.001	12.795	80.0	7	72.200	71.105	0.995	Open Manhole	1200
3.002	3.745	83.2	7	72.200	71.060	1.040	Open Manhole	1200
3.003	12.060	150.8	6	72.100	70.930	1.020	Open Manhole	1200
1.005	27.930	223.4	7	72.000	70.730	1.045	Open Manhole	1200
4.000	18.165	79.0	12	72.000	71.230	0.670	Open Manhole	1200
4.001	24.425	80.1	12	72.000	70.875	0.975	Open Manhole	1200
4.002	10.550	150.7	7	72.000	70.805	1.045	Open Manhole	1200
1.006	7.465	248.8		72.000	70.700	1.075	Open Manhole	0

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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall C. Level Name (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.006	72.000	70.700	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha	Storage 2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	7
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.400		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: 7, DS/PN: 1.006, Volume (m³): 2.7

Unit Reference MD-SHE-0103-5000-1200-5000
Design Head (m) 1.200
Design Flow (l/s) 5.0
Flush-Flo™ Calculated
Objective Minimise upstream storage
Application Surface
Sump Available Yes
Diameter (mm) 103
Invert Level (m) 70.730
Minimum Outlet Pipe Diameter (mm) 150
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	5.0
Flush-Flo™	0.354	5.0
Kick-Flo®	0.745	4.0
Mean Flow over Head Range	-	4.4

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)
0.100	3.4	1.200	5.0	3.000	7.7	7.000	11.5
0.200	4.7	1.400	5.4	3.500	8.3	7.500	11.8
0.300	5.0	1.600	5.7	4.000	8.8	8.000	12.2
0.400	5.0	1.800	6.0	4.500	9.3	8.500	12.6
0.500	4.9	2.000	6.3	5.000	9.8	9.000	12.9
0.600	4.7	2.200	6.6	5.500	10.2	9.500	13.3
0.800	4.1	2.400	6.9	6.000	10.7		
1.000	4.6	2.600	7.2	6.500	11.1		

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Storage Structures for Storm

Porous Car Park Manhole: 4, DS/PN: 1.003

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	8.0
Membrane Percolation (mm/hr)	1000	Length (m)	10.0
Max Percolation (l/s)	22.2	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	71.840	Cap Volume Depth (m)	0.460

Porous Car Park Manhole: 5, DS/PN: 2.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	23.0
Max Percolation (l/s)	63.9	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	72.290	Cap Volume Depth (m)	0.460

Porous Car Park Manhole: 5, DS/PN: 1.004

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	23.5
Max Percolation (l/s)	65.3	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	71.790	Cap Volume Depth (m)	0.460

Porous Car Park Manhole: 7, DS/PN: 3.003

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.0
Membrane Percolation (mm/hr)	1000	Length (m)	13.0
Max Percolation (l/s)	18.1	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	71.740	Cap Volume Depth (m)	0.460

Porous Car Park Manhole: 6, DS/PN: 1.005

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	19.0
Max Percolation (l/s)	52.8	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	71.640	Cap Volume Depth (m)	0.460

Porous Car Park Manhole: 12, DS/PN: 4.001

Infiltration Coefficient Base (m/hr)	0.00000	Max Percolation (l/s)	12.5
Membrane Percolation (mm/hr)	1000	Safety Factor	2.0

