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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	10.000
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	0.350
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	ON
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	100
Climate Change (%)	40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.
S1.000	S1	15 Winter	100	+40%	100/15 Summer			
S2.000	S2	15 Winter	100	+40%	100/15 Summer			
S1.001	S3	15 Winter	100	+40%	100/15 Summer			
S3.000	S4	15 Winter	100	+40%	100/15 Summer			
S4.000	S5	15 Winter	100	+40%	100/15 Summer			
S3.001	S6	15 Winter	100	+40%	100/15 Summer			
S5.000	S7A	15 Winter	100	+40%	100/15 Summer			
S6.000	S7B	15 Winter	100	+40%	100/15 Summer			
S7.000	S7C	15 Winter	100	+40%	100/15 Summer			
S3.002	S7	15 Winter	100	+40%	100/15 Summer	100/15 Winter		
S8.000	S8	15 Summer	100	+40%	100/15 Summer			
S9.000	S9	15 Summer	100	+40%	100/15 Summer			
S3.003	S10	15 Winter	100	+40%	100/15 Summer	100/15 Summer		
S10.000	S10A	15 Winter	100	+40%	100/15 Summer			
S3.004	S11	15 Winter	100	+40%	100/15 Summer			
S11.000	S12	15 Winter	100	+40%	100/15 Summer			
S1.002	S13	15 Winter	100	+40%	100/15 Summer			
S12.000	S14	15 Winter	100	+40%	100/15 Summer			

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		Water	Surcharged	Flooded			Half Drain	Pipe	
PN	US/MH Name	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status
S1.000	S1	16.758	0.421	0.000	0.29			7.0	SURCHARGED
S2.000	S2	16.781	0.633	0.000	1.09			15.0	SURCHARGED
S1.001	S3	16.737	0.637	0.000	0.91			62.6	SURCHARGED
S3.000	S4	17.843	0.958	0.000	0.80			11.5	FLOOD RISK
S4.000	S5	17.821	0.929	0.000	0.36			5.4	SURCHARGED
S3.001	S6	17.808	0.976	0.000	0.70			44.1	FLOOD RISK
S5.000	S7A	17.624	1.219	0.000	0.99			14.1	FLOOD RISK
S6.000	S7B	17.567	1.138	0.000	0.26			4.1	FLOOD RISK
S7.000	S7C	17.577	1.104	0.000	0.33			5.3	FLOOD RISK
S3.002	S7	17.553	1.200	0.595	0.99			59.9	FLOOD
S8.000	S8	17.291	1.152	0.000	0.35			5.1	FLOOD RISK
S9.000	S9	17.301	1.052	0.000	0.32			8.5	FLOOD RISK
S3.003	S10	17.276	1.204	3.957	1.36			84.9	FLOOD
S10.000	S10A	16.807	0.781	0.000	0.16			6.2	SURCHARGED
S3.004	S11	16.794	1.162	0.000	2.22			92.0	FLOOD RISK
S11.000	S12	16.506	0.920	0.000	0.85			11.3	SURCHARGED
S1.002	S13	16.474	0.933	0.000	0.90			138.6	SURCHARGED
S12.000	S14	16.209	0.739	0.000	0.35			9.5	SURCHARGED

