


Topping Engineers Ltd		Page 1
Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
Innovyze	Network 2019.1	

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)	100	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.342	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	0.429	4-8	0.143

Total Area Contributing (ha) = 0.572

Total Pipe Volume (m³) = 21.148


Network Design Table for Storm

« - Indicates pipe capacity < flow











PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section	Type	Auto Design
1.000	66.000	0.660	100.0	0.052	5.00	0.0	0.600	o	300	Pipe/Conduit		
2.000	34.000	0.340	100.0	0.052	5.00	0.0	0.600	o	300	Pipe/Conduit		
2.001	16.000	0.160	100.0	0.052	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)
1.000	50.00	5.70	146.235	0.052	0.0	0.0	0.0	1.57	111.1	7.0
2.000	50.00	5.36	146.075	0.052	0.0	0.0	0.0	1.57	111.1	7.0
2.001	50.00	5.53	145.735	0.104	0.0	0.0	0.0	1.57	111.1	14.1


Topping Engineers Ltd		Page 2
Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
Innovyze	Network 2019.1	

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
1.001	15.000	0.150	100.0	0.052	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.000	23.000	0.230	100.0	0.052	5.00	0.0	0.600	o	300	Pipe/Conduit	
4.000	25.000	0.250	100.0	0.052	5.00	0.0	0.600	o	300	Pipe/Conduit	
4.001	11.000	0.110	100.0	0.052	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.002	5.000	0.050	100.0	0.052	0.00	0.0	0.600	o	450	Pipe/Conduit	
5.000	53.000	0.530	100.0	0.052	5.00	0.0	0.600	o	300	Pipe/Conduit	
5.001	18.000	0.295	61.0	0.052	0.00	0.0	0.600	o	300	Pipe/Conduit	
5.002	35.000	0.660	53.0	0.052	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.003	1.000	0.030	33.3	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
1.004	20.000	0.303	66.0	0.000	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)
1.001	50.00	5.86	145.575	0.208	0.0	0.0	0.0	1.57	111.1	28.2
3.000	50.00	5.24	145.655	0.052	0.0	0.0	0.0	1.57	111.1	7.0
4.000	50.00	5.27	145.785	0.052	0.0	0.0	0.0	1.57	111.1	7.0
4.001	50.00	5.38	145.535	0.104	0.0	0.0	0.0	1.57	111.1	14.1
1.002	50.00	5.90	145.300	0.416	0.0	0.0	0.0	2.03	323.4	56.3
5.000	50.00	5.56	146.825	0.052	0.0	0.0	0.0	1.57	111.1	7.0
5.001	50.00	5.71	146.295	0.104	0.0	0.0	0.0	2.02	142.5	14.1
5.002	50.00	6.03	146.000	0.156	0.0	0.0	0.0	1.80	71.6	21.1
1.003	50.00	6.04	145.200	0.572	0.0	0.0	0.0	3.53	561.6	77.5
1.004	50.00	6.31	145.170	0.572	0.0	0.0	0.0	1.24	21.9«	77.5

Topping Engineers Ltd		Page 3
Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
Innovyze		Network 2019.1

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
2	147.250	1.015	Open Manhole	1200	1.000	146.235	300				
3	147.490	1.415	Open Manhole	1200	2.000	146.075	300				
4	147.300	1.565	Open Manhole	1200	2.001	145.735	300	2.000	145.735	300	
5	147.300	1.725	Open Manhole	1200	1.001	145.575	300	1.000	145.575	300	
								2.001	145.575	300	
6	147.600	1.945	Open Manhole	1200	3.000	145.655	300				
7	147.800	2.015	Open Manhole	1200	4.000	145.785	300				
8	147.800	2.265	Open Manhole	1200	4.001	145.535	300	4.000	145.535	300	
9	147.450	2.150	Open Manhole	1350	1.002	145.300	450	1.001	145.425	300	
								3.000	145.425	300	
								4.001	145.425	300	
10	147.500	0.675	Open Manhole	1200	5.000	146.825	300				
11	147.500	1.205	Open Manhole	1200	5.001	146.295	300	5.000	146.295	300	
12	147.600	1.600	Open Manhole	1200	5.002	146.000	225	5.001	146.000	300	
13	147.600	2.400	Open Manhole	1350	1.003	145.200	450	1.002	145.250	450	
								5.002	145.340	225	
14	147.800	2.630	Open Manhole	1350	1.004	145.170	150	1.003	145.170	450	
	146.000	1.133	Open Manhole	0		OUTFALL		1.004	144.867	150	

No coordinates have been specified, layout information cannot be produced.

