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Amber House Green Lane, Old Swan Liverpool, L13 7GD	Dye House SW Hydraulic Calcs	
Date 18/12/2023 15:03 File DYE HOUSE XP DESIGN 18.12.2...	Designed by EJC Checked by	
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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Surface Network 2

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	20.000	Add Flow / Climate Change (%)	0
Ratio R	0.391	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 Surface Network 2

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.389	4-8	0.157

Total Area Contributing (ha) = 0.546

Total Pipe Volume (m³) = 120.498

Network Design Table for Surface Network 2

« - 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	15.748	0.039	403.8	0.052	5.00	0.0	0.600	o	750	Pipe/Conduit	
1.001	11.211	0.028	400.4	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.002	49.686	0.124	400.7	0.050	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.003	16.518	0.041	402.9	0.126	0.00	0.0	0.600	o	900	Pipe/Conduit	
1.004	37.780	0.095	396.7	0.021	0.00	0.0	0.600	o	900	Pipe/Conduit	
1.005	14.070	0.035	398.4	0.068	0.00	0.0	0.600	o	900	Pipe/Conduit	
2.000	16.723	0.042	400.0	0.104	5.00	0.0	0.600	o	900	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.19	50.463	0.052	0.0	0.0	0.0	1.39	612.5	7.1
1.001	50.00	5.32	50.424	0.052	0.0	0.0	0.0	1.39	615.1	7.1
1.002	50.00	5.92	50.396	0.102	0.0	0.0	0.0	1.39	614.9	13.8
1.003	49.46	6.10	50.122	0.228	0.0	0.0	0.0	1.55	989.1	30.6
1.004	47.98	6.50	50.081	0.250	0.0	0.0	0.0	1.57	996.8	32.5
1.005	47.45	6.65	49.985	0.318	0.0	0.0	0.0	1.56	994.7	40.9
2.000	50.00	5.18	50.118	0.104	0.0	0.0	0.0	1.56	992.7	14.1

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Network Design Table for Surface Network 2

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
2.001	45.976	0.115	400.0	0.083	0.00	0.0	0.600	o	900	Pipe/Conduit	
2.002	4.637	0.012	401.8	0.041	0.00	0.0	0.600	o	900	Pipe/Conduit	
1.006	8.922	0.088	101.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.007	8.374	0.084	99.7	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)
2.001	50.00	5.67	50.076	0.187	0.0	0.0	0.0	1.56	992.7	25.3
2.002	50.00	5.72	49.962	0.228	0.0	0.0	0.0	1.56	990.5	30.9
1.006	46.94	6.80	49.950	0.546	0.0	0.0	0.0	1.00	17.6«	69.4
1.007	46.48	6.94	49.862	0.546	0.0	0.0	0.0	1.01	17.8«	69.4

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<u>Manhole Schedules for Surface Network 2</u>													
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)		
S1	53.248	2.785	Open Manhole	1800	1.000	50.463	750						
S2	53.436	3.012	Open Manhole	1800	1.001	50.424	750	1.000	50.424	750			
S3	53.495	3.099	Open Manhole	1800	1.002	50.396	750	1.001	50.396	750			
S4	52.920	2.798	Open Manhole	2100	1.003	50.122	900	1.002	50.272	750			
S5	52.259	2.178	Open Manhole	2100	1.004	50.081	900	1.003	50.081	900			
S6	51.918	1.933	Open Manhole	2100	1.005	49.985	900	1.004	49.985	900			
S7	53.546	3.427	Open Manhole	1800	2.000	50.118	900						
S8	52.804	2.727	Open Manhole	2100	2.001	50.076	900	2.000	50.076	900			
S9	51.983	2.021	Open Manhole	2100	2.002	49.962	900	2.001	49.962	900			
S10-HB	51.904	1.954	Open Manhole	2100	1.006	49.950	150	1.005	49.950	900			
								2.002	49.950	900			
S11-VS	51.681	1.819	Open Manhole	1200	1.007	49.862	150	1.006	49.862	150			
S12-HW	50.500	0.722	Open Manhole	900 x 675		OUTFALL		1.007	49.778	150			
	MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)						
	S1	345779.879	392766.062	345779.879	392766.062	Required							
	S2	345777.659	392750.471	345777.659	392750.471	Required							
	S3	345783.926	392741.174	345783.926	392741.174	Required							
	S4	345826.222	392715.103	345826.222	392715.103	Required							
	S5	345842.500	392712.298	345842.500	392712.298	Required							
	S6	345876.462	392728.849	345876.462	392728.849	Required							
	S7	345870.470	392807.245	345870.470	392807.245	Required							
	S8	345878.336	392792.488	345878.336	392792.488	Required							
	S9	345871.877	392746.967	345871.877	392746.967	Required							
	S10-HB	345872.665	392742.397	345872.665	392742.397	Required							
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Manhole Schedules for Surface Network 2