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<u>Summary of Critical Results by Maximum Level (Rank 1) for STORM NORTH</u>								
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S13.000	S15	15 Winter	100	+40%	100/15 Summer			
S1.003	S16	15 Winter	100	+40%	100/15 Summer			
S14.000	S17	15 Winter	100	+40%	100/15 Summer			
S15.000	S18	15 Winter	100	+40%	100/15 Summer			
S1.004	S19	15 Winter	100	+40%	100/15 Summer			
S16.000	S20	15 Winter	100	+40%	100/15 Summer			
S17.000	S21A	15 Winter	100	+40%	100/15 Summer			
S1.005	S21	15 Winter	100	+40%	100/15 Summer	100/15 Summer		
S18.000	S22A	15 Winter	100	+40%	100/15 Summer			
S1.006	S22	15 Winter	100	+40%	100/15 Summer	100/15 Summer		
S1.007	S25	15 Winter	100	+40%	100/15 Summer			
S19.000	S24	15 Winter	100	+40%	100/15 Summer	100/15 Winter		
S1.008	S25	1440 Winter	100	+40%	100/15 Summer			
S1.009	S26	1440 Winter	100	+40%	100/15 Summer			
S20.000	S27	15 Winter	100	+40%				
S20.001	S28	15 Winter	100	+40%				
S21.000	S29	15 Winter	100	+40%				
S20.002	S30	15 Winter	100	+40%	100/15 Summer			
S20.003	S31	15 Winter	100	+40%	100/15 Summer			
S22.000	S32	15 Winter	100	+40%	100/15 Summer			
S20.004	S33	15 Winter	100	+40%	100/15 Summer			
S23.000	S38	15 Winter	100	+40%	100/15 Summer	100/15 Summer		
S24.000	S37	15 Winter	100	+40%	100/15 Summer			
S25.000	S38	15 Winter	100	+40%	100/15 Summer			
S24.001	S39	15 Winter	100	+40%	100/15 Summer			
S26.000	S40	15 Winter	100	+40%	100/15 Summer	100/15 Winter		
S23.001	S41	15 Winter	100	+40%	100/15 Summer			
S27.000	S42	15 Winter	100	+40%	100/15 Summer			
S28.000	S43	15 Winter	100	+40%	100/15 Summer			
S23.002	S44	15 Winter	100	+40%	100/15 Summer			
S20.005	S45	15 Winter	100	+40%	100/15 Summer			
S29.000	S46	15 Winter	100	+40%	100/15 Summer			
S30.000	S47	15 Winter	100	+40%	100/15 Summer			
S20.006	S48	15 Winter	100	+40%	100/15 Summer			
S31.000	S49	15 Winter	100	+40%				
S32.000	S50	15 Winter	100	+40%				
S31.001	S51	15 Winter	100	+40%				
S33.000	S52	15 Winter	100	+40%				
S34.000	S53	15 Winter	100	+40%				
S31.002	S54	15 Winter	100	+40%				
S35.000	S55	15 Winter	100	+40%	100/15 Summer			
S36.000	S56	15 Winter	100	+40%	100/15 Winter			
S31.003	S57	15 Winter	100	+40%	100/15 Summer			
S20.007	S58	15 Winter	100	+40%	100/15 Summer			
S37.000	S59	15 Winter	100	+40%	100/15 Summer			
S38.000	S60	15 Winter	100	+40%	100/15 Summer			
S20.008	S61	15 Winter	100	+40%	100/15 Summer			
S20.009	S65	15 Winter	100	+40%	100/15 Summer			
S39.000	S66A	15 Winter	100	+40%	100/15 Summer			
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<u>Summary of Critical Results by Maximum Level (Rank 1) for STORM NORTH</u>									
PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S13.000	S15	16.227	1.023	0.000	1.05			13.8	FLOOD RISK
S1.003	S16	16.179	1.019	0.000	0.90			165.6	SURCHARGED
S14.000	S17	15.494	1.083	0.000	0.27			4.7	SURCHARGED
S15.000	S18	15.516	0.987	0.000	0.40			8.9	FLOOD RISK
S1.004	S19	15.482	1.164	0.000	0.97			186.5	SURCHARGED
S16.000	S20	14.826	0.954	0.000	0.23			5.6	SURCHARGED
S17.000	S21A	14.847	1.171	0.000	0.75			12.6	FLOOD RISK
S1.005	S21	14.806	1.204	4.292	1.00			176.1	FLOOD
S18.000	S22A	14.402	0.950	0.000	0.48			13.0	SURCHARGED
S1.006	S22	14.313	1.205	3.375	1.68			198.0	FLOOD
S1.007	S25	13.707	0.870	0.000	1.14			207.9	FLOOD RISK
S19.000	S24	13.577	1.203	0.116	2.88			37.3	FLOOD
S1.008	S25	13.338	1.033	0.000	0.24			23.3	FLOOD RISK
S1.009	S26	13.336	1.091	0.000	0.22			23.2	FLOOD RISK
S20.000	S27	17.274	-0.053	0.000	0.73			11.5	OK
S20.001	S28	17.085	-0.146	0.000	0.27			31.3	OK
S21.000	S29	16.449	-0.109	0.000	0.17			8.6	OK
S20.002	S30	15.776	0.286	0.000	1.31			39.1	SURCHARGED
S20.003	S31	15.737	0.290	0.000	0.36			46.4	SURCHARGED
S22.000	S32	15.671	0.559	0.000	0.08			3.8	SURCHARGED
S20.004	S33	15.662	1.131	0.000	0.37			44.9	SURCHARGED
S23.000	S38	15.461	1.390	11.555	2.13			73.3	FLOOD
S24.000	S37	15.980	1.274	0.000	1.39			21.5	FLOOD RISK
S25.000	S38	15.807	0.812	0.000	0.13			4.9	SURCHARGED
S24.001	S39	15.798	1.181	0.000	0.39			42.8	FLOOD RISK
S26.000	S40	15.849	1.151	0.085	0.49			24.6	FLOOD
S23.001	S41	15.701	1.704	0.000	1.36			90.9	FLOOD RISK
S27.000	S42	15.781	1.309	0.000	0.34			16.8	SURCHARGED
S28.000	S43	15.743	1.053	0.000	0.22			11.3	SURCHARGED
S23.002	S44	15.693	1.882	0.000	1.67			101.4	SURCHARGED
S20.005	S45	15.594	1.851	0.000	2.06			115.0	SURCHARGED
S29.000	S46	15.412	1.275	0.000	0.12			4.9	SURCHARGED
S30.000	S47	15.602	1.258	0.000	0.54			25.8	SURCHARGED
S20.006	S48	15.404	1.703	0.000	2.39			151.8	SURCHARGED
S31.000	S49	16.184	-0.048	0.000	0.79			12.0	OK
S32.000	S50	16.163	-0.092	0.000	0.32			5.7	OK
S31.001	S51	16.054	-0.114	0.000	0.48			39.3	OK
S33.000	S52	15.790	-0.094	0.000	0.30			8.4	OK
S34.000	S53	15.674	-0.053	0.000	0.74			8.5	OK
S31.002	S54	15.573	-0.096	0.000	0.61			75.6	OK
S35.000	S55	15.049	0.383	0.000	0.08			3.2	SURCHARGED
S36.000	S56	15.052	0.052	0.000	0.07			3.4	SURCHARGED
S31.003	S57	15.044	0.809	0.000	0.64			71.8	SURCHARGED
S20.007	S58	14.867	1.269	0.000	2.52			214.9	SURCHARGED
S37.000	S59	14.591	0.411	0.000	0.07			3.1	SURCHARGED
S38.000	S60	14.609	0.537	0.000	0.25			11.3	SURCHARGED
S20.008	S61	14.584	1.031	0.000	2.89			241.7	SURCHARGED
S20.009	S65	14.208	0.695	0.000	2.80			239.6	SURCHARGED
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<u>Summary of Critical Results by Maximum Level (Rank 1) for STORM NORTH</u>								
		Water	Surcharged	Flooded		Half Drain	Pipe	
PN	US/MH Name	Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap.	Time (mins)	Flow (l/s)	Status
S39.000	S66A	13.852	0.265	0.000	0.56		11.3	SURCHARGED

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	<table><thead><tr><th>PN</th><th>US/MH Name</th><th>Level Exceeded</th></tr></thead><tbody><tr><td>S31.003</td><td>S57</td><td></td></tr><tr><td>S20.007</td><td>S58</td><td></td></tr><tr><td>S37.000</td><td>S59</td><td></td></tr><tr><td>S38.000</td><td>S60</td><td></td></tr><tr><td>S20.008</td><td>S61</td><td></td></tr><tr><td>S20.009</td><td>S65</td><td></td></tr><tr><td>S39.000</td><td>S66A</td><td></td></tr></tbody></table>	PN	US/MH Name	Level Exceeded	S31.003	S57		S20.007	S58		S37.000	S59		S38.000	S60		S20.008	S61		S20.009	S65		S39.000	S66A		
PN	US/MH Name	Level Exceeded																								
S31.003	S57																									
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Summary of Critical Results by Maximum Level (Rank 1) for STORM NORTH

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S20.010	S66	15 Winter	100	+40%	100/15 Summer			
S40.000	S62	15 Winter	100	+40%	100/15 Winter			
S20.011	S63	15 Winter	100	+40%	100/15 Summer			
S20.012	S64	1440 Winter	100	+40%	100/15 Summer			
S41.000	S65	15 Winter	100	+40%				
S42.000	S66	15 Winter	100	+40%				
S41.001	S67	1440 Winter	100	+40%	100/360 Winter			
S41.002	S68	1440 Winter	100	+40%	100/120 Summer			
S1.010	S69	1440 Winter	100	+40%	100/15 Summer			

PN	US/MH Name	Water	Surcharged	Flooded			Half Drain	Pipe	Status
		Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	
S20.010	S66	13.830	0.364	0.000	1.05			248.8	SURCHARGED
S40.000	S62	13.446	0.104	0.000	0.32			9.0	SURCHARGED
S20.011	S63	13.428	0.331	0.000	1.18			265.3	SURCHARGED
S20.012	S64	13.337	0.597	0.000	0.10			26.0	FLOOD RISK
S41.000	S65	13.478	-0.115	0.000	0.47			34.8	OK
S42.000	S66	13.436	-0.053	0.000	0.74			25.0	OK
S41.001	S67	13.337	0.138	0.000	0.05			3.2	SURCHARGED
S41.002	S68	13.336	0.447	0.000	0.05			3.1	FLOOD RISK
S1.010	S69	13.335	1.160	0.000	0.01			6.1	FLOOD RISK

PN	US/MH Name	Level Exceeded
S20.010	S66	
S40.000	S62	
S20.011	S63	
S20.012	S64	
S41.000	S65	
S42.000	S66	
S41.001	S67	
S41.002	S68	
S1.010	S69	