

JS Bloor (Wilmslow) Ltd		Page 1
Dean Court 85 Adlington Road Wilmslow SK9 1BT	Bloor Homes Normandy Way, Hinckley SWS Network 1 3 x 375pipes	
Date 01/01/0001 File PH 2 STORM.MDX	Designed by Rod Adams Checked by	
Elstree Computing Ltd	Network 2017.1.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for SWS NETWORK 2.SWS

Pipe Sizes SWS Network 4 Manhole Sizes SWS Network 4

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)	0	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 SWS NETWORK 2.SWS

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	60.902	1.145	53.2	0.860	5.00	0.0	0.600	o	450	Pipe/Conduit	
2.000	29.445	1.740	16.9	0.048	5.00	0.0	0.600	o	225	Pipe/Conduit	
2.001	31.600	1.890	16.7	0.024	0.00	0.0	0.600	o	225	Pipe/Conduit	
2.002	45.811	1.305	35.1	0.034	0.00	0.0	0.600	o	225	Pipe/Conduit	
2.003	26.187	0.685	38.2	0.024	0.00	0.0	0.600	o	300	Pipe/Conduit	
2.004	43.945	0.918	47.9	0.157	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.000	39.574	1.100	36.0	0.032	5.00	0.0	0.600	o	225	Pipe/Conduit	
3.001	12.065	0.318	37.9	0.016	0.00	0.0	0.600	o	225	Pipe/Conduit	
2.005	57.790	1.559	37.1	0.048	0.00	0.0	0.600	o	300	Pipe/Conduit	
2.006	33.690	1.873	18.0	0.017	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	0.00	5.36	99.550	0.860	0.0	0.0	0.0	2.79	444.1	0.0
2.000	0.00	5.15	108.600	0.048	0.0	0.0	0.0	3.20	127.1	0.0
2.001	0.00	5.32	106.860	0.072	0.0	0.0	0.0	3.22	127.9	0.0
2.002	0.00	5.66	104.970	0.106	0.0	0.0	0.0	2.22	88.1	0.0
2.003	0.00	5.83	103.590	0.130	0.0	0.0	0.0	2.55	180.3	0.0
2.004	0.00	6.15	102.905	0.287	0.0	0.0	0.0	2.28	161.0	0.0
3.000	0.00	5.30	103.480	0.032	0.0	0.0	0.0	2.19	87.0	0.0
3.001	0.00	5.40	102.380	0.048	0.0	0.0	0.0	2.13	84.7	0.0
2.005	0.00	6.53	101.987	0.383	0.0	0.0	0.0	2.59	183.1	0.0
2.006	0.00	6.68	100.428	0.400	0.0	0.0	0.0	3.72	263.3	0.0

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Network Design Table for SWS NETWORK 2.SWS