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S11-VS	345863.983	392740.343	345863.983	392740.343	Required	
S12-HW	345859.160	392747.189			No Entry	

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PIPELINE SCHEDULES for Surface Network 2

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	750	S1	53.248	50.463	2.035	Open Manhole	1800
1.001	o	750	S2	53.436	50.424	2.262	Open Manhole	1800
1.002	o	750	S3	53.495	50.396	2.349	Open Manhole	1800
1.003	o	900	S4	52.920	50.122	1.898	Open Manhole	2100
1.004	o	900	S5	52.259	50.081	1.278	Open Manhole	2100
1.005	o	900	S6	51.918	49.985	1.033	Open Manhole	2100
2.000	o	900	S7	53.546	50.118	2.527	Open Manhole	1800
2.001	o	900	S8	52.804	50.076	1.827	Open Manhole	2100
2.002	o	900	S9	51.983	49.962	1.121	Open Manhole	2100
1.006	o	150	S10-HB	51.904	49.950	1.804	Open Manhole	2100
1.007	o	150	S11-VS	51.681	49.862	1.669	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	15.748	403.8	S2	53.436	50.424	2.262	Open Manhole	1800
1.001	11.211	400.4	S3	53.495	50.396	2.349	Open Manhole	1800
1.002	49.686	400.7	S4	52.920	50.272	1.898	Open Manhole	2100
1.003	16.518	402.9	S5	52.259	50.081	1.278	Open Manhole	2100
1.004	37.780	396.7	S6	51.918	49.985	1.033	Open Manhole	2100
1.005	14.070	398.4	S10-HB	51.904	49.950	1.054	Open Manhole	2100
2.000	16.723	400.0	S8	52.804	50.076	1.827	Open Manhole	2100
2.001	45.976	400.0	S9	51.983	49.962	1.121	Open Manhole	2100
2.002	4.637	401.8	S10-HB	51.904	49.950	1.054	Open Manhole	2100
1.006	8.922	101.4	S11-VS	51.681	49.862	1.669	Open Manhole	1200
1.007	8.374	99.7	S12-HW	50.500	49.778	0.572	Open Manhole	900 x 675

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Network Classifications for Surface Network 2

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	S1	750	2.035	2.262	Unclassified	1800	0	2.035	Unclassified
1.001	S2	750	2.262	2.349	Unclassified	1800	0	2.262	Unclassified
1.002	S3	750	1.898	2.349	Unclassified	1800	0	2.349	Unclassified
1.003	S4	900	1.278	1.898	Unclassified	2100	0	1.898	Unclassified
1.004	S5	900	1.033	1.278	Unclassified	2100	0	1.278	Unclassified
1.005	S6	900	1.033	1.054	Unclassified	2100	0	1.033	Unclassified
2.000	S7	900	1.827	2.527	Unclassified	1800	0	2.527	Unclassified
2.001	S8	900	1.121	1.827	Unclassified	2100	0	1.827	Unclassified
2.002	S9	900	1.054	1.121	Unclassified	2100	0	1.121	Unclassified
1.006	S10-HB	150	1.669	1.804	Unclassified	2100	0	1.804	Unclassified
1.007	S11-VS	150	0.572	1.669	Unclassified	1200	0	1.669	Unclassified

Free Flowing Outfall Details for Surface Network 2

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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1.007	S12-HW	50.500	49.778	0.000	900	675
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Simulation Criteria for Surface Network 2

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 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	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.391		

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Online Controls for Surface Network 2

