



Design Settings

Rainfall Methodology	FSR	M5-60 (mm)	17.000	Maximum Time of Concentration (mins)	30.00	Minimum Backdrop Height (m)	0.200
Return Period (years)	30	Ratio-R	0.400	Maximum Rainfall (mm/hr)	50.0	Preferred Cover Depth (m)	1.200
Additional Flow (%)	0	CV	1.000	Minimum Velocity (m/s)	1.00	Include Intermediate Ground	✓
FSR Region	England and Wales	Time of Entry (mins)	5.00	Connection Type	Level Soffits	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
EXTN-SWMH-01	0.049	5.00	70.105	1200	1.152
EXTN-SWMH-02	0.082	5.00	70.178	1200	1.582
EXTN-SWMH-03		5.00	70.159	1200	1.043
EXTN-SWMH-04	0.041	5.00	70.163	1200	1.240
EXTN-SWMH-05	0.035	5.00	70.291	1200	1.550
EXTN-SWMH-06	0.029	5.00	70.273	1200	1.032
EXTN-SWMH-07	0.050	5.00	70.110	1800	1.993
EXTN-SWMH-08			70.221	1800	1.835
EXTN-SWMH-09		5.00	70.041	1200	1.688
EXTN-SWMH-10	0.013	5.00	70.219	1200	2.359
EXTN-SWMH-11	0.018	5.00	70.179	1800	2.289
EXTN-SWMH-12	0.226	5.00	70.231	1800	2.117
EXTN-SWMH-13	0.023	5.00	69.935	1800	2.064
EXTN-SWMH-14			70.046	1800	2.220
S1			69.888	1200	2.211

Links (Results)

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
PIPE 1	1.253	49.8	8.9	0.927	1.357	0.049	0.0	64	0.949
PIPE 2	1.850	73.6	23.7	1.357	1.874	0.131	0.0	87	1.652
PIPE 3	1.577	62.7	0.0	0.818	1.015	0.000	0.0	0	0.000
PIPE 4	1.503	59.8	7.4	1.015	1.325	0.041	0.0	53	1.029
PIPE 5	4.191	166.6	13.7	1.325	1.610	0.076	0.0	44	2.561
PIPE 6	2.445	43.2	5.2	0.882	1.256	0.029	0.0	35	1.668
PIPE 7	1.103	121.9	14.3	1.291	1.460	0.079	0.0	86	0.746
PIPE 8	1.261	139.2	28.0	1.460	1.735	0.155	0.0	113	0.992
PIPE 9	1.344	53.5	0.0	1.463	1.675	0.000	0.0	0	0.000
PIPE 10	0.914	36.3	2.3	1.635	1.664	0.013	0.0	38	0.513
PIPE 11	1.696	187.3	5.6	1.633	1.735	0.031	0.0	44	0.773
PIPE 12	2.384	379.2	98.1	1.667	1.614	0.543	0.0	155	2.012
PIPE 13	1.676	266.6	102.3	1.614	1.770	0.566	0.0	193	1.570
PIPE 14	1.196	190.2	102.3	1.770	1.761	0.566	0.0	235	1.217



Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
EXTN-SWMH-01	70.105	1.152	1200	<div><div></div><div>0</div></div>	PIPE 1	68.953	225
EXTN-SWMH-02	70.178	1.582	1200	<div><div></div><div>1</div></div>	PIPE 1	68.596	225
				<div><div></div><div>0</div></div>	PIPE 2	68.596	225
EXTN-SWMH-03	70.159	1.043	1200	<div><div></div><div>0</div></div>	PIPE 3	69.116	225
EXTN-SWMH-04	70.163	1.240	1200	<div><div></div><div>1</div></div>	PIPE 3	68.923	225
				<div><div></div><div>0</div></div>	PIPE 4	68.923	225
EXTN-SWMH-05	70.291	1.550	1200	<div><div></div><div>1</div></div>	PIPE 4	68.741	225
				<div><div></div><div>0</div></div>	PIPE 5	68.741	225
EXTN-SWMH-06	70.273	1.032	1200	<div><div></div><div>0</div></div>	PIPE 6	69.241	150
EXTN-SWMH-07	70.110	1.993	1800	<div><div></div><div>1</div></div>	PIPE 6	68.704	150
				<div><div></div><div>0</div></div>	PIPE 7	68.444	375
EXTN-SWMH-08	70.221	1.835	1800	<div><div></div><div>1</div></div>	PIPE 7	68.386	375
				<div><div></div><div>2</div></div>	PIPE 5	68.386	225
				<div><div></div><div>0</div></div>	PIPE 8	68.386	375
EXTN-SWMH-09	70.041	1.688	1200	<div><div></div><div>0</div></div>	PIPE 9	68.353	225
EXTN-SWMH-10	70.219	2.359	1200	<div><div></div><div>0</div></div>	PIPE 10	68.359	225
EXTN-SWMH-11	70.179	2.289	1800	<div><div></div><div>1</div></div>	PIPE 9	68.279	225
				<div><div></div><div>2</div></div>	PIPE 10	68.290	225
				<div><div></div><div>0</div></div>	PIPE 11	68.171	375
EXTN-SWMH-12	70.231	2.117	1800	<div><div></div><div>1</div></div>	PIPE 11	68.121	375
				<div><div></div><div>2</div></div>	PIPE 2	68.132	225
				<div><div></div><div>3</div></div>	PIPE 8	68.121	375
				<div><div></div><div>0</div></div>	PIPE 12	68.114	450
EXTN-SWMH-13	69.935	2.064	1800	<div><div></div><div>1</div></div>	PIPE 12	67.871	450
				<div><div></div><div>0</div></div>	PIPE 13	67.871	450



Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
EXTN-SWMH-14	70.046	2.220	1800	1	PIPE 13	67.826	450
				0	PIPE 14	67.826	450
S1	69.888	2.211	1200	1	PIPE 14	67.677	450

Node EXTN-SWMH-13 Online Hydro-Brake® Control

Flap Valve	x	Design Depth (m)	1.440	Sump Available	✓	Min Node Diameter (mm)	1500
Replaces Downstream Link	x	Design Flow (l/s)	11.5	Product Number	CTL-SHE-0149-1150-1440-1150		
Invert Level (m)	67.871	Objective	(HE) Minimise upstream storage	Min Outlet Diameter (m)	0.225		

Node EXTN-SWMH-11 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Side Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Porosity	0.95	Invert Level (m)	68.340	Time to half empty (mins)	116
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Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	155.0	0.0	1.250	155.0	0.0	1.251	0.0	0.0

Node EXTN-SWMH-08 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Side Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Porosity	0.95	Invert Level (m)	68.320	Time to half empty (mins)	292
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Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	123.0	0.0	0.750	123.0	0.0	0.751	0.0	0.0



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EXTN-SWMH-01	10	69.011	0.058	7.4	0.1142	0.0000	OK
15 minute summer	EXTN-SWMH-02	10	68.674	0.078	19.6	0.1695	0.0000	OK
15 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXTN-SWMH-04	10	68.974	0.051	6.2	0.0910	0.0000	OK
15 minute summer	EXTN-SWMH-05	10	68.785	0.044	11.4	0.0703	0.0000	OK
15 minute summer	EXTN-SWMH-06	10	69.274	0.033	4.4	0.0566	0.0000	OK
15 minute summer	EXTN-SWMH-07	10	68.525	0.081	12.0	0.2555	0.0000	OK
60 minute summer	EXTN-SWMH-08	38	68.449	0.063	15.5	7.5175	0.0000	OK
60 minute summer	EXTN-SWMH-09	47	68.440	0.087	0.5	0.0986	0.0000	OK
60 minute summer	EXTN-SWMH-10	47	68.442	0.083	1.3	0.1056	0.0000	OK
60 minute summer	EXTN-SWMH-11	47	68.440	0.269	33.1	15.5600	0.0000	OK
60 minute summer	EXTN-SWMH-12	47	68.440	0.326	41.8	1.5263	0.0000	OK
60 minute summer	EXTN-SWMH-13	48	68.441	0.570	21.7	1.5777	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-14	148	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute summer	S1	148	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	7.2	0.719	0.145	0.3929	
15 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	19.3	1.098	0.262	0.6060	
15 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0445	
15 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	6.1	1.005	0.102	0.0843	
15 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	11.3	2.218	0.068	0.0192	
15 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	4.4	1.534	0.101	0.0262	
15 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	11.7	0.699	0.096	0.2596	
60 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	8.9	0.317	0.064	2.9871	
60 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.5	-0.078	-0.009	0.1562	
60 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.3	0.407	0.036	0.2902	
60 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-30.0	-0.431	-0.160	0.5262	
60 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.5	0.570	0.051	2.4912	
60 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
180 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	83.3



Results for 30 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EXTN-SWMH-01	10	69.045	0.092	18.1	0.1830	0.0000	OK
15 minute summer	EXTN-SWMH-02	11	68.744	0.148	48.1	0.3219	0.0000	OK
15 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXTN-SWMH-04	10	69.005	0.082	15.1	0.1462	0.0000	OK
15 minute summer	EXTN-SWMH-05	9	68.812	0.071	27.8	0.1127	0.0000	OK
15 minute summer	EXTN-SWMH-06	10	69.295	0.054	10.7	0.0912	0.0000	OK
60 minute winter	EXTN-SWMH-07	60	68.695	0.251	14.1	0.7895	0.0000	OK
60 minute winter	EXTN-SWMH-08	60	68.695	0.309	44.5	36.8402	0.0000	OK
60 minute winter	EXTN-SWMH-09	60	68.695	0.342	0.7	0.3866	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-10	60	68.695	0.336	2.3	0.4271	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-11	60	68.695	0.524	57.9	53.7437	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-12	60	68.695	0.581	67.8	2.7174	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-13	60	68.694	0.823	24.6	2.2791	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-14	525	67.902	0.076	11.5	0.1923	0.0000	OK
720 minute winter	S1	525	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	17.8	0.887	0.358	0.8324	
15 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	46.7	1.261	0.635	0.7871	
15 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0863	
15 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	14.9	1.297	0.249	0.1621	
15 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	27.9	2.684	0.167	0.0701	
15 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	10.6	1.946	0.246	0.0503	
60 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	14.1	0.702	0.116	1.3607	
60 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-17.0	0.317	-0.122	5.6431	
60 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.7	-0.072	-0.013	0.2784	
60 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.8	0.369	0.049	0.5568	
60 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-53.7	-0.552	-0.287	0.6287	
60 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.5	0.596	0.062	2.8044	
60 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
720 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	271.7



Results for 100 year Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EXTN-SWMH-01	10	69.059	0.106	23.3	0.2111	0.0000	OK
15 minute summer	EXTN-SWMH-02	11	68.925	0.329	62.1	0.7143	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXTN-SWMH-04	10	69.017	0.094	19.5	0.1690	0.0000	OK
120 minute winter	EXTN-SWMH-05	118	68.885	0.144	10.9	0.2285	0.0000	OK
15 minute summer	EXTN-SWMH-06	10	69.303	0.062	13.8	0.1056	0.0000	OK
120 minute winter	EXTN-SWMH-07	118	68.884	0.440	11.4	1.3834	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-08	118	68.884	0.498	31.4	59.4174	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-09	118	68.884	0.531	0.4	0.6006	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-10	118	68.884	0.525	1.9	0.6672	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-11	118	68.884	0.713	35.6	82.1201	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-12	118	68.884	0.770	51.5	3.6034	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-13	118	68.884	1.013	29.9	2.8032	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-14	412	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute winter	S1	157	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	23.0	0.883	0.462	1.1302	
15 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	56.7	1.427	0.771	0.9267	
15 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.1049	
15 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	19.3	1.358	0.323	0.1971	
120 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	10.9	1.364	0.065	0.1167	
15 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	13.7	2.075	0.318	0.0609	
120 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	10.0	0.584	0.082	1.7096	
120 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-11.2	0.262	-0.080	6.0002	
120 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.045	-0.008	0.2784	
120 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.7	0.344	0.046	0.5568	
120 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-33.1	-0.354	-0.177	0.6287	
120 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	29.0	0.569	0.076	2.8044	
120 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
180 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	252.5



Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EXTN-SWMH-01	12	69.457	0.504	32.7	0.9991	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-02	11	69.326	0.730	79.7	1.5831	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-03	176	69.271	0.155	0.5	0.1752	0.0000	OK
180 minute winter	EXTN-SWMH-04	176	69.271	0.348	6.1	0.6235	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-05	176	69.271	0.530	11.3	0.8388	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-06	10	69.318	0.077	19.3	0.1296	0.0000	OK
180 minute winter	EXTN-SWMH-07	176	69.271	0.827	11.8	2.6002	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-08	176	69.271	0.885	35.3	82.1785	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-09	176	69.271	0.918	0.3	1.0381	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-10	176	69.271	0.912	1.9	1.1590	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-11	176	69.271	1.100	38.9	140.1420	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-12	176	69.271	1.157	51.7	5.4139	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-13	176	69.271	1.400	34.4	3.8738	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-14	234	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute summer	S1	234	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	28.6	0.878	0.574	1.5431	
15 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	76.4	1.922	1.039	0.9267	
180 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.5	-0.025	-0.007	0.4583	
180 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	6.1	1.066	0.102	0.5488	
180 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	13.9	1.379	0.083	0.1392	
15 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	19.2	2.246	0.444	0.0807	
180 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	12.1	0.533	0.099	1.7096	
180 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	12.3	0.260	0.088	6.0002	
180 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.023	-0.006	0.2784	
180 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.6	0.331	0.044	0.5568	
180 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-34.6	0.361	-0.185	0.6287	
180 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	33.7	0.392	0.089	2.8044	
180 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
15 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	161.0



Results for 1 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.58%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EXTN-SWMH-01	10	69.011	0.058	7.4	0.1142	0.0000	OK
15 minute summer	EXTN-SWMH-02	10	68.674	0.078	19.6	0.1695	0.0000	OK
15 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXTN-SWMH-04	10	68.974	0.051	6.2	0.0910	0.0000	OK
15 minute summer	EXTN-SWMH-05	10	68.785	0.044	11.4	0.0703	0.0000	OK
15 minute summer	EXTN-SWMH-06	10	69.274	0.033	4.4	0.0566	0.0000	OK
15 minute summer	EXTN-SWMH-07	10	68.525	0.081	12.0	0.2555	0.0000	OK
15 minute summer	EXTN-SWMH-08	15	68.444	0.058	23.0	6.8114	0.0000	OK
15 minute summer	EXTN-SWMH-09	18	68.414	0.061	0.5	0.0689	0.0000	OK
15 minute summer	EXTN-SWMH-10	19	68.417	0.058	2.0	0.0731	0.0000	OK
15 minute summer	EXTN-SWMH-11	18	68.414	0.243	45.3	11.5847	0.0000	OK
15 minute summer	EXTN-SWMH-12	18	68.414	0.300	55.8	1.4038	0.0000	OK
15 minute summer	EXTN-SWMH-13	15	68.418	0.547	22.7	1.5137	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-14	38	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute summer	S1	39	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	7.2	0.719	0.145	0.3929	
15 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	19.3	1.098	0.262	0.6060	
15 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0445	
15 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	6.1	1.005	0.102	0.0843	
15 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	11.3	2.218	0.068	0.0192	
15 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	4.4	1.534	0.101	0.0262	
15 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	11.7	0.699	0.096	0.2596	
15 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	7.3	0.340	0.052	2.7915	
15 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.5	-0.087	-0.009	0.1171	
15 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	2.0	0.460	0.054	0.2115	
15 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-41.5	-0.605	-0.222	0.4783	
15 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	21.0	0.654	0.055	2.3955	
15 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.730	0.043	0.1095	
15 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	36.4



Results for 1 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	EXTN-SWMH-01	10	69.008	0.055	6.9	0.1099	0.0000	OK
15 minute winter	EXTN-SWMH-02	10	68.671	0.075	18.3	0.1630	0.0000	OK
15 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute winter	EXTN-SWMH-04	10	68.972	0.049	5.8	0.0879	0.0000	OK
15 minute winter	EXTN-SWMH-05	10	68.784	0.043	10.7	0.0679	0.0000	OK
15 minute winter	EXTN-SWMH-06	10	69.273	0.032	4.1	0.0545	0.0000	OK
15 minute winter	EXTN-SWMH-07	10	68.522	0.078	11.2	0.2463	0.0000	OK
15 minute winter	EXTN-SWMH-08	15	68.443	0.057	21.5	6.7957	0.0000	OK
15 minute winter	EXTN-SWMH-09	18	68.413	0.060	0.5	0.0680	0.0000	OK
15 minute winter	EXTN-SWMH-10	16	68.414	0.055	1.8	0.0696	0.0000	OK
15 minute winter	EXTN-SWMH-11	18	68.413	0.242	44.9	11.4807	0.0000	OK
15 minute winter	EXTN-SWMH-12	17	68.414	0.300	52.1	1.4049	0.0000	OK
15 minute winter	EXTN-SWMH-13	18	68.418	0.547	26.7	1.5141	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-14	38	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute winter	S1	38	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	6.7	0.703	0.135	0.3723	
15 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	17.9	1.135	0.243	0.5985	
15 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0424	
15 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	5.7	0.988	0.096	0.0803	
15 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	10.6	2.184	0.064	0.0184	
15 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	4.1	1.503	0.094	0.0249	
15 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	10.9	0.687	0.089	0.2463	
15 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	7.2	0.342	0.052	2.7908	
15 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.5	-0.076	-0.009	0.1160	
15 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.8	0.421	0.048	0.2068	
15 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-40.8	-0.570	-0.218	0.4772	
15 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	24.8	0.660	0.066	2.3964	
15 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.752	0.043	0.1095	
15 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	36.3



Results for 1 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 99.86%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	EXTN-SWMH-01	18	69.008	0.055	6.6	0.1088	0.0000	OK
30 minute summer	EXTN-SWMH-02	18	68.670	0.074	17.6	0.1612	0.0000	OK
30 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
30 minute summer	EXTN-SWMH-04	18	68.971	0.048	5.5	0.0864	0.0000	OK
30 minute summer	EXTN-SWMH-05	17	68.782	0.041	10.2	0.0653	0.0000	OK
30 minute summer	EXTN-SWMH-06	18	69.273	0.032	3.9	0.0533	0.0000	OK
30 minute summer	EXTN-SWMH-07	18	68.521	0.077	10.6	0.2423	0.0000	OK
30 minute summer	EXTN-SWMH-08	22	68.449	0.063	20.8	7.4496	0.0000	OK
30 minute summer	EXTN-SWMH-09	31	68.435	0.082	0.6	0.0924	0.0000	OK
30 minute summer	EXTN-SWMH-10	32	68.436	0.077	1.7	0.0983	0.0000	OK
30 minute summer	EXTN-SWMH-11	31	68.435	0.264	43.4	14.7171	0.0000	OK
30 minute summer	EXTN-SWMH-12	31	68.435	0.321	52.5	1.5010	0.0000	OK
30 minute summer	EXTN-SWMH-13	32	68.435	0.564	19.9	1.5612	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-14	58	67.902	0.076	11.5	0.1923	0.0000	OK
30 minute summer	S1	58	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	6.6	0.699	0.132	0.3667	
30 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	17.5	1.039	0.238	0.5965	
30 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0414	
30 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	5.5	1.000	0.092	0.0764	
30 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	10.2	2.117	0.062	0.0207	
30 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	3.9	1.487	0.090	0.0241	
30 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	10.6	0.679	0.087	0.2413	
30 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	8.7	0.317	0.063	2.9406	
30 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.6	-0.065	-0.011	0.1480	
30 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.7	0.439	0.047	0.2727	
30 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-39.6	-0.560	-0.211	0.5166	
30 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	16.9	0.623	0.045	2.4719	
30 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.694	0.043	0.1095	
30 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	47.3



Results for 1 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 99.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	EXTN-SWMH-01	18	69.002	0.049	5.3	0.0975	0.0000	OK
30 minute winter	EXTN-SWMH-02	18	68.663	0.067	14.2	0.1443	0.0000	OK
30 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
30 minute winter	EXTN-SWMH-04	18	68.967	0.044	4.5	0.0784	0.0000	OK
30 minute winter	EXTN-SWMH-05	17	68.777	0.036	8.3	0.0572	0.0000	OK
30 minute winter	EXTN-SWMH-06	18	69.269	0.028	3.1	0.0475	0.0000	OK
30 minute winter	EXTN-SWMH-07	18	68.513	0.069	8.5	0.2167	0.0000	OK
30 minute winter	EXTN-SWMH-08	23	68.447	0.061	16.8	7.2531	0.0000	OK
30 minute winter	EXTN-SWMH-09	31	68.434	0.081	0.4	0.0919	0.0000	OK
30 minute winter	EXTN-SWMH-10	31	68.437	0.078	1.4	0.0986	0.0000	OK
30 minute winter	EXTN-SWMH-11	31	68.434	0.263	33.8	14.6487	0.0000	OK
30 minute winter	EXTN-SWMH-12	31	68.434	0.320	43.0	1.4991	0.0000	OK
30 minute winter	EXTN-SWMH-13	32	68.435	0.564	19.7	1.5608	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-14	58	67.902	0.076	11.5	0.1923	0.0000	OK
30 minute winter	S1	58	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	5.3	0.656	0.106	0.3142	
30 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	14.1	1.045	0.192	0.5775	
30 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0360	
30 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	4.5	0.960	0.075	0.0650	
30 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	8.3	1.987	0.050	0.0198	
30 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	3.1	1.393	0.072	0.0205	
30 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	8.5	0.638	0.070	0.2061	
30 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	8.3	0.317	0.059	2.9345	
30 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.068	-0.007	0.1473	
30 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.4	0.411	0.038	0.2728	
30 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-30.6	-0.441	-0.163	0.5159	
30 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	17.2	0.605	0.045	2.4705	
30 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
30 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	47.3



Results for 1 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	EXTN-SWMH-01	33	69.000	0.047	4.9	0.0938	0.0000	OK
60 minute summer	EXTN-SWMH-02	33	68.660	0.064	13.2	0.1390	0.0000	OK
60 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
60 minute summer	EXTN-SWMH-04	33	68.965	0.042	4.1	0.0753	0.0000	OK
60 minute summer	EXTN-SWMH-05	32	68.774	0.033	7.6	0.0522	0.0000	OK
60 minute summer	EXTN-SWMH-06	33	69.268	0.027	2.9	0.0459	0.0000	OK
60 minute summer	EXTN-SWMH-07	33	68.510	0.066	7.9	0.2088	0.0000	OK
60 minute summer	EXTN-SWMH-08	38	68.449	0.063	15.5	7.5175	0.0000	OK
60 minute summer	EXTN-SWMH-09	47	68.440	0.087	0.5	0.0986	0.0000	OK
60 minute summer	EXTN-SWMH-10	47	68.442	0.083	1.3	0.1056	0.0000	OK
60 minute summer	EXTN-SWMH-11	47	68.440	0.269	33.1	15.5600	0.0000	OK
60 minute summer	EXTN-SWMH-12	47	68.440	0.326	41.8	1.5263	0.0000	OK
60 minute summer	EXTN-SWMH-13	48	68.441	0.570	21.7	1.5777	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-14	84	67.902	0.076	11.5	0.1923	0.0000	OK
60 minute summer	S1	84	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	4.9	0.640	0.098	0.2979	
60 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	13.2	1.008	0.179	0.5717	
60 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0340	
60 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	4.1	0.950	0.068	0.0597	
60 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	7.6	1.640	0.046	0.0207	
60 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.9	1.367	0.067	0.0195	
60 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	7.9	0.627	0.065	0.1948	
60 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	8.9	0.317	0.064	2.9871	
60 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.5	-0.078	-0.009	0.1562	
60 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.3	0.407	0.036	0.2902	
60 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-30.0	-0.431	-0.160	0.5262	
60 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.5	0.570	0.051	2.4912	
60 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
60 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	59.8



Results for 1 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	EXTN-SWMH-01	33	68.994	0.041	3.6	0.0807	0.0000	OK
60 minute winter	EXTN-SWMH-02	33	68.651	0.055	9.6	0.1184	0.0000	OK
60 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
60 minute winter	EXTN-SWMH-04	33	68.959	0.036	3.0	0.0645	0.0000	OK
60 minute winter	EXTN-SWMH-05	33	68.769	0.028	5.5	0.0443	0.0000	OK
60 minute winter	EXTN-SWMH-06	33	69.264	0.023	2.1	0.0391	0.0000	OK
60 minute winter	EXTN-SWMH-07	34	68.500	0.056	5.7	0.1774	0.0000	OK
60 minute winter	EXTN-SWMH-08	40	68.445	0.059	11.2	7.0209	0.0000	OK
60 minute winter	EXTN-SWMH-09	50	68.435	0.082	0.3	0.0924	0.0000	OK
60 minute winter	EXTN-SWMH-10	50	68.437	0.078	0.9	0.0986	0.0000	OK
60 minute winter	EXTN-SWMH-11	50	68.435	0.264	21.8	14.7348	0.0000	OK
60 minute winter	EXTN-SWMH-12	49	68.435	0.321	31.6	1.5008	0.0000	OK
60 minute winter	EXTN-SWMH-13	48	68.435	0.564	28.1	1.5617	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-14	82	67.902	0.076	11.5	0.1923	0.0000	OK
60 minute winter	S1	83	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.6	0.587	0.072	0.2386	
60 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	9.6	0.998	0.130	0.5498	
60 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0272	
60 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	3.0	0.871	0.050	0.0477	
60 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	5.5	1.476	0.033	0.0186	
60 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.1	1.248	0.049	0.0155	
60 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	5.7	0.576	0.047	0.1563	
60 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	7.7	0.319	0.056	2.9289	
60 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.057	-0.006	0.1481	
60 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.9	0.371	0.025	0.2736	
60 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-19.6	-0.305	-0.105	0.5166	
60 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	26.5	0.555	0.070	2.4717	
60 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
60 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	59.7



Results for 1 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	EXTN-SWMH-01	64	68.992	0.039	3.3	0.0774	0.0000	OK
120 minute summer	EXTN-SWMH-02	64	68.648	0.052	8.7	0.1128	0.0000	OK
120 minute summer	EXTN-SWMH-03	2	69.116	0.000	0.0	0.0000	0.0000	OK
120 minute summer	EXTN-SWMH-04	64	68.957	0.034	2.7	0.0613	0.0000	OK
120 minute summer	EXTN-SWMH-05	64	68.768	0.027	5.0	0.0423	0.0000	OK
120 minute summer	EXTN-SWMH-06	64	69.263	0.022	1.9	0.0372	0.0000	OK
120 minute summer	EXTN-SWMH-07	64	68.498	0.054	5.2	0.1696	0.0000	OK
120 minute summer	EXTN-SWMH-08	70	68.444	0.058	10.2	6.8806	0.0000	OK
120 minute summer	EXTN-SWMH-09	82	68.429	0.076	0.3	0.0864	0.0000	OK
120 minute summer	EXTN-SWMH-10	80	68.429	0.070	0.9	0.0896	0.0000	OK
120 minute summer	EXTN-SWMH-11	82	68.429	0.258	16.7	13.9385	0.0000	OK
120 minute summer	EXTN-SWMH-12	82	68.429	0.315	29.8	1.4749	0.0000	OK
120 minute summer	EXTN-SWMH-13	84	68.430	0.559	17.4	1.5471	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-14	122	67.902	0.076	11.5	0.1923	0.0000	OK
120 minute summer	S1	122	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.3	0.576	0.066	0.2235	
120 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	8.7	0.929	0.118	0.5440	
120 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0252	
120 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.7	0.843	0.045	0.0444	
120 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	5.0	1.155	0.030	0.0181	
120 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.9	1.211	0.044	0.0144	
120 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	5.2	0.554	0.043	0.1508	
120 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	7.4	0.343	0.053	2.8724	
120 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.044	-0.005	0.1402	
120 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.9	0.358	0.025	0.2541	
120 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-14.6	-0.245	-0.078	0.5070	
120 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	16.3	0.528	0.043	2.4517	
120 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
120 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	73.9



Results for 1 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	EXTN-SWMH-01	66	68.985	0.032	2.2	0.0636	0.0000	OK
120 minute winter	EXTN-SWMH-02	66	68.639	0.043	5.9	0.0931	0.0000	OK
120 minute winter	EXTN-SWMH-03	2	69.116	0.000	0.0	0.0000	0.0000	OK
120 minute winter	EXTN-SWMH-04	64	68.952	0.029	1.9	0.0517	0.0000	OK
120 minute winter	EXTN-SWMH-05	64	68.764	0.023	3.5	0.0358	0.0000	OK
120 minute winter	EXTN-SWMH-06	64	69.259	0.018	1.3	0.0309	0.0000	OK
120 minute winter	EXTN-SWMH-07	62	68.489	0.045	3.6	0.1402	0.0000	OK
120 minute winter	EXTN-SWMH-08	72	68.438	0.052	7.1	6.1873	0.0000	OK
120 minute winter	EXTN-SWMH-09	88	68.411	0.058	0.1	0.0660	0.0000	OK
120 minute winter	EXTN-SWMH-10	88	68.412	0.053	0.6	0.0672	0.0000	OK
120 minute winter	EXTN-SWMH-11	88	68.411	0.240	13.0	11.2381	0.0000	OK
120 minute winter	EXTN-SWMH-12	86	68.411	0.297	24.9	1.3916	0.0000	OK
120 minute winter	EXTN-SWMH-13	88	68.412	0.541	23.9	1.4963	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-14	118	67.902	0.076	11.5	0.1923	0.0000	OK
120 minute winter	S1	118	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.2	0.508	0.044	0.1692	
120 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	5.9	0.915	0.080	0.5247	
120 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0196	
120 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.9	0.762	0.032	0.0346	
120 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.5	1.009	0.021	0.0155	
120 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.3	1.083	0.030	0.0110	
120 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.6	0.486	0.030	0.1232	
120 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.0	0.358	0.043	2.7041	
120 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.016	-0.002	0.1135	
120 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.6	0.344	0.017	0.2024	
120 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-11.6	-0.183	-0.062	0.4736	
120 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.0	0.493	0.061	2.3858	
120 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
120 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	74.1