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
4.000	21.517	0.364	59.1	0.024	5.00	0.0	0.600	o	225	Pipe/Conduit		
4.001	34.941	0.388	90.1	0.041	0.00	0.0	0.600	o	225	Pipe/Conduit		
4.002	34.941	0.734	47.6	0.043	0.00	0.0	0.600	o	225	Pipe/Conduit		
4.003	20.471	0.375	54.6	0.019	0.00	0.0	0.600	o	225	Pipe/Conduit		
4.004	25.519	1.304	19.6	0.035	0.00	0.0	0.600	o	225	Pipe/Conduit		
1.001	23.942	1.911	12.5	0.067	0.00	0.0	0.600	o	450	Pipe/Conduit		
5.000	32.175	2.681	12.0	0.048	5.00	0.0	0.600	o	225	Pipe/Conduit		
1.002	19.365	0.039	496.5	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit		
6.000	25.682	1.920	13.4	0.054	5.00	0.0	0.600	o	225	Pipe/Conduit		
1.003	14.755	0.030	491.8	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit		
1.004	25.382	0.051	497.7	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit		
1.005	11.196	0.022	508.9	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit		
1.006	56.323	0.270	208.6	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit		
7.000	9.398	0.055	170.9	0.061	5.00	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)
4.000	0.00	5.21	101.720	0.024	0.0	0.0	0.0	1.70	67.8	0.0
4.001	0.00	5.63	101.356	0.065	0.0	0.0	0.0	1.38	54.8	0.0
4.002	0.00	5.94	100.968	0.108	0.0	0.0	0.0	1.90	75.6	0.0
4.003	0.00	6.13	100.234	0.127	0.0	0.0	0.0	1.77	70.5	0.0
4.004	0.00	6.27	99.859	0.162	0.0	0.0	0.0	2.97	118.2	0.0
1.001	0.00	6.75	98.405	1.489	0.0	0.0	0.0	5.77	917.3	0.0
5.000	0.00	5.14	99.400	0.048	0.0	0.0	0.0	3.80	151.0	0.0
1.002	0.00	7.07	96.419	1.537	0.0	0.0	0.0	1.00	216.1	0.0
6.000	0.00	5.12	98.600	0.054	0.0	0.0	0.0	3.60	143.0	0.0
1.003	0.00	7.31	96.380	1.591	0.0	0.0	0.0	1.00	217.2	0.0
1.004	0.00	7.74	96.100	1.591	0.0	0.0	0.0	1.00	215.9	0.0
1.005	0.00	7.91	96.049	1.591	0.0	0.0	0.0	1.07	303.3	0.0
1.006	0.00	8.47	96.027	1.591	0.0	0.0	0.0	1.68	475.6	0.0
7.000	0.00	5.16	96.187	0.061	0.0	0.0	0.0	1.00	39.7	0.0

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Network Design Table for SWS NETWORK 2.SWS

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
1.007	52.410	0.119	440.4	0.093	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.008	36.604	0.306	119.6	0.170	0.00	0.0	0.600	o	750	Pipe/Conduit	
8.000	46.418	0.343	135.3	0.130	5.00	0.0	0.600	o	225	Pipe/Conduit	
1.009	28.813	0.257	112.1	0.140	0.00	0.0	0.600	o	750	Pipe/Conduit	
9.000	39.563	0.238	166.2	0.103	5.00	0.0	0.600	o	225	Pipe/Conduit	
9.001	36.155	0.216	167.4	0.070	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.010	30.129	0.060	502.2	0.090	0.00	0.0	0.600	o	750	Pipe/Conduit	
10.000	25.514	0.649	39.3	0.101	5.00	0.0	0.600	o	225	Pipe/Conduit	
10.001	18.087	0.121	149.5	0.061	0.00	0.0	0.600	o	300	Pipe/Conduit	
11.000	36.796	0.295	124.7	0.122	5.00	0.0	0.600	o	300	Pipe/Conduit	
11.001	20.035	0.141	142.1	0.073	0.00	0.0	0.600	o	300	Pipe/Conduit	
10.002	21.984	0.253	86.9	0.034	0.00	0.0	0.600	o	300	Pipe/Conduit	
10.003	9.470	0.116	81.6	0.071	0.00	0.0	0.600	o	300	Pipe/Conduit	
10.004	44.261	0.433	102.2	0.120	0.00	0.0	0.600	o	450	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)
1.007	0.00	9.13	95.607	1.745	0.0	0.0	0.0	1.33	586.2	0.0
1.008	0.00	9.37	95.488	1.915	0.0	0.0	0.0	2.56	1130.0	0.0
8.000	0.00	5.69	96.050	0.130	0.0	0.0	0.0	1.12	44.6	0.0
1.009	0.00	9.55	95.182	2.185	0.0	0.0	0.0	2.64	1167.4	0.0
9.000	0.00	5.65	95.904	0.103	0.0	0.0	0.0	1.01	40.2	0.0
9.001	0.00	6.25	95.666	0.173	0.0	0.0	0.0	1.01	40.1	0.0
1.010	0.00	9.95	94.925	2.448	0.0	0.0	0.0	1.24	548.7	0.0
10.000	0.00	5.20	96.962	0.101	0.0	0.0	0.0	2.09	83.2	0.0
10.001	0.00	5.44	96.313	0.162	0.0	0.0	0.0	1.28	90.7	0.0
11.000	0.00	5.44	96.628	0.122	0.0	0.0	0.0	1.41	99.4	0.0
11.001	0.00	5.69	96.333	0.195	0.0	0.0	0.0	1.32	93.1	0.0
10.002	0.00	5.91	96.192	0.391	0.0	0.0	0.0	1.69	119.3	0.0
10.003	0.00	6.00	95.939	0.462	0.0	0.0	0.0	1.74	123.1	0.0
10.004	0.00	6.36	95.673	0.582	0.0	0.0	0.0	2.01	319.8	0.0