Hydro-Brake® Optimum Manhole: S10-HB, DS/PN: 1.006, Volume (m³): 16.0

Unit Reference	MD-SHE-0099-5500-1800-5500
Design Head (m)	1.800
Design Flow (l/s)	5.5
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	99
Invert Level (m)	49.950
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.800	5.5	Kick-Flo®	0.883	3.9
Flush-Flo™	0.435	4.9	Mean Flow over Head Range	-	4.5

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	3.2	1.200	4.5	3.000	7.0	7.000	10.4
0.200	4.5	1.400	4.9	3.500	7.5	7.500	10.8
0.300	4.8	1.600	5.2	4.000	8.0	8.000	11.1
0.400	4.9	1.800	5.5	4.500	8.4	8.500	11.4
0.500	4.9	2.000	5.8	5.000	8.9	9.000	11.7
0.600	4.8	2.200	6.0	5.500	9.3	9.500	12.1
0.800	4.4	2.400	6.3	6.000	9.7		
1.000	4.2	2.600	6.5	6.500	10.1		

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Storage Structures for Surface Network 2

Cellular Storage Manhole: S10-HB, DS/PN: 1.006

Invert Level (m) 51.100 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	264.0	264.0	0.600	0.0	305.0
0.500	264.0	305.0			

Manhole Headloss for Surface Network 2

PN	US/MH Name	US/MH Headloss
1.000	S1	0.500
1.001	S2	0.500
1.002	S3	0.500
1.003	S4	0.500
1.004	S5	0.500
1.005	S6	0.500
2.000	S7	0.500
2.001	S8	0.500
2.002	S9	0.500
1.006	S10-HB	0.500
1.007	S11-VS	0.500

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

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 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	1	Number of Real Time Controls	0

Synthetic Rainfall Details

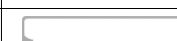
Rainfall Model	FSR M5-60 (mm)	20.000	Cv (Summer)	0.750
Region	England and Wales	Ratio R	0.391	Cv (Winter)
				0.840

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

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	Surcharged
	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level	Depth
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)	(m)
1.000	S1	15 Winter	1	+0%	100/30 Winter				50.541	-0.672
1.001	S2	15 Winter	1	+0%	100/30 Summer				50.504	-0.670
1.002	S3	15 Winter	1	+0%	100/30 Summer				50.475	-0.671
1.003	S4	120 Winter	1	+0%	30/120 Winter				50.473	-0.549
1.004	S5	120 Winter	1	+0%	30/120 Winter				50.472	-0.508
1.005	S6	120 Winter	1	+0%	30/60 Winter				50.472	-0.413
2.000	S7	120 Winter	1	+0%	30/120 Winter				50.472	-0.546
2.001	S8	120 Winter	1	+0%	30/120 Winter				50.472	-0.505
2.002	S9	120 Winter	1	+0%	30/60 Winter				50.472	-0.389
1.006	S10-HB	120 Winter	1	+0%	1/15 Summer				50.497	0.397
1.007	S11-VS	120 Winter	1	+0%					49.920	-0.092

PN	US/MH Name	Flooded		Pipe	Status	Level Exceeded
		Volume (m ³)	Flow / Overflow Cap. (1/s)	Flow (1/s)		
1.000	S1	0.000	0.02	7.0	OK	
1.001	S2	0.000	0.02	7.1	OK	
1.002	S3	0.000	0.02	12.7	OK	
1.003	S4	0.000	0.02	9.6	OK	
1.004	S5	0.000	0.01	8.4	OK	
1.005	S6	0.000	0.01	6.4	OK	
2.000	S7	0.000	0.01	4.3	OK	
2.001	S8	0.000	0.01	5.9	OK	
2.002	S9	0.000	0.01	5.8	OK	
1.006	S10-HB	0.000	0.32	4.9	SURCHARGED	

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

PN	US/MH Name	Flooded	Flow / Overflow		Pipe	Status	Level
		Volume (m ³)	Cap.	(l/s)	Flow (l/s)		Exceeded
1.007	S11-VS	0.000	0.32		4.9	OK	

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

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 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

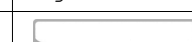
Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.391 Cv (Winter) 0.840

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

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) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level	Surcharged Depth
									(m)	(m)
1.000	S1	240 Winter	30	+0%	100/30 Winter				51.104	-0.109
1.001	S2	240 Winter	30	+0%	100/30 Summer				51.104	-0.070
1.002	S3	240 Winter	30	+0%	100/30 Summer				51.104	-0.042
1.003	S4	240 Winter	30	+0%	30/120 Winter				51.104	0.082
1.004	S5	240 Winter	30	+0%	30/120 Winter				51.104	0.123
1.005	S6	240 Winter	30	+0%	30/60 Winter				51.104	0.219
2.000	S7	240 Winter	30	+0%	30/120 Winter				51.104	0.086
2.001	S8	240 Winter	30	+0%	30/120 Winter				51.104	0.128
2.002	S9	240 Winter	30	+0%	30/60 Winter				51.104	0.243
1.006	S10-HB	240 Winter	30	+0%	1/15 Summer				51.104	1.004
1.007	S11-VS	15 Summer	30	+0%					49.920	-0.092

PN	US/MH Name	Flooded		Pipe		Status	Level Exceeded
		Volume (m³)	Flow / Cap. (l/s)	Flow (l/s)			
1.000	S1	0.000	0.01	2.9		OK	
1.001	S2	0.000	0.01	2.6		OK	
1.002	S3	0.000	0.01	5.1		OK	
1.003	S4	0.000	0.02	8.5		SURCHARGED	
1.004	S5	0.000	0.01	7.3		SURCHARGED	
1.005	S6	0.000	0.01	5.4		SURCHARGED	
2.000	S7	0.000	0.01	6.3		SURCHARGED	
2.001	S8	0.000	0.01	8.8		SURCHARGED	
2.002	S9	0.000	0.01	5.0		SURCHARGED	
1.006	S10-HB	0.000	0.32	4.9		SURCHARGED	

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

PN	US/MH Name	Flooded	Flow / Overflow		Pipe	Status	Level
		Volume (m ³)	Cap.	(l/s)	Flow (l/s)		Exceeded
1.007	S11-VS	0.000	0.32		4.9	OK	

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

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 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 FSR M5-60 (mm) 20.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.391 Cv (Winter) 0.840

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

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	Surcharged
									Level (m)	Depth (m)
1.000	S1	360 Winter	100	+40%	100/30 Winter				51.835	0.622
1.001	S2	360 Winter	100	+40%	100/30 Summer				51.835	0.661
1.002	S3	360 Winter	100	+40%	100/30 Summer				51.836	0.690
1.003	S4	360 Winter	100	+40%	30/120 Winter				51.836	0.814
1.004	S5	360 Winter	100	+40%	30/120 Winter				51.836	0.856
1.005	S6	360 Winter	100	+40%	30/60 Winter				51.836	0.951
2.000	S7	360 Winter	100	+40%	30/120 Winter				51.836	0.818
2.001	S8	360 Winter	100	+40%	30/120 Winter				51.836	0.860
2.002	S9	360 Winter	100	+40%	30/60 Winter				51.836	0.975
1.006	S10-HB	360 Winter	100	+40%	1/15 Summer				51.837	1.737
1.007	S11-VS	360 Winter	100	+40%					49.924	-0.088

PN	US/MH Name	Flooded		Pipe		Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Flow / (l/s)	Flow / (l/s)		
1.000	S1	0.000	0.01		4.2	SURCHARGED	
1.001	S2	0.000	0.01		3.4	SURCHARGED	
1.002	S3	0.000	0.01		6.9	SURCHARGED	
1.003	S4	0.000	0.03		16.9	SURCHARGED	
1.004	S5	0.000	0.02		18.2	SURCHARGED	
1.005	S6	0.000	0.05		23.3	FLOOD RISK	
2.000	S7	0.000	0.02		8.7	SURCHARGED	
2.001	S8	0.000	0.02		15.1	SURCHARGED	
2.002	S9	0.000	0.04		18.0	FLOOD RISK	
1.006	S10-HB	0.000	0.36		5.6	FLOOD RISK	

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

PN	US/MH Name	Flooded Volume (m ³)	Flow / Overflow Cap. (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.007	S11-VS	0.000	0.36	5.6	OK	