Results for 1 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.90%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	EXTN-SWMH-01	96	68.986	0.033	2.4	0.0663	0.0000	OK
180 minute summer	EXTN-SWMH-02	96	68.641	0.045	6.5	0.0976	0.0000	OK
180 minute summer	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
180 minute summer	EXTN-SWMH-04	96	68.953	0.030	2.0	0.0529	0.0000	OK
180 minute summer	EXTN-SWMH-05	96	68.764	0.023	3.7	0.0367	0.0000	OK
180 minute summer	EXTN-SWMH-06	96	69.260	0.019	1.4	0.0320	0.0000	OK
180 minute summer	EXTN-SWMH-07	92	68.490	0.046	3.9	0.1456	0.0000	OK
180 minute summer	EXTN-SWMH-08	100	68.439	0.053	7.6	6.2822	0.0000	OK
180 minute summer	EXTN-SWMH-09	116	68.410	0.057	0.2	0.0642	0.0000	OK
180 minute summer	EXTN-SWMH-10	116	68.410	0.051	0.6	0.0645	0.0000	OK
180 minute summer	EXTN-SWMH-11	116	68.410	0.239	12.6	11.0020	0.0000	OK
180 minute summer	EXTN-SWMH-12	116	68.409	0.295	26.2	1.3820	0.0000	OK
180 minute summer	EXTN-SWMH-13	116	68.411	0.540	23.0	1.4947	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-14	148	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute summer	S1	148	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.4	0.519	0.048	0.1805	
180 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	6.5	0.895	0.088	0.5287	
180 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0203	
180 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.0	0.772	0.033	0.0359	
180 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.7	0.947	0.022	0.0159	
180 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.4	1.107	0.032	0.0116	
180 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.9	0.491	0.032	0.1290	
180 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.2	0.394	0.044	2.6802	
180 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.034	-0.003	0.1112	
180 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.6	0.332	0.017	0.1972	
180 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-11.2	0.180	-0.060	0.4702	
180 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	22.0	0.359	0.058	2.3780	
180 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
180 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	83.3



Results for 1 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	EXTN-SWMH-01	96	68.981	0.028	1.7	0.0562	0.0000	OK
180 minute winter	EXTN-SWMH-02	96	68.634	0.038	4.5	0.0816	0.0000	OK
180 minute winter	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
180 minute winter	EXTN-SWMH-04	96	68.948	0.025	1.4	0.0446	0.0000	OK
180 minute winter	EXTN-SWMH-05	96	68.761	0.020	2.6	0.0311	0.0000	OK
180 minute winter	EXTN-SWMH-06	92	69.257	0.016	1.0	0.0272	0.0000	OK
180 minute winter	EXTN-SWMH-07	96	68.482	0.038	2.7	0.1202	0.0000	OK
180 minute winter	EXTN-SWMH-08	104	68.433	0.047	5.3	5.5783	0.0000	OK
180 minute winter	EXTN-SWMH-09	120	68.380	0.027	0.0	0.0305	0.0000	OK
180 minute winter	EXTN-SWMH-10	120	68.380	0.021	0.4	0.0271	0.0000	OK
180 minute winter	EXTN-SWMH-11	120	68.380	0.209	7.8	6.5551	0.0000	OK
180 minute winter	EXTN-SWMH-12	120	68.379	0.265	24.5	1.2412	0.0000	OK
180 minute winter	EXTN-SWMH-13	120	68.383	0.512	18.8	1.4170	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-14	140	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute winter	S1	140	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.7	0.473	0.034	0.1404	
180 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	4.5	0.866	0.061	0.5105	
180 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0158	
180 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.4	0.692	0.023	0.0279	
180 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.6	0.932	0.016	0.0133	
180 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.0	1.002	0.023	0.0092	
180 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.7	0.418	0.022	0.1056	
180 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.8	0.410	0.035	2.3918	
180 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.1	0.009	0.001	0.0699	
180 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.320	0.011	0.1172	
180 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	9.1	0.335	0.049	0.4106	
180 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	18.0	0.413	0.047	2.2623	
180 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
180 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	83.7



Results for 1 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	EXTN-SWMH-01	124	68.984	0.031	2.1	0.0617	0.0000	OK
240 minute summer	EXTN-SWMH-02	124	68.638	0.042	5.6	0.0901	0.0000	OK
240 minute summer	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
240 minute summer	EXTN-SWMH-04	124	68.950	0.027	1.7	0.0488	0.0000	OK
240 minute summer	EXTN-SWMH-05	124	68.763	0.022	3.2	0.0342	0.0000	OK
240 minute summer	EXTN-SWMH-06	124	69.259	0.018	1.2	0.0297	0.0000	OK
240 minute summer	EXTN-SWMH-07	124	68.486	0.042	3.3	0.1334	0.0000	OK
240 minute summer	EXTN-SWMH-08	132	68.436	0.050	6.5	5.9272	0.0000	OK
240 minute summer	EXTN-SWMH-09	148	68.391	0.038	0.1	0.0433	0.0000	OK
240 minute summer	EXTN-SWMH-10	148	68.391	0.032	0.6	0.0409	0.0000	OK
240 minute summer	EXTN-SWMH-11	148	68.391	0.220	10.8	8.2234	0.0000	OK
240 minute summer	EXTN-SWMH-12	148	68.391	0.277	22.1	1.2943	0.0000	OK
240 minute summer	EXTN-SWMH-13	148	68.393	0.522	20.5	1.4456	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-14	172	67.902	0.076	11.5	0.1923	0.0000	OK
240 minute summer	S1	172	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.1	0.500	0.042	0.1618	
240 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	5.5	0.868	0.075	0.5200	
240 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0181	
240 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.7	0.732	0.028	0.0321	
240 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.2	0.861	0.019	0.0145	
240 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.2	1.057	0.028	0.0104	
240 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.3	0.457	0.027	0.1171	
240 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.5	0.402	0.039	2.5018	
240 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.025	-0.002	0.0849	
240 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.6	0.332	0.016	0.1455	
240 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-9.4	0.197	-0.050	0.4334	
240 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.6	0.412	0.052	2.3064	
240 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
240 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	90.8



Results for 1 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.86%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	EXTN-SWMH-01	128	68.979	0.026	1.4	0.0513	0.0000	OK
240 minute winter	EXTN-SWMH-02	128	68.630	0.034	3.7	0.0742	0.0000	OK
240 minute winter	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
240 minute winter	EXTN-SWMH-04	124	68.946	0.023	1.2	0.0412	0.0000	OK
240 minute winter	EXTN-SWMH-05	124	68.759	0.018	2.2	0.0287	0.0000	OK
240 minute winter	EXTN-SWMH-06	120	69.255	0.014	0.8	0.0244	0.0000	OK
240 minute winter	EXTN-SWMH-07	128	68.479	0.035	2.2	0.1091	0.0000	OK
240 minute winter	EXTN-SWMH-08	136	68.429	0.043	4.4	5.1177	0.0000	OK
240 minute winter	EXTN-SWMH-09	4	68.353	0.000	0.0	0.0000	0.0000	OK
240 minute winter	EXTN-SWMH-10	124	68.376	0.017	0.4	0.0216	0.0000	OK
240 minute winter	EXTN-SWMH-11	152	68.350	0.179	7.9	2.0841	0.0000	OK
240 minute winter	EXTN-SWMH-12	152	68.353	0.239	27.0	1.1169	0.0000	OK
240 minute winter	EXTN-SWMH-13	160	68.370	0.499	26.8	1.3816	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-14	144	67.902	0.076	11.5	0.1923	0.0000	OK
240 minute winter	S1	144	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.4	0.446	0.028	0.1224	
240 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	3.7	0.849	0.050	0.4981	
240 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0141	
240 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.2	0.662	0.020	0.0249	
240 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.2	0.876	0.013	0.0118	
240 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.8	0.938	0.019	0.0078	
240 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.2	0.384	0.018	0.0930	
240 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.0	0.441	0.029	2.1218	
240 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0378	
240 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.320	0.011	0.0672	
240 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	13.3	0.488	0.071	0.3519	
240 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	26.2	0.438	0.069	2.1576	
240 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.694	0.043	0.1095	
240 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	90.5



Results for 1 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.90%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	EXTN-SWMH-01	184	68.980	0.027	1.6	0.0544	0.0000	OK
360 minute summer	EXTN-SWMH-02	184	68.633	0.037	4.3	0.0793	0.0000	OK
360 minute summer	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
360 minute summer	EXTN-SWMH-04	184	68.947	0.024	1.3	0.0430	0.0000	OK
360 minute summer	EXTN-SWMH-05	184	68.760	0.019	2.4	0.0299	0.0000	OK
360 minute summer	EXTN-SWMH-06	184	69.256	0.015	0.9	0.0258	0.0000	OK
360 minute summer	EXTN-SWMH-07	184	68.481	0.037	2.5	0.1153	0.0000	OK
360 minute summer	EXTN-SWMH-08	192	68.431	0.045	4.9	5.2883	0.0000	OK
360 minute summer	EXTN-SWMH-09	208	68.356	0.003	0.0	0.0035	0.0000	OK
360 minute summer	EXTN-SWMH-10	184	68.376	0.017	0.4	0.0216	0.0000	OK
360 minute summer	EXTN-SWMH-11	208	68.356	0.185	8.8	2.9510	0.0000	OK
360 minute summer	EXTN-SWMH-12	216	68.360	0.246	22.8	1.1499	0.0000	OK
360 minute summer	EXTN-SWMH-13	224	68.368	0.497	26.4	1.3752	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-14	208	67.902	0.076	11.5	0.1923	0.0000	OK
360 minute summer	S1	200	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.6	0.460	0.032	0.1343	
360 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	4.2	0.835	0.058	0.4998	
360 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0150	
360 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.3	0.678	0.022	0.0264	
360 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.4	0.750	0.014	0.0124	
360 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.9	0.969	0.021	0.0085	
360 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.5	0.399	0.020	0.0970	
360 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.3	0.437	0.031	2.1777	
360 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	-0.002	0.000	0.0424	
360 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.320	0.011	0.0739	
360 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-7.9	0.249	-0.042	0.3627	
360 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	26.1	0.241	0.069	2.1855	
360 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
360 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	102.1



Results for 1 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	EXTN-SWMH-01	184	68.975	0.022	1.0	0.0437	0.0000	OK
360 minute winter	EXTN-SWMH-02	184	68.625	0.029	2.7	0.0638	0.0000	OK
360 minute winter	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
360 minute winter	EXTN-SWMH-04	184	68.943	0.020	0.9	0.0360	0.0000	OK
360 minute winter	EXTN-SWMH-05	184	68.757	0.016	1.6	0.0248	0.0000	OK
360 minute winter	EXTN-SWMH-06	176	69.254	0.013	0.6	0.0213	0.0000	OK
360 minute winter	EXTN-SWMH-07	184	68.475	0.031	1.7	0.0965	0.0000	OK
360 minute winter	EXTN-SWMH-08	200	68.424	0.038	3.3	4.5107	0.0000	OK
360 minute winter	EXTN-SWMH-09	8	68.353	0.000	0.0	0.0000	0.0000	OK
360 minute winter	EXTN-SWMH-10	184	68.374	0.015	0.3	0.0191	0.0000	OK
360 minute winter	EXTN-SWMH-11	208	68.199	0.028	0.7	0.0749	0.0000	OK
360 minute winter	EXTN-SWMH-12	192	68.192	0.078	13.9	0.3629	0.0000	OK
360 minute winter	EXTN-SWMH-13	208	68.223	0.352	18.9	0.9739	0.0000	OK
360 minute winter	EXTN-SWMH-14	200	67.900	0.074	11.2	0.1886	0.0000	OK
360 minute winter	S1	200	67.747	0.070	11.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.0	0.406	0.020	0.0977	
360 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.7	0.810	0.037	0.1331	
360 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0115	
360 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.9	0.610	0.015	0.0202	
360 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.6	0.787	0.010	0.0098	
360 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.6	0.861	0.014	0.0064	
360 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.7	0.349	0.014	0.0770	
360 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.1	0.469	0.022	0.5489	
360 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
360 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.008	0.0142	
360 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	2.1	0.273	0.011	0.0499	
360 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	18.5	0.303	0.049	1.3236	
360 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.2	0.693	0.042	0.1069	
360 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.0	0.672	0.058	0.6985	102.3



Results for 1 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	EXTN-SWMH-01	248	68.978	0.025	1.3	0.0496	0.0000	OK
480 minute summer	EXTN-SWMH-02	248	68.629	0.033	3.4	0.0712	0.0000	OK
480 minute summer	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
480 minute summer	EXTN-SWMH-04	248	68.945	0.022	1.1	0.0398	0.0000	OK
480 minute summer	EXTN-SWMH-05	248	68.758	0.017	2.0	0.0275	0.0000	OK
480 minute summer	EXTN-SWMH-06	248	69.255	0.014	0.8	0.0244	0.0000	OK
480 minute summer	EXTN-SWMH-07	248	68.478	0.034	2.1	0.1068	0.0000	OK
480 minute summer	EXTN-SWMH-08	256	68.428	0.042	4.1	4.9415	0.0000	OK
480 minute summer	EXTN-SWMH-09	8	68.353	0.000	0.0	0.0000	0.0000	OK
480 minute summer	EXTN-SWMH-10	240	68.374	0.015	0.3	0.0191	0.0000	OK
480 minute summer	EXTN-SWMH-11	256	68.294	0.123	7.4	0.3349	0.0000	OK
480 minute summer	EXTN-SWMH-12	264	68.293	0.179	19.8	0.8388	0.0000	OK
480 minute summer	EXTN-SWMH-13	264	68.335	0.464	33.1	1.2855	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-14	256	67.901	0.075	11.5	0.1917	0.0000	OK
480 minute summer	S1	264	67.749	0.072	11.4	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.3	0.438	0.026	0.1158	
480 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	3.4	0.819	0.046	0.3896	
480 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0134	
480 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.1	0.651	0.018	0.0236	
480 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.0	0.712	0.012	0.0112	
480 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.8	0.938	0.019	0.0078	
480 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.1	0.381	0.017	0.0889	
480 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.7	0.465	0.027	1.5174	
480 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0039	
480 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.008	0.0142	
480 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	10.6	0.274	0.057	0.2243	
480 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	32.7	0.294	0.086	1.9229	
480 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1093	
480 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.4	0.680	0.060	0.7169	111.2



Results for 1 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	EXTN-SWMH-01	240	68.973	0.020	0.8	0.0394	0.0000	OK
480 minute winter	EXTN-SWMH-02	240	68.623	0.027	2.2	0.0579	0.0000	OK
480 minute winter	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
480 minute winter	EXTN-SWMH-04	232	68.941	0.018	0.7	0.0321	0.0000	OK
480 minute winter	EXTN-SWMH-05	232	68.755	0.014	1.3	0.0226	0.0000	OK
480 minute winter	EXTN-SWMH-06	232	69.253	0.012	0.5	0.0196	0.0000	OK
480 minute winter	EXTN-SWMH-07	248	68.472	0.028	1.4	0.0884	0.0000	OK
480 minute winter	EXTN-SWMH-08	256	68.421	0.035	2.7	4.1628	0.0000	OK
480 minute winter	EXTN-SWMH-09	8	68.353	0.000	0.0	0.0000	0.0000	OK
480 minute winter	EXTN-SWMH-10	216	68.371	0.012	0.2	0.0157	0.0000	OK
480 minute winter	EXTN-SWMH-11	224	68.185	0.014	0.5	0.0393	0.0000	OK
480 minute winter	EXTN-SWMH-12	248	68.162	0.048	9.2	0.2239	0.0000	OK
480 minute winter	EXTN-SWMH-13	248	68.093	0.222	9.6	0.6145	0.0000	OK
480 minute winter	EXTN-SWMH-14	256	67.895	0.069	9.5	0.1756	0.0000	OK
480 minute winter	S1	256	67.742	0.065	9.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.8	0.377	0.016	0.0842	
480 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.2	0.786	0.030	0.0669	
480 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0097	
480 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.7	0.562	0.012	0.0173	
480 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.3	0.712	0.008	0.0088	
480 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.5	0.813	0.012	0.0057	
480 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.4	0.320	0.011	0.0688	
480 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.6	0.457	0.019	0.3163	
480 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
480 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
480 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.163	0.003	0.0222	
480 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	9.2	0.309	0.024	0.7685	
480 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	9.5	0.660	0.036	0.0954	
480 minute winter	EXTN-SWMH-14	PIPE 14	S1	9.5	0.647	0.050	0.6298	110.8



Results for 1 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	EXTN-SWMH-01	315	68.975	0.022	1.0	0.0437	0.0000	OK
600 minute summer	EXTN-SWMH-02	315	68.625	0.029	2.7	0.0638	0.0000	OK
600 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
600 minute summer	EXTN-SWMH-04	315	68.943	0.020	0.9	0.0362	0.0000	OK
600 minute summer	EXTN-SWMH-05	315	68.757	0.016	1.6	0.0249	0.0000	OK
600 minute summer	EXTN-SWMH-06	315	69.254	0.013	0.6	0.0213	0.0000	OK
600 minute summer	EXTN-SWMH-07	315	68.475	0.031	1.7	0.0967	0.0000	OK
600 minute summer	EXTN-SWMH-08	315	68.424	0.038	3.3	4.5321	0.0000	OK
600 minute summer	EXTN-SWMH-09	15	68.353	0.000	0.0	0.0000	0.0000	OK
600 minute summer	EXTN-SWMH-10	315	68.374	0.015	0.3	0.0191	0.0000	OK
600 minute summer	EXTN-SWMH-11	330	68.193	0.022	0.7	0.0591	0.0000	OK
600 minute summer	EXTN-SWMH-12	315	68.191	0.077	12.1	0.3602	0.0000	OK
600 minute summer	EXTN-SWMH-13	330	68.209	0.338	11.3	0.9350	0.0000	OK
600 minute summer	EXTN-SWMH-14	315	67.900	0.074	11.1	0.1884	0.0000	OK
600 minute summer	S1	315	67.747	0.070	11.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.0	0.400	0.020	0.0977	
600 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.7	0.796	0.037	0.1318	
600 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0116	
600 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.9	0.613	0.015	0.0203	
600 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.6	0.712	0.010	0.0100	
600 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.6	0.861	0.014	0.0064	
600 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.7	0.354	0.014	0.0787	
600 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.1	0.476	0.022	0.5459	
600 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
600 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.008	0.0142	
600 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	1.2	0.191	0.007	0.0461	
600 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	10.8	0.237	0.028	1.2613	
600 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.1	0.691	0.042	0.1063	
600 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.0	0.672	0.058	0.6975	116.3



Results for 1 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	EXTN-SWMH-01	300	68.972	0.019	0.7	0.0370	0.0000	OK
600 minute winter	EXTN-SWMH-02	315	68.621	0.025	1.9	0.0541	0.0000	OK
600 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
600 minute winter	EXTN-SWMH-04	300	68.940	0.017	0.6	0.0300	0.0000	OK
600 minute winter	EXTN-SWMH-05	300	68.754	0.013	1.1	0.0209	0.0000	OK
600 minute winter	EXTN-SWMH-06	285	69.251	0.010	0.4	0.0177	0.0000	OK
600 minute winter	EXTN-SWMH-07	300	68.469	0.025	1.1	0.0794	0.0000	OK
600 minute winter	EXTN-SWMH-08	330	68.419	0.033	2.2	3.8274	0.0000	OK
600 minute winter	EXTN-SWMH-09	15	68.353	0.000	0.0	0.0000	0.0000	OK
600 minute winter	EXTN-SWMH-10	300	68.371	0.012	0.2	0.0157	0.0000	OK
600 minute winter	EXTN-SWMH-11	315	68.185	0.014	0.5	0.0393	0.0000	OK
600 minute winter	EXTN-SWMH-12	315	68.158	0.044	7.9	0.2079	0.0000	OK
600 minute winter	EXTN-SWMH-13	315	68.065	0.194	8.2	0.5381	0.0000	OK
600 minute winter	EXTN-SWMH-14	315	67.890	0.064	8.1	0.1625	0.0000	OK
600 minute winter	S1	315	67.738	0.061	8.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.7	0.365	0.014	0.0764	
600 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.9	0.771	0.026	0.0580	
600 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0088	
600 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.6	0.542	0.010	0.0155	
600 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.1	0.712	0.007	0.0078	
600 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
600 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.1	0.299	0.009	0.0600	
600 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.2	0.435	0.016	0.2785	
600 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
600 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
600 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.161	0.003	0.0200	
600 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	7.9	0.235	0.021	0.6513	
600 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	8.1	0.634	0.031	0.0849	
600 minute winter	EXTN-SWMH-14	PIPE 14	S1	8.1	0.617	0.043	0.5641	116.6



Results for 1 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	EXTN-SWMH-01	375	68.974	0.021	0.9	0.0416	0.0000	OK
720 minute summer	EXTN-SWMH-02	375	68.624	0.028	2.5	0.0615	0.0000	OK
720 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
720 minute summer	EXTN-SWMH-04	375	68.942	0.019	0.8	0.0341	0.0000	OK
720 minute summer	EXTN-SWMH-05	375	68.756	0.015	1.5	0.0242	0.0000	OK
720 minute summer	EXTN-SWMH-06	375	69.254	0.013	0.6	0.0213	0.0000	OK
720 minute summer	EXTN-SWMH-07	375	68.474	0.030	1.6	0.0940	0.0000	OK
720 minute summer	EXTN-SWMH-08	375	68.423	0.037	3.1	4.3931	0.0000	OK
720 minute summer	EXTN-SWMH-09	15	68.353	0.000	0.0	0.0000	0.0000	OK
720 minute summer	EXTN-SWMH-10	360	68.371	0.012	0.2	0.0157	0.0000	OK
720 minute summer	EXTN-SWMH-11	360	68.185	0.014	0.5	0.0393	0.0000	OK
720 minute summer	EXTN-SWMH-12	375	68.164	0.050	10.2	0.2357	0.0000	OK
720 minute summer	EXTN-SWMH-13	375	68.132	0.261	10.6	0.7232	0.0000	OK
720 minute summer	EXTN-SWMH-14	375	67.898	0.072	10.4	0.1833	0.0000	OK
720 minute summer	S1	375	67.745	0.068	10.4	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.9	0.384	0.018	0.0918	
720 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.5	0.802	0.034	0.0743	
720 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0106	
720 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.8	0.583	0.013	0.0189	
720 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.5	0.712	0.009	0.0095	
720 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.6	0.861	0.014	0.0064	
720 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.6	0.347	0.013	0.0753	
720 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.9	0.474	0.021	0.3454	
720 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
720 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
720 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.158	0.003	0.0239	
720 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	10.2	0.237	0.027	0.9300	
720 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	10.4	0.676	0.039	0.1019	
720 minute summer	EXTN-SWMH-14	PIPE 14	S1	10.4	0.663	0.055	0.6702	124.4



Results for 1 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	EXTN-SWMH-01	345	68.970	0.017	0.6	0.0344	0.0000	OK
720 minute winter	EXTN-SWMH-02	345	68.619	0.023	1.6	0.0501	0.0000	OK
720 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
720 minute winter	EXTN-SWMH-04	345	68.938	0.015	0.5	0.0276	0.0000	OK
720 minute winter	EXTN-SWMH-05	345	68.753	0.012	0.9	0.0190	0.0000	OK
720 minute winter	EXTN-SWMH-06	360	69.251	0.010	0.4	0.0177	0.0000	OK
720 minute winter	EXTN-SWMH-07	360	68.468	0.024	1.0	0.0759	0.0000	OK
720 minute winter	EXTN-SWMH-08	390	68.416	0.030	1.9	3.5706	0.0000	OK
720 minute winter	EXTN-SWMH-09	15	68.353	0.000	0.0	0.0000	0.0000	OK
720 minute winter	EXTN-SWMH-10	360	68.371	0.012	0.2	0.0157	0.0000	OK
720 minute winter	EXTN-SWMH-11	360	68.184	0.013	0.4	0.0355	0.0000	OK
720 minute winter	EXTN-SWMH-12	375	68.155	0.041	6.8	0.1939	0.0000	OK
720 minute winter	EXTN-SWMH-13	375	68.046	0.175	7.1	0.4845	0.0000	OK
720 minute winter	EXTN-SWMH-14	375	67.886	0.060	7.1	0.1519	0.0000	OK
720 minute winter	S1	375	67.733	0.056	7.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.6	0.352	0.012	0.0686	
720 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.6	0.751	0.022	0.0502	
720 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0077	
720 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.5	0.511	0.008	0.0136	
720 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.9	0.712	0.005	0.0070	
720 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
720 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.0	0.292	0.008	0.0551	
720 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.9	0.420	0.014	0.2491	
720 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
720 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
720 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.4	0.159	0.002	0.0176	
720 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	6.8	0.232	0.018	0.5685	
720 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	7.1	0.610	0.027	0.0765	
720 minute winter	EXTN-SWMH-14	PIPE 14	S1	7.1	0.595	0.037	0.5076	123.7



Results for 1 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	EXTN-SWMH-01	495	68.973	0.020	0.8	0.0394	0.0000	OK
960 minute summer	EXTN-SWMH-02	495	68.622	0.026	2.1	0.0566	0.0000	OK
960 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
960 minute summer	EXTN-SWMH-04	480	68.940	0.017	0.6	0.0300	0.0000	OK
960 minute summer	EXTN-SWMH-05	480	68.754	0.013	1.1	0.0209	0.0000	OK
960 minute summer	EXTN-SWMH-06	495	69.253	0.012	0.5	0.0196	0.0000	OK
960 minute summer	EXTN-SWMH-07	495	68.471	0.027	1.3	0.0855	0.0000	OK
960 minute summer	EXTN-SWMH-08	495	68.419	0.033	2.4	3.9207	0.0000	OK
960 minute summer	EXTN-SWMH-09	15	68.353	0.000	0.0	0.0000	0.0000	OK
960 minute summer	EXTN-SWMH-10	480	68.371	0.012	0.2	0.0157	0.0000	OK
960 minute summer	EXTN-SWMH-11	495	68.185	0.014	0.5	0.0393	0.0000	OK
960 minute summer	EXTN-SWMH-12	495	68.160	0.046	8.4	0.2145	0.0000	OK
960 minute summer	EXTN-SWMH-13	495	68.077	0.206	8.8	0.5712	0.0000	OK
960 minute summer	EXTN-SWMH-14	495	67.892	0.066	8.8	0.1684	0.0000	OK
960 minute summer	S1	495	67.740	0.063	8.8	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.8	0.377	0.016	0.0826	
960 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.1	0.792	0.029	0.0625	
960 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0088	
960 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.6	0.542	0.010	0.0155	
960 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.1	0.709	0.007	0.0080	
960 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.5	0.813	0.012	0.0057	
960 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.3	0.321	0.011	0.0643	
960 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.3	0.445	0.017	0.2926	
960 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
960 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
960 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.158	0.003	0.0209	
960 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	8.4	0.235	0.022	0.7017	
960 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	8.8	0.646	0.033	0.0896	
960 minute summer	EXTN-SWMH-14	PIPE 14	S1	8.8	0.631	0.046	0.5935	133.0



Results for 1 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	EXTN-SWMH-01	450	68.969	0.016	0.5	0.0317	0.0000	OK
960 minute winter	EXTN-SWMH-02	495	68.618	0.022	1.4	0.0471	0.0000	OK
960 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
960 minute winter	EXTN-SWMH-04	435	68.937	0.014	0.4	0.0248	0.0000	OK
960 minute winter	EXTN-SWMH-05	480	68.752	0.011	0.8	0.0180	0.0000	OK
960 minute winter	EXTN-SWMH-06	435	69.250	0.009	0.3	0.0154	0.0000	OK
960 minute winter	EXTN-SWMH-07	450	68.466	0.022	0.8	0.0682	0.0000	OK
960 minute winter	EXTN-SWMH-08	510	68.414	0.028	1.6	3.2951	0.0000	OK
960 minute winter	EXTN-SWMH-09	15	68.353	0.000	0.0	0.0000	0.0000	OK
960 minute winter	EXTN-SWMH-10	330	68.368	0.009	0.1	0.0118	0.0000	OK
960 minute winter	EXTN-SWMH-11	435	68.182	0.011	0.3	0.0312	0.0000	OK
960 minute winter	EXTN-SWMH-12	495	68.152	0.038	5.7	0.1786	0.0000	OK
960 minute winter	EXTN-SWMH-13	495	68.027	0.156	5.9	0.4305	0.0000	OK
960 minute winter	EXTN-SWMH-14	495	67.881	0.055	5.9	0.1393	0.0000	OK
960 minute winter	S1	495	67.728	0.051	5.9	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.5	0.326	0.010	0.0617	
960 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.4	0.723	0.019	0.0451	
960 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
960 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0119	
960 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.8	0.712	0.005	0.0063	
960 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
960 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.8	0.279	0.007	0.0483	
960 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.6	0.403	0.011	0.2181	
960 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
960 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
960 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.158	0.002	0.0150	
960 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	5.7	0.228	0.015	0.4865	
960 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	5.9	0.580	0.022	0.0669	
960 minute winter	EXTN-SWMH-14	PIPE 14	S1	5.9	0.568	0.031	0.4421	134.5