Topping Engineers Ltd		Page 4
Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
Innovyze	Network 2019.1	


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	300	2	147.250	146.235	0.715	Open Manhole	1200
2.000	o	300	3	147.490	146.075	1.115	Open Manhole	1200
2.001	o	300	4	147.300	145.735	1.265	Open Manhole	1200
1.001	o	300	5	147.300	145.575	1.425	Open Manhole	1200
3.000	o	300	6	147.600	145.655	1.645	Open Manhole	1200
4.000	o	300	7	147.800	145.785	1.715	Open Manhole	1200
4.001	o	300	8	147.800	145.535	1.965	Open Manhole	1200
1.002	o	450	9	147.450	145.300	1.700	Open Manhole	1350
5.000	o	300	10	147.500	146.825	0.375	Open Manhole	1200
5.001	o	300	11	147.500	146.295	0.905	Open Manhole	1200
5.002	o	225	12	147.600	146.000	1.375	Open Manhole	1200
1.003	o	450	13	147.600	145.200	1.950	Open Manhole	1350
1.004	o	150	14	147.800	145.170	2.480	Open Manhole	1350

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	66.000	100.0	5	147.300	145.575	1.425	Open Manhole	1200
2.000	34.000	100.0	4	147.300	145.735	1.265	Open Manhole	1200
2.001	16.000	100.0	5	147.300	145.575	1.425	Open Manhole	1200
1.001	15.000	100.0	9	147.450	145.425	1.725	Open Manhole	1350
3.000	23.000	100.0	9	147.450	145.425	1.725	Open Manhole	1350
4.000	25.000	100.0	8	147.800	145.535	1.965	Open Manhole	1200
4.001	11.000	100.0	9	147.450	145.425	1.725	Open Manhole	1350
1.002	5.000	100.0	13	147.600	145.250	1.900	Open Manhole	1350
5.000	53.000	100.0	11	147.500	146.295	0.905	Open Manhole	1200
5.001	18.000	61.0	12	147.600	146.000	1.300	Open Manhole	1200
5.002	35.000	53.0	13	147.600	145.340	2.035	Open Manhole	1350
1.003	1.000	33.3	14	147.800	145.170	2.180	Open Manhole	1350
1.004	20.000	66.0		146.000	144.867	0.983	Open Manhole	0

Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
Innovyze Network 2019.1		

Network Classifications for Storm

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
1.000	2	300	0.715	1.425	Unclassified	1200	0	0.715	Unclassified
2.000	3	300	1.115	1.265	Unclassified	1200	0	1.115	Unclassified
2.001	4	300	1.265	1.425	Unclassified	1200	0	1.265	Unclassified
1.001	5	300	1.425	1.725	Unclassified	1200	0	1.425	Unclassified
3.000	6	300	1.645	1.725	Unclassified	1200	0	1.645	Unclassified
4.000	7	300	1.715	1.965	Unclassified	1200	0	1.715	Unclassified
4.001	8	300	1.725	1.965	Unclassified	1200	0	1.965	Unclassified
1.002	9	450	1.700	1.900	Unclassified	1350	0	1.700	Unclassified
5.000	10	300	0.375	0.905	Unclassified	1200	0	0.375	Unclassified
5.001	11	300	0.905	1.300	Unclassified	1200	0	0.905	Unclassified
5.002	12	225	1.375	2.035	Unclassified	1200	0	1.375	Unclassified
1.003	13	450	1.950	2.180	Unclassified	1350	0	1.950	Unclassified
1.004	14	150	0.983	2.480	Unclassified	1350	0	2.480	Unclassified

Free Flowing Outfall Details for Storm


Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
1.004		146.000	144.867	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 * 10m ³ /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	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Storm Duration (mins)	30
Ratio R	0.342		

Topping Engineers Ltd		Page 6
Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
Innovyze	Network 2019.1	