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Network Design Table for SWS NETWORK 2.SWS

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
1.011	18.505	0.033	560.8	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
12.000	61.751	0.986	62.6	0.113	5.00	0.0	0.600	o	225	Pipe/Conduit	
1.012	27.388	0.049	558.9	0.106	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.013	28.157	0.051	552.1	0.064	0.00	0.0	0.600	o	750	Pipe/Conduit	
13.000	47.549	0.487	97.6	0.082	5.00	0.0	0.600	o	225	Pipe/Conduit	
1.014	22.857	0.039	586.1	0.200	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.015	31.380	0.057	550.5	0.092	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.016	19.846	0.036	551.3	0.118	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.017	53.231	0.350	152.1	0.138	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.018	13.189	0.027	488.5	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
1.019	16.496	0.273	60.4	0.000	0.00	0.0	0.600	o	450	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)
1.011	0.00	10.22	94.865	3.030	0.0	0.0	0.0	1.17	518.9	0.0
12.000	0.00	5.62	96.343	0.113	0.0	0.0	0.0	1.66	65.8	0.0
1.012	0.00	10.60	94.832	3.249	0.0	0.0	0.0	1.18	519.8	0.0
1.013	0.00	11.00	94.783	3.313	0.0	0.0	0.0	1.18	523.0	0.0
13.000	0.00	5.60	95.744	0.082	0.0	0.0	0.0	1.32	52.6	0.0
1.014	0.00	11.33	94.732	3.595	0.0	0.0	0.0	1.15	507.5	0.0
1.015	0.00	11.77	94.693	3.687	0.0	0.0	0.0	1.19	523.8	0.0
1.016	0.00	12.05	94.636	3.805	0.0	0.0	0.0	1.18	523.4	0.0
1.017	0.00	12.44	94.600	3.943	0.0	0.0	0.0	2.27	1001.5	0.0
1.018	0.00	12.62	94.250	3.943	0.0	0.0	0.0	1.26	556.4	0.0
1.019	0.00	12.72	94.223	3.943	0.0	0.0	0.0	2.62	416.6	0.0

Free Flowing Outfall Details for SWS NETWORK 2.SWS

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.019	S2050	96.000	93.950	92.900	1350	0

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Online Controls for SWS NETWORK 2.SWS

Hydro-Brake® Optimum Manhole: S2023, DS/PN: 1.006, Volume (m³): 22.0

Unit Reference	MD-SHE-0132-1000-1900-1000
Design Head (m)	1.900
Design Flow (l/s)	10.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	132
Invert Level (m)	96.027
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.900	10.0
Flush-Flo™	0.556	10.0
Kick-Flo®	1.148	7.9
Mean Flow over Head Range	-	8.7

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)
0.100	4.8	1.200	8.0	3.000	12.4	7.000	18.6
0.200	8.4	1.400	8.6	3.500	13.3	7.500	19.2
0.300	9.3	1.600	9.2	4.000	14.2	8.000	19.8
0.400	9.8	1.800	9.7	4.500	15.0	8.500	20.4
0.500	10.0	2.000	10.2	5.000	15.8	9.000	20.9
0.600	10.0	2.200	10.7	5.500	16.5	9.500	21.5
0.800	9.7	2.400	11.1	6.000	17.2		
1.000	9.0	2.600	11.6	6.500	17.9		