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<u>Porous Car Park Manhole: 12, DS/PN: 4.001</u> <table> <tr> <td>Porosity</td> <td>0.30</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Invert Level (m)</td> <td>71.540</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Width (m)</td> <td>5.0</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Length (m)</td> <td>9.0</td> <td>Cap Volume Depth (m)</td> <td>0.460</td> </tr> </table> <u>Porous Car Park Manhole: 12, DS/PN: 4.002</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Width (m)</td> <td>5.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>13.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>18.1</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>71.540</td> <td>Cap Volume Depth (m)</td> <td>0.460</td> </tr> </table>			Porosity	0.30	Slope (1:X)	0.0	Invert Level (m)	71.540	Depression Storage (mm)	5	Width (m)	5.0	Evaporation (mm/day)	3	Length (m)	9.0	Cap Volume Depth (m)	0.460	Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	5.0	Membrane Percolation (mm/hr)	1000	Length (m)	13.0	Max Percolation (l/s)	18.1	Slope (1:X)	0.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	71.540	Cap Volume Depth (m)	0.460
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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Storage Structures 7
 Number of Online Controls 1 Number of Time/Area Diagrams 0
 Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.400
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status OFF
 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, 30, 100
 Climate Change (%) 0, 0, 40

									Water
	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)
1.000	1	15 Winter		1	+0%	100/15 Summer			71.721
1.001	2	15 Winter		1	+0%	30/15 Summer			71.479
1.002	3	15 Winter		1	+0%	30/15 Summer			71.258
1.003	4	60 Winter		1	+0%	30/15 Summer			71.223
2.000	5	15 Winter		1	+0%	30/15 Summer			71.487
1.004	5	60 Winter		1	+0%	1/30 Winter			71.220
3.000	7	15 Winter		1	+0%	30/15 Summer			71.417
3.001	7	15 Winter		1	+0%	30/15 Summer			71.295
3.002	7	60 Winter		1	+0%	1/60 Winter			71.219
3.003	7	60 Winter		1	+0%	1/30 Winter			71.217
1.005	6	60 Winter		1	+0%	1/15 Winter			71.214
4.000	12	15 Winter		1	+0%	30/15 Summer			71.488
4.001	12	15 Winter		1	+0%	30/15 Summer			71.219
4.002	12	60 Winter		1	+0%	1/15 Summer			71.207
1.006	7	60 Winter		1	+0%	1/15 Summer			71.204

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XP Solutions	Network 2018.1	

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

PN	US/MH Name	Surcharged		Flooded		Pipe		Status	Level Exceeded
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)			
1.000	1	-0.069	0.000	0.21		1.4		OK	
1.001	2	-0.066	0.000	0.25		1.6		OK	
1.002	3	-0.107	0.000	0.18		2.4		OK	
1.003	4	-0.027	0.000	0.16		2.1		OK	
2.000	5	-0.093	0.000	0.27		4.8		OK	
1.004	5	0.045	0.000	0.20		6.3		SURCHARGED	
3.000	7	-0.078	0.000	0.11		0.7		OK	
3.001	7	-0.070	0.000	0.20		1.3		OK	
3.002	7	0.014	0.000	0.19		1.1		SURCHARGED	
3.003	7	0.057	0.000	0.14		1.8		SURCHARGED	
1.005	6	0.134	0.000	0.23		7.3		SURCHARGED	
4.000	12	-0.072	0.000	0.17		1.1		OK	
4.001	12	-0.111	0.000	0.15		2.9		OK	
4.002	12	0.182	0.000	0.11		1.4		SURCHARGED	
1.006	7	0.249	0.000	0.19		5.0		SURCHARGED	

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XP Solutions	Network 2018.1	

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

PN	US/MH Name	Surcharged Flooded		Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m ³)					
1.000	1	-0.008	0.000	0.41		2.6	OK	
1.001	2	0.228	0.000	0.27		1.8	SURCHARGED	
1.002	3	0.399	0.000	0.18		2.4	SURCHARGED	
1.003	4	0.510	0.000	0.29		3.7	SURCHARGED	
2.000	5	0.247	0.000	0.65		11.6	SURCHARGED	
1.004	5	0.580	0.000	0.42		13.5	SURCHARGED	
3.000	7	0.261	0.000	0.12		0.8	SURCHARGED	
3.001	7	0.390	0.000	0.21		1.3	SURCHARGED	
3.002	7	0.547	0.000	0.30		1.7	SURCHARGED	
3.003	7	0.590	0.000	0.21		2.8	SURCHARGED	
1.005	6	0.669	0.000	0.32		10.2	SURCHARGED	
4.000	12	0.181	0.000	0.20		1.3	SURCHARGED	
4.001	12	0.409	0.000	0.16		2.9	FLOOD RISK	
4.002	12	0.713	0.000	0.23		3.0	FLOOD RISK	
1.006	7	0.828	0.000	0.19		5.0	FLOOD RISK	

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Micro Drainage

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

Simulation Criteria

Areal Reduction Factor 1.000

Hot Start (mins) 0

Hot Start Level (mm) 0

Manhole Headloss Coeff (Global) 0.500

Foul Sewage per hectare (l/s) 0.000

Additional Flow - % of Total Flow 0.000

MADD Factor * 10m³/ha Storage 2.000

Inlet Coeffiecient 0.800

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

Number of Input Hydrographs 0

Number of Online Controls 1

Number of Offline Controls 0

Number of Storage Structures 7

Number of Time/Area Diagrams 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model

Region England and Wales Cv (Summer)

M5-60 (mm)

FSR

20.000 Cv (Winter)

Ratio R 0.400

0.750

0.840

Margin for Flood Risk Warning (mm)

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status

DVD Status

Inertia Status

300.0

OFF

ON

ON

Profile(s)

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

Return Period(s) (years)

Climate Change (%)

Summer and Winter

1, 30, 100

0, 0, 40

US/MH

PN

Name

Storm

Return Period

Climate Change

First (X) Surge

First (Y) Flood

First (Z) Overflow

Overflow Act.

Water Level (m)

1.000

1

15 Winter

100

+40%

100/15 Summer

72.079

1.001

2

30 Winter

100

+40%

30/15 Summer

71.976

1.002

3

120 Winter

100

+40%

30/15 Summer

71.955

1.003

4

120 Winter

100

+40%

30/15 Summer

71.952

2.000

5

15 Winter

100

+40%

30/15 Summer

72.297

1.004

5

120 Winter

100

+40%

1/30 Winter

71.949

3.000

7

120 Winter

100

+40%

30/15 Summer

71.952

3.001

7

120 Winter

100

+40%

30/15 Summer

71.951

3.002

7

120 Winter

100

+40%

1/60 Winter

71.948

3.003

7

120 Winter

100

+40%

1/30 Winter

71.946

1.005

6

120 Winter

100

+40%

1/15 Winter

71.945

4.000

12

120 Winter

100

+40%

30/15 Summer

71.942

4.001

12

120 Winter

100

+40%

30/15 Summer

71.939

4.002

12

120 Winter

100

+40%

1/15 Summer

71.937

1.006

7

120 Winter

100

+40%

1/15 Summer

71.984

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

PN	US/MH Name	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)			Flow (l/s)		
1.000	1	0.289	0.000	0.75		4.9	FLOOD RISK	
1.001	2	0.431	0.000	0.69		4.4	FLOOD RISK	
1.002	3	0.590	0.000	0.25		3.4	FLOOD RISK	
1.003	4	0.702	0.000	0.40		5.1	SURCHARGED	
2.000	5	0.717	0.000	1.00		18.0	SURCHARGED	
1.004	5	0.774	0.000	0.48		15.2	SURCHARGED	
3.000	7	0.457	0.000	0.13		0.8	FLOOD RISK	
3.001	7	0.586	0.000	0.25		1.6	FLOOD RISK	
3.002	7	0.743	0.000	0.43		2.4	FLOOD RISK	
3.003	7	0.786	0.000	0.25		3.3	FLOOD RISK	
1.005	6	0.865	0.000	0.31		9.9	FLOOD RISK	
4.000	12	0.382	0.000	0.20		1.3	FLOOD RISK	
4.001	12	0.609	0.000	0.10		1.9	FLOOD RISK	
4.002	12	0.912	0.000	0.09		1.2	FLOOD RISK	
1.006	7	1.029	0.000	0.19		5.0	FLOOD RISK	