Online Controls for Storm


Hydro-Brake® Optimum Manhole: 14, DS/PN: 1.004, Volume (m³): 3.7

Unit Reference	MD-SHE-0064-2500-2000-2500
Design Head (m)	2.000
Design Flow (l/s)	2.5
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	64
Invert Level (m)	145.170
Minimum Outlet Pipe Diameter (mm)	100
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.000	2.5
Flush-Flo™	0.279	1.7
Kick-Flo®	0.573	1.4
Mean Flow over Head Range	-	1.9

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	1.5	1.200	2.0	3.000	3.0	7.000	4.5
0.200	1.7	1.400	2.1	3.500	3.2	7.500	4.6
0.300	1.7	1.600	2.3	4.000	3.4	8.000	4.8
0.400	1.7	1.800	2.4	4.500	3.6	8.500	4.9
0.500	1.6	2.000	2.5	5.000	3.8	9.000	5.0
0.600	1.4	2.200	2.6	5.500	4.0	9.500	5.2
0.800	1.6	2.400	2.7	6.000	4.2		
1.000	1.8	2.600	2.8	6.500	4.3		

Topping Engineers Ltd		Page 7
Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoor Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
Innovyze	Network 2019.1	

Storage Structures for Storm

Cellular Storage Manhole: 13, DS/PN: 1.003

Invert Level (m) 145.200 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	255.0	255.0	1.700	0.0	368.6
1.600	255.0	368.6			

Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT
Innovyze	Network 2019.1



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 * 10m ³ /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	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0


Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.333
Region England and Wales	Cv (Summer)		0.750
M5-60 (mm)	19.000	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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	2	15 Winter	1	+0%	100/240 Winter				146.283
2.000	3	15 Winter	1	+0%	100/240 Summer				146.124
2.001	4	15 Winter	1	+0%	30/960 Winter				145.806
1.001	5	15 Winter	1	+0%	30/240 Winter				145.678
3.000	6	15 Winter	1	+0%	30/360 Winter				145.705
4.000	7	15 Winter	1	+0%	100/60 Winter				145.835
4.001	8	15 Winter	1	+0%	30/120 Winter				145.611
1.002	9	480 Winter	1	+0%	30/120 Summer				145.535
5.000	10	15 Winter	1	+0%	100/960 Winter				146.873
5.001	11	15 Winter	1	+0%	100/360 Winter				146.358
5.002	12	15 Winter	1	+0%	100/15 Summer				146.077
1.003	13	480 Winter	1	+0%	30/60 Summer				145.535
1.004	14	480 Winter	1	+0%	1/15 Summer				145.568

Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	

Innovyze	Network 2019.1
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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	2	-0.252	0.000	0.06		6.3	OK	
2.000	3	-0.251	0.000	0.06		6.3	OK	
2.001	4	-0.229	0.000	0.13		11.8	OK	
1.001	5	-0.197	0.000	0.25		23.6	OK	
3.000	6	-0.250	0.000	0.06		6.4	OK	
4.000	7	-0.250	0.000	0.06		6.4	OK	
4.001	8	-0.224	0.000	0.14		11.8	OK	
1.002	9	-0.215	0.000	0.04		7.6	OK	
5.000	10	-0.252	0.000	0.06		6.3	OK	
5.001	11	-0.237	0.000	0.10		11.8	OK	
5.002	12	-0.148	0.000	0.26		17.2	OK	
1.003	13	-0.115	0.000	0.01		2.5	OK	
1.004	14	0.248	0.000	0.08		1.7	SURCHARGED	

Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoor Road Huddersfield
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT



Innovyze Network 2019.1

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 * 10m ³ /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	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0


Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.333
Region England and Wales	Cv (Summer)		0.750
M5-60 (mm)	19.000	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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	2	15 Winter	30	+0%	100/240 Winter				146.312
2.000	3	15 Winter	30	+0%	100/240 Summer				146.154
2.001	4	960 Winter	30	+0%	30/960 Winter				146.059
1.001	5	960 Winter	30	+0%	30/240 Winter				146.059
3.000	6	960 Winter	30	+0%	30/360 Winter				146.059
4.000	7	960 Winter	30	+0%	100/60 Winter				146.059
4.001	8	960 Winter	30	+0%	30/120 Winter				146.059
1.002	9	960 Winter	30	+0%	30/120 Summer				146.059
5.000	10	15 Winter	30	+0%	100/960 Winter				146.903
5.001	11	15 Winter	30	+0%	100/360 Winter				146.400
5.002	12	15 Winter	30	+0%	100/15 Summer				146.143
1.003	13	960 Winter	30	+0%	30/60 Summer				146.059
1.004	14	960 Winter	30	+0%	1/15 Summer				146.091

Topping Engineers Ltd		Page 11
Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoor Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
Innovyze	Network 2019.1	

30 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	2	-0.223	0.000	0.15		15.4	OK	
2.000	3	-0.221	0.000	0.15		15.6	OK	
2.001	4	0.024	0.000	0.03		2.5	SURCHARGED	
1.001	5	0.184	0.000	0.05		4.8	SURCHARGED	
3.000	6	0.104	0.000	0.01		1.2	SURCHARGED	
4.000	7	-0.026	0.000	0.01		1.2	OK	
4.001	8	0.224	0.000	0.03		2.4	SURCHARGED	
1.002	9	0.309	0.000	0.06		9.4	SURCHARGED	
5.000	10	-0.222	0.000	0.15		15.5	OK	
5.001	11	-0.195	0.000	0.26		31.7	OK	
5.002	12	-0.082	0.000	0.71		47.8	OK	
1.003	13	0.409	0.000	0.02		2.6	SURCHARGED	
1.004	14	0.771	0.000	0.08		1.7	SURCHARGED	

Aire House
12 Victoria Avenue
Harrogate, HG1 1ED

Lidl
Blackmoorfoot Road
Huddersfield



Date 19/08/2022
File 18.08.22 NETWORK.MDX

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Checked by RT

Innovyze Network 2019.1

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 Coefficient 0.800
 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000
 Foul Sewage per hectare (l/s) 0.000

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


Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.333
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
1.000	2	1440 Winter	100	+40%	100/240	Winter		
2.000	3	1440 Winter	100	+40%	100/240	Summer		
2.001	4	1440 Winter	100	+40%	30/960	Winter		
1.001	5	1440 Winter	100	+40%	30/240	Winter		
3.000	6	1440 Winter	100	+40%	30/360	Winter		
4.000	7	1440 Winter	100	+40%	100/60	Winter		
4.001	8	1440 Winter	100	+40%	30/120	Winter		
1.002	9	1440 Winter	100	+40%	30/120	Summer		
5.000	10	1440 Winter	100	+40%	100/960	Winter		
5.001	11	1440 Winter	100	+40%	100/360	Winter		
5.002	12	1440 Winter	100	+40%	100/15	Summer		
1.003	13	1440 Winter	100	+40%	30/60	Summer		
1.004	14	1440 Winter	100	+40%	1/15	Summer		

Topping Engineers Ltd		Page 13
Aire House 12 Victoria Avenue Harrogate, HG1 1ED	Lidl Blackmoorfoot Road Huddersfield	
Date 19/08/2022 File 18.08.22 NETWORK.MDX	Designed by JS Checked by RT	
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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap. (l/s)	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	2	147.248	0.713	0.000	0.02		1.6	FLOOD RISK	
2.000	3	147.249	0.874	0.000	0.02		1.6	FLOOD RISK	
2.001	4	147.249	1.214	0.000	0.03		3.0	FLOOD RISK	
1.001	5	147.248	1.373	0.000	0.06		5.8	FLOOD RISK	
3.000	6	147.248	1.293	0.000	0.02		1.5	SURCHARGED	
4.000	7	147.248	1.163	0.000	0.02		1.5	SURCHARGED	
4.001	8	147.248	1.413	0.000	0.04		3.0	SURCHARGED	
1.002	9	147.248	1.498	0.000	0.07		11.4	FLOOD RISK	
5.000	10	147.250	0.125	0.000	0.02		1.6	FLOOD RISK	
5.001	11	147.250	0.655	0.000	0.03		3.2	FLOOD RISK	
5.002	12	147.249	1.024	0.000	0.07		4.7	SURCHARGED	
1.003	13	147.247	1.597	0.000	0.02		3.3	SURCHARGED	
1.004	14	147.247	1.927	0.000	0.12		2.5	SURCHARGED	