Hydro-Brake® Optimum Manhole: S2049, DS/PN: 1.019, Volume (m³): 18.7

Unit Reference	MD-SHE-0195-1940-1100-1940
Design Head (m)	1.100
Design Flow (l/s)	19.4
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	195
Invert Level (m)	94.223
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1500

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Hydro-Brake® Optimum Manhole: S2049, DS/PN: 1.019, Volume (m³): 18.7

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.100	19.4
Flush-Flo™	0.356	19.4
Kick-Flo®	0.774	16.4
Mean Flow over Head Range	-	16.5

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	6.8	1.200	20.2	3.000	31.3	7.000	47.2
0.200	18.1	1.400	21.8	3.500	33.8	7.500	48.8
0.300	19.3	1.600	23.2	4.000	36.0	8.000	50.3
0.400	19.3	1.800	24.5	4.500	38.1	8.500	51.8
0.500	19.1	2.000	25.8	5.000	40.1	9.000	53.3
0.600	18.6	2.200	27.0	5.500	42.0	9.500	54.7
0.800	16.7	2.400	28.2	6.000	43.8		
1.000	18.5	2.600	29.3	6.500	45.5		

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Storage Structures for SWS NETWORK 2.SWS

Tank or Pond Manhole: S2021, DS/PN: 1.004

Invert Level (m) 96.100

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	340.4	1.400	844.9	2.800	0.0	4.200	0.0
0.200	400.2	1.600	933.3	3.000	0.0	4.400	0.0
0.400	464.1	1.800	1025.9	3.200	0.0	4.600	0.0
0.600	532.0	2.000	1073.7	3.400	0.0	4.800	0.0
0.800	604.0	2.200	0.0	3.600	0.0	5.000	0.0
1.000	680.3	2.400	0.0	3.800	0.0		
1.200	760.5	2.600	0.0	4.000	0.0		

Tank or Pond Manhole: S2048, DS/PN: 1.018

Invert Level (m) 94.500

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	1378.2	0.700	1805.2	1.400	2281.9	2.100	0.0
0.100	1436.2	0.800	1870.3	1.500	2354.1	2.200	0.0
0.200	1495.1	0.900	1936.3	1.600	2427.3	2.300	0.0
0.300	1555.1	1.000	2003.4	1.700	2501.5	2.400	0.0
0.400	1616.1	1.100	2071.5	1.800	0.0	2.500	0.0
0.500	1678.1	1.200	2140.7	1.900	0.0		
0.600	1741.2	1.300	2210.8	2.000	0.0		

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<u>Summary of Critical Results by Maximum Level (Rank 1) for SWS NETWORK 2.SWS</u>								
<u>Simulation Criteria</u>								
Areal Reduction Factor		1.000	Additional Flow - % of Total Flow		0.000			
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 Storage Structures		2			
Number of Online Controls		2	Number of Time/Area Diagrams		0			
Number of Offline Controls		0	Number of Real Time Controls		0			
<u>Synthetic Rainfall Details</u>								
Rainfall Model		FSR	Ratio R		0.400			
Region England and Wales Cv (Summer)		0.750						
M5-60 (mm)		20.700	Cv (Winter)		0.840			
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, 180, 240, 360, 480, 600, 720, 960, 1440						
Return Period(s) (years)		2, 30, 100						
Climate Change (%)		0, 0, 40						
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.
1.000	S2001	15 Winter	100	+40%	100/15 Summer	100/15 Summer		
2.000	S2002	15 Winter	100	+40%				
2.001	S2003	15 Winter	100	+40%				
2.002	S2004	15 Winter	100	+40%				
2.003	S2005	15 Winter	100	+40%	100/15 Summer			
2.004	S2006	15 Winter	100	+40%	100/15 Summer			
3.000	S2007	15 Winter	100	+40%				
3.001	S2008	15 Winter	100	+40%	100/15 Summer			
2.005	S2009	15 Winter	100	+40%	100/15 Summer			
2.006	S2010	15 Winter	100	+40%	100/15 Summer			
4.000	S2011	15 Winter	100	+40%				
4.001	S2012	15 Winter	100	+40%	100/15 Summer			
4.002	S2013	15 Winter	100	+40%	100/15 Summer			
4.003	S2014	15 Winter	100	+40%	100/15 Summer			
4.004	S2015	15 Winter	100	+40%	100/15 Summer			
1.001	S2016	15 Winter	100	+40%	100/15 Summer			
5.000	S2017	15 Winter	100	+40%				
1.002	S2018	15 Winter	100	+40%	2/15 Summer			
6.000	S2019	15 Winter	100	+40%				
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Summary of Critical Results by Maximum Level (Rank 1) for SWS NETWORK 2.SWS

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	S2001	101.456	1.456	15.858	1.11		455.5	FLOOD	3
2.000	S2002	108.678	-0.147	0.000	0.26		31.0	OK	
2.001	S2003	106.959	-0.126	0.000	0.39		47.3	OK	
2.002	S2004	105.130	-0.065	0.000	0.83		69.9	OK	
2.003	S2005	104.426	0.536	0.000	0.48		76.9	SURCHARGED	
2.004	S2006	104.275	1.070	0.000	1.08		162.8	FLOOD RISK	
3.000	S2007	103.556	-0.149	0.000	0.25		20.4	OK	
3.001	S2008	103.395	0.790	0.000	0.38		27.8	SURCHARGED	
2.005	S2009	103.349	1.062	0.000	1.08		187.3	SURCHARGED	
2.006	S2010	101.542	0.814	0.000	0.81		194.7	SURCHARGED	
4.000	S2011	101.797	-0.148	0.000	0.25		15.5	OK	
4.001	S2012	101.754	0.173	0.000	0.82		42.2	SURCHARGED	
4.002	S2013	101.641	0.448	0.000	0.87		62.1	SURCHARGED	
4.003	S2014	101.284	0.825	0.000	1.03		65.9	SURCHARGED	
4.004	S2015	100.980	0.896	0.000	0.73		79.3	SURCHARGED	
1.001	S2016	100.348	1.493	0.000	0.92		700.6	SURCHARGED	
5.000	S2017	99.471	-0.154	0.000	0.22		31.0	OK	
1.002	S2018	98.725	1.781	0.000	4.91		726.6	SURCHARGED	
6.000	S2019	98.679	-0.146	0.000	0.26		34.9	OK	

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Summary of Critical Results by Maximum Level (Rank 1) for SWS NETWORK 2.SWS

	US/MH		Return	Climate	First (X)		First (Y)		First (Z)	Overflow
PN	Name	Storm	Period	Change	Surcharge		Flood		Overflow	Act.
1.003	S2020	15 Winter	100	+40%	2/15 Summer					
1.004	S2021	600 Winter	100	+40%	30/15 Winter					
1.005	S2022	600 Winter	100	+40%	30/15 Winter					
1.006	S2023	600 Winter	100	+40%	30/15 Winter					
7.000	S2024	15 Winter	100	+40%	100/15 Summer					
1.007	S2025	15 Winter	100	+40%	100/15 Summer					
1.008	S2026	15 Winter	100	+40%	100/15 Summer					
8.000	S2027	15 Winter	100	+40%	30/15 Summer					
1.009	S2028	15 Winter	100	+40%	100/15 Summer					
9.000	S2029	15 Winter	100	+40%	30/15 Summer		100/15	Summer		
9.001	S2030	15 Winter	100	+40%	30/15 Summer		100/15	Winter		
1.010	S2031	15 Winter	100	+40%	30/15 Winter					
10.000	S2032	15 Winter	100	+40%	100/15 Summer		100/15	Winter		
10.001	S2033	15 Winter	100	+40%	30/15 Summer					
11.000	S2034	15 Winter	100	+40%	30/15 Summer		100/15	Summer		
11.001	S2035	15 Summer	100	+40%	30/15 Summer					
10.002	S2036	15 Summer	100	+40%	30/15 Summer					
10.003	S2037	15 Winter	100	+40%	30/15 Summer					
10.004	S2038	15 Winter	100	+40%	100/15 Summer					
1.011	S2039	15 Winter	100	+40%	30/15 Summer					
12.000	S2040	15 Winter	100	+40%	100/15 Summer					
1.012	S2041	15 Winter	100	+40%	30/15 Summer					
1.013	S2042	15 Winter	100	+40%	30/15 Summer					
13.000	S2043	15 Winter	100	+40%	100/15 Summer					
1.014	S2044	15 Winter	100	+40%	30/15 Summer					
1.015	S2045	15 Winter	100	+40%	30/15 Summer					
1.016	S2046	15 Winter	100	+40%	100/15 Summer					
1.017	S2047	600 Winter	100	+40%	100/120 Winter					
1.018	S2048	600 Winter	100	+40%	100/30 Winter					
1.019	S2049	180 Winter	100	+40%	2/60 Winter					

		Water	Surcharged	Flooded	Pipe				
	US/MH	Level	Depth	Volume	Flow /	Overflow	Flow	Level	
PN	Name	(m)	(m)	(m³)	Cap.	(l/s)	(l/s)	Status	Exceeded
1.003	S2020	97.824	0.919	0.000	6.09		755.5	SURCHARGED	
1.004	S2021	97.721	1.096	0.000	0.22		38.1	SURCHARGED	
1.005	S2022	97.717	1.068	0.000	0.16		25.0	SURCHARGED	
1.006	S2023	97.721	1.094	0.000	0.02		10.0	SURCHARGED	
7.000	S2024	96.922	0.510	0.000	1.20		39.3	SURCHARGED	
1.007	S2025	96.851	0.494	0.000	0.16		81.5	SURCHARGED	
1.008	S2026	96.842	0.604	0.000	0.15		131.1	SURCHARGED	
8.000	S2027	97.581	1.306	0.000	1.77		75.5	SURCHARGED	
1.009	S2028	96.640	0.708	0.000	0.25		197.0	SURCHARGED	
9.000	S2029	97.409	1.280	4.212	1.43		54.7	FLOOD	4
9.001	S2030	97.200	1.309	0.309	2.17		82.0	FLOOD	1
1.010	S2031	96.458	0.783	0.000	0.68		288.6	SURCHARGED	
10.000	S2032	98.567	1.380	0.004	0.86		66.2	FLOOD	1

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Summary of Critical Results by Maximum Level (Rank 1) for SWS NETWORK 2.SWS

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
10.001	S2033	98.063	1.450	0.000	1.34		104.5	FLOOD RISK	
11.000	S2034	97.843	0.915	15.322	0.98		90.3	FLOOD	4
11.001	S2035	97.916	1.283	0.000	1.17		95.0	FLOOD RISK	
10.002	S2036	97.830	1.338	0.000	1.67		175.3	FLOOD RISK	
10.003	S2037	97.289	1.050	0.000	2.53		215.7	SURCHARGED	
10.004	S2038	96.738	0.615	0.000	0.98		281.9	SURCHARGED	
1.011	S2039	96.419	0.804	0.000	1.74		508.9	SURCHARGED	
12.000	S2040	97.332	0.764	0.000	1.01		64.3	SURCHARGED	
1.012	S2041	96.353	0.771	0.000	1.55		605.5	SURCHARGED	
1.013	S2042	96.229	0.696	0.000	1.57		626.4	SURCHARGED	
13.000	S2043	96.425	0.456	0.000	0.90		45.3	SURCHARGED	
1.014	S2044	96.066	0.584	0.000	2.25		736.3	SURCHARGED	
1.015	S2045	95.836	0.393	0.000	1.88		767.9	SURCHARGED	
1.016	S2046	95.586	0.200	0.000	2.57		803.5	SURCHARGED	
1.017	S2047	95.505	0.155	0.000	0.16		140.0	SURCHARGED	
1.018	S2048	95.393	0.393	0.000	0.10		28.5	SURCHARGED	
1.019	S2049	95.443	0.770	0.000	0.07		19.3	SURCHARGED	