Results for 1 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	EXTN-SWMH-01	750	68.970	0.017	0.6	0.0344	0.0000	OK
1440 minute summer	EXTN-SWMH-02	750	68.618	0.022	1.5	0.0487	0.0000	OK
1440 minute summer	EXTN-SWMH-03	30	69.116	0.000	0.0	0.0000	0.0000	OK
1440 minute summer	EXTN-SWMH-04	750	68.938	0.015	0.5	0.0276	0.0000	OK
1440 minute summer	EXTN-SWMH-05	750	68.753	0.012	0.9	0.0190	0.0000	OK
1440 minute summer	EXTN-SWMH-06	720	69.250	0.009	0.3	0.0154	0.0000	OK
1440 minute summer	EXTN-SWMH-07	750	68.467	0.023	0.9	0.0721	0.0000	OK
1440 minute summer	EXTN-SWMH-08	750	68.415	0.029	1.8	3.4614	0.0000	OK
1440 minute summer	EXTN-SWMH-09	30	68.353	0.000	0.0	0.0000	0.0000	OK
1440 minute summer	EXTN-SWMH-10	600	68.368	0.009	0.1	0.0118	0.0000	OK
1440 minute summer	EXTN-SWMH-11	720	68.182	0.011	0.3	0.0312	0.0000	OK
1440 minute summer	EXTN-SWMH-12	750	68.154	0.040	6.2	0.1857	0.0000	OK
1440 minute summer	EXTN-SWMH-13	750	68.036	0.165	6.5	0.4569	0.0000	OK
1440 minute summer	EXTN-SWMH-14	750	67.883	0.057	6.5	0.1456	0.0000	OK
1440 minute summer	S1	750	67.730	0.053	6.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.6	0.352	0.012	0.0668	
1440 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.5	0.738	0.020	0.0474	
1440 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0077	
1440 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.5	0.511	0.008	0.0136	
1440 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.9	0.517	0.005	0.0067	
1440 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
1440 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.9	0.279	0.007	0.0521	
1440 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.8	0.411	0.013	0.2344	
1440 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
1440 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
1440 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.159	0.002	0.0159	
1440 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	6.2	0.228	0.016	0.5261	
1440 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	6.5	0.595	0.024	0.0717	
1440 minute summer	EXTN-SWMH-14	PIPE 14	S1	6.5	0.582	0.034	0.4745	146.1



Results for 1 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	EXTN-SWMH-01	720	68.967	0.014	0.4	0.0287	0.0000	OK
1440 minute winter	EXTN-SWMH-02	720	68.615	0.019	1.0	0.0402	0.0000	OK
1440 minute winter	EXTN-SWMH-03	30	69.116	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	EXTN-SWMH-04	660	68.935	0.012	0.3	0.0218	0.0000	OK
1440 minute winter	EXTN-SWMH-05	720	68.751	0.010	0.6	0.0158	0.0000	OK
1440 minute winter	EXTN-SWMH-06	600	69.249	0.008	0.2	0.0127	0.0000	OK
1440 minute winter	EXTN-SWMH-07	720	68.463	0.019	0.6	0.0596	0.0000	OK
1440 minute winter	EXTN-SWMH-08	780	68.411	0.025	1.2	2.8960	0.0000	OK
1440 minute winter	EXTN-SWMH-09	30	68.353	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	EXTN-SWMH-10	540	68.368	0.009	0.1	0.0118	0.0000	OK
1440 minute winter	EXTN-SWMH-11	540	68.181	0.010	0.2	0.0261	0.0000	OK
1440 minute winter	EXTN-SWMH-12	780	68.147	0.033	4.1	0.1535	0.0000	OK
1440 minute winter	EXTN-SWMH-13	780	68.000	0.129	4.3	0.3570	0.0000	OK
1440 minute winter	EXTN-SWMH-14	780	67.873	0.047	4.3	0.1201	0.0000	OK
1440 minute winter	S1	780	67.720	0.043	4.3	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.4	0.309	0.008	0.0503	
1440 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.0	0.653	0.014	0.0357	
1440 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
1440 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0097	
1440 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.6	0.569	0.004	0.0052	
1440 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
1440 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.6	0.264	0.005	0.0396	
1440 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.2	0.381	0.009	0.1713	
1440 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
1440 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
1440 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.163	0.001	0.0113	
1440 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	4.1	0.212	0.011	0.3769	
1440 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	4.3	0.533	0.016	0.0532	
1440 minute winter	EXTN-SWMH-14	PIPE 14	S1	4.3	0.518	0.023	0.3540	147.8



Results for 1 year 2160 minute summer. 2400 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute summer	EXTN-SWMH-01	1140	68.967	0.014	0.4	0.0287	0.0000	OK
2160 minute summer	EXTN-SWMH-02	1140	68.615	0.019	1.1	0.0420	0.0000	OK
2160 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2160 minute summer	EXTN-SWMH-04	1200	68.935	0.012	0.3	0.0218	0.0000	OK
2160 minute summer	EXTN-SWMH-05	1140	68.751	0.010	0.6	0.0158	0.0000	OK
2160 minute summer	EXTN-SWMH-06	1080	69.249	0.008	0.2	0.0127	0.0000	OK
2160 minute summer	EXTN-SWMH-07	1140	68.463	0.019	0.6	0.0596	0.0000	OK
2160 minute summer	EXTN-SWMH-08	1140	68.411	0.025	1.2	2.8924	0.0000	OK
2160 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2160 minute summer	EXTN-SWMH-10	1020	68.368	0.009	0.1	0.0118	0.0000	OK
2160 minute summer	EXTN-SWMH-11	1020	68.181	0.010	0.2	0.0261	0.0000	OK
2160 minute summer	EXTN-SWMH-12	1140	68.148	0.034	4.4	0.1585	0.0000	OK
2160 minute summer	EXTN-SWMH-13	1140	68.005	0.134	4.6	0.3711	0.0000	OK
2160 minute summer	EXTN-SWMH-14	1140	67.875	0.049	4.6	0.1241	0.0000	OK
2160 minute summer	S1	1140	67.722	0.045	4.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2160 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.4	0.297	0.008	0.0523	
2160 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.1	0.674	0.015	0.0381	
2160 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
2160 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.446	0.005	0.0097	
2160 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.6	0.444	0.004	0.0052	
2160 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
2160 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.6	0.260	0.005	0.0395	
2160 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.2	0.374	0.009	0.1769	
2160 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2160 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
2160 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.145	0.001	0.0119	
2160 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	4.4	0.216	0.012	0.3977	
2160 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	4.6	0.543	0.017	0.0559	
2160 minute summer	EXTN-SWMH-14	PIPE 14	S1	4.6	0.529	0.024	0.3707	153.9



Results for 1 year 2160 minute winter. 2400 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute winter	EXTN-SWMH-01	1080	68.966	0.013	0.3	0.0250	0.0000	OK
2160 minute winter	EXTN-SWMH-02	1140	68.613	0.017	0.8	0.0362	0.0000	OK
2160 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	EXTN-SWMH-04	1320	68.933	0.010	0.2	0.0183	0.0000	OK
2160 minute winter	EXTN-SWMH-05	1020	68.749	0.008	0.4	0.0132	0.0000	OK
2160 minute winter	EXTN-SWMH-06	1080	69.249	0.008	0.2	0.0127	0.0000	OK
2160 minute winter	EXTN-SWMH-07	1080	68.461	0.017	0.5	0.0550	0.0000	OK
2160 minute winter	EXTN-SWMH-08	1200	68.408	0.022	0.9	2.5178	0.0000	OK
2160 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	EXTN-SWMH-10	960	68.368	0.009	0.1	0.0118	0.0000	OK
2160 minute winter	EXTN-SWMH-11	960	68.181	0.010	0.2	0.0261	0.0000	OK
2160 minute winter	EXTN-SWMH-12	1140	68.143	0.029	3.2	0.1375	0.0000	OK
2160 minute winter	EXTN-SWMH-13	1140	67.982	0.111	3.3	0.3077	0.0000	OK
2160 minute winter	EXTN-SWMH-14	1140	67.868	0.042	3.3	0.1060	0.0000	OK
2160 minute winter	S1	1140	67.715	0.038	3.3	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2160 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0424	
2160 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.8	0.609	0.011	0.0306	
2160 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
2160 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
2160 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.419	0.002	0.0042	
2160 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
2160 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0334	
2160 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.9	0.359	0.006	0.1398	
2160 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2160 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
2160 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.159	0.001	0.0096	
2160 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.2	0.203	0.008	0.3072	
2160 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.3	0.498	0.012	0.0440	
2160 minute winter	EXTN-SWMH-14	PIPE 14	S1	3.3	0.480	0.017	0.2943	159.4



Results for 1 year 2880 minute summer. 3120 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute summer	EXTN-SWMH-01	1440	68.966	0.013	0.3	0.0250	0.0000	OK
2880 minute summer	EXTN-SWMH-02	1500	68.614	0.018	0.9	0.0382	0.0000	OK
2880 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2880 minute summer	EXTN-SWMH-04	1500	68.935	0.012	0.3	0.0218	0.0000	OK
2880 minute summer	EXTN-SWMH-05	1500	68.750	0.009	0.5	0.0146	0.0000	OK
2880 minute summer	EXTN-SWMH-06	1440	69.249	0.008	0.2	0.0127	0.0000	OK
2880 minute summer	EXTN-SWMH-07	1440	68.461	0.017	0.5	0.0550	0.0000	OK
2880 minute summer	EXTN-SWMH-08	1500	68.409	0.023	1.0	2.6426	0.0000	OK
2880 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2880 minute summer	EXTN-SWMH-10	1320	68.368	0.009	0.1	0.0118	0.0000	OK
2880 minute summer	EXTN-SWMH-11	1320	68.181	0.010	0.2	0.0261	0.0000	OK
2880 minute summer	EXTN-SWMH-12	1500	68.145	0.031	3.7	0.1466	0.0000	OK
2880 minute summer	EXTN-SWMH-13	1500	67.993	0.122	3.9	0.3377	0.0000	OK
2880 minute summer	EXTN-SWMH-14	1500	67.871	0.045	3.9	0.1146	0.0000	OK
2880 minute summer	S1	1500	67.719	0.042	3.9	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.279	0.006	0.0446	
2880 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.9	0.632	0.012	0.0332	
2880 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
2880 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0093	
2880 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.5	0.419	0.003	0.0045	
2880 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
2880 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0348	
2880 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.0	0.357	0.007	0.1538	
2880 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2880 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
2880 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0105	
2880 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.7	0.207	0.010	0.3490	
2880 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.9	0.520	0.015	0.0495	
2880 minute summer	EXTN-SWMH-14	PIPE 14	S1	3.9	0.503	0.020	0.3311	166.8



Results for 1 year 2880 minute winter. 3120 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute winter	EXTN-SWMH-01	1200	68.963	0.010	0.2	0.0208	0.0000	OK
2880 minute winter	EXTN-SWMH-02	1440	68.611	0.015	0.6	0.0318	0.0000	OK
2880 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	EXTN-SWMH-04	1320	68.933	0.010	0.2	0.0183	0.0000	OK
2880 minute winter	EXTN-SWMH-05	1440	68.749	0.008	0.4	0.0132	0.0000	OK
2880 minute winter	EXTN-SWMH-06	960	69.247	0.006	0.1	0.0093	0.0000	OK
2880 minute winter	EXTN-SWMH-07	1200	68.458	0.014	0.3	0.0437	0.0000	OK
2880 minute winter	EXTN-SWMH-08	1560	68.405	0.019	0.7	2.2400	0.0000	OK
2880 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	EXTN-SWMH-10	1320	68.368	0.009	0.1	0.0118	0.0000	OK
2880 minute winter	EXTN-SWMH-11	1320	68.181	0.010	0.2	0.0261	0.0000	OK
2880 minute winter	EXTN-SWMH-12	1560	68.140	0.026	2.5	0.1220	0.0000	OK
2880 minute winter	EXTN-SWMH-13	1560	67.969	0.097	2.6	0.2699	0.0000	OK
2880 minute winter	EXTN-SWMH-14	1560	67.863	0.037	2.6	0.0953	0.0000	OK
2880 minute winter	S1	1560	67.710	0.033	2.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0335	
2880 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.6	0.558	0.008	0.0250	
2880 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
2880 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
2880 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.490	0.002	0.0036	
2880 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
2880 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0261	
2880 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.7	0.334	0.005	0.1139	
2880 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2880 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
2880 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0080	
2880 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	2.5	0.191	0.007	0.2555	
2880 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.6	0.462	0.010	0.0371	
2880 minute winter	EXTN-SWMH-14	PIPE 14	S1	2.6	0.455	0.014	0.2442	167.7



Results for 1 year 4320 minute summer. 4560 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
4320 minute summer	EXTN-SWMH-01	2220	68.966	0.013	0.3	0.0250	0.0000	OK
4320 minute summer	EXTN-SWMH-02	2220	68.612	0.016	0.7	0.0341	0.0000	OK
4320 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
4320 minute summer	EXTN-SWMH-04	2340	68.933	0.010	0.2	0.0183	0.0000	OK
4320 minute summer	EXTN-SWMH-05	2160	68.749	0.008	0.4	0.0132	0.0000	OK
4320 minute summer	EXTN-SWMH-06	2220	69.249	0.008	0.2	0.0127	0.0000	OK
4320 minute summer	EXTN-SWMH-07	2220	68.461	0.017	0.5	0.0550	0.0000	OK
4320 minute summer	EXTN-SWMH-08	2220	68.408	0.022	0.9	2.5112	0.0000	OK
4320 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
4320 minute summer	EXTN-SWMH-10	2100	68.368	0.009	0.1	0.0118	0.0000	OK
4320 minute summer	EXTN-SWMH-11	2100	68.181	0.010	0.2	0.0261	0.0000	OK
4320 minute summer	EXTN-SWMH-12	2220	68.142	0.028	3.0	0.1330	0.0000	OK
4320 minute summer	EXTN-SWMH-13	2220	67.978	0.107	3.1	0.2967	0.0000	OK
4320 minute summer	EXTN-SWMH-14	2220	67.866	0.040	3.1	0.1030	0.0000	OK
4320 minute summer	S1	2220	67.714	0.037	3.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
4320 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0401	
4320 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.7	0.585	0.010	0.0279	
4320 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
4320 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
4320 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.425	0.002	0.0042	
4320 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
4320 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0334	
4320 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.9	0.358	0.006	0.1353	
4320 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
4320 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0091	
4320 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.0	0.200	0.008	0.2920	
4320 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.1	0.487	0.012	0.0419	
4320 minute summer	EXTN-SWMH-14	PIPE 14	S1	3.1	0.473	0.016	0.2792	171.1



Results for 1 year 4320 minute winter. 4560 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
4320 minute winter	EXTN-SWMH-01	2040	68.963	0.010	0.2	0.0208	0.0000	OK
4320 minute winter	EXTN-SWMH-02	2040	68.609	0.013	0.5	0.0291	0.0000	OK
4320 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-04	1380	68.931	0.008	0.1	0.0137	0.0000	OK
4320 minute winter	EXTN-SWMH-05	1500	68.747	0.006	0.2	0.0097	0.0000	OK
4320 minute winter	EXTN-SWMH-06	1620	69.247	0.006	0.1	0.0093	0.0000	OK
4320 minute winter	EXTN-SWMH-07	1980	68.458	0.014	0.3	0.0437	0.0000	OK
4320 minute winter	EXTN-SWMH-08	2460	68.403	0.017	0.5	1.9468	0.0000	OK
4320 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-11	1920	68.178	0.007	0.1	0.0192	0.0000	OK
4320 minute winter	EXTN-SWMH-12	2100	68.137	0.023	1.9	0.1074	0.0000	OK
4320 minute winter	EXTN-SWMH-13	2160	67.956	0.085	2.0	0.2346	0.0000	OK
4320 minute winter	EXTN-SWMH-14	2160	67.859	0.033	2.0	0.0848	0.0000	OK
4320 minute winter	S1	2160	67.706	0.029	2.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
4320 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0311	
4320 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.5	0.528	0.007	0.0221	
4320 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0027	
4320 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.1	0.358	0.002	0.0045	
4320 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.2	0.387	0.001	0.0028	
4320 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
4320 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0229	
4320 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.5	0.317	0.004	0.0882	
4320 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.1	0.128	0.001	0.0057	
4320 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	1.9	0.178	0.005	0.2094	
4320 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.0	0.429	0.008	0.0309	
4320 minute winter	EXTN-SWMH-14	PIPE 14	S1	2.0	0.427	0.011	0.2007	179.9



Results for 1 year 5760 minute summer. 6000 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
5760 minute summer	EXTN-SWMH-01	2760	68.963	0.010	0.2	0.0208	0.0000	OK
5760 minute summer	EXTN-SWMH-02	2940	68.611	0.015	0.6	0.0318	0.0000	OK
5760 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
5760 minute summer	EXTN-SWMH-04	3000	68.933	0.010	0.2	0.0183	0.0000	OK
5760 minute summer	EXTN-SWMH-05	2940	68.749	0.008	0.4	0.0132	0.0000	OK
5760 minute summer	EXTN-SWMH-06	2400	69.247	0.006	0.1	0.0093	0.0000	OK
5760 minute summer	EXTN-SWMH-07	2700	68.458	0.014	0.3	0.0437	0.0000	OK
5760 minute summer	EXTN-SWMH-08	2940	68.405	0.019	0.7	2.2299	0.0000	OK
5760 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
5760 minute summer	EXTN-SWMH-10	2880	68.368	0.009	0.1	0.0118	0.0000	OK
5760 minute summer	EXTN-SWMH-11	2880	68.181	0.010	0.2	0.0261	0.0000	OK
5760 minute summer	EXTN-SWMH-12	2940	68.140	0.026	2.5	0.1218	0.0000	OK
5760 minute summer	EXTN-SWMH-13	2940	67.968	0.097	2.6	0.2695	0.0000	OK
5760 minute summer	EXTN-SWMH-14	2940	67.863	0.037	2.6	0.0951	0.0000	OK
5760 minute summer	S1	2940	67.710	0.033	2.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
5760 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0335	
5760 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.6	0.558	0.008	0.0250	
5760 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
5760 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
5760 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.423	0.002	0.0036	
5760 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
5760 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0260	
5760 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.7	0.333	0.005	0.1134	
5760 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
5760 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.163	0.001	0.0079	
5760 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	2.5	0.191	0.007	0.2551	
5760 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.6	0.462	0.010	0.0370	
5760 minute summer	EXTN-SWMH-14	PIPE 14	S1	2.6	0.454	0.014	0.2437	179.8



Results for 1 year 5760 minute winter. 6000 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
5760 minute winter	EXTN-SWMH-01	1860	68.961	0.008	0.1	0.0152	0.0000	OK
5760 minute winter	EXTN-SWMH-02	2340	68.607	0.011	0.3	0.0230	0.0000	OK
5760 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-04	1980	68.931	0.008	0.1	0.0137	0.0000	OK
5760 minute winter	EXTN-SWMH-05	2100	68.747	0.006	0.2	0.0097	0.0000	OK
5760 minute winter	EXTN-SWMH-06	2280	69.247	0.006	0.1	0.0093	0.0000	OK
5760 minute winter	EXTN-SWMH-07	2280	68.456	0.012	0.2	0.0364	0.0000	OK
5760 minute winter	EXTN-SWMH-08	3540	68.401	0.015	0.4	1.7894	0.0000	OK
5760 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-11	2940	68.178	0.007	0.1	0.0192	0.0000	OK
5760 minute winter	EXTN-SWMH-12	2940	68.134	0.020	1.4	0.0938	0.0000	OK
5760 minute winter	EXTN-SWMH-13	2940	67.944	0.073	1.5	0.2012	0.0000	OK
5760 minute winter	EXTN-SWMH-14	2940	67.855	0.029	1.5	0.0747	0.0000	OK
5760 minute winter	S1	2940	67.702	0.025	1.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
5760 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.1	0.223	0.002	0.0206	
5760 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.3	0.454	0.004	0.0154	
5760 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0027	
5760 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.1	0.358	0.002	0.0045	
5760 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.2	0.385	0.001	0.0025	
5760 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
5760 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.2	0.260	0.002	0.0189	
5760 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.4	0.316	0.003	0.0714	
5760 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.1	0.131	0.001	0.0045	
5760 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	1.4	0.165	0.004	0.1678	
5760 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	1.5	0.394	0.006	0.0251	
5760 minute winter	EXTN-SWMH-14	PIPE 14	S1	1.5	0.390	0.008	0.1642	177.8



Results for 1 year 7200 minute summer. 7440 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
7200 minute summer	EXTN-SWMH-01	3540	68.963	0.010	0.2	0.0208	0.0000	OK
7200 minute summer	EXTN-SWMH-02	3540	68.609	0.013	0.5	0.0291	0.0000	OK
7200 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-04	3660	68.933	0.010	0.2	0.0183	0.0000	OK
7200 minute summer	EXTN-SWMH-05	3660	68.748	0.007	0.3	0.0116	0.0000	OK
7200 minute summer	EXTN-SWMH-06	3060	69.247	0.006	0.1	0.0093	0.0000	OK
7200 minute summer	EXTN-SWMH-07	3480	68.458	0.014	0.3	0.0437	0.0000	OK
7200 minute summer	EXTN-SWMH-08	3660	68.404	0.018	0.6	2.0932	0.0000	OK
7200 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-11	3420	68.178	0.007	0.1	0.0192	0.0000	OK
7200 minute summer	EXTN-SWMH-12	3660	68.137	0.023	2.0	0.1097	0.0000	OK
7200 minute summer	EXTN-SWMH-13	3660	67.958	0.087	2.1	0.2404	0.0000	OK
7200 minute summer	EXTN-SWMH-14	3660	67.860	0.034	2.1	0.0865	0.0000	OK
7200 minute summer	S1	3660	67.706	0.029	2.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
7200 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0311	
7200 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.5	0.528	0.007	0.0221	
7200 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
7200 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0069	
7200 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.3	0.406	0.002	0.0032	
7200 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
7200 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0245	
7200 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.6	0.326	0.004	0.0991	
7200 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.1	0.128	0.001	0.0059	
7200 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	2.0	0.180	0.005	0.2168	
7200 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.1	0.435	0.008	0.0319	
7200 minute summer	EXTN-SWMH-14	PIPE 14	S1	2.1	0.432	0.011	0.2072	188.4



Results for 1 year 7200 minute winter. 7440 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
7200 minute winter	EXTN-SWMH-01	2400	68.961	0.008	0.1	0.0152	0.0000	OK
7200 minute winter	EXTN-SWMH-02	3060	68.607	0.011	0.3	0.0230	0.0000	OK
7200 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-04	2580	68.931	0.008	0.1	0.0137	0.0000	OK
7200 minute winter	EXTN-SWMH-05	2760	68.747	0.006	0.2	0.0097	0.0000	OK
7200 minute winter	EXTN-SWMH-06	3000	69.247	0.006	0.1	0.0093	0.0000	OK
7200 minute winter	EXTN-SWMH-07	3000	68.456	0.012	0.2	0.0364	0.0000	OK
7200 minute winter	EXTN-SWMH-08	3300	68.401	0.015	0.4	1.7894	0.0000	OK
7200 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-11	60	68.171	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-12	3360	68.133	0.019	1.2	0.0874	0.0000	OK
7200 minute winter	EXTN-SWMH-13	3360	67.938	0.067	1.3	0.1862	0.0000	OK
7200 minute winter	EXTN-SWMH-14	3360	67.853	0.027	1.3	0.0698	0.0000	OK
7200 minute winter	S1	3360	67.700	0.023	1.3	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
7200 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.1	0.223	0.002	0.0206	
7200 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.3	0.454	0.004	0.0154	
7200 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0027	
7200 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.1	0.358	0.002	0.0045	
7200 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.2	0.370	0.001	0.0025	
7200 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
7200 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.2	0.260	0.002	0.0189	
7200 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.4	0.316	0.003	0.0691	
7200 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.0	0.000	0.000	0.0028	
7200 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	1.2	0.165	0.003	0.1500	
7200 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	1.3	0.378	0.005	0.0227	
7200 minute winter	EXTN-SWMH-14	PIPE 14	S1	1.3	0.372	0.007	0.1491	191.5



Results for 1 year 8640 minute summer. 8880 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
8640 minute summer	EXTN-SWMH-01	4320	68.963	0.010	0.2	0.0208	0.0000	OK
8640 minute summer	EXTN-SWMH-02	4320	68.609	0.013	0.5	0.0291	0.0000	OK
8640 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-04	3480	68.931	0.008	0.1	0.0137	0.0000	OK
8640 minute summer	EXTN-SWMH-05	3660	68.747	0.006	0.2	0.0097	0.0000	OK
8640 minute summer	EXTN-SWMH-06	3780	69.247	0.006	0.1	0.0093	0.0000	OK
8640 minute summer	EXTN-SWMH-07	4320	68.458	0.014	0.3	0.0437	0.0000	OK
8640 minute summer	EXTN-SWMH-08	4440	68.403	0.017	0.5	1.9463	0.0000	OK
8640 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-11	4260	68.178	0.007	0.1	0.0192	0.0000	OK
8640 minute summer	EXTN-SWMH-12	4440	68.136	0.022	1.8	0.1047	0.0000	OK
8640 minute summer	EXTN-SWMH-13	4440	67.953	0.082	1.9	0.2282	0.0000	OK
8640 minute summer	EXTN-SWMH-14	4440	67.859	0.033	1.9	0.0829	0.0000	OK
8640 minute summer	S1	4440	67.705	0.028	1.9	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
8640 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0311	
8640 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.5	0.528	0.007	0.0221	
8640 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0027	
8640 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.1	0.358	0.002	0.0045	
8640 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.2	0.375	0.001	0.0028	
8640 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
8640 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0229	
8640 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.5	0.316	0.004	0.0862	
8640 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.1	0.122	0.001	0.0055	
8640 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	1.8	0.175	0.005	0.2012	
8640 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	1.9	0.424	0.007	0.0298	
8640 minute summer	EXTN-SWMH-14	PIPE 14	S1	1.9	0.422	0.010	0.1936	196.4



Results for 1 year 8640 minute winter. 8880 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
8640 minute winter	EXTN-SWMH-01	3060	68.961	0.008	0.1	0.0152	0.0000	OK
8640 minute winter	EXTN-SWMH-02	3900	68.607	0.011	0.3	0.0230	0.0000	OK
8640 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-04	3240	68.931	0.008	0.1	0.0137	0.0000	OK
8640 minute winter	EXTN-SWMH-05	3480	68.747	0.006	0.2	0.0097	0.0000	OK
8640 minute winter	EXTN-SWMH-06	3780	69.247	0.006	0.1	0.0093	0.0000	OK
8640 minute winter	EXTN-SWMH-07	3780	68.456	0.012	0.2	0.0364	0.0000	OK
8640 minute winter	EXTN-SWMH-08	4080	68.401	0.015	0.4	1.7894	0.0000	OK
8640 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-11	60	68.171	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-12	4140	68.133	0.019	1.2	0.0874	0.0000	OK
8640 minute winter	EXTN-SWMH-13	4140	67.936	0.065	1.2	0.1787	0.0000	OK
8640 minute winter	EXTN-SWMH-14	4140	67.852	0.026	1.2	0.0672	0.0000	OK
8640 minute winter	S1	4140	67.700	0.022	1.2	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
8640 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.1	0.223	0.002	0.0206	
8640 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.3	0.454	0.004	0.0154	
8640 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0027	
8640 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.1	0.358	0.002	0.0045	
8640 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.2	0.367	0.001	0.0025	
8640 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
8640 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.2	0.260	0.002	0.0189	
8640 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.4	0.316	0.003	0.0691	
8640 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.0	0.000	0.000	0.0028	
8640 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	1.2	0.165	0.003	0.1425	
8640 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	1.2	0.370	0.005	0.0214	
8640 minute winter	EXTN-SWMH-14	PIPE 14	S1	1.2	0.362	0.006	0.1414	197.3



Results for 1 year 10080 minute summer. 10320 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
10080 minute summer	EXTN-SWMH-01	4020	68.961	0.008	0.1	0.0152	0.0000	OK
10080 minute summer	EXTN-SWMH-02	4560	68.607	0.011	0.3	0.0230	0.0000	OK
10080 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-04	4140	68.931	0.008	0.1	0.0137	0.0000	OK
10080 minute summer	EXTN-SWMH-05	4320	68.747	0.006	0.2	0.0097	0.0000	OK
10080 minute summer	EXTN-SWMH-06	4560	69.247	0.006	0.1	0.0093	0.0000	OK
10080 minute summer	EXTN-SWMH-07	4560	68.456	0.012	0.2	0.0364	0.0000	OK
10080 minute summer	EXTN-SWMH-08	5580	68.401	0.015	0.4	1.7894	0.0000	OK
10080 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-11	5040	68.178	0.007	0.1	0.0192	0.0000	OK
10080 minute summer	EXTN-SWMH-12	5040	68.135	0.021	1.5	0.0967	0.0000	OK
10080 minute summer	EXTN-SWMH-13	5100	67.946	0.075	1.6	0.2085	0.0000	OK
10080 minute summer	EXTN-SWMH-14	5100	67.856	0.030	1.6	0.0769	0.0000	OK
10080 minute summer	S1	5100	67.703	0.026	1.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
10080 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.1	0.223	0.002	0.0206	
10080 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.3	0.454	0.004	0.0154	
10080 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0027	
10080 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.1	0.358	0.002	0.0045	
10080 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.2	0.370	0.001	0.0025	
10080 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
10080 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.2	0.260	0.002	0.0189	
10080 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.4	0.316	0.003	0.0733	
10080 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.1	0.131	0.001	0.0048	
10080 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	1.5	0.167	0.004	0.1767	
10080 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	1.6	0.402	0.006	0.0264	
10080 minute summer	EXTN-SWMH-14	PIPE 14	S1	1.6	0.399	0.008	0.1717	201.4



Results for 1 year 10080 minute winter. 10320 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
10080 minute winter	EXTN-SWMH-01	3660	68.961	0.008	0.1	0.0152	0.0000	OK
10080 minute winter	EXTN-SWMH-02	4980	68.607	0.011	0.3	0.0230	0.0000	OK
10080 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-04	3960	68.931	0.008	0.1	0.0137	0.0000	OK
10080 minute winter	EXTN-SWMH-05	4260	68.747	0.006	0.2	0.0097	0.0000	OK
10080 minute winter	EXTN-SWMH-06	4740	69.247	0.006	0.1	0.0093	0.0000	OK
10080 minute winter	EXTN-SWMH-07	4740	68.456	0.012	0.2	0.0364	0.0000	OK
10080 minute winter	EXTN-SWMH-08	5040	68.401	0.015	0.4	1.7894	0.0000	OK
10080 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-11	60	68.171	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-12	5100	68.132	0.018	1.1	0.0840	0.0000	OK
10080 minute winter	EXTN-SWMH-13	5100	67.933	0.062	1.1	0.1714	0.0000	OK
10080 minute winter	EXTN-SWMH-14	5100	67.851	0.025	1.1	0.0645	0.0000	OK
10080 minute winter	S1	5100	67.699	0.022	1.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
10080 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.1	0.223	0.002	0.0206	
10080 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.3	0.454	0.004	0.0154	
10080 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0027	
10080 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.1	0.358	0.002	0.0045	
10080 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.2	0.366	0.001	0.0025	
10080 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
10080 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.2	0.260	0.002	0.0189	
10080 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.4	0.316	0.003	0.0691	
10080 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.0	0.000	0.000	0.0025	
10080 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	1.1	0.161	0.003	0.1340	
10080 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	1.1	0.360	0.004	0.0201	
10080 minute winter	EXTN-SWMH-14	PIPE 14	S1	1.1	0.352	0.006	0.1335	198.8



Results for 30 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EXTN-SWMH-01	10	69.045	0.092	18.1	0.1830	0.0000	OK
15 minute summer	EXTN-SWMH-02	11	68.744	0.148	48.1	0.3219	0.0000	OK
15 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXTN-SWMH-04	10	69.005	0.082	15.1	0.1462	0.0000	OK
15 minute summer	EXTN-SWMH-05	9	68.812	0.071	27.8	0.1127	0.0000	OK
15 minute summer	EXTN-SWMH-06	10	69.295	0.054	10.7	0.0912	0.0000	OK
15 minute summer	EXTN-SWMH-07	21	68.594	0.150	29.1	0.4730	0.0000	OK
15 minute summer	EXTN-SWMH-08	20	68.596	0.210	73.8	25.0271	0.0000	OK
15 minute summer	EXTN-SWMH-09	17	68.593	0.240	1.9	0.2718	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-10	16	68.597	0.238	4.8	0.3022	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-11	17	68.593	0.422	110.3	38.5376	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-12	18	68.593	0.479	133.5	2.2405	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-13	17	68.592	0.721	28.0	1.9962	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-14	117	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute summer	S1	117	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	17.8	0.887	0.358	0.8324	
15 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	46.7	1.261	0.635	0.7871	
15 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0863	
15 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	14.9	1.297	0.249	0.1621	
15 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	27.9	2.684	0.167	0.0701	
15 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	10.6	1.946	0.246	0.0503	
15 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	28.7	0.881	0.235	0.8120	
15 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-18.3	0.317	-0.131	4.7275	
15 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.9	-0.174	-0.036	0.2784	
15 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	4.4	0.439	0.122	0.5568	
15 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-99.6	-1.088	-0.532	0.6287	
15 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	25.1	0.766	0.066	2.8044	
15 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.846	0.043	0.1095	
15 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	89.6



Results for 30 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	EXTN-SWMH-01	10	69.042	0.089	17.0	0.1764	0.0000	OK
15 minute winter	EXTN-SWMH-02	11	68.732	0.136	45.1	0.2946	0.0000	OK
15 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute winter	EXTN-SWMH-04	10	69.002	0.079	14.2	0.1414	0.0000	OK
15 minute winter	EXTN-SWMH-05	9	68.809	0.068	26.1	0.1073	0.0000	OK
15 minute winter	EXTN-SWMH-06	10	69.293	0.052	10.1	0.0883	0.0000	OK
15 minute winter	EXTN-SWMH-07	18	68.594	0.150	27.3	0.4728	0.0000	OK
15 minute winter	EXTN-SWMH-08	19	68.596	0.210	68.9	24.9752	0.0000	OK
15 minute winter	EXTN-SWMH-09	18	68.593	0.240	1.7	0.2713	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-10	18	68.597	0.238	4.5	0.3027	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-11	18	68.593	0.422	104.1	38.4876	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-12	18	68.593	0.479	125.6	2.2436	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-13	18	68.592	0.721	39.0	1.9945	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-14	117	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute winter	S1	117	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	16.7	0.877	0.335	0.7640	
15 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	43.6	1.207	0.592	0.7552	
15 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0824	
15 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	14.0	1.282	0.234	0.1538	
15 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	26.1	2.569	0.157	0.0705	
15 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	10.0	1.916	0.232	0.0481	
15 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	26.7	0.864	0.219	0.8096	
15 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-16.0	0.317	-0.115	4.7231	
15 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.7	-0.129	-0.031	0.2784	
15 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	4.0	0.439	0.110	0.5568	
15 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-96.4	-1.030	-0.514	0.6287	
15 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	34.4	0.769	0.091	2.8044	
15 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.861	0.043	0.1095	
15 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	89.7



Results for 30 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	EXTN-SWMH-01	18	69.041	0.088	16.2	0.1735	0.0000	OK
30 minute summer	EXTN-SWMH-02	18	68.731	0.135	43.3	0.2922	0.0000	OK
30 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
30 minute summer	EXTN-SWMH-04	18	69.000	0.077	13.5	0.1388	0.0000	OK
30 minute summer	EXTN-SWMH-05	17	68.805	0.064	25.1	0.1014	0.0000	OK
30 minute summer	EXTN-SWMH-06	18	69.292	0.051	9.6	0.0861	0.0000	OK
30 minute summer	EXTN-SWMH-07	33	68.654	0.210	26.1	0.6591	0.0000	OK
30 minute summer	EXTN-SWMH-08	33	68.653	0.267	69.2	31.8717	0.0000	OK
30 minute summer	EXTN-SWMH-09	33	68.654	0.301	1.2	0.3400	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-10	32	68.655	0.296	4.3	0.3761	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-11	33	68.654	0.483	99.1	47.5867	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-12	33	68.653	0.539	117.0	2.5246	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-13	33	68.653	0.782	22.5	2.1646	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-14	159	67.902	0.076	11.5	0.1923	0.0000	OK
30 minute summer	S1	159	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	16.2	0.864	0.325	0.7582	
30 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	42.3	1.175	0.575	0.7524	
30 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0804	
30 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	13.5	1.277	0.226	0.1464	
30 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	25.1	2.259	0.151	0.0774	
30 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	9.6	1.897	0.222	0.0466	
30 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	25.7	0.848	0.211	1.1423	
30 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-18.7	0.317	-0.135	5.2870	
30 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.2	-0.089	-0.023	0.2784	
30 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	3.5	0.389	0.096	0.5568	
30 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-89.7	-0.928	-0.479	0.6287	
30 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.5	0.681	0.051	2.8044	
30 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.755	0.043	0.1095	
30 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	116.9



Results for 30 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	EXTN-SWMH-01	18	69.031	0.078	13.1	0.1549	0.0000	OK
30 minute winter	EXTN-SWMH-02	18	68.704	0.108	35.0	0.2352	0.0000	OK
30 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
30 minute winter	EXTN-SWMH-04	18	68.992	0.069	10.9	0.1241	0.0000	OK
30 minute winter	EXTN-SWMH-05	17	68.797	0.056	20.2	0.0879	0.0000	OK
30 minute winter	EXTN-SWMH-06	18	69.286	0.045	7.7	0.0763	0.0000	OK
30 minute winter	EXTN-SWMH-07	32	68.656	0.212	21.0	0.6676	0.0000	OK
30 minute winter	EXTN-SWMH-08	32	68.656	0.270	56.8	32.2268	0.0000	OK
30 minute winter	EXTN-SWMH-09	33	68.654	0.301	1.1	0.3410	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-10	31	68.655	0.296	3.5	0.3758	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-11	33	68.655	0.484	83.7	47.7118	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-12	33	68.654	0.540	95.2	2.5289	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-13	33	68.654	0.783	20.2	2.1678	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-14	160	67.902	0.076	11.5	0.1923	0.0000	OK
30 minute winter	S1	160	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	13.1	0.842	0.263	0.6046	
30 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	35.0	1.073	0.475	0.6839	
30 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0689	
30 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	10.9	1.230	0.182	0.1231	
30 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	20.2	2.140	0.121	0.0772	
30 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	7.7	1.791	0.178	0.0396	
30 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	20.8	0.806	0.171	1.1578	
30 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-17.3	0.317	-0.124	5.3143	
30 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.1	-0.093	-0.020	0.2784	
30 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	2.4	0.397	0.066	0.5568	
30 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-77.7	-0.795	-0.415	0.6287	
30 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.0	0.672	0.050	2.8044	
30 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.774	0.043	0.1095	
30 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	116.9



Results for 30 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	EXTN-SWMH-01	33	69.028	0.075	12.0	0.1479	0.0000	OK
60 minute summer	EXTN-SWMH-02	33	68.699	0.103	32.2	0.2241	0.0000	OK
60 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
60 minute summer	EXTN-SWMH-04	33	68.990	0.067	10.1	0.1195	0.0000	OK
60 minute summer	EXTN-SWMH-05	32	68.793	0.052	18.7	0.0823	0.0000	OK
60 minute summer	EXTN-SWMH-06	33	69.284	0.043	7.1	0.0730	0.0000	OK
60 minute summer	EXTN-SWMH-07	61	68.692	0.248	19.4	0.7785	0.0000	OK
60 minute summer	EXTN-SWMH-08	61	68.692	0.306	57.7	36.4183	0.0000	OK
60 minute summer	EXTN-SWMH-09	61	68.691	0.338	0.9	0.3828	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-10	61	68.692	0.333	3.2	0.4232	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-11	61	68.692	0.520	76.5	53.2494	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-12	61	68.691	0.577	87.7	2.7020	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-13	61	68.691	0.820	18.6	2.2699	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-14	206	67.902	0.076	11.5	0.1923	0.0000	OK
60 minute summer	S1	207	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	12.0	0.822	0.241	0.5680	
60 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	32.2	0.970	0.437	0.6706	
60 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0654	
60 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	10.1	1.218	0.169	0.1149	
60 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	18.7	1.711	0.112	0.0781	
60 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	7.1	1.752	0.164	0.0373	
60 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	19.4	0.771	0.159	1.3433	
60 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-20.8	0.318	-0.149	5.6157	
60 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.9	-0.069	-0.018	0.2784	
60 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	2.6	0.369	0.071	0.5568	
60 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-70.1	-0.705	-0.374	0.6287	
60 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	16.8	0.647	0.044	2.8044	
60 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
60 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	146.3



Results for 30 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	EXTN-SWMH-01	33	69.016	0.063	8.7	0.1253	0.0000	OK
60 minute winter	EXTN-SWMH-02	59	68.694	0.098	23.3	0.2134	0.0000	OK
60 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
60 minute winter	EXTN-SWMH-04	33	68.979	0.056	7.3	0.1011	0.0000	OK
60 minute winter	EXTN-SWMH-05	33	68.784	0.043	13.5	0.0683	0.0000	OK
60 minute winter	EXTN-SWMH-06	33	69.278	0.037	5.2	0.0620	0.0000	OK
60 minute winter	EXTN-SWMH-07	60	68.695	0.251	14.1	0.7895	0.0000	OK
60 minute winter	EXTN-SWMH-08	60	68.695	0.309	44.5	36.8402	0.0000	OK
60 minute winter	EXTN-SWMH-09	60	68.695	0.342	0.7	0.3866	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-10	60	68.695	0.336	2.3	0.4271	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-11	60	68.695	0.524	57.9	53.7437	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-12	60	68.695	0.581	67.8	2.7174	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-13	60	68.694	0.823	24.6	2.2791	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-14	207	67.902	0.076	11.5	0.1923	0.0000	OK
60 minute winter	S1	207	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	8.7	0.754	0.174	0.4492	
60 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	23.3	0.984	0.317	0.6577	
60 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0517	
60 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	7.3	1.122	0.122	0.0903	
60 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	13.5	1.515	0.081	0.0770	
60 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	5.2	1.610	0.120	0.0297	
60 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	14.1	0.702	0.116	1.3607	
60 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-17.0	0.317	-0.122	5.6431	
60 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.7	-0.072	-0.013	0.2784	
60 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.8	0.369	0.049	0.5568	
60 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-53.7	-0.552	-0.287	0.6287	
60 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.5	0.596	0.062	2.8044	
60 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
60 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	146.3



Results for 30 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.94%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	EXTN-SWMH-01	64	69.013	0.060	7.8	0.1185	0.0000	OK
120 minute summer	EXTN-SWMH-02	100	68.693	0.097	20.9	0.2111	0.0000	OK
120 minute summer	EXTN-SWMH-03	2	69.116	0.000	0.0	0.0000	0.0000	OK
120 minute summer	EXTN-SWMH-04	64	68.976	0.053	6.5	0.0952	0.0000	OK
120 minute summer	EXTN-SWMH-05	64	68.782	0.041	12.1	0.0648	0.0000	OK
120 minute summer	EXTN-SWMH-06	64	69.275	0.034	4.6	0.0581	0.0000	OK
120 minute summer	EXTN-SWMH-07	102	68.693	0.249	12.6	0.7842	0.0000	OK
120 minute summer	EXTN-SWMH-08	102	68.693	0.307	39.1	36.6405	0.0000	OK
120 minute summer	EXTN-SWMH-09	102	68.693	0.340	0.5	0.3847	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-10	100	68.693	0.334	2.1	0.4246	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-11	100	68.693	0.522	45.5	53.4811	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-12	100	68.693	0.579	56.9	2.7098	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-13	100	68.693	0.822	26.2	2.2746	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-14	264	67.902	0.076	11.5	0.1923	0.0000	OK
120 minute summer	S1	264	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	7.8	0.732	0.157	0.4155	
120 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	20.9	0.879	0.284	0.6550	
120 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0474	
120 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	6.5	1.083	0.109	0.0831	
120 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	12.1	1.280	0.073	0.0762	
120 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	4.6	1.557	0.106	0.0272	
120 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	12.5	0.641	0.103	1.3524	
120 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-14.6	0.341	-0.105	5.6302	
120 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.5	-0.054	-0.010	0.2784	
120 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.5	0.344	0.042	0.5568	
120 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-42.1	-0.437	-0.225	0.6287	
120 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	24.9	0.611	0.066	2.8044	
120 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
120 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	178.2



Results for 30 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	EXTN-SWMH-01	64	69.003	0.050	5.4	0.0986	0.0000	OK
120 minute winter	EXTN-SWMH-02	110	68.694	0.098	14.4	0.2119	0.0000	OK
120 minute winter	EXTN-SWMH-03	2	69.116	0.000	0.0	0.0000	0.0000	OK
120 minute winter	EXTN-SWMH-04	64	68.967	0.044	4.5	0.0790	0.0000	OK
120 minute winter	EXTN-SWMH-05	64	68.775	0.034	8.3	0.0539	0.0000	OK
120 minute winter	EXTN-SWMH-06	64	69.269	0.028	3.2	0.0482	0.0000	OK
120 minute winter	EXTN-SWMH-07	112	68.694	0.250	8.7	0.7847	0.0000	OK
120 minute winter	EXTN-SWMH-08	112	68.694	0.308	27.4	36.6599	0.0000	OK
120 minute winter	EXTN-SWMH-09	112	68.693	0.340	0.4	0.3851	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-10	112	68.693	0.334	1.4	0.4251	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-11	112	68.693	0.522	32.9	53.5353	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-12	112	68.693	0.579	45.3	2.7116	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-13	112	68.693	0.822	21.8	2.2755	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-14	264	67.902	0.076	11.5	0.1923	0.0000	OK
120 minute winter	S1	264	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	5.4	0.661	0.108	0.3593	
120 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	14.4	0.899	0.196	0.6559	
120 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0364	
120 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	4.5	0.979	0.075	0.0637	
120 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	8.3	1.273	0.050	0.0751	
120 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	3.2	1.406	0.074	0.0209	
120 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	8.4	0.566	0.069	1.3532	
120 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-10.8	0.323	-0.077	5.6314	
120 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.034	-0.008	0.2784	
120 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.1	0.349	0.031	0.5568	
120 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-30.8	-0.321	-0.164	0.6287	
120 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	20.8	0.495	0.055	2.8044	
120 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
120 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	178.3



Results for 30 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	EXTN-SWMH-01	96	69.005	0.052	5.8	0.1021	0.0000	OK
180 minute summer	EXTN-SWMH-02	136	68.680	0.084	15.5	0.1826	0.0000	OK
180 minute summer	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
180 minute summer	EXTN-SWMH-04	96	68.969	0.046	4.8	0.0816	0.0000	OK
180 minute summer	EXTN-SWMH-05	96	68.776	0.035	8.9	0.0558	0.0000	OK
180 minute summer	EXTN-SWMH-06	96	69.270	0.029	3.4	0.0497	0.0000	OK
180 minute summer	EXTN-SWMH-07	136	68.680	0.236	9.3	0.7427	0.0000	OK
180 minute summer	EXTN-SWMH-08	136	68.680	0.294	29.6	35.0636	0.0000	OK
180 minute summer	EXTN-SWMH-09	136	68.680	0.327	0.4	0.3698	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-10	136	68.680	0.321	1.5	0.4080	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-11	136	68.680	0.509	34.8	51.5236	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-12	136	68.680	0.566	45.8	2.6487	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-13	136	68.680	0.809	21.8	2.2384	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-14	308	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute summer	S1	308	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	5.8	0.674	0.116	0.3356	
180 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	15.5	0.834	0.211	0.6212	
180 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0381	
180 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	4.8	0.996	0.080	0.0668	
180 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	8.9	1.115	0.053	0.0747	
180 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	3.4	1.431	0.079	0.0219	
180 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	9.2	0.574	0.076	1.2852	
180 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-11.6	0.388	-0.083	5.5230	
180 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.026	-0.008	0.2784	
180 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.2	0.332	0.032	0.5568	
180 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-32.6	-0.338	-0.174	0.6287	
180 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	20.6	0.354	0.054	2.8044	
180 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
180 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	198.0



Results for 30 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	EXTN-SWMH-01	96	68.996	0.043	4.0	0.0850	0.0000	OK
180 minute winter	EXTN-SWMH-02	144	68.674	0.078	10.7	0.1685	0.0000	OK
180 minute winter	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
180 minute winter	EXTN-SWMH-04	96	68.961	0.038	3.3	0.0677	0.0000	OK
180 minute winter	EXTN-SWMH-05	96	68.770	0.029	6.1	0.0465	0.0000	OK
180 minute winter	EXTN-SWMH-06	96	69.266	0.025	2.4	0.0417	0.0000	OK
180 minute winter	EXTN-SWMH-07	140	68.674	0.230	6.5	0.7224	0.0000	OK
180 minute winter	EXTN-SWMH-08	140	68.674	0.288	19.0	34.2950	0.0000	OK
180 minute winter	EXTN-SWMH-09	144	68.673	0.320	0.3	0.3625	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-10	144	68.673	0.314	1.1	0.3997	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-11	144	68.673	0.502	22.9	50.5483	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-12	144	68.673	0.559	34.8	2.6182	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-13	144	68.673	0.802	14.5	2.2203	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-14	304	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute winter	S1	304	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	4.0	0.606	0.080	0.2747	
180 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	10.7	0.868	0.145	0.6048	
180 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0291	
180 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	3.3	0.894	0.055	0.0512	
180 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	6.1	1.156	0.037	0.0739	
180 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.4	1.295	0.056	0.0170	
180 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	6.4	0.506	0.053	1.2516	
180 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	8.9	0.381	0.064	5.4685	
180 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.031	-0.005	0.2784	
180 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.8	0.332	0.023	0.5568	
180 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-21.3	0.249	-0.114	0.6287	
180 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	13.6	0.450	0.036	2.8044	
180 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
180 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	198.2



Results for 30 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	EXTN-SWMH-01	124	69.000	0.047	4.9	0.0935	0.0000	OK
240 minute summer	EXTN-SWMH-02	168	68.664	0.068	13.0	0.1465	0.0000	OK
240 minute summer	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
240 minute summer	EXTN-SWMH-04	124	68.965	0.042	4.1	0.0752	0.0000	OK
240 minute summer	EXTN-SWMH-05	124	68.774	0.033	7.6	0.0516	0.0000	OK
240 minute summer	EXTN-SWMH-06	124	69.268	0.027	2.9	0.0458	0.0000	OK
240 minute summer	EXTN-SWMH-07	168	68.664	0.220	7.9	0.6906	0.0000	OK
240 minute summer	EXTN-SWMH-08	168	68.664	0.278	20.9	33.0821	0.0000	OK
240 minute summer	EXTN-SWMH-09	168	68.663	0.310	0.3	0.3510	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-10	168	68.663	0.304	1.3	0.3867	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-11	168	68.663	0.492	25.9	49.0227	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-12	168	68.663	0.549	37.6	2.5708	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-13	168	68.663	0.792	25.9	2.1923	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-14	344	67.902	0.076	11.5	0.1923	0.0000	OK
240 minute summer	S1	344	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	4.9	0.643	0.097	0.2947	
240 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	12.9	0.845	0.175	0.5800	
240 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0339	
240 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	4.1	0.949	0.068	0.0595	
240 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	7.6	1.021	0.045	0.0739	
240 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.9	1.365	0.067	0.0195	
240 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	7.3	0.529	0.060	1.1973	
240 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	9.1	0.409	0.066	5.3791	
240 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.022	-0.006	0.2784	
240 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.1	0.342	0.029	0.5568	
240 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-24.1	-0.261	-0.129	0.6287	
240 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	24.9	0.351	0.066	2.8044	
240 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
240 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	212.8



Results for 30 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	EXTN-SWMH-01	128	68.991	0.038	3.2	0.0762	0.0000	OK
240 minute winter	EXTN-SWMH-02	180	68.649	0.053	8.6	0.1140	0.0000	OK
240 minute winter	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
240 minute winter	EXTN-SWMH-04	124	68.957	0.034	2.7	0.0613	0.0000	OK
240 minute winter	EXTN-SWMH-05	124	68.768	0.027	5.0	0.0423	0.0000	OK
240 minute winter	EXTN-SWMH-06	124	69.263	0.022	1.9	0.0372	0.0000	OK
240 minute winter	EXTN-SWMH-07	180	68.648	0.204	5.2	0.6424	0.0000	OK
240 minute winter	EXTN-SWMH-08	180	68.648	0.262	12.9	31.2587	0.0000	OK
240 minute winter	EXTN-SWMH-09	180	68.648	0.295	0.2	0.3340	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-10	180	68.648	0.289	0.9	0.3677	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-11	180	68.648	0.477	18.3	46.7755	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-12	180	68.648	0.534	29.1	2.5005	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-13	180	68.648	0.777	21.0	2.1508	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-14	340	67.902	0.076	11.5	0.1923	0.0000	OK
240 minute winter	S1	340	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.2	0.569	0.064	0.2204	
240 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	8.6	0.846	0.117	0.5453	
240 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0252	
240 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.7	0.843	0.045	0.0444	
240 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	5.0	1.085	0.030	0.0731	
240 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.9	1.211	0.044	0.0144	
240 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	5.2	0.471	0.042	1.1134	
240 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	7.8	0.391	0.056	5.2394	
240 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.019	-0.004	0.2784	
240 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.7	0.335	0.018	0.5568	
240 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-16.7	0.291	-0.089	0.6287	
240 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	20.2	0.454	0.053	2.8044	
240 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
240 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	213.0



Results for 30 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	EXTN-SWMH-01	184	68.994	0.041	3.7	0.0815	0.0000	OK
360 minute summer	EXTN-SWMH-02	184	68.651	0.055	9.8	0.1192	0.0000	OK
360 minute summer	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
360 minute summer	EXTN-SWMH-04	184	68.960	0.037	3.1	0.0654	0.0000	OK
360 minute summer	EXTN-SWMH-05	184	68.769	0.028	5.7	0.0449	0.0000	OK
360 minute summer	EXTN-SWMH-06	184	69.265	0.024	2.2	0.0399	0.0000	OK
360 minute summer	EXTN-SWMH-07	240	68.628	0.184	5.9	0.5779	0.0000	OK
360 minute summer	EXTN-SWMH-08	240	68.628	0.242	11.5	28.8074	0.0000	OK
360 minute summer	EXTN-SWMH-09	240	68.627	0.274	0.2	0.3103	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-10	240	68.627	0.268	1.0	0.3410	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-11	240	68.627	0.456	19.9	43.6280	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-12	240	68.627	0.513	31.2	2.4025	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-13	240	68.627	0.756	17.8	2.0927	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-14	408	67.902	0.076	11.5	0.1923	0.0000	OK
360 minute summer	S1	408	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.7	0.593	0.074	0.2414	
360 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	9.7	0.833	0.132	0.5506	
360 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0277	
360 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	3.1	0.877	0.052	0.0487	
360 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	5.7	0.932	0.034	0.0725	
360 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.2	1.263	0.051	0.0160	
360 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	5.9	0.486	0.048	0.9980	
360 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	8.2	0.401	0.059	5.0428	
360 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.015	-0.005	0.2784	
360 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.7	0.334	0.020	0.5568	
360 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-18.4	-0.300	-0.098	0.6287	
360 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	17.2	0.249	0.045	2.8044	
360 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
360 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	234.1



Results for 30 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	EXTN-SWMH-01	184	68.986	0.033	2.4	0.0662	0.0000	OK
360 minute winter	EXTN-SWMH-02	184	68.641	0.045	6.4	0.0967	0.0000	OK
360 minute winter	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
360 minute winter	EXTN-SWMH-04	184	68.953	0.029	2.0	0.0529	0.0000	OK
360 minute winter	EXTN-SWMH-05	184	68.764	0.023	3.7	0.0367	0.0000	OK
360 minute winter	EXTN-SWMH-06	184	69.260	0.019	1.4	0.0320	0.0000	OK
360 minute winter	EXTN-SWMH-07	248	68.590	0.146	3.8	0.4604	0.0000	OK
360 minute winter	EXTN-SWMH-08	248	68.590	0.204	7.5	24.3435	0.0000	OK
360 minute winter	EXTN-SWMH-09	248	68.590	0.237	0.1	0.2677	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-10	248	68.590	0.231	0.6	0.2933	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-11	248	68.590	0.419	10.5	37.9867	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-12	248	68.590	0.476	22.2	2.2266	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-13	248	68.589	0.718	26.6	1.9887	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-14	400	67.902	0.076	11.5	0.1923	0.0000	OK
360 minute winter	S1	400	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.4	0.522	0.048	0.1790	
360 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	6.4	0.811	0.087	0.5281	
360 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0203	
360 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.0	0.771	0.033	0.0358	
360 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.7	0.977	0.022	0.0685	
360 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.4	1.107	0.032	0.0116	
360 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.8	0.423	0.031	0.7842	
360 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.2	0.398	0.045	4.6696	
360 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	0.016	-0.003	0.2784	
360 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.5	0.317	0.014	0.5568	
360 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-9.4	-0.313	-0.050	0.6287	
360 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	25.8	0.240	0.068	2.8044	
360 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
360 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	234.5



Results for 30 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	EXTN-SWMH-01	248	68.990	0.037	2.9	0.0727	0.0000	OK
480 minute summer	EXTN-SWMH-02	248	68.645	0.049	7.7	0.1061	0.0000	OK
480 minute summer	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
480 minute summer	EXTN-SWMH-04	248	68.955	0.032	2.4	0.0578	0.0000	OK
480 minute summer	EXTN-SWMH-05	248	68.766	0.025	4.4	0.0399	0.0000	OK
480 minute summer	EXTN-SWMH-06	248	69.262	0.021	1.7	0.0352	0.0000	OK
480 minute summer	EXTN-SWMH-07	304	68.589	0.145	4.6	0.4561	0.0000	OK
480 minute summer	EXTN-SWMH-08	304	68.589	0.203	9.4	24.1811	0.0000	OK
480 minute summer	EXTN-SWMH-09	304	68.588	0.235	0.2	0.2661	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-10	304	68.588	0.229	0.8	0.2914	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-11	304	68.588	0.417	12.8	37.7667	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-12	304	68.588	0.474	25.1	2.2197	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-13	304	68.588	0.717	21.0	1.9846	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-14	464	67.902	0.076	11.5	0.1923	0.0000	OK
480 minute summer	S1	464	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.9	0.553	0.058	0.2046	
480 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	7.7	0.816	0.105	0.5373	
480 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0232	
480 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.4	0.816	0.040	0.0408	
480 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	4.4	0.876	0.026	0.0681	
480 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.7	1.172	0.039	0.0133	
480 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	4.6	0.451	0.038	0.7764	
480 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.6	0.418	0.048	4.6558	
480 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.015	-0.003	0.2784	
480 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.6	0.320	0.018	0.5568	
480 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-11.6	0.324	-0.062	0.6287	
480 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	20.3	0.239	0.054	2.8044	
480 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
480 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	250.3



Results for 30 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	EXTN-SWMH-01	248	68.983	0.030	1.9	0.0593	0.0000	OK
480 minute winter	EXTN-SWMH-02	248	68.636	0.040	5.1	0.0867	0.0000	OK
480 minute winter	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
480 minute winter	EXTN-SWMH-04	248	68.950	0.027	1.6	0.0475	0.0000	OK
480 minute winter	EXTN-SWMH-05	248	68.762	0.021	3.0	0.0333	0.0000	OK
480 minute winter	EXTN-SWMH-06	240	69.258	0.017	1.1	0.0285	0.0000	OK
480 minute winter	EXTN-SWMH-07	320	68.534	0.090	3.0	0.2844	0.0000	OK
480 minute winter	EXTN-SWMH-08	320	68.534	0.148	6.0	17.6517	0.0000	OK
480 minute winter	EXTN-SWMH-09	320	68.534	0.181	0.1	0.2046	0.0000	OK
480 minute winter	EXTN-SWMH-10	320	68.534	0.175	0.5	0.2223	0.0000	OK
480 minute winter	EXTN-SWMH-11	320	68.534	0.363	9.0	29.6143	0.0000	OK
480 minute winter	EXTN-SWMH-12	320	68.534	0.420	21.9	1.9652	0.0000	OK
480 minute winter	EXTN-SWMH-13	320	68.534	0.663	21.5	1.8341	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-14	448	67.902	0.076	11.5	0.1923	0.0000	OK
480 minute winter	S1	448	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.9	0.486	0.038	0.1527	
480 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	5.1	0.813	0.069	0.5187	
480 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0174	
480 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.6	0.720	0.027	0.0308	
480 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.0	0.912	0.018	0.0506	
480 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.1	1.031	0.025	0.0098	
480 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.0	0.399	0.025	0.4721	
480 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.7	0.430	0.041	4.1019	
480 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	0.010	-0.002	0.2590	
480 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.317	0.012	0.5103	
480 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	8.8	0.516	0.047	0.6256	
480 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	20.9	0.299	0.055	2.7646	
480 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.696	0.043	0.1095	
480 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	250.7



Results for 30 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	EXTN-SWMH-01	315	68.986	0.033	2.3	0.0649	0.0000	OK
600 minute summer	EXTN-SWMH-02	315	68.640	0.044	6.2	0.0954	0.0000	OK
600 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
600 minute summer	EXTN-SWMH-04	315	68.952	0.029	1.9	0.0516	0.0000	OK
600 minute summer	EXTN-SWMH-05	315	68.764	0.023	3.6	0.0362	0.0000	OK
600 minute summer	EXTN-SWMH-06	315	69.260	0.019	1.4	0.0320	0.0000	OK
600 minute summer	EXTN-SWMH-07	375	68.551	0.107	3.8	0.3364	0.0000	OK
600 minute summer	EXTN-SWMH-08	375	68.551	0.165	7.4	19.6358	0.0000	OK
600 minute summer	EXTN-SWMH-09	375	68.551	0.198	0.2	0.2243	0.0000	OK
600 minute summer	EXTN-SWMH-10	375	68.551	0.192	0.6	0.2445	0.0000	OK
600 minute summer	EXTN-SWMH-11	375	68.551	0.380	12.1	32.2302	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-12	375	68.551	0.437	23.3	2.0465	0.0000	OK
600 minute summer	EXTN-SWMH-13	375	68.551	0.680	19.7	1.8822	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-14	285	67.902	0.076	11.5	0.1923	0.0000	OK
600 minute summer	S1	285	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.3	0.514	0.046	0.1749	
600 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	6.2	0.809	0.084	0.5269	
600 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0196	
600 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.9	0.756	0.032	0.0348	
600 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.6	0.874	0.022	0.0564	
600 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.4	1.107	0.032	0.0116	
600 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.8	0.440	0.031	0.5619	
600 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.5	0.401	0.046	4.2689	
600 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.012	-0.003	0.2690	
600 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.5	0.318	0.014	0.5315	
600 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-10.8	0.186	-0.058	0.6287	
600 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	18.8	0.238	0.050	2.7936	
600 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
600 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	262.0



Results for 30 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	EXTN-SWMH-01	315	68.981	0.028	1.6	0.0546	0.0000	OK
600 minute winter	EXTN-SWMH-02	315	68.633	0.037	4.3	0.0798	0.0000	OK
600 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
600 minute winter	EXTN-SWMH-04	300	68.947	0.024	1.3	0.0431	0.0000	OK
600 minute winter	EXTN-SWMH-05	300	68.760	0.019	2.4	0.0300	0.0000	OK
600 minute winter	EXTN-SWMH-06	300	69.256	0.015	0.9	0.0259	0.0000	OK
600 minute winter	EXTN-SWMH-07	390	68.481	0.037	2.5	0.1179	0.0000	OK
600 minute winter	EXTN-SWMH-08	390	68.481	0.095	4.9	11.2834	0.0000	OK
600 minute winter	EXTN-SWMH-09	390	68.481	0.128	0.1	0.1451	0.0000	OK
600 minute winter	EXTN-SWMH-10	390	68.481	0.122	0.4	0.1555	0.0000	OK
600 minute winter	EXTN-SWMH-11	390	68.481	0.310	5.5	21.7269	0.0000	OK
600 minute winter	EXTN-SWMH-12	390	68.481	0.367	28.7	1.7188	0.0000	OK
600 minute winter	EXTN-SWMH-13	390	68.481	0.610	25.4	1.6886	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-14	285	67.902	0.076	11.5	0.1923	0.0000	OK
600 minute winter	S1	285	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.6	0.461	0.032	0.1355	
600 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	4.3	0.805	0.058	0.5124	
600 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0150	
600 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.3	0.679	0.022	0.0265	
600 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.4	0.867	0.014	0.0299	
600 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.9	0.971	0.021	0.0085	
600 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.5	0.373	0.021	0.2138	
600 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.9	0.422	0.035	3.5554	
600 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.008	-0.001	0.2136	
600 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.295	0.011	0.4062	
600 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	14.7	0.442	0.078	0.5881	
600 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	24.8	0.237	0.065	2.6282	
600 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.697	0.043	0.1095	
600 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	264.7



Results for 30 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	EXTN-SWMH-01	375	68.984	0.031	2.1	0.0622	0.0000	OK
720 minute summer	EXTN-SWMH-02	375	68.638	0.041	5.5	0.0900	0.0000	OK
720 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
720 minute summer	EXTN-SWMH-04	375	68.950	0.027	1.7	0.0489	0.0000	OK
720 minute summer	EXTN-SWMH-05	375	68.763	0.022	3.2	0.0343	0.0000	OK
720 minute summer	EXTN-SWMH-06	375	69.259	0.018	1.2	0.0297	0.0000	OK
720 minute summer	EXTN-SWMH-07	435	68.518	0.074	3.3	0.2329	0.0000	OK
720 minute summer	EXTN-SWMH-08	435	68.518	0.132	6.5	15.6990	0.0000	OK
720 minute summer	EXTN-SWMH-09	435	68.519	0.166	0.1	0.1872	0.0000	OK
720 minute summer	EXTN-SWMH-10	435	68.519	0.160	0.5	0.2028	0.0000	OK
720 minute summer	EXTN-SWMH-11	435	68.519	0.348	9.1	27.3117	0.0000	OK
720 minute summer	EXTN-SWMH-12	435	68.518	0.404	20.7	1.8930	0.0000	OK
720 minute summer	EXTN-SWMH-13	435	68.518	0.647	15.7	1.7915	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-14	555	67.902	0.076	11.5	0.1923	0.0000	OK
720 minute summer	S1	555	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.1	0.506	0.042	0.1621	
720 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	5.5	0.802	0.075	0.5218	
720 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0181	
720 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.7	0.734	0.028	0.0322	
720 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.2	0.796	0.019	0.0444	
720 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.2	1.057	0.028	0.0104	
720 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.3	0.418	0.027	0.3871	
720 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.7	0.413	0.041	3.9409	
720 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.011	-0.002	0.2488	
720 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.5	0.318	0.014	0.4892	
720 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-7.9	0.186	-0.042	0.6183	
720 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	14.9	0.237	0.039	2.7309	
720 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
720 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	272.9



Results for 30 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	EXTN-SWMH-01	375	68.979	0.026	1.4	0.0513	0.0000	OK
720 minute winter	EXTN-SWMH-02	375	68.630	0.034	3.7	0.0742	0.0000	OK
720 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
720 minute winter	EXTN-SWMH-04	375	68.946	0.023	1.2	0.0415	0.0000	OK
720 minute winter	EXTN-SWMH-05	375	68.759	0.018	2.2	0.0288	0.0000	OK
720 minute winter	EXTN-SWMH-06	360	69.255	0.014	0.8	0.0244	0.0000	OK
720 minute winter	EXTN-SWMH-07	360	68.479	0.035	2.2	0.1091	0.0000	OK
720 minute winter	EXTN-SWMH-08	435	68.438	0.052	4.4	6.1141	0.0000	OK
720 minute winter	EXTN-SWMH-09	450	68.437	0.084	0.0	0.0950	0.0000	OK
720 minute winter	EXTN-SWMH-10	450	68.437	0.078	0.4	0.0992	0.0000	OK
720 minute winter	EXTN-SWMH-11	450	68.437	0.266	4.7	15.0839	0.0000	OK
720 minute winter	EXTN-SWMH-12	435	68.437	0.323	15.4	1.5118	0.0000	OK
720 minute winter	EXTN-SWMH-13	435	68.437	0.566	20.0	1.5662	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-14	525	67.902	0.076	11.5	0.1923	0.0000	OK
720 minute winter	S1	525	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.4	0.446	0.028	0.1224	
720 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	3.7	0.800	0.050	0.5075	
720 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0142	
720 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.2	0.665	0.020	0.0251	
720 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.2	0.834	0.013	0.0141	
720 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.8	0.938	0.019	0.0078	
720 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.2	0.365	0.018	0.1038	
720 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.4	0.447	0.031	2.9445	
720 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.1	0.010	0.001	0.1515	
720 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.295	0.011	0.2778	
720 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	5.6	-0.239	0.030	0.5208	
720 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.5	0.273	0.051	2.4801	
720 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
720 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	271.7



Results for 30 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	EXTN-SWMH-01	495	68.981	0.028	1.7	0.0562	0.0000	OK
960 minute summer	EXTN-SWMH-02	495	68.634	0.038	4.5	0.0816	0.0000	OK
960 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
960 minute summer	EXTN-SWMH-04	495	68.948	0.025	1.4	0.0446	0.0000	OK
960 minute summer	EXTN-SWMH-05	495	68.761	0.020	2.6	0.0311	0.0000	OK
960 minute summer	EXTN-SWMH-06	495	69.257	0.016	1.0	0.0272	0.0000	OK
960 minute summer	EXTN-SWMH-07	495	68.482	0.038	2.7	0.1202	0.0000	OK
960 minute summer	EXTN-SWMH-08	555	68.465	0.079	5.3	9.3965	0.0000	OK
960 minute summer	EXTN-SWMH-09	555	68.464	0.111	0.1	0.1258	0.0000	OK
960 minute summer	EXTN-SWMH-10	555	68.464	0.105	0.4	0.1337	0.0000	OK
960 minute summer	EXTN-SWMH-11	555	68.464	0.293	7.2	19.1669	0.0000	OK
960 minute summer	EXTN-SWMH-12	555	68.464	0.350	28.9	1.6393	0.0000	OK
960 minute summer	EXTN-SWMH-13	555	68.464	0.593	15.2	1.6416	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-14	645	67.902	0.076	11.5	0.1923	0.0000	OK
960 minute summer	S1	645	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.7	0.473	0.034	0.1404	
960 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	4.5	0.800	0.061	0.5141	
960 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0158	
960 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.4	0.692	0.023	0.0279	
960 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.6	0.712	0.016	0.0238	
960 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.0	1.002	0.023	0.0092	
960 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.7	0.389	0.022	0.1627	
960 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.2	0.430	0.037	3.3366	
960 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.009	-0.001	0.1909	
960 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.295	0.011	0.3584	
960 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-6.3	0.291	-0.033	0.5650	
960 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	14.5	0.237	0.038	2.5739	
960 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.695	0.043	0.1095	
960 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	293.3



Results for 30 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	EXTN-SWMH-01	480	68.976	0.023	1.1	0.0458	0.0000	OK
960 minute winter	EXTN-SWMH-02	495	68.627	0.031	3.0	0.0671	0.0000	OK
960 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
960 minute winter	EXTN-SWMH-04	525	68.943	0.020	0.9	0.0362	0.0000	OK
960 minute winter	EXTN-SWMH-05	480	68.757	0.016	1.7	0.0256	0.0000	OK
960 minute winter	EXTN-SWMH-06	495	69.255	0.014	0.7	0.0230	0.0000	OK
960 minute winter	EXTN-SWMH-07	495	68.476	0.032	1.8	0.0994	0.0000	OK
960 minute winter	EXTN-SWMH-08	495	68.426	0.040	3.5	4.7772	0.0000	OK
960 minute winter	EXTN-SWMH-09	15	68.353	0.000	0.0	0.0000	0.0000	OK
960 minute winter	EXTN-SWMH-10	450	68.374	0.015	0.3	0.0191	0.0000	OK
960 minute winter	EXTN-SWMH-11	540	68.346	0.175	5.9	1.4365	0.0000	OK
960 minute winter	EXTN-SWMH-12	570	68.350	0.236	16.4	1.1044	0.0000	OK
960 minute winter	EXTN-SWMH-13	540	68.357	0.486	38.0	1.3465	0.0000	SURCHARGED
960 minute winter	EXTN-SWMH-14	525	67.902	0.076	11.5	0.1922	0.0000	OK
960 minute winter	S1	525	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.1	0.415	0.022	0.1048	
960 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	3.0	0.792	0.041	0.4906	
960 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0116	
960 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.9	0.612	0.015	0.0206	
960 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.7	0.712	0.010	0.0107	
960 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.7	0.903	0.016	0.0071	
960 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.8	0.337	0.015	0.0835	
960 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.5	0.447	0.025	2.0704	
960 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0346	
960 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.008	0.0614	
960 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-5.4	0.234	-0.029	0.3377	
960 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	37.5	0.430	0.099	2.1330	
960 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
960 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7202	293.0



Results for 30 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	EXTN-SWMH-01	750	68.977	0.024	1.2	0.0477	0.0000	OK
1440 minute summer	EXTN-SWMH-02	750	68.628	0.032	3.2	0.0692	0.0000	OK
1440 minute summer	EXTN-SWMH-03	30	69.116	0.000	0.0	0.0000	0.0000	OK
1440 minute summer	EXTN-SWMH-04	750	68.944	0.021	1.0	0.0379	0.0000	OK
1440 minute summer	EXTN-SWMH-05	750	68.758	0.017	1.9	0.0269	0.0000	OK
1440 minute summer	EXTN-SWMH-06	750	69.255	0.014	0.7	0.0230	0.0000	OK
1440 minute summer	EXTN-SWMH-07	750	68.476	0.032	1.9	0.1019	0.0000	OK
1440 minute summer	EXTN-SWMH-08	750	68.428	0.042	3.8	4.9748	0.0000	OK
1440 minute summer	EXTN-SWMH-09	780	68.361	0.008	0.0	0.0095	0.0000	OK
1440 minute summer	EXTN-SWMH-10	720	68.374	0.015	0.3	0.0191	0.0000	OK
1440 minute summer	EXTN-SWMH-11	780	68.362	0.191	3.0	3.7676	0.0000	OK
1440 minute summer	EXTN-SWMH-12	780	68.357	0.243	22.6	1.1379	0.0000	OK
1440 minute summer	EXTN-SWMH-13	810	68.379	0.508	20.1	1.4056	0.0000	SURCHARGED
1440 minute summer	EXTN-SWMH-14	780	67.902	0.076	11.5	0.1923	0.0000	OK
1440 minute summer	S1	780	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.2	0.424	0.024	0.1104	
1440 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	3.2	0.798	0.044	0.4985	
1440 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0124	
1440 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.0	0.624	0.017	0.0222	
1440 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.9	0.712	0.011	0.0113	
1440 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.7	0.903	0.016	0.0071	
1440 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.9	0.346	0.016	0.0878	
1440 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.8	0.446	0.027	2.1572	
1440 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.002	0.000	0.0478	
1440 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.008	0.0834	
1440 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	10.5	0.440	0.056	0.3685	
1440 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.6	0.235	0.052	2.1754	
1440 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
1440 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	317.0



Results for 30 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	EXTN-SWMH-01	720	68.973	0.020	0.8	0.0394	0.0000	OK
1440 minute winter	EXTN-SWMH-02	720	68.622	0.026	2.1	0.0566	0.0000	OK
1440 minute winter	EXTN-SWMH-03	30	69.116	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	EXTN-SWMH-04	750	68.941	0.018	0.7	0.0321	0.0000	OK
1440 minute winter	EXTN-SWMH-05	750	68.755	0.014	1.3	0.0226	0.0000	OK
1440 minute winter	EXTN-SWMH-06	720	69.253	0.012	0.5	0.0196	0.0000	OK
1440 minute winter	EXTN-SWMH-07	720	68.471	0.027	1.3	0.0855	0.0000	OK
1440 minute winter	EXTN-SWMH-08	750	68.421	0.035	2.6	4.1495	0.0000	OK
1440 minute winter	EXTN-SWMH-09	30	68.353	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	EXTN-SWMH-10	630	68.371	0.012	0.2	0.0157	0.0000	OK
1440 minute winter	EXTN-SWMH-11	690	68.185	0.014	0.5	0.0393	0.0000	OK
1440 minute winter	EXTN-SWMH-12	750	68.161	0.047	8.9	0.2206	0.0000	OK
1440 minute winter	EXTN-SWMH-13	750	68.088	0.217	9.3	0.6001	0.0000	OK
1440 minute winter	EXTN-SWMH-14	750	67.894	0.068	9.3	0.1733	0.0000	OK
1440 minute winter	S1	750	67.741	0.064	9.3	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.8	0.377	0.016	0.0826	
1440 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.1	0.773	0.029	0.0647	
1440 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0097	
1440 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.7	0.562	0.012	0.0173	
1440 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.3	0.702	0.008	0.0087	
1440 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.5	0.813	0.012	0.0057	
1440 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.3	0.309	0.011	0.0676	
1440 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.6	0.452	0.019	0.3121	
1440 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
1440 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
1440 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.152	0.003	0.0217	
1440 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	8.9	0.234	0.023	0.7462	
1440 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	9.3	0.656	0.035	0.0935	
1440 minute winter	EXTN-SWMH-14	PIPE 14	S1	9.3	0.642	0.049	0.6180	319.7



Results for 30 year 2160 minute summer. 2400 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute summer	EXTN-SWMH-01	1140	68.973	0.020	0.8	0.0394	0.0000	OK
2160 minute summer	EXTN-SWMH-02	1140	68.623	0.027	2.2	0.0579	0.0000	OK
2160 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2160 minute summer	EXTN-SWMH-04	1140	68.941	0.018	0.7	0.0321	0.0000	OK
2160 minute summer	EXTN-SWMH-05	1140	68.755	0.014	1.3	0.0226	0.0000	OK
2160 minute summer	EXTN-SWMH-06	1140	69.253	0.012	0.5	0.0196	0.0000	OK
2160 minute summer	EXTN-SWMH-07	1140	68.472	0.028	1.4	0.0884	0.0000	OK
2160 minute summer	EXTN-SWMH-08	1140	68.422	0.036	2.7	4.2283	0.0000	OK
2160 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2160 minute summer	EXTN-SWMH-10	1080	68.371	0.012	0.2	0.0157	0.0000	OK
2160 minute summer	EXTN-SWMH-11	1140	68.185	0.014	0.5	0.0393	0.0000	OK
2160 minute summer	EXTN-SWMH-12	1140	68.162	0.048	9.3	0.2254	0.0000	OK
2160 minute summer	EXTN-SWMH-13	1140	68.097	0.226	9.7	0.6243	0.0000	OK
2160 minute summer	EXTN-SWMH-14	1140	67.896	0.070	9.7	0.1770	0.0000	OK
2160 minute summer	S1	1140	67.743	0.066	9.7	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2160 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.8	0.371	0.016	0.0842	
2160 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.2	0.772	0.030	0.0675	
2160 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0097	
2160 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.7	0.562	0.012	0.0173	
2160 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.3	0.576	0.008	0.0089	
2160 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.5	0.813	0.012	0.0057	
2160 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.4	0.316	0.011	0.0702	
2160 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.7	0.455	0.019	0.3224	
2160 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2160 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
2160 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.152	0.003	0.0224	
2160 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	9.3	0.234	0.025	0.7834	
2160 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	9.7	0.663	0.036	0.0966	
2160 minute summer	EXTN-SWMH-14	PIPE 14	S1	9.7	0.650	0.051	0.6369	344.9



Results for 30 year 2160 minute winter. 2400 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute winter	EXTN-SWMH-01	1140	68.970	0.017	0.6	0.0344	0.0000	OK
2160 minute winter	EXTN-SWMH-02	1140	68.619	0.023	1.6	0.0502	0.0000	OK
2160 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	EXTN-SWMH-04	1080	68.938	0.015	0.5	0.0276	0.0000	OK
2160 minute winter	EXTN-SWMH-05	1080	68.753	0.012	0.9	0.0190	0.0000	OK
2160 minute winter	EXTN-SWMH-06	960	69.250	0.009	0.3	0.0154	0.0000	OK
2160 minute winter	EXTN-SWMH-07	1080	68.467	0.023	0.9	0.0721	0.0000	OK
2160 minute winter	EXTN-SWMH-08	1200	68.416	0.030	1.8	3.4887	0.0000	OK
2160 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	EXTN-SWMH-10	1140	68.371	0.012	0.2	0.0157	0.0000	OK
2160 minute winter	EXTN-SWMH-11	1140	68.184	0.013	0.4	0.0355	0.0000	OK
2160 minute winter	EXTN-SWMH-12	1140	68.155	0.041	6.5	0.1902	0.0000	OK
2160 minute winter	EXTN-SWMH-13	1140	68.042	0.171	6.8	0.4721	0.0000	OK
2160 minute winter	EXTN-SWMH-14	1140	67.885	0.059	6.8	0.1491	0.0000	OK
2160 minute winter	S1	1140	67.732	0.055	6.8	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2160 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.6	0.342	0.012	0.0687	
2160 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.6	0.752	0.022	0.0496	
2160 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0077	
2160 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.5	0.511	0.008	0.0136	
2160 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.9	0.707	0.005	0.0068	
2160 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
2160 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.9	0.271	0.007	0.0525	
2160 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.8	0.420	0.013	0.2412	
2160 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2160 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
2160 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.4	0.164	0.002	0.0171	
2160 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	6.5	0.230	0.017	0.5493	
2160 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	6.8	0.604	0.026	0.0744	
2160 minute winter	EXTN-SWMH-14	PIPE 14	S1	6.8	0.589	0.036	0.4929	347.1



Results for 30 year 2880 minute summer. 3120 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute summer	EXTN-SWMH-01	1500	68.972	0.019	0.7	0.0370	0.0000	OK
2880 minute summer	EXTN-SWMH-02	1440	68.621	0.025	1.9	0.0541	0.0000	OK
2880 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2880 minute summer	EXTN-SWMH-04	1500	68.940	0.017	0.6	0.0300	0.0000	OK
2880 minute summer	EXTN-SWMH-05	1500	68.754	0.013	1.1	0.0209	0.0000	OK
2880 minute summer	EXTN-SWMH-06	1500	69.251	0.010	0.4	0.0177	0.0000	OK
2880 minute summer	EXTN-SWMH-07	1500	68.469	0.025	1.1	0.0794	0.0000	OK
2880 minute summer	EXTN-SWMH-08	1500	68.419	0.033	2.2	3.8386	0.0000	OK
2880 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2880 minute summer	EXTN-SWMH-10	1440	68.371	0.012	0.2	0.0157	0.0000	OK
2880 minute summer	EXTN-SWMH-11	1500	68.185	0.014	0.5	0.0393	0.0000	OK
2880 minute summer	EXTN-SWMH-12	1500	68.158	0.044	7.8	0.2071	0.0000	OK
2880 minute summer	EXTN-SWMH-13	1500	68.064	0.193	8.1	0.5354	0.0000	OK
2880 minute summer	EXTN-SWMH-14	1500	67.890	0.064	8.1	0.1620	0.0000	OK
2880 minute summer	S1	1500	67.738	0.061	8.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.7	0.357	0.014	0.0764	
2880 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.9	0.773	0.026	0.0577	
2880 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0088	
2880 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.6	0.542	0.010	0.0155	
2880 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.1	0.535	0.007	0.0078	
2880 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
2880 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.1	0.289	0.009	0.0602	
2880 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.2	0.429	0.016	0.2791	
2880 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2880 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
2880 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.164	0.003	0.0199	
2880 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	7.8	0.234	0.021	0.6470	
2880 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	8.1	0.633	0.030	0.0845	
2880 minute summer	EXTN-SWMH-14	PIPE 14	S1	8.1	0.616	0.043	0.5617	368.6



Results for 30 year 2880 minute winter. 3120 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute winter	EXTN-SWMH-01	1500	68.969	0.016	0.5	0.0317	0.0000	OK
2880 minute winter	EXTN-SWMH-02	1500	68.617	0.021	1.3	0.0455	0.0000	OK
2880 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	EXTN-SWMH-04	1380	68.937	0.014	0.4	0.0248	0.0000	OK
2880 minute winter	EXTN-SWMH-05	1380	68.752	0.011	0.7	0.0169	0.0000	OK
2880 minute winter	EXTN-SWMH-06	1440	69.250	0.009	0.3	0.0154	0.0000	OK
2880 minute winter	EXTN-SWMH-07	1440	68.466	0.022	0.8	0.0682	0.0000	OK
2880 minute winter	EXTN-SWMH-08	1560	68.413	0.027	1.5	3.2049	0.0000	OK
2880 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	EXTN-SWMH-10	1020	68.368	0.009	0.1	0.0118	0.0000	OK
2880 minute winter	EXTN-SWMH-11	1380	68.182	0.011	0.3	0.0312	0.0000	OK
2880 minute winter	EXTN-SWMH-12	1500	68.151	0.037	5.3	0.1728	0.0000	OK
2880 minute winter	EXTN-SWMH-13	1500	68.020	0.149	5.5	0.4132	0.0000	OK
2880 minute winter	EXTN-SWMH-14	1500	67.879	0.053	5.5	0.1350	0.0000	OK
2880 minute winter	S1	1500	67.726	0.049	5.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.5	0.326	0.010	0.0598	
2880 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.3	0.708	0.018	0.0428	
2880 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
2880 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0115	
2880 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.7	0.575	0.004	0.0060	
2880 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
2880 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.8	0.269	0.007	0.0471	
2880 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.5	0.400	0.011	0.2077	
2880 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2880 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
2880 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.163	0.002	0.0143	
2880 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	5.3	0.224	0.014	0.4603	
2880 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	5.5	0.571	0.021	0.0638	
2880 minute winter	EXTN-SWMH-14	PIPE 14	S1	5.5	0.558	0.029	0.4210	366.0



Results for 30 year 4320 minute summer. 4560 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
4320 minute summer	EXTN-SWMH-01	2160	68.969	0.016	0.5	0.0317	0.0000	OK
4320 minute summer	EXTN-SWMH-02	2220	68.618	0.022	1.4	0.0471	0.0000	OK
4320 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
4320 minute summer	EXTN-SWMH-04	2280	68.937	0.014	0.4	0.0248	0.0000	OK
4320 minute summer	EXTN-SWMH-05	2220	68.752	0.011	0.8	0.0180	0.0000	OK
4320 minute summer	EXTN-SWMH-06	2160	69.250	0.009	0.3	0.0154	0.0000	OK
4320 minute summer	EXTN-SWMH-07	2160	68.466	0.022	0.8	0.0682	0.0000	OK
4320 minute summer	EXTN-SWMH-08	2220	68.414	0.028	1.6	3.3009	0.0000	OK
4320 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
4320 minute summer	EXTN-SWMH-10	1800	68.368	0.009	0.1	0.0118	0.0000	OK
4320 minute summer	EXTN-SWMH-11	2160	68.182	0.011	0.3	0.0312	0.0000	OK
4320 minute summer	EXTN-SWMH-12	2220	68.152	0.038	5.7	0.1789	0.0000	OK
4320 minute summer	EXTN-SWMH-13	2220	68.027	0.156	5.9	0.4314	0.0000	OK
4320 minute summer	EXTN-SWMH-14	2220	67.881	0.055	5.9	0.1395	0.0000	OK
4320 minute summer	S1	2220	67.728	0.051	5.9	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
4320 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.5	0.326	0.010	0.0617	
4320 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.4	0.723	0.019	0.0451	
4320 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
4320 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0119	
4320 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.8	0.479	0.005	0.0063	
4320 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
4320 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.8	0.271	0.007	0.0484	
4320 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.6	0.400	0.011	0.2191	
4320 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
4320 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.159	0.002	0.0150	
4320 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	5.7	0.228	0.015	0.4878	
4320 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	5.9	0.581	0.022	0.0671	
4320 minute summer	EXTN-SWMH-14	PIPE 14	S1	5.9	0.568	0.031	0.4432	385.7



Results for 30 year 4320 minute winter. 4560 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
4320 minute winter	EXTN-SWMH-01	1860	68.966	0.013	0.3	0.0250	0.0000	OK
4320 minute winter	EXTN-SWMH-02	2160	68.614	0.018	0.9	0.0382	0.0000	OK
4320 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-04	2040	68.935	0.012	0.3	0.0218	0.0000	OK
4320 minute winter	EXTN-SWMH-05	2040	68.750	0.009	0.5	0.0146	0.0000	OK
4320 minute winter	EXTN-SWMH-06	1860	69.249	0.008	0.2	0.0127	0.0000	OK
4320 minute winter	EXTN-SWMH-07	1860	68.461	0.017	0.5	0.0550	0.0000	OK
4320 minute winter	EXTN-SWMH-08	2280	68.409	0.023	1.0	2.6469	0.0000	OK
4320 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-10	1680	68.368	0.009	0.1	0.0118	0.0000	OK
4320 minute winter	EXTN-SWMH-11	1680	68.181	0.010	0.2	0.0261	0.0000	OK
4320 minute winter	EXTN-SWMH-12	2220	68.145	0.031	3.7	0.1467	0.0000	OK
4320 minute winter	EXTN-SWMH-13	2220	67.993	0.122	3.9	0.3379	0.0000	OK
4320 minute winter	EXTN-SWMH-14	2220	67.871	0.045	3.9	0.1147	0.0000	OK
4320 minute winter	S1	2220	67.719	0.042	3.9	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
4320 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0446	
4320 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.9	0.632	0.012	0.0332	
4320 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
4320 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0093	
4320 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.5	0.416	0.003	0.0046	
4320 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
4320 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0349	
4320 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.0	0.366	0.007	0.1541	
4320 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
4320 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.162	0.001	0.0105	
4320 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.7	0.207	0.010	0.3493	
4320 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.9	0.520	0.015	0.0495	
4320 minute winter	EXTN-SWMH-14	PIPE 14	S1	3.9	0.503	0.021	0.3313	396.8



Results for 30 year 5760 minute summer. 6000 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
5760 minute summer	EXTN-SWMH-01	2880	68.967	0.014	0.4	0.0287	0.0000	OK
5760 minute summer	EXTN-SWMH-02	2940	68.615	0.019	1.1	0.0420	0.0000	OK
5760 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
5760 minute summer	EXTN-SWMH-04	2940	68.937	0.014	0.4	0.0248	0.0000	OK
5760 minute summer	EXTN-SWMH-05	2940	68.752	0.011	0.7	0.0169	0.0000	OK
5760 minute summer	EXTN-SWMH-06	2640	69.249	0.008	0.2	0.0127	0.0000	OK
5760 minute summer	EXTN-SWMH-07	2820	68.463	0.019	0.6	0.0596	0.0000	OK
5760 minute summer	EXTN-SWMH-08	2940	68.412	0.026	1.3	3.0023	0.0000	OK
5760 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
5760 minute summer	EXTN-SWMH-10	2460	68.368	0.009	0.1	0.0118	0.0000	OK
5760 minute summer	EXTN-SWMH-11	2940	68.182	0.011	0.3	0.0312	0.0000	OK
5760 minute summer	EXTN-SWMH-12	2940	68.149	0.035	4.6	0.1618	0.0000	OK
5760 minute summer	EXTN-SWMH-13	2940	68.009	0.138	4.8	0.3807	0.0000	OK
5760 minute summer	EXTN-SWMH-14	2940	67.876	0.050	4.8	0.1267	0.0000	OK
5760 minute summer	S1	2940	67.723	0.046	4.8	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
5760 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.4	0.309	0.008	0.0523	
5760 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.1	0.674	0.015	0.0381	
5760 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
5760 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0115	
5760 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.7	0.473	0.004	0.0055	
5760 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
5760 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.6	0.260	0.005	0.0409	
5760 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.3	0.381	0.009	0.1857	
5760 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
5760 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.164	0.002	0.0130	
5760 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	4.6	0.218	0.012	0.4117	
5760 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	4.8	0.549	0.018	0.0577	
5760 minute summer	EXTN-SWMH-14	PIPE 14	S1	4.8	0.537	0.025	0.3821	399.6



Results for 30 year 5760 minute winter. 6000 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
5760 minute winter	EXTN-SWMH-01	2760	68.966	0.013	0.3	0.0250	0.0000	OK
5760 minute winter	EXTN-SWMH-02	2940	68.613	0.017	0.8	0.0362	0.0000	OK
5760 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-04	2340	68.933	0.010	0.2	0.0183	0.0000	OK
5760 minute winter	EXTN-SWMH-05	2520	68.749	0.008	0.4	0.0132	0.0000	OK
5760 minute winter	EXTN-SWMH-06	2760	69.249	0.008	0.2	0.0127	0.0000	OK
5760 minute winter	EXTN-SWMH-07	2760	68.461	0.017	0.5	0.0550	0.0000	OK
5760 minute winter	EXTN-SWMH-08	3120	68.408	0.022	0.9	2.5254	0.0000	OK
5760 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-10	2400	68.368	0.009	0.1	0.0118	0.0000	OK
5760 minute winter	EXTN-SWMH-11	2400	68.181	0.010	0.2	0.0261	0.0000	OK
5760 minute winter	EXTN-SWMH-12	2940	68.143	0.029	3.2	0.1375	0.0000	OK
5760 minute winter	EXTN-SWMH-13	2940	67.982	0.111	3.3	0.3077	0.0000	OK
5760 minute winter	EXTN-SWMH-14	2940	67.868	0.042	3.3	0.1061	0.0000	OK
5760 minute winter	S1	2940	67.715	0.038	3.3	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
5760 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0424	
5760 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.8	0.609	0.011	0.0306	
5760 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
5760 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
5760 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.417	0.002	0.0042	
5760 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
5760 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0335	
5760 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.9	0.360	0.006	0.1398	
5760 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
5760 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0096	
5760 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.2	0.204	0.008	0.3073	
5760 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.3	0.498	0.012	0.0440	
5760 minute winter	EXTN-SWMH-14	PIPE 14	S1	3.3	0.480	0.017	0.2943	403.2



Results for 30 year 7200 minute summer. 7440 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
7200 minute summer	EXTN-SWMH-01	3660	68.967	0.014	0.4	0.0287	0.0000	OK
7200 minute summer	EXTN-SWMH-02	3660	68.615	0.019	1.0	0.0402	0.0000	OK
7200 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-04	3540	68.935	0.012	0.3	0.0218	0.0000	OK
7200 minute summer	EXTN-SWMH-05	3660	68.751	0.010	0.6	0.0158	0.0000	OK
7200 minute summer	EXTN-SWMH-06	3420	69.249	0.008	0.2	0.0127	0.0000	OK
7200 minute summer	EXTN-SWMH-07	3660	68.463	0.019	0.6	0.0596	0.0000	OK
7200 minute summer	EXTN-SWMH-08	3660	68.411	0.025	1.2	2.8929	0.0000	OK
7200 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-10	3180	68.368	0.009	0.1	0.0118	0.0000	OK
7200 minute summer	EXTN-SWMH-11	3180	68.181	0.010	0.2	0.0261	0.0000	OK
7200 minute summer	EXTN-SWMH-12	3660	68.146	0.032	4.0	0.1518	0.0000	OK
7200 minute summer	EXTN-SWMH-13	3660	67.998	0.127	4.2	0.3521	0.0000	OK
7200 minute summer	EXTN-SWMH-14	3660	67.873	0.047	4.2	0.1187	0.0000	OK
7200 minute summer	S1	3660	67.720	0.043	4.2	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
7200 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.4	0.309	0.008	0.0503	
7200 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.0	0.653	0.014	0.0357	
7200 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
7200 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0097	
7200 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.6	0.442	0.004	0.0052	
7200 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
7200 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.6	0.260	0.005	0.0395	
7200 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.2	0.385	0.009	0.1692	
7200 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
7200 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0111	
7200 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	4.0	0.211	0.011	0.3698	
7200 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	4.2	0.530	0.016	0.0523	
7200 minute summer	EXTN-SWMH-14	PIPE 14	S1	4.2	0.514	0.022	0.3482	410.3



Results for 30 year 7200 minute winter. 7440 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
7200 minute winter	EXTN-SWMH-01	2880	68.963	0.010	0.2	0.0208	0.0000	OK
7200 minute winter	EXTN-SWMH-02	3360	68.611	0.015	0.6	0.0318	0.0000	OK
7200 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-04	3120	68.933	0.010	0.2	0.0183	0.0000	OK
7200 minute winter	EXTN-SWMH-05	3420	68.749	0.008	0.4	0.0132	0.0000	OK
7200 minute winter	EXTN-SWMH-06	2280	69.247	0.006	0.1	0.0093	0.0000	OK
7200 minute winter	EXTN-SWMH-07	2880	68.458	0.014	0.3	0.0437	0.0000	OK
7200 minute winter	EXTN-SWMH-08	3900	68.405	0.019	0.7	2.2402	0.0000	OK
7200 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-10	3180	68.368	0.009	0.1	0.0118	0.0000	OK
7200 minute winter	EXTN-SWMH-11	3180	68.181	0.010	0.2	0.0261	0.0000	OK
7200 minute winter	EXTN-SWMH-12	3600	68.141	0.027	2.6	0.1243	0.0000	OK
7200 minute winter	EXTN-SWMH-13	3660	67.971	0.100	2.7	0.2755	0.0000	OK
7200 minute winter	EXTN-SWMH-14	3660	67.864	0.038	2.7	0.0969	0.0000	OK
7200 minute winter	S1	3660	67.711	0.034	2.7	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
7200 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0335	
7200 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.6	0.558	0.008	0.0250	
7200 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
7200 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
7200 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.417	0.002	0.0036	
7200 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
7200 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0262	
7200 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.7	0.334	0.005	0.1159	
7200 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
7200 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0082	
7200 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	2.6	0.193	0.007	0.2630	
7200 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.7	0.468	0.010	0.0381	
7200 minute winter	EXTN-SWMH-14	PIPE 14	S1	2.7	0.459	0.014	0.2514	417.7

Results for 30 year 8640 minute summer. 8880 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
8640 minute summer	EXTN-SWMH-01	4200	68.966	0.013	0.3	0.0250	0.0000	OK
8640 minute summer	EXTN-SWMH-02	4260	68.613	0.017	0.8	0.0362	0.0000	OK
8640 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-04	4380	68.935	0.012	0.3	0.0218	0.0000	OK
8640 minute summer	EXTN-SWMH-05	4380	68.750	0.009	0.5	0.0146	0.0000	OK
8640 minute summer	EXTN-SWMH-06	4200	69.249	0.008	0.2	0.0127	0.0000	OK
8640 minute summer	EXTN-SWMH-07	4200	68.461	0.017	0.5	0.0550	0.0000	OK
8640 minute summer	EXTN-SWMH-08	4380	68.409	0.023	1.0	2.6432	0.0000	OK
8640 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-10	3900	68.368	0.009	0.1	0.0118	0.0000	OK
8640 minute summer	EXTN-SWMH-11	3900	68.181	0.010	0.2	0.0261	0.0000	OK
8640 minute summer	EXTN-SWMH-12	4380	68.144	0.030	3.4	0.1413	0.0000	OK
8640 minute summer	EXTN-SWMH-13	4380	67.986	0.115	3.5	0.3178	0.0000	OK
8640 minute summer	EXTN-SWMH-14	4380	67.869	0.043	3.5	0.1088	0.0000	OK
8640 minute summer	S1	4380	67.717	0.040	3.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
8640 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0424	
8640 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.8	0.609	0.011	0.0306	
8640 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
8640 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0093	
8640 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.5	0.416	0.003	0.0045	
8640 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
8640 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0348	
8640 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.0	0.365	0.007	0.1486	
8640 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
8640 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0099	
8640 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.4	0.206	0.009	0.3215	
8640 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.5	0.506	0.013	0.0458	
8640 minute summer	EXTN-SWMH-14	PIPE 14	S1	3.5	0.485	0.018	0.3076	411.0



Results for 30 year 8640 minute winter. 8880 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
8640 minute winter	EXTN-SWMH-01	3660	68.963	0.010	0.2	0.0208	0.0000	OK
8640 minute winter	EXTN-SWMH-02	3660	68.609	0.013	0.5	0.0291	0.0000	OK
8640 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-04	4020	68.933	0.010	0.2	0.0183	0.0000	OK
8640 minute winter	EXTN-SWMH-05	4020	68.748	0.007	0.3	0.0116	0.0000	OK
8640 minute winter	EXTN-SWMH-06	2880	69.247	0.006	0.1	0.0093	0.0000	OK
8640 minute winter	EXTN-SWMH-07	3660	68.458	0.014	0.3	0.0437	0.0000	OK
8640 minute winter	EXTN-SWMH-08	4740	68.404	0.018	0.6	2.1034	0.0000	OK
8640 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-10	4200	68.368	0.009	0.1	0.0118	0.0000	OK
8640 minute winter	EXTN-SWMH-11	4200	68.181	0.010	0.2	0.0261	0.0000	OK
8640 minute winter	EXTN-SWMH-12	4200	68.139	0.025	2.2	0.1149	0.0000	OK
8640 minute winter	EXTN-SWMH-13	4200	67.962	0.091	2.3	0.2530	0.0000	OK
8640 minute winter	EXTN-SWMH-14	4200	67.861	0.035	2.3	0.0902	0.0000	OK
8640 minute winter	S1	4200	67.708	0.031	2.3	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
8640 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0311	
8640 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.5	0.528	0.007	0.0221	
8640 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
8640 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0069	
8640 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.3	0.369	0.002	0.0033	
8640 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
8640 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0246	
8640 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.6	0.327	0.004	0.1014	
8640 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
8640 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0072	
8640 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	2.2	0.185	0.006	0.2331	
8640 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.3	0.446	0.009	0.0340	
8640 minute winter	EXTN-SWMH-14	PIPE 14	S1	2.3	0.442	0.012	0.2224	432.1



Results for 30 year 10080 minute summer. 10320 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
10080 minute summer	EXTN-SWMH-01	5040	68.966	0.013	0.3	0.0250	0.0000	OK
10080 minute summer	EXTN-SWMH-02	5100	68.613	0.017	0.8	0.0362	0.0000	OK
10080 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-04	4620	68.933	0.010	0.2	0.0183	0.0000	OK
10080 minute summer	EXTN-SWMH-05	4860	68.749	0.008	0.4	0.0132	0.0000	OK
10080 minute summer	EXTN-SWMH-06	5040	69.249	0.008	0.2	0.0127	0.0000	OK
10080 minute summer	EXTN-SWMH-07	5040	68.461	0.017	0.5	0.0550	0.0000	OK
10080 minute summer	EXTN-SWMH-08	5160	68.408	0.022	0.9	2.5201	0.0000	OK
10080 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-10	4680	68.368	0.009	0.1	0.0118	0.0000	OK
10080 minute summer	EXTN-SWMH-11	4680	68.181	0.010	0.2	0.0261	0.0000	OK
10080 minute summer	EXTN-SWMH-12	5100	68.143	0.029	3.1	0.1353	0.0000	OK
10080 minute summer	EXTN-SWMH-13	5100	67.980	0.109	3.2	0.3025	0.0000	OK
10080 minute summer	EXTN-SWMH-14	5100	67.867	0.041	3.2	0.1046	0.0000	OK
10080 minute summer	S1	5100	67.715	0.038	3.2	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
10080 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0424	
10080 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.8	0.609	0.011	0.0306	
10080 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
10080 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
10080 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.417	0.002	0.0042	
10080 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
10080 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0335	
10080 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.9	0.359	0.006	0.1377	
10080 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
10080 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0093	
10080 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.1	0.202	0.008	0.2999	
10080 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.2	0.493	0.012	0.0430	
10080 minute summer	EXTN-SWMH-14	PIPE 14	S1	3.2	0.477	0.017	0.2872	411.7



Results for 30 year 10080 minute winter. 10320 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
10080 minute winter	EXTN-SWMH-01	4560	68.963	0.010	0.2	0.0208	0.0000	OK
10080 minute winter	EXTN-SWMH-02	4560	68.609	0.013	0.5	0.0291	0.0000	OK
10080 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-04	3060	68.931	0.008	0.1	0.0137	0.0000	OK
10080 minute winter	EXTN-SWMH-05	3240	68.747	0.006	0.2	0.0097	0.0000	OK
10080 minute winter	EXTN-SWMH-06	3540	69.247	0.006	0.1	0.0093	0.0000	OK
10080 minute winter	EXTN-SWMH-07	4440	68.458	0.014	0.3	0.0437	0.0000	OK
10080 minute winter	EXTN-SWMH-08	5760	68.403	0.017	0.5	1.9469	0.0000	OK
10080 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-10	60	68.359	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-11	4320	68.178	0.007	0.1	0.0192	0.0000	OK
10080 minute winter	EXTN-SWMH-12	4680	68.137	0.023	1.9	0.1074	0.0000	OK
10080 minute winter	EXTN-SWMH-13	4740	67.956	0.085	2.0	0.2346	0.0000	OK
10080 minute winter	EXTN-SWMH-14	4740	67.859	0.033	2.0	0.0848	0.0000	OK
10080 minute winter	S1	4740	67.706	0.029	2.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
10080 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0311	
10080 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.5	0.528	0.007	0.0221	
10080 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0027	
10080 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.1	0.358	0.002	0.0045	
10080 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.2	0.369	0.001	0.0028	
10080 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
10080 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0229	
10080 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.5	0.316	0.004	0.0882	
10080 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.1	0.130	0.001	0.0057	
10080 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	1.9	0.178	0.005	0.2094	
10080 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.0	0.429	0.008	0.0309	
10080 minute winter	EXTN-SWMH-14	PIPE 14	S1	2.0	0.427	0.011	0.2007	430.6



Results for 100 year 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.68%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EXTN-SWMH-01	10	69.059	0.106	23.3	0.2111	0.0000	OK
15 minute summer	EXTN-SWMH-02	11	68.925	0.329	62.1	0.7143	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXTN-SWMH-04	10	69.017	0.094	19.5	0.1690	0.0000	OK
15 minute summer	EXTN-SWMH-05	9	68.822	0.081	36.0	0.1283	0.0000	OK
15 minute summer	EXTN-SWMH-06	10	69.303	0.062	13.8	0.1056	0.0000	OK
15 minute summer	EXTN-SWMH-07	20	68.680	0.236	37.5	0.7409	0.0000	OK
15 minute summer	EXTN-SWMH-08	20	68.680	0.294	102.0	35.0257	0.0000	OK
15 minute summer	EXTN-SWMH-09	18	68.679	0.326	1.5	0.3688	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-10	19	68.682	0.323	6.2	0.4099	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-11	18	68.679	0.508	136.8	51.4168	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-12	18	68.679	0.565	167.1	2.6430	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-13	19	68.678	0.807	34.0	2.2332	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-14	157	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute summer	S1	157	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	23.0	0.883	0.462	1.1302	
15 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	56.7	1.427	0.771	0.9267	
15 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.1049	
15 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	19.3	1.358	0.323	0.1971	
15 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	36.0	2.683	0.216	0.0881	
15 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	13.7	2.075	0.318	0.0609	
15 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	37.0	0.944	0.304	1.2829	
15 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-29.1	-0.340	-0.209	5.5203	
15 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.5	-0.149	-0.027	0.2784	
15 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	5.4	0.456	0.150	0.5568	
15 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-124.9	-1.193	-0.667	0.6287	
15 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	25.4	0.821	0.067	2.8044	
15 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.866	0.043	0.1095	
15 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	115.7

Results for 100 year 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 99.66%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	EXTN-SWMH-01	10	69.056	0.103	21.9	0.2032	0.0000	OK
15 minute winter	EXTN-SWMH-02	12	68.856	0.260	58.2	0.5628	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute winter	EXTN-SWMH-04	10	69.014	0.091	18.3	0.1630	0.0000	OK
15 minute winter	EXTN-SWMH-05	10	68.818	0.077	33.8	0.1222	0.0000	OK
15 minute winter	EXTN-SWMH-06	10	69.301	0.060	13.0	0.1019	0.0000	OK
15 minute winter	EXTN-SWMH-07	19	68.678	0.234	35.3	0.7354	0.0000	OK
15 minute winter	EXTN-SWMH-08	19	68.679	0.293	95.8	34.8662	0.0000	OK
15 minute winter	EXTN-SWMH-09	19	68.681	0.328	1.8	0.3706	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-10	19	68.682	0.323	5.8	0.4109	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-11	19	68.680	0.509	134.9	51.5626	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-12	19	68.679	0.565	154.4	2.6461	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-13	19	68.679	0.808	24.5	2.2374	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-14	157	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute winter	S1	157	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	21.5	0.882	0.432	1.1058	
15 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	53.3	1.352	0.725	0.9267	
15 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0999	
15 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	18.1	1.345	0.302	0.1867	
15 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	33.7	2.664	0.202	0.0856	
15 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	12.9	2.043	0.298	0.0581	
15 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	34.6	0.925	0.284	1.2747	
15 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-27.6	-0.323	-0.198	5.5091	
15 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.8	-0.174	-0.034	0.2784	
15 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	4.7	0.477	0.129	0.5568	
15 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-122.2	-1.124	-0.653	0.6287	
15 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	21.9	0.794	0.058	2.8044	
15 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.884	0.043	0.1095	
15 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	115.8



Results for 100 year 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 99.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	EXTN-SWMH-01	18	69.054	0.101	21.1	0.2008	0.0000	OK
30 minute summer	EXTN-SWMH-02	19	68.909	0.313	56.4	0.6786	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
30 minute summer	EXTN-SWMH-04	18	69.012	0.089	17.6	0.1603	0.0000	OK
30 minute summer	EXTN-SWMH-05	18	68.816	0.075	32.7	0.1194	0.0000	OK
30 minute summer	EXTN-SWMH-06	18	69.300	0.059	12.5	0.1000	0.0000	OK
30 minute summer	EXTN-SWMH-07	34	68.772	0.328	34.0	1.0319	0.0000	OK
30 minute summer	EXTN-SWMH-08	34	68.772	0.386	97.9	46.0258	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-09	33	68.773	0.420	1.4	0.4750	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-10	33	68.773	0.414	5.6	0.5257	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-11	33	68.773	0.602	121.0	65.4667	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-12	33	68.773	0.659	147.8	3.0822	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-13	33	68.772	0.901	22.3	2.4952	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-14	216	67.902	0.076	11.5	0.1923	0.0000	OK
30 minute summer	S1	217	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	21.1	0.861	0.423	1.1077	
30 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	50.8	1.296	0.690	0.9267	
30 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0977	
30 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	17.6	1.343	0.295	0.1818	
30 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	32.6	2.238	0.196	0.0885	
30 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	12.5	2.029	0.289	0.0567	
30 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	33.2	0.871	0.272	1.6474	
30 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-34.2	-0.341	-0.245	6.0002	
30 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.4	-0.094	-0.026	0.2784	
30 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	4.8	0.398	0.133	0.5568	
30 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-109.0	-0.989	-0.582	0.6287	
30 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	21.0	0.745	0.055	2.8044	
30 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.806	0.043	0.1095	
30 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	152.3



Results for 100 year 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	EXTN-SWMH-01	18	69.043	0.090	17.0	0.1781	0.0000	OK
30 minute winter	EXTN-SWMH-02	33	68.772	0.176	45.5	0.3823	0.0000	OK
30 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
30 minute winter	EXTN-SWMH-04	18	69.003	0.080	14.2	0.1427	0.0000	OK
30 minute winter	EXTN-SWMH-05	18	68.806	0.065	26.4	0.1029	0.0000	OK
30 minute winter	EXTN-SWMH-06	18	69.293	0.052	10.1	0.0886	0.0000	OK
30 minute winter	EXTN-SWMH-07	32	68.774	0.330	27.5	1.0378	0.0000	OK
30 minute winter	EXTN-SWMH-08	32	68.774	0.388	79.5	46.2462	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-09	33	68.774	0.421	1.2	0.4756	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-10	33	68.774	0.415	4.5	0.5270	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-11	33	68.774	0.603	95.3	65.5632	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-12	33	68.773	0.659	122.0	3.0853	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-13	33	68.773	0.902	22.9	2.4965	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-14	217	67.902	0.076	11.5	0.1923	0.0000	OK
30 minute winter	S1	217	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	17.0	0.855	0.341	0.8962	
30 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	43.6	1.163	0.592	0.8523	
30 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0835	
30 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	14.2	1.323	0.238	0.1521	
30 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	26.4	2.140	0.158	0.0834	
30 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	10.1	1.922	0.234	0.0484	
30 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	26.7	0.843	0.219	1.6511	
30 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-28.6	0.317	-0.205	6.0002	
30 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.2	-0.094	-0.022	0.2784	
30 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	4.2	0.409	0.116	0.5568	
30 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-86.8	-0.824	-0.464	0.6287	
30 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	21.4	0.710	0.056	2.8044	
30 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.800	0.043	0.1095	
30 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	152.2



Results for 100 year 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	EXTN-SWMH-01	33	69.039	0.086	15.8	0.1712	0.0000	OK
60 minute summer	EXTN-SWMH-02	62	68.848	0.252	42.2	0.5462	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
60 minute summer	EXTN-SWMH-04	33	69.000	0.077	13.2	0.1374	0.0000	OK
60 minute summer	EXTN-SWMH-05	59	68.854	0.113	24.4	0.1793	0.0000	OK
60 minute summer	EXTN-SWMH-06	33	69.291	0.050	9.3	0.0846	0.0000	OK
60 minute summer	EXTN-SWMH-07	63	68.848	0.404	25.4	1.2710	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-08	63	68.848	0.462	77.2	55.1374	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-09	62	68.848	0.495	0.9	0.5597	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-10	62	68.848	0.489	4.2	0.6213	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-11	62	68.848	0.677	81.4	76.7017	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-12	62	68.848	0.734	112.8	3.4336	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-13	62	68.847	0.976	24.8	2.7029	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-14	284	67.902	0.076	11.5	0.1923	0.0000	OK
60 minute summer	S1	285	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	15.8	0.839	0.317	0.8835	
60 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	40.0	1.078	0.544	0.9267	
60 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0793	
60 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	13.1	1.307	0.220	0.1534	
60 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	25.3	1.668	0.152	0.1046	
60 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	9.3	1.881	0.215	0.0835	
60 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	24.1	0.767	0.198	1.7096	
60 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-30.7	0.318	-0.221	6.0002	
60 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.9	-0.054	-0.017	0.2784	
60 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	3.5	0.355	0.097	0.5568	
60 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-72.5	-0.657	-0.387	0.6287	
60 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.8	0.658	0.063	2.8044	
60 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.728	0.043	0.1095	
60 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	189.2



Results for 100 year 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	EXTN-SWMH-01	33	69.026	0.073	11.4	0.1440	0.0000	OK
60 minute winter	EXTN-SWMH-02	61	68.852	0.256	30.5	0.5543	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
60 minute winter	EXTN-SWMH-04	33	68.988	0.065	9.5	0.1159	0.0000	OK
60 minute winter	EXTN-SWMH-05	61	68.860	0.119	17.6	0.1879	0.0000	OK
60 minute winter	EXTN-SWMH-06	33	69.283	0.042	6.8	0.0714	0.0000	OK
60 minute winter	EXTN-SWMH-07	61	68.852	0.408	18.4	1.2836	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-08	62	68.852	0.466	54.6	55.6381	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-09	61	68.852	0.499	0.7	0.5642	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-10	61	68.852	0.493	3.0	0.6263	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-11	61	68.852	0.681	60.5	77.2978	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-12	61	68.852	0.738	82.8	3.4524	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-13	61	68.851	0.980	20.1	2.7140	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-14	285	67.902	0.076	11.5	0.1923	0.0000	OK
60 minute winter	S1	286	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	11.4	0.811	0.229	0.8580	
60 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	30.2	1.029	0.411	0.9267	
60 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0626	
60 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	9.5	1.206	0.159	0.1578	
60 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	17.6	1.590	0.106	0.1067	
60 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	6.8	1.732	0.157	0.0850	
60 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	16.9	0.721	0.139	1.7096	
60 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-20.9	-0.230	-0.150	6.0002	
60 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.7	-0.064	-0.014	0.2784	
60 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	2.7	0.369	0.075	0.5568	
60 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-56.4	-0.553	-0.301	0.6287	
60 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.0	0.636	0.050	2.8044	
60 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.720	0.043	0.1095	
60 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	188.7



Results for 100 year 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	EXTN-SWMH-01	64	69.022	0.069	10.3	0.1367	0.0000	OK
120 minute summer	EXTN-SWMH-02	120	68.879	0.283	27.5	0.6137	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-03	2	69.116	0.000	0.0	0.0000	0.0000	OK
120 minute summer	EXTN-SWMH-04	64	68.984	0.061	8.6	0.1101	0.0000	OK
120 minute summer	EXTN-SWMH-05	122	68.880	0.139	15.9	0.2205	0.0000	OK
120 minute summer	EXTN-SWMH-06	64	69.281	0.040	6.1	0.0674	0.0000	OK
120 minute summer	EXTN-SWMH-07	120	68.879	0.435	16.6	1.3666	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-08	120	68.879	0.493	47.7	58.7707	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-09	120	68.878	0.525	0.5	0.5942	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-10	120	68.878	0.519	2.7	0.6602	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-11	120	68.878	0.707	52.9	81.2842	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-12	120	68.878	0.764	74.3	3.5775	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-13	120	68.878	1.007	19.8	2.7879	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-14	360	67.902	0.076	11.5	0.1923	0.0000	OK
120 minute summer	S1	360	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	10.3	0.788	0.207	0.8597	
120 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	27.0	0.904	0.367	0.9267	
120 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0583	
120 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	8.6	1.175	0.144	0.1873	
120 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	15.9	1.300	0.095	0.1148	
120 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	6.1	1.682	0.141	0.0852	
120 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	14.5	0.634	0.119	1.7096	
120 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-17.3	0.320	-0.125	6.0002	
120 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.5	-0.033	-0.010	0.2784	
120 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	2.3	0.336	0.065	0.5568	
120 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-46.8	-0.424	-0.250	0.6287	
120 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	18.1	0.623	0.048	2.8044	
120 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
120 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	221.2



Results for 100 year 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 99.79%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	EXTN-SWMH-01	64	69.010	0.057	7.1	0.1130	0.0000	OK
120 minute winter	EXTN-SWMH-02	118	68.884	0.288	18.9	0.6251	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-03	2	69.116	0.000	0.0	0.0000	0.0000	OK
120 minute winter	EXTN-SWMH-04	64	68.974	0.051	5.9	0.0906	0.0000	OK
120 minute winter	EXTN-SWMH-05	118	68.885	0.144	10.9	0.2285	0.0000	OK
120 minute winter	EXTN-SWMH-06	64	69.274	0.033	4.2	0.0554	0.0000	OK
120 minute winter	EXTN-SWMH-07	118	68.884	0.440	11.4	1.3834	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-08	118	68.884	0.498	31.4	59.4174	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-09	118	68.884	0.531	0.4	0.6006	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-10	118	68.884	0.525	1.9	0.6672	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-11	118	68.884	0.713	35.6	82.1201	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-12	118	68.884	0.770	51.5	3.6034	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-13	118	68.884	1.013	29.9	2.8032	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-14	360	67.902	0.076	11.5	0.1923	0.0000	OK
120 minute winter	S1	360	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	7.1	0.715	0.142	0.8637	
120 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	18.9	0.937	0.257	0.9267	
120 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0442	
120 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	5.9	1.057	0.099	0.1957	
120 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	10.9	1.364	0.065	0.1167	
120 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	4.2	1.519	0.097	0.0859	
120 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	10.0	0.584	0.082	1.7096	
120 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-11.2	0.262	-0.080	6.0002	
120 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.045	-0.008	0.2784	
120 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.7	0.344	0.046	0.5568	
120 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-33.1	-0.354	-0.177	0.6287	
120 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	29.0	0.569	0.076	2.8044	
120 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
120 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	221.1



Results for 100 year 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.79%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	EXTN-SWMH-01	96	69.012	0.059	7.6	0.1170	0.0000	OK
180 minute summer	EXTN-SWMH-02	160	68.866	0.270	20.3	0.5861	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
180 minute summer	EXTN-SWMH-04	96	68.976	0.053	6.4	0.0945	0.0000	OK
180 minute summer	EXTN-SWMH-05	152	68.869	0.128	11.9	0.2025	0.0000	OK
180 minute summer	EXTN-SWMH-06	96	69.275	0.034	4.5	0.0574	0.0000	OK
180 minute summer	EXTN-SWMH-07	160	68.866	0.422	12.3	1.3275	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-08	164	68.866	0.480	33.9	57.2506	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-09	164	68.866	0.513	0.4	0.5801	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-10	164	68.866	0.507	2.0	0.6442	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-11	164	68.866	0.695	38.6	79.3994	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-12	164	68.866	0.752	55.4	3.5187	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-13	164	68.866	0.995	13.9	2.7531	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-14	412	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute summer	S1	412	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	7.6	0.728	0.153	0.8471	
180 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	20.3	0.842	0.276	0.9267	
180 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0469	
180 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	6.4	1.081	0.107	0.1711	
180 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	11.8	1.162	0.071	0.1104	
180 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	4.5	1.548	0.104	0.0846	
180 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	10.9	0.569	0.090	1.7096	
180 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-11.4	0.390	-0.082	6.0002	
180 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.032	-0.007	0.2784	
180 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.7	0.332	0.048	0.5568	
180 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-34.4	0.380	-0.183	0.6287	
180 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	13.3	0.350	0.035	2.8044	
180 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.694	0.043	0.1095	
180 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	252.5



Results for 100 year 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.76%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	EXTN-SWMH-01	96	69.002	0.049	5.2	0.0967	0.0000	OK
180 minute winter	EXTN-SWMH-02	172	68.869	0.273	14.0	0.5919	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
180 minute winter	EXTN-SWMH-04	96	68.967	0.044	4.4	0.0781	0.0000	OK
180 minute winter	EXTN-SWMH-05	168	68.871	0.130	8.1	0.2061	0.0000	OK
180 minute winter	EXTN-SWMH-06	96	69.269	0.028	3.1	0.0475	0.0000	OK
180 minute winter	EXTN-SWMH-07	168	68.868	0.424	8.4	1.3350	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-08	172	68.869	0.483	21.8	57.5791	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-09	172	68.869	0.516	0.3	0.5831	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-10	172	68.869	0.510	1.4	0.6476	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-11	172	68.869	0.698	25.5	79.8019	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-12	172	68.869	0.755	38.1	3.5312	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-13	172	68.868	0.997	28.2	2.7605	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-14	412	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute winter	S1	412	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	5.2	0.651	0.104	0.8453	
180 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	14.0	0.860	0.190	0.9267	
180 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0358	
180 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	4.4	0.973	0.074	0.1746	
180 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	13.8	1.244	0.083	0.1112	
180 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	3.1	1.393	0.072	0.0849	
180 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	7.4	0.524	0.061	1.7096	
180 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	9.2	0.377	0.066	6.0002	
180 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.024	-0.006	0.2784	
180 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.2	0.332	0.034	0.5568	
180 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-23.3	-0.262	-0.125	0.6287	
180 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	27.2	0.400	0.072	2.8044	
180 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
180 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	253.7



Results for 100 year 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	EXTN-SWMH-01	124	69.007	0.054	6.4	0.1070	0.0000	OK
240 minute summer	EXTN-SWMH-02	192	68.847	0.251	17.1	0.5452	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
240 minute summer	EXTN-SWMH-04	124	68.971	0.048	5.3	0.0855	0.0000	OK
240 minute summer	EXTN-SWMH-05	192	68.852	0.111	9.9	0.1753	0.0000	OK
240 minute summer	EXTN-SWMH-06	124	69.272	0.031	3.8	0.0526	0.0000	OK
240 minute summer	EXTN-SWMH-07	192	68.847	0.403	10.3	1.2686	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-08	196	68.847	0.461	27.6	55.0105	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-09	192	68.847	0.494	0.3	0.5588	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-10	192	68.847	0.488	1.7	0.6202	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-11	192	68.847	0.676	30.9	76.5674	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-12	192	68.847	0.733	46.5	3.4303	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-13	192	68.847	0.976	24.3	2.7010	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-14	456	67.902	0.076	11.5	0.1923	0.0000	OK
240 minute summer	S1	456	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	6.4	0.692	0.128	0.8312	
240 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	17.0	0.821	0.231	0.9267	
240 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0408	
240 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	5.3	1.020	0.088	0.1437	
240 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	11.9	1.095	0.072	0.1036	
240 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	3.8	1.475	0.088	0.0826	
240 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	9.0	0.527	0.074	1.7096	
240 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-8.7	0.424	-0.063	6.0002	
240 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.025	-0.006	0.2784	
240 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.5	0.320	0.042	0.5568	
240 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-27.1	-0.289	-0.144	0.6287	
240 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.2	0.345	0.061	2.8044	
240 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
240 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	278.6



Results for 100 year 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	EXTN-SWMH-01	128	68.997	0.044	4.2	0.0870	0.0000	OK
240 minute winter	EXTN-SWMH-02	196	68.840	0.244	11.3	0.5289	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-03	4	69.116	0.000	0.0	0.0000	0.0000	OK
240 minute winter	EXTN-SWMH-04	124	68.962	0.039	3.6	0.0707	0.0000	OK
240 minute winter	EXTN-SWMH-05	192	68.845	0.104	9.1	0.1652	0.0000	OK
240 minute winter	EXTN-SWMH-06	124	69.266	0.025	2.5	0.0426	0.0000	OK
240 minute winter	EXTN-SWMH-07	204	68.840	0.396	6.8	1.2444	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-08	196	68.840	0.454	17.3	54.1123	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-09	200	68.840	0.486	0.2	0.5502	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-10	200	68.840	0.481	1.1	0.6108	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-11	200	68.840	0.668	19.7	75.4459	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-12	200	68.840	0.726	30.9	3.3953	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-13	200	68.839	0.968	21.0	2.6803	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-14	452	67.902	0.076	11.5	0.1923	0.0000	OK
240 minute winter	S1	452	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	4.2	0.615	0.084	0.8260	
240 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	11.3	0.842	0.154	0.9267	
240 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0310	
240 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	3.6	0.918	0.060	0.1339	
240 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	6.6	1.162	0.040	0.1011	
240 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.5	1.310	0.058	0.0799	
240 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	6.1	0.491	0.050	1.7096	
240 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	7.8	0.413	0.056	6.0002	
240 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.020	-0.004	0.2784	
240 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.0	0.332	0.027	0.5568	
240 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-17.9	0.251	-0.095	0.6287	
240 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	20.1	0.449	0.053	2.8044	
240 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
240 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	279.0



Results for 100 year 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	EXTN-SWMH-01	184	69.000	0.047	4.8	0.0926	0.0000	OK
360 minute summer	EXTN-SWMH-02	256	68.801	0.205	12.8	0.4454	0.0000	OK
360 minute summer	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
360 minute summer	EXTN-SWMH-04	184	68.964	0.041	4.0	0.0743	0.0000	OK
360 minute summer	EXTN-SWMH-05	264	68.804	0.063	7.4	0.0996	0.0000	OK
360 minute summer	EXTN-SWMH-06	184	69.268	0.027	2.8	0.0451	0.0000	OK
360 minute summer	EXTN-SWMH-07	256	68.801	0.357	7.7	1.1229	0.0000	OK
360 minute summer	EXTN-SWMH-08	256	68.801	0.415	18.6	49.5269	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-09	256	68.801	0.448	0.2	0.5067	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-10	256	68.801	0.442	1.3	0.5618	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-11	256	68.801	0.630	22.6	69.6752	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-12	256	68.801	0.687	34.8	3.2153	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-13	256	68.801	0.930	20.5	2.5736	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-14	520	67.902	0.076	11.5	0.1923	0.0000	OK
360 minute summer	S1	520	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	4.8	0.638	0.096	0.7729	
360 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	12.7	0.820	0.172	0.9066	
360 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0333	
360 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	4.0	0.943	0.067	0.0712	
360 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	7.4	1.014	0.044	0.0855	
360 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.8	1.352	0.065	0.0583	
360 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	6.9	0.491	0.056	1.6944	
360 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.9	0.428	0.049	6.0002	
360 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.029	-0.004	0.2784	
360 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.1	0.324	0.030	0.5568	
360 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-19.7	-0.188	-0.105	0.6287	
360 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	19.8	0.265	0.052	2.8044	
360 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
360 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	305.7



Results for 100 year 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	EXTN-SWMH-01	184	68.991	0.038	3.1	0.0750	0.0000	OK
360 minute winter	EXTN-SWMH-02	272	68.774	0.178	8.3	0.3864	0.0000	OK
360 minute winter	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
360 minute winter	EXTN-SWMH-04	184	68.957	0.034	2.6	0.0601	0.0000	OK
360 minute winter	EXTN-SWMH-05	272	68.774	0.033	4.8	0.0522	0.0000	OK
360 minute winter	EXTN-SWMH-06	184	69.262	0.021	1.8	0.0362	0.0000	OK
360 minute winter	EXTN-SWMH-07	272	68.774	0.330	5.0	1.0380	0.0000	OK
360 minute winter	EXTN-SWMH-08	272	68.774	0.388	10.9	46.2742	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-09	272	68.774	0.421	0.2	0.4761	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-10	272	68.774	0.415	0.8	0.5274	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-11	272	68.774	0.603	12.7	65.6143	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-12	272	68.774	0.660	23.9	3.0885	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-13	272	68.774	0.903	20.6	2.4986	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-14	512	67.902	0.076	11.5	0.1923	0.0000	OK
360 minute winter	S1	512	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.1	0.562	0.062	0.6930	
360 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	8.3	0.823	0.113	0.8564	
360 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0245	
360 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.6	0.834	0.043	0.0432	
360 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	4.8	1.025	0.029	0.0759	
360 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.8	1.192	0.042	0.0401	
360 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	4.6	0.439	0.038	1.6513	
360 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.5	0.426	0.047	6.0002	
360 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.014	-0.003	0.2784	
360 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.7	0.320	0.020	0.5568	
360 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-11.1	-0.180	-0.059	0.6287	
360 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	20.0	0.272	0.053	2.8044	
360 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
360 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	306.1



Results for 100 year 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	EXTN-SWMH-01	248	68.994	0.041	3.7	0.0818	0.0000	OK
480 minute summer	EXTN-SWMH-02	320	68.754	0.158	9.9	0.3426	0.0000	OK
480 minute summer	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
480 minute summer	EXTN-SWMH-04	248	68.960	0.037	3.1	0.0655	0.0000	OK
480 minute summer	EXTN-SWMH-05	248	68.770	0.029	5.8	0.0454	0.0000	OK
480 minute summer	EXTN-SWMH-06	248	69.265	0.024	2.2	0.0400	0.0000	OK
480 minute summer	EXTN-SWMH-07	320	68.754	0.310	6.0	0.9741	0.0000	OK
480 minute summer	EXTN-SWMH-08	320	68.754	0.368	13.4	43.8477	0.0000	OK
480 minute summer	EXTN-SWMH-09	320	68.754	0.401	0.2	0.4531	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-10	320	68.754	0.395	1.0	0.5015	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-11	320	68.754	0.583	16.5	62.5661	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-12	320	68.754	0.640	27.8	2.9934	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-13	320	68.753	0.882	32.5	2.4423	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-14	576	67.902	0.076	11.5	0.1923	0.0000	OK
480 minute summer	S1	576	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.7	0.592	0.074	0.6142	
480 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	9.9	0.814	0.135	0.8104	
480 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0278	
480 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	3.1	0.875	0.052	0.0491	
480 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	5.8	0.932	0.035	0.0743	
480 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.2	1.264	0.051	0.0263	
480 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	5.5	0.471	0.045	1.6051	
480 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	7.5	0.414	0.054	5.9849	
480 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.017	-0.004	0.2784	
480 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.8	0.333	0.022	0.5568	
480 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-15.2	-0.164	-0.081	0.6287	
480 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	31.8	0.357	0.084	2.8044	
480 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
480 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	326.1



Results for 100 year 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	EXTN-SWMH-01	248	68.987	0.034	2.5	0.0676	0.0000	OK
480 minute winter	EXTN-SWMH-02	336	68.708	0.112	6.6	0.2425	0.0000	OK
480 minute winter	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
480 minute winter	EXTN-SWMH-04	248	68.953	0.030	2.1	0.0542	0.0000	OK
480 minute winter	EXTN-SWMH-05	248	68.765	0.024	3.9	0.0377	0.0000	OK
480 minute winter	EXTN-SWMH-06	248	69.261	0.020	1.5	0.0331	0.0000	OK
480 minute winter	EXTN-SWMH-07	344	68.708	0.264	4.0	0.8294	0.0000	OK
480 minute winter	EXTN-SWMH-08	344	68.708	0.322	7.6	38.3548	0.0000	OK
480 minute winter	EXTN-SWMH-09	344	68.708	0.354	0.1	0.4009	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-10	336	68.708	0.348	0.7	0.4429	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-11	344	68.708	0.536	11.5	55.6494	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-12	344	68.708	0.593	22.1	2.7776	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-13	344	68.707	0.836	19.4	2.3146	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-14	560	67.902	0.076	11.5	0.1923	0.0000	OK
480 minute winter	S1	560	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.5	0.531	0.050	0.4210	
480 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	6.6	0.810	0.090	0.6928	
480 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0210	
480 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.1	0.782	0.035	0.0372	
480 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.9	0.971	0.023	0.0731	
480 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.5	1.130	0.035	0.0122	
480 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.8	0.420	0.031	1.4220	
480 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.3	0.430	0.045	5.7380	
480 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.018	-0.003	0.2784	
480 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.5	0.317	0.015	0.5568	
480 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-10.2	-0.343	-0.055	0.6287	
480 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	18.7	0.238	0.049	2.8044	
480 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
480 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	326.6



Results for 100 year 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	EXTN-SWMH-01	315	68.990	0.037	3.0	0.0739	0.0000	OK
600 minute summer	EXTN-SWMH-02	390	68.708	0.112	8.0	0.2419	0.0000	OK
600 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
600 minute summer	EXTN-SWMH-04	315	68.956	0.033	2.5	0.0589	0.0000	OK
600 minute summer	EXTN-SWMH-05	315	68.767	0.026	4.7	0.0411	0.0000	OK
600 minute summer	EXTN-SWMH-06	315	69.262	0.021	1.8	0.0362	0.0000	OK
600 minute summer	EXTN-SWMH-07	390	68.707	0.263	4.9	0.8280	0.0000	OK
600 minute summer	EXTN-SWMH-08	390	68.707	0.321	12.7	38.3017	0.0000	OK
600 minute summer	EXTN-SWMH-09	390	68.707	0.354	0.2	0.4006	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-10	390	68.707	0.348	0.8	0.4426	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-11	390	68.707	0.536	13.7	55.6100	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-12	390	68.707	0.593	24.3	2.7763	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-13	390	68.707	0.836	12.8	2.3139	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-14	270	67.902	0.076	11.5	0.1923	0.0000	OK
600 minute summer	S1	270	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.0	0.558	0.060	0.4171	
600 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	8.0	0.808	0.109	0.6920	
600 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0238	
600 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.5	0.822	0.042	0.0422	
600 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	4.7	0.876	0.028	0.0734	
600 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.8	1.192	0.042	0.0139	
600 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	4.9	0.442	0.040	1.4199	
600 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.7	0.403	0.048	5.7347	
600 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.016	-0.003	0.2784	
600 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.7	0.318	0.018	0.5568	
600 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-12.4	-0.307	-0.066	0.6287	
600 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	12.3	0.237	0.032	2.8044	
600 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
600 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	339.4



Results for 100 year 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	EXTN-SWMH-01	315	68.984	0.031	2.1	0.0622	0.0000	OK
600 minute winter	EXTN-SWMH-02	405	68.643	0.047	5.5	0.1016	0.0000	OK
600 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
600 minute winter	EXTN-SWMH-04	315	68.950	0.027	1.7	0.0489	0.0000	OK
600 minute winter	EXTN-SWMH-05	315	68.763	0.022	3.2	0.0343	0.0000	OK
600 minute winter	EXTN-SWMH-06	300	69.259	0.018	1.2	0.0297	0.0000	OK
600 minute winter	EXTN-SWMH-07	405	68.642	0.198	3.3	0.6242	0.0000	OK
600 minute winter	EXTN-SWMH-08	405	68.642	0.256	6.5	30.5645	0.0000	OK
600 minute winter	EXTN-SWMH-09	405	68.642	0.289	0.1	0.3274	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-10	405	68.642	0.283	0.5	0.3603	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-11	405	68.642	0.471	8.4	45.8916	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-12	405	68.642	0.528	18.6	2.4730	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-13	405	68.642	0.771	28.5	2.1345	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-14	255	67.902	0.076	11.5	0.1923	0.0000	OK
600 minute winter	S1	255	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.1	0.506	0.042	0.1621	
600 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	5.5	0.805	0.075	0.5329	
600 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0181	
600 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.7	0.734	0.028	0.0322	
600 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.2	0.925	0.019	0.0722	
600 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.2	1.057	0.028	0.0104	
600 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.3	0.396	0.027	1.0811	
600 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.3	0.429	0.038	5.1848	
600 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	0.012	-0.002	0.2784	
600 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.295	0.012	0.5568	
600 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	8.8	0.168	0.047	0.6287	
600 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	27.9	0.365	0.073	2.8044	
600 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
600 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	343.2



Results for 100 year 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	EXTN-SWMH-01	375	68.988	0.035	2.7	0.0702	0.0000	OK
720 minute summer	EXTN-SWMH-02	450	68.672	0.076	7.2	0.1653	0.0000	OK
720 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
720 minute summer	EXTN-SWMH-04	375	68.954	0.031	2.2	0.0554	0.0000	OK
720 minute summer	EXTN-SWMH-05	375	68.765	0.024	4.1	0.0386	0.0000	OK
720 minute summer	EXTN-SWMH-06	375	69.261	0.020	1.6	0.0342	0.0000	OK
720 minute summer	EXTN-SWMH-07	450	68.672	0.228	4.3	0.7172	0.0000	OK
720 minute summer	EXTN-SWMH-08	450	68.672	0.286	10.5	34.0929	0.0000	OK
720 minute summer	EXTN-SWMH-09	450	68.672	0.319	0.1	0.3607	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-10	450	68.672	0.313	0.7	0.3977	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-11	450	68.672	0.501	11.0	50.3144	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-12	450	68.672	0.558	22.3	2.6110	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-13	450	68.672	0.801	21.1	2.2161	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-14	690	67.902	0.076	11.5	0.1923	0.0000	OK
720 minute summer	S1	690	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.7	0.541	0.054	0.2685	
720 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	7.2	0.796	0.098	0.6012	
720 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0217	
720 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.2	0.792	0.037	0.0385	
720 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	4.1	0.876	0.025	0.0727	
720 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.6	1.152	0.037	0.0128	
720 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	4.3	0.429	0.035	1.2426	
720 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.3	0.427	0.045	5.4537	
720 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.011	-0.003	0.2784	
720 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.6	0.295	0.015	0.5568	
720 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-9.8	-0.184	-0.052	0.6287	
720 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	20.5	0.293	0.054	2.8044	
720 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
720 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	357.7



Results for 100 year 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	EXTN-SWMH-01	375	68.982	0.029	1.8	0.0578	0.0000	OK
720 minute winter	EXTN-SWMH-02	375	68.635	0.039	4.8	0.0842	0.0000	OK
720 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
720 minute winter	EXTN-SWMH-04	375	68.949	0.026	1.5	0.0461	0.0000	OK
720 minute winter	EXTN-SWMH-05	375	68.761	0.020	2.8	0.0322	0.0000	OK
720 minute winter	EXTN-SWMH-06	375	69.258	0.017	1.1	0.0285	0.0000	OK
720 minute winter	EXTN-SWMH-07	480	68.585	0.141	2.9	0.4434	0.0000	OK
720 minute winter	EXTN-SWMH-08	480	68.585	0.199	5.7	23.6980	0.0000	OK
720 minute winter	EXTN-SWMH-09	480	68.585	0.232	0.1	0.2623	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-10	480	68.585	0.226	0.5	0.2872	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-11	480	68.585	0.414	7.1	37.2680	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-12	480	68.585	0.471	27.8	2.2039	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-13	480	68.585	0.714	17.0	1.9753	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-14	660	67.902	0.076	11.5	0.1923	0.0000	OK
720 minute winter	S1	660	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.8	0.479	0.036	0.1466	
720 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	4.8	0.788	0.065	0.5164	
720 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0166	
720 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.5	0.706	0.025	0.0294	
720 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.8	0.867	0.017	0.0671	
720 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.1	1.031	0.025	0.0098	
720 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.9	0.388	0.024	0.7533	
720 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.2	0.434	0.037	4.6147	
720 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.008	-0.002	0.2784	
720 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.295	0.011	0.5566	
720 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	6.8	0.157	0.036	0.6287	
720 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	16.3	0.236	0.043	2.8044	
720 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
720 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	356.6



Results for 100 year 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	EXTN-SWMH-01	495	68.985	0.032	2.2	0.0636	0.0000	OK
960 minute summer	EXTN-SWMH-02	495	68.639	0.043	5.8	0.0923	0.0000	OK
960 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
960 minute summer	EXTN-SWMH-04	495	68.951	0.028	1.8	0.0504	0.0000	OK
960 minute summer	EXTN-SWMH-05	495	68.763	0.022	3.3	0.0348	0.0000	OK
960 minute summer	EXTN-SWMH-06	495	69.259	0.018	1.3	0.0309	0.0000	OK
960 minute summer	EXTN-SWMH-07	585	68.598	0.154	3.5	0.4854	0.0000	OK
960 minute summer	EXTN-SWMH-08	585	68.598	0.212	8.0	25.2912	0.0000	OK
960 minute summer	EXTN-SWMH-09	585	68.598	0.245	0.1	0.2771	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-10	585	68.598	0.239	0.6	0.3038	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-11	585	68.598	0.427	9.2	39.2283	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-12	585	68.598	0.484	19.7	2.2652	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-13	585	68.598	0.727	13.3	2.0115	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-14	765	67.902	0.076	11.5	0.1923	0.0000	OK
960 minute summer	S1	765	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.2	0.511	0.044	0.1680	
960 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	5.8	0.816	0.079	0.5240	
960 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0189	
960 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.8	0.751	0.030	0.0333	
960 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.3	0.805	0.020	0.0700	
960 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.3	1.083	0.030	0.0110	
960 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.5	0.398	0.029	0.8296	
960 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.5	0.440	0.040	4.7498	
960 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.011	-0.002	0.2784	
960 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.5	0.295	0.014	0.5568	
960 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-8.2	-0.299	-0.044	0.6287	
960 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	12.4	0.236	0.033	2.8044	
960 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
960 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	377.1



Results for 100 year 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	EXTN-SWMH-01	480	68.979	0.026	1.4	0.0513	0.0000	OK
960 minute winter	EXTN-SWMH-02	495	68.631	0.035	3.8	0.0752	0.0000	OK
960 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
960 minute winter	EXTN-SWMH-04	480	68.946	0.023	1.2	0.0415	0.0000	OK
960 minute winter	EXTN-SWMH-05	480	68.759	0.018	2.2	0.0288	0.0000	OK
960 minute winter	EXTN-SWMH-06	450	69.255	0.014	0.8	0.0244	0.0000	OK
960 minute winter	EXTN-SWMH-07	600	68.485	0.041	2.3	0.1296	0.0000	OK
960 minute winter	EXTN-SWMH-08	600	68.485	0.099	4.5	11.7193	0.0000	OK
960 minute winter	EXTN-SWMH-09	600	68.484	0.131	0.1	0.1486	0.0000	OK
960 minute winter	EXTN-SWMH-10	600	68.484	0.125	0.4	0.1593	0.0000	OK
960 minute winter	EXTN-SWMH-11	600	68.484	0.313	6.8	22.1828	0.0000	OK
960 minute winter	EXTN-SWMH-12	600	68.484	0.370	20.8	1.7333	0.0000	OK
960 minute winter	EXTN-SWMH-13	600	68.484	0.613	21.6	1.6971	0.0000	SURCHARGED
960 minute winter	EXTN-SWMH-14	720	67.902	0.076	11.5	0.1923	0.0000	OK
960 minute winter	S1	720	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.4	0.446	0.028	0.1238	
960 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	3.8	0.793	0.052	0.5083	
960 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0142	
960 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.2	0.665	0.020	0.0251	
960 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.2	0.737	0.013	0.0313	
960 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.8	0.938	0.019	0.0078	
960 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.3	0.362	0.019	0.2295	
960 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.5	0.447	0.032	3.6004	
960 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.1	0.008	0.001	0.2173	
960 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.295	0.011	0.4143	
960 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	6.0	0.175	0.032	0.5919	
960 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	21.0	0.237	0.055	2.6375	
960 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
960 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	377.5



Results for 100 year 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	EXTN-SWMH-01	750	68.980	0.027	1.5	0.0530	0.0000	OK
1440 minute summer	EXTN-SWMH-02	750	68.632	0.036	4.1	0.0780	0.0000	OK
1440 minute summer	EXTN-SWMH-03	30	69.116	0.000	0.0	0.0000	0.0000	OK
1440 minute summer	EXTN-SWMH-04	750	68.947	0.024	1.3	0.0431	0.0000	OK
1440 minute summer	EXTN-SWMH-05	750	68.760	0.019	2.4	0.0300	0.0000	OK
1440 minute summer	EXTN-SWMH-06	750	69.256	0.015	0.9	0.0259	0.0000	OK
1440 minute summer	EXTN-SWMH-07	750	68.481	0.037	2.5	0.1159	0.0000	OK
1440 minute summer	EXTN-SWMH-08	810	68.480	0.094	4.9	11.1467	0.0000	OK
1440 minute summer	EXTN-SWMH-09	810	68.480	0.127	0.1	0.1439	0.0000	OK
1440 minute summer	EXTN-SWMH-10	810	68.480	0.121	0.4	0.1541	0.0000	OK
1440 minute summer	EXTN-SWMH-11	810	68.480	0.309	5.7	21.5660	0.0000	OK
1440 minute summer	EXTN-SWMH-12	810	68.480	0.366	18.0	1.7138	0.0000	OK
1440 minute summer	EXTN-SWMH-13	810	68.480	0.609	13.3	1.6856	0.0000	SURCHARGED
1440 minute summer	EXTN-SWMH-14	960	67.902	0.076	11.5	0.1923	0.0000	OK
1440 minute summer	S1	960	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.5	0.449	0.030	0.1304	
1440 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	4.1	0.803	0.056	0.5108	
1440 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0150	
1440 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.3	0.679	0.022	0.0265	
1440 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.4	0.712	0.014	0.0296	
1440 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.9	0.971	0.021	0.0085	
1440 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.5	0.378	0.021	0.2094	
1440 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.6	0.426	0.033	3.5409	
1440 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.1	-0.006	0.001	0.2122	
1440 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.294	0.010	0.4033	
1440 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	6.1	0.160	0.033	0.5868	
1440 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	12.6	0.236	0.033	2.6249	
1440 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
1440 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	409.1



Results for 100 year 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	EXTN-SWMH-01	720	68.975	0.022	1.0	0.0437	0.0000	OK
1440 minute winter	EXTN-SWMH-02	720	68.625	0.029	2.7	0.0638	0.0000	OK
1440 minute winter	EXTN-SWMH-03	30	69.116	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	EXTN-SWMH-04	750	68.943	0.020	0.9	0.0362	0.0000	OK
1440 minute winter	EXTN-SWMH-05	750	68.757	0.016	1.6	0.0249	0.0000	OK
1440 minute winter	EXTN-SWMH-06	690	69.254	0.013	0.6	0.0213	0.0000	OK
1440 minute winter	EXTN-SWMH-07	750	68.475	0.031	1.7	0.0967	0.0000	OK
1440 minute winter	EXTN-SWMH-08	750	68.425	0.039	3.3	4.6541	0.0000	OK
1440 minute winter	EXTN-SWMH-09	30	68.353	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	EXTN-SWMH-10	720	68.374	0.015	0.3	0.0191	0.0000	OK
1440 minute winter	EXTN-SWMH-11	780	68.312	0.141	6.3	0.3844	0.0000	OK
1440 minute winter	EXTN-SWMH-12	780	68.298	0.184	20.0	0.8590	0.0000	OK
1440 minute winter	EXTN-SWMH-13	810	68.303	0.432	32.6	1.1953	0.0000	OK
1440 minute winter	EXTN-SWMH-14	780	67.901	0.075	11.4	0.1918	0.0000	OK
1440 minute winter	S1	780	67.749	0.072	11.4	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.0	0.400	0.020	0.0977	
1440 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.7	0.787	0.037	0.4002	
1440 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0116	
1440 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.9	0.613	0.015	0.0203	
1440 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.6	0.702	0.010	0.0103	
1440 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.6	0.861	0.014	0.0064	
1440 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.7	0.332	0.014	0.0804	
1440 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.3	0.460	0.024	1.5493	
1440 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0127	
1440 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.009	0.0217	
1440 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	10.2	-0.315	0.054	0.2532	
1440 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	32.2	0.289	0.085	1.8433	
1440 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.4	0.694	0.043	0.1088	
1440 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.4	0.679	0.060	0.7177	411.8



Results for 100 year 2160 minute summer. 2400 minute analysis at 60 minute timestep. Mass balance: 99.94%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute summer	EXTN-SWMH-01	1140	68.976	0.023	1.1	0.0458	0.0000	OK
2160 minute summer	EXTN-SWMH-02	1140	68.626	0.030	2.9	0.0660	0.0000	OK
2160 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2160 minute summer	EXTN-SWMH-04	1140	68.943	0.020	0.9	0.0360	0.0000	OK
2160 minute summer	EXTN-SWMH-05	1140	68.757	0.016	1.7	0.0256	0.0000	OK
2160 minute summer	EXTN-SWMH-06	1140	69.254	0.013	0.6	0.0213	0.0000	OK
2160 minute summer	EXTN-SWMH-07	1140	68.475	0.031	1.7	0.0967	0.0000	OK
2160 minute summer	EXTN-SWMH-08	1140	68.426	0.040	3.4	4.7274	0.0000	OK
2160 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2160 minute summer	EXTN-SWMH-10	1080	68.374	0.015	0.3	0.0190	0.0000	OK
2160 minute summer	EXTN-SWMH-11	1140	68.340	0.169	0.7	0.5198	0.0000	OK
2160 minute summer	EXTN-SWMH-12	1140	68.340	0.226	18.1	1.0595	0.0000	OK
2160 minute summer	EXTN-SWMH-13	1140	68.345	0.474	25.1	1.3107	0.0000	SURCHARGED
2160 minute summer	EXTN-SWMH-14	1140	67.902	0.076	11.5	0.1922	0.0000	OK
2160 minute summer	S1	1140	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2160 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.1	0.415	0.022	0.1033	
2160 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.9	0.775	0.039	0.4848	
2160 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0115	
2160 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.9	0.604	0.015	0.0206	
2160 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.7	0.610	0.010	0.0105	
2160 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.6	0.861	0.014	0.0064	
2160 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.7	0.331	0.014	0.0815	
2160 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.4	0.444	0.024	1.9917	
2160 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0303	
2160 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.008	0.0532	
2160 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	9.1	0.299	0.049	0.3280	
2160 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	24.6	0.302	0.065	2.1089	
2160 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
2160 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7201	441.9



Results for 100 year 2160 minute winter. 2400 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute winter	EXTN-SWMH-01	1080	68.972	0.019	0.7	0.0370	0.0000	OK
2160 minute winter	EXTN-SWMH-02	1020	68.621	0.025	1.9	0.0541	0.0000	OK
2160 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	EXTN-SWMH-04	1080	68.940	0.017	0.6	0.0300	0.0000	OK
2160 minute winter	EXTN-SWMH-05	1080	68.754	0.013	1.1	0.0209	0.0000	OK
2160 minute winter	EXTN-SWMH-06	1020	69.251	0.010	0.4	0.0177	0.0000	OK
2160 minute winter	EXTN-SWMH-07	1140	68.470	0.026	1.2	0.0825	0.0000	OK
2160 minute winter	EXTN-SWMH-08	1140	68.419	0.033	2.3	3.9221	0.0000	OK
2160 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	EXTN-SWMH-10	1020	68.371	0.012	0.2	0.0157	0.0000	OK
2160 minute winter	EXTN-SWMH-11	1080	68.185	0.014	0.5	0.0393	0.0000	OK
2160 minute winter	EXTN-SWMH-12	1140	68.159	0.045	8.1	0.2109	0.0000	OK
2160 minute winter	EXTN-SWMH-13	1140	68.070	0.199	8.4	0.5509	0.0000	OK
2160 minute winter	EXTN-SWMH-14	1140	67.891	0.065	8.4	0.1650	0.0000	OK
2160 minute winter	S1	1140	67.739	0.062	8.4	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2160 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.7	0.357	0.014	0.0764	
2160 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.9	0.771	0.026	0.0591	
2160 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0088	
2160 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.6	0.542	0.010	0.0155	
2160 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.1	0.707	0.007	0.0080	
2160 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
2160 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.2	0.297	0.010	0.0628	
2160 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.3	0.434	0.017	0.2880	
2160 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2160 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
2160 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.159	0.003	0.0204	
2160 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	8.1	0.234	0.021	0.6710	
2160 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	8.4	0.639	0.032	0.0868	
2160 minute winter	EXTN-SWMH-14	PIPE 14	S1	8.4	0.623	0.044	0.5761	439.4



Results for 100 year 2880 minute summer. 3120 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute summer	EXTN-SWMH-01	1500	68.974	0.021	0.9	0.0416	0.0000	OK
2880 minute summer	EXTN-SWMH-02	1500	68.624	0.028	2.4	0.0603	0.0000	OK
2880 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2880 minute summer	EXTN-SWMH-04	1500	68.941	0.018	0.7	0.0321	0.0000	OK
2880 minute summer	EXTN-SWMH-05	1500	68.755	0.014	1.3	0.0226	0.0000	OK
2880 minute summer	EXTN-SWMH-06	1500	69.253	0.012	0.5	0.0196	0.0000	OK
2880 minute summer	EXTN-SWMH-07	1500	68.472	0.028	1.4	0.0884	0.0000	OK
2880 minute summer	EXTN-SWMH-08	1500	68.422	0.036	2.7	4.2283	0.0000	OK
2880 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2880 minute summer	EXTN-SWMH-10	1380	68.371	0.012	0.2	0.0157	0.0000	OK
2880 minute summer	EXTN-SWMH-11	1440	68.185	0.014	0.5	0.0393	0.0000	OK
2880 minute summer	EXTN-SWMH-12	1500	68.163	0.049	9.7	0.2300	0.0000	OK
2880 minute summer	EXTN-SWMH-13	1500	68.108	0.237	10.1	0.6556	0.0000	OK
2880 minute summer	EXTN-SWMH-14	1500	67.897	0.071	10.1	0.1806	0.0000	OK
2880 minute summer	S1	1500	67.744	0.067	10.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.9	0.390	0.018	0.0903	
2880 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.4	0.792	0.033	0.0712	
2880 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0097	
2880 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.7	0.562	0.012	0.0173	
2880 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.3	0.576	0.008	0.0089	
2880 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.5	0.813	0.012	0.0057	
2880 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.4	0.316	0.011	0.0702	
2880 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.7	0.447	0.019	0.3289	
2880 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2880 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
2880 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.152	0.003	0.0231	
2880 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	9.7	0.235	0.026	0.8307	
2880 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	10.1	0.670	0.038	0.0996	
2880 minute summer	EXTN-SWMH-14	PIPE 14	S1	10.1	0.658	0.053	0.6558	465.9



Results for 100 year 2880 minute winter. 3120 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute winter	EXTN-SWMH-01	1440	68.970	0.017	0.6	0.0344	0.0000	OK
2880 minute winter	EXTN-SWMH-02	1440	68.619	0.023	1.6	0.0502	0.0000	OK
2880 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	EXTN-SWMH-04	1440	68.938	0.015	0.5	0.0276	0.0000	OK
2880 minute winter	EXTN-SWMH-05	1440	68.753	0.012	0.9	0.0190	0.0000	OK
2880 minute winter	EXTN-SWMH-06	1500	69.251	0.010	0.4	0.0177	0.0000	OK
2880 minute winter	EXTN-SWMH-07	1500	68.468	0.024	1.0	0.0759	0.0000	OK
2880 minute winter	EXTN-SWMH-08	1500	68.416	0.030	1.9	3.5786	0.0000	OK
2880 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	EXTN-SWMH-10	1440	68.371	0.012	0.2	0.0157	0.0000	OK
2880 minute winter	EXTN-SWMH-11	1440	68.184	0.013	0.4	0.0355	0.0000	OK
2880 minute winter	EXTN-SWMH-12	1500	68.155	0.041	6.6	0.1916	0.0000	OK
2880 minute winter	EXTN-SWMH-13	1500	68.043	0.172	6.9	0.4766	0.0000	OK
2880 minute winter	EXTN-SWMH-14	1500	67.885	0.059	6.9	0.1502	0.0000	OK
2880 minute winter	S1	1500	67.732	0.055	6.9	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.6	0.342	0.012	0.0687	
2880 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.6	0.752	0.022	0.0496	
2880 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0077	
2880 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.5	0.511	0.008	0.0136	
2880 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.9	0.657	0.005	0.0070	
2880 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
2880 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.0	0.283	0.008	0.0552	
2880 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.9	0.419	0.014	0.2471	
2880 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2880 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
2880 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.4	0.150	0.002	0.0172	
2880 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	6.6	0.231	0.017	0.5562	
2880 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	6.9	0.606	0.026	0.0751	
2880 minute winter	EXTN-SWMH-14	PIPE 14	S1	6.9	0.591	0.036	0.4983	470.3



Results for 100 year 4320 minute summer. 4560 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
4320 minute summer	EXTN-SWMH-01	2220	68.972	0.019	0.7	0.0370	0.0000	OK
4320 minute summer	EXTN-SWMH-02	2160	68.620	0.024	1.8	0.0530	0.0000	OK
4320 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
4320 minute summer	EXTN-SWMH-04	2280	68.938	0.015	0.5	0.0276	0.0000	OK
4320 minute summer	EXTN-SWMH-05	2220	68.754	0.013	1.0	0.0199	0.0000	OK
4320 minute summer	EXTN-SWMH-06	2220	69.251	0.010	0.4	0.0177	0.0000	OK
4320 minute summer	EXTN-SWMH-07	2220	68.469	0.025	1.1	0.0794	0.0000	OK
4320 minute summer	EXTN-SWMH-08	2220	68.418	0.032	2.1	3.7535	0.0000	OK
4320 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
4320 minute summer	EXTN-SWMH-10	2160	68.371	0.012	0.2	0.0157	0.0000	OK
4320 minute summer	EXTN-SWMH-11	2160	68.184	0.013	0.4	0.0355	0.0000	OK
4320 minute summer	EXTN-SWMH-12	2220	68.157	0.043	7.3	0.2007	0.0000	OK
4320 minute summer	EXTN-SWMH-13	2220	68.055	0.184	7.6	0.5101	0.0000	OK
4320 minute summer	EXTN-SWMH-14	2220	67.888	0.062	7.6	0.1572	0.0000	OK
4320 minute summer	S1	2220	67.736	0.059	7.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
4320 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.7	0.364	0.014	0.0750	
4320 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.8	0.772	0.024	0.0546	
4320 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0077	
4320 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.5	0.511	0.008	0.0139	
4320 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.0	0.505	0.006	0.0075	
4320 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
4320 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.1	0.293	0.009	0.0590	
4320 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.1	0.429	0.015	0.2670	
4320 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
4320 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.4	0.163	0.002	0.0185	
4320 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	7.3	0.233	0.019	0.6080	
4320 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	7.6	0.623	0.029	0.0807	
4320 minute summer	EXTN-SWMH-14	PIPE 14	S1	7.6	0.605	0.040	0.5367	504.2



Results for 100 year 4320 minute winter. 4560 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
4320 minute winter	EXTN-SWMH-01	1980	68.967	0.014	0.4	0.0287	0.0000	OK
4320 minute winter	EXTN-SWMH-02	2040	68.615	0.019	1.1	0.0420	0.0000	OK
4320 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-04	2160	68.937	0.014	0.4	0.0248	0.0000	OK
4320 minute winter	EXTN-SWMH-05	2160	68.752	0.011	0.7	0.0169	0.0000	OK
4320 minute winter	EXTN-SWMH-06	2220	69.250	0.009	0.3	0.0154	0.0000	OK
4320 minute winter	EXTN-SWMH-07	2220	68.464	0.020	0.7	0.0640	0.0000	OK
4320 minute winter	EXTN-SWMH-08	2220	68.412	0.026	1.4	3.1045	0.0000	OK
4320 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-10	1500	68.368	0.009	0.1	0.0118	0.0000	OK
4320 minute winter	EXTN-SWMH-11	2160	68.182	0.011	0.3	0.0312	0.0000	OK
4320 minute winter	EXTN-SWMH-12	2220	68.149	0.035	4.8	0.1650	0.0000	OK
4320 minute winter	EXTN-SWMH-13	2220	68.012	0.141	5.0	0.3900	0.0000	OK
4320 minute winter	EXTN-SWMH-14	2220	67.877	0.051	5.0	0.1291	0.0000	OK
4320 minute winter	S1	2220	67.724	0.047	5.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
4320 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.4	0.309	0.008	0.0523	
4320 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.1	0.674	0.015	0.0381	
4320 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
4320 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0115	
4320 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.7	0.491	0.004	0.0057	
4320 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
4320 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.7	0.260	0.006	0.0441	
4320 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.4	0.392	0.010	0.1941	
4320 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
4320 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.164	0.002	0.0134	
4320 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	4.8	0.220	0.013	0.4256	
4320 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	5.0	0.556	0.019	0.0595	
4320 minute winter	EXTN-SWMH-14	PIPE 14	S1	5.0	0.544	0.026	0.3934	504.5



Results for 100 year 5760 minute summer. 6000 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
5760 minute summer	EXTN-SWMH-01	2880	68.969	0.016	0.5	0.0317	0.0000	OK
5760 minute summer	EXTN-SWMH-02	2940	68.618	0.022	1.4	0.0471	0.0000	OK
5760 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
5760 minute summer	EXTN-SWMH-04	2820	68.937	0.014	0.4	0.0248	0.0000	OK
5760 minute summer	EXTN-SWMH-05	2940	68.752	0.011	0.8	0.0180	0.0000	OK
5760 minute summer	EXTN-SWMH-06	2820	69.250	0.009	0.3	0.0154	0.0000	OK
5760 minute summer	EXTN-SWMH-07	2880	68.466	0.022	0.8	0.0682	0.0000	OK
5760 minute summer	EXTN-SWMH-08	2940	68.414	0.028	1.6	3.3010	0.0000	OK
5760 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
5760 minute summer	EXTN-SWMH-10	2340	68.368	0.009	0.1	0.0118	0.0000	OK
5760 minute summer	EXTN-SWMH-11	2820	68.182	0.011	0.3	0.0312	0.0000	OK
5760 minute summer	EXTN-SWMH-12	2940	68.152	0.038	5.7	0.1789	0.0000	OK
5760 minute summer	EXTN-SWMH-13	2940	68.027	0.156	5.9	0.4314	0.0000	OK
5760 minute summer	EXTN-SWMH-14	2940	67.881	0.055	5.9	0.1395	0.0000	OK
5760 minute summer	S1	2940	67.728	0.051	5.9	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
5760 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.5	0.326	0.010	0.0617	
5760 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.4	0.723	0.019	0.0451	
5760 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
5760 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0119	
5760 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.8	0.479	0.005	0.0063	
5760 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
5760 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.8	0.268	0.007	0.0484	
5760 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.6	0.397	0.011	0.2191	
5760 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
5760 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.164	0.002	0.0150	
5760 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	5.7	0.227	0.015	0.4878	
5760 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	5.9	0.581	0.022	0.0671	
5760 minute summer	EXTN-SWMH-14	PIPE 14	S1	5.9	0.568	0.031	0.4432	513.2



Results for 100 year 5760 minute winter. 6000 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
5760 minute winter	EXTN-SWMH-01	2460	68.966	0.013	0.3	0.0250	0.0000	OK
5760 minute winter	EXTN-SWMH-02	2820	68.614	0.018	0.9	0.0382	0.0000	OK
5760 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-04	2640	68.935	0.012	0.3	0.0218	0.0000	OK
5760 minute winter	EXTN-SWMH-05	2640	68.750	0.009	0.5	0.0146	0.0000	OK
5760 minute winter	EXTN-SWMH-06	2460	69.249	0.008	0.2	0.0127	0.0000	OK
5760 minute winter	EXTN-SWMH-07	2460	68.461	0.017	0.5	0.0550	0.0000	OK
5760 minute winter	EXTN-SWMH-08	2880	68.409	0.023	1.0	2.6469	0.0000	OK
5760 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-10	2160	68.368	0.009	0.1	0.0118	0.0000	OK
5760 minute winter	EXTN-SWMH-11	2160	68.181	0.010	0.2	0.0261	0.0000	OK
5760 minute winter	EXTN-SWMH-12	2940	68.145	0.031	3.7	0.1467	0.0000	OK
5760 minute winter	EXTN-SWMH-13	2940	67.993	0.122	3.9	0.3379	0.0000	OK
5760 minute winter	EXTN-SWMH-14	2940	67.871	0.045	3.9	0.1147	0.0000	OK
5760 minute winter	S1	2940	67.719	0.042	3.9	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
5760 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0446	
5760 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.9	0.632	0.012	0.0332	
5760 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
5760 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0093	
5760 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.5	0.417	0.003	0.0046	
5760 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
5760 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0349	
5760 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.0	0.366	0.007	0.1541	
5760 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
5760 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0105	
5760 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.7	0.207	0.010	0.3493	
5760 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.9	0.520	0.015	0.0495	
5760 minute winter	EXTN-SWMH-14	PIPE 14	S1	3.9	0.503	0.021	0.3313	529.7



Results for 100 year 7200 minute summer. 7440 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
7200 minute summer	EXTN-SWMH-01	3480	68.967	0.014	0.4	0.0287	0.0000	OK
7200 minute summer	EXTN-SWMH-02	3600	68.615	0.019	1.1	0.0420	0.0000	OK
7200 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-04	3660	68.937	0.014	0.4	0.0248	0.0000	OK
7200 minute summer	EXTN-SWMH-05	3660	68.752	0.011	0.7	0.0169	0.0000	OK
7200 minute summer	EXTN-SWMH-06	3660	69.250	0.009	0.3	0.0154	0.0000	OK
7200 minute summer	EXTN-SWMH-07	3660	68.466	0.022	0.8	0.0682	0.0000	OK
7200 minute summer	EXTN-SWMH-08	3660	68.413	0.027	1.5	3.2020	0.0000	OK
7200 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-10	3000	68.368	0.009	0.1	0.0118	0.0000	OK
7200 minute summer	EXTN-SWMH-11	3600	68.182	0.011	0.3	0.0312	0.0000	OK
7200 minute summer	EXTN-SWMH-12	3660	68.150	0.036	4.9	0.1666	0.0000	OK
7200 minute summer	EXTN-SWMH-13	3660	68.014	0.143	5.1	0.3946	0.0000	OK
7200 minute summer	EXTN-SWMH-14	3660	67.877	0.051	5.1	0.1303	0.0000	OK
7200 minute summer	S1	3660	67.724	0.047	5.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
7200 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.4	0.309	0.008	0.0523	
7200 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.1	0.674	0.015	0.0381	
7200 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
7200 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0115	
7200 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.7	0.451	0.004	0.0060	
7200 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
7200 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.8	0.271	0.007	0.0471	
7200 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.5	0.407	0.011	0.2003	
7200 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
7200 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.164	0.002	0.0135	
7200 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	4.9	0.221	0.013	0.4324	
7200 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	5.1	0.559	0.019	0.0604	
7200 minute summer	EXTN-SWMH-14	PIPE 14	S1	5.1	0.547	0.027	0.3988	525.6



Results for 100 year 7200 minute winter. 7440 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
7200 minute winter	EXTN-SWMH-01	3300	68.966	0.013	0.3	0.0250	0.0000	OK
7200 minute winter	EXTN-SWMH-02	3480	68.613	0.017	0.8	0.0362	0.0000	OK
7200 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-04	2820	68.933	0.010	0.2	0.0183	0.0000	OK
7200 minute winter	EXTN-SWMH-05	3000	68.749	0.008	0.4	0.0132	0.0000	OK
7200 minute winter	EXTN-SWMH-06	3360	69.249	0.008	0.2	0.0127	0.0000	OK
7200 minute winter	EXTN-SWMH-07	3360	68.461	0.017	0.5	0.0550	0.0000	OK
7200 minute winter	EXTN-SWMH-08	3960	68.408	0.022	0.9	2.5246	0.0000	OK
7200 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-10	2880	68.368	0.009	0.1	0.0118	0.0000	OK
7200 minute winter	EXTN-SWMH-11	2880	68.181	0.010	0.2	0.0261	0.0000	OK
7200 minute winter	EXTN-SWMH-12	3480	68.143	0.029	3.2	0.1375	0.0000	OK
7200 minute winter	EXTN-SWMH-13	3480	67.982	0.111	3.3	0.3077	0.0000	OK
7200 minute winter	EXTN-SWMH-14	3480	67.868	0.042	3.3	0.1061	0.0000	OK
7200 minute winter	S1	3480	67.715	0.038	3.3	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
7200 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0424	
7200 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.8	0.609	0.011	0.0306	
7200 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
7200 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
7200 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.416	0.002	0.0042	
7200 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
7200 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0335	
7200 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.9	0.360	0.006	0.1398	
7200 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
7200 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0096	
7200 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.2	0.204	0.008	0.3073	
7200 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.3	0.498	0.012	0.0440	
7200 minute winter	EXTN-SWMH-14	PIPE 14	S1	3.3	0.480	0.017	0.2943	539.3



Results for 100 year 8640 minute summer. 8880 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
8640 minute summer	EXTN-SWMH-01	4320	68.967	0.014	0.4	0.0287	0.0000	OK
8640 minute summer	EXTN-SWMH-02	4320	68.615	0.019	1.0	0.0402	0.0000	OK
8640 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-04	4140	68.935	0.012	0.3	0.0218	0.0000	OK
8640 minute summer	EXTN-SWMH-05	4320	68.751	0.010	0.6	0.0158	0.0000	OK
8640 minute summer	EXTN-SWMH-06	4020	69.249	0.008	0.2	0.0127	0.0000	OK
8640 minute summer	EXTN-SWMH-07	4260	68.463	0.019	0.6	0.0596	0.0000	OK
8640 minute summer	EXTN-SWMH-08	4440	68.411	0.025	1.2	2.8982	0.0000	OK
8640 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-10	3720	68.368	0.009	0.1	0.0118	0.0000	OK
8640 minute summer	EXTN-SWMH-11	3720	68.181	0.010	0.2	0.0261	0.0000	OK
8640 minute summer	EXTN-SWMH-12	4380	68.147	0.033	4.2	0.1552	0.0000	OK
8640 minute summer	EXTN-SWMH-13	4380	68.002	0.131	4.4	0.3619	0.0000	OK
8640 minute summer	EXTN-SWMH-14	4380	67.874	0.048	4.4	0.1215	0.0000	OK
8640 minute summer	S1	4380	67.721	0.044	4.4	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
8640 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.4	0.309	0.008	0.0503	
8640 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.0	0.653	0.014	0.0357	
8640 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
8640 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0097	
8640 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.6	0.435	0.004	0.0052	
8640 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
8640 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.6	0.260	0.005	0.0396	
8640 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.2	0.381	0.009	0.1734	
8640 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
8640 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0115	
8640 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	4.2	0.214	0.011	0.3841	
8640 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	4.4	0.536	0.017	0.0541	
8640 minute summer	EXTN-SWMH-14	PIPE 14	S1	4.4	0.522	0.023	0.3598	538.9



Results for 100 year 8640 minute winter. 8880 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
8640 minute winter	EXTN-SWMH-01	3300	68.963	0.010	0.2	0.0208	0.0000	OK
8640 minute winter	EXTN-SWMH-02	3840	68.611	0.015	0.6	0.0318	0.0000	OK
8640 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-04	3600	68.933	0.010	0.2	0.0183	0.0000	OK
8640 minute winter	EXTN-SWMH-05	3900	68.749	0.008	0.4	0.0132	0.0000	OK
8640 minute winter	EXTN-SWMH-06	2640	69.247	0.006	0.1	0.0093	0.0000	OK
8640 minute winter	EXTN-SWMH-07	4380	68.460	0.016	0.4	0.0498	0.0000	OK
8640 minute winter	EXTN-SWMH-08	4380	68.406	0.020	0.8	2.3842	0.0000	OK
8640 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-10	3660	68.368	0.009	0.1	0.0118	0.0000	OK
8640 minute winter	EXTN-SWMH-11	3660	68.181	0.010	0.2	0.0261	0.0000	OK
8640 minute winter	EXTN-SWMH-12	4380	68.141	0.027	2.7	0.1264	0.0000	OK
8640 minute winter	EXTN-SWMH-13	4380	67.972	0.101	2.8	0.2807	0.0000	OK
8640 minute winter	EXTN-SWMH-14	4380	67.865	0.039	2.8	0.0984	0.0000	OK
8640 minute winter	S1	4380	67.712	0.035	2.8	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
8640 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0335	
8640 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.6	0.558	0.008	0.0250	
8640 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
8640 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
8640 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.417	0.002	0.0039	
8640 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
8640 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.4	0.260	0.003	0.0299	
8640 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.8	0.349	0.006	0.1239	
8640 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
8640 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0084	
8640 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	2.7	0.195	0.007	0.2702	
8640 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.8	0.473	0.010	0.0390	
8640 minute winter	EXTN-SWMH-14	PIPE 14	S1	2.8	0.462	0.015	0.2580	539.4



Results for 100 year 10080 minute summer. 10320 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
10080 minute summer	EXTN-SWMH-01	4740	68.966	0.013	0.3	0.0250	0.0000	OK
10080 minute summer	EXTN-SWMH-02	5100	68.614	0.018	0.9	0.0382	0.0000	OK
10080 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-04	4980	68.935	0.012	0.3	0.0218	0.0000	OK
10080 minute summer	EXTN-SWMH-05	4980	68.750	0.009	0.5	0.0146	0.0000	OK
10080 minute summer	EXTN-SWMH-06	4800	69.249	0.008	0.2	0.0127	0.0000	OK
10080 minute summer	EXTN-SWMH-07	4800	68.461	0.017	0.5	0.0550	0.0000	OK
10080 minute summer	EXTN-SWMH-08	5220	68.409	0.023	1.0	2.6469	0.0000	OK
10080 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-10	4440	68.368	0.009	0.1	0.0118	0.0000	OK
10080 minute summer	EXTN-SWMH-11	4440	68.181	0.010	0.2	0.0261	0.0000	OK
10080 minute summer	EXTN-SWMH-12	5100	68.145	0.031	3.6	0.1449	0.0000	OK
10080 minute summer	EXTN-SWMH-13	5100	67.991	0.120	3.8	0.3330	0.0000	OK
10080 minute summer	EXTN-SWMH-14	5100	67.870	0.044	3.8	0.1132	0.0000	OK
10080 minute summer	S1	5100	67.718	0.041	3.8	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
10080 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0446	
10080 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.9	0.632	0.012	0.0332	
10080 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
10080 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0093	
10080 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.5	0.416	0.003	0.0046	
10080 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
10080 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0349	
10080 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.0	0.366	0.007	0.1523	
10080 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
10080 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0103	
10080 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.6	0.206	0.009	0.3423	
10080 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.8	0.516	0.014	0.0486	
10080 minute summer	EXTN-SWMH-14	PIPE 14	S1	3.8	0.499	0.020	0.3255	536.3



Results for 100 year 10080 minute winter. 10320 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
10080 minute winter	EXTN-SWMH-01	4080	68.963	0.010	0.2	0.0208	0.0000	OK
10080 minute winter	EXTN-SWMH-02	4860	68.611	0.015	0.6	0.0318	0.0000	OK
10080 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-04	4440	68.933	0.010	0.2	0.0183	0.0000	OK
10080 minute winter	EXTN-SWMH-05	4920	68.749	0.008	0.4	0.0132	0.0000	OK
10080 minute winter	EXTN-SWMH-06	3240	69.247	0.006	0.1	0.0093	0.0000	OK
10080 minute winter	EXTN-SWMH-07	4020	68.458	0.014	0.3	0.0437	0.0000	OK
10080 minute winter	EXTN-SWMH-08	5280	68.405	0.019	0.7	2.2402	0.0000	OK
10080 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-10	4560	68.368	0.009	0.1	0.0118	0.0000	OK
10080 minute winter	EXTN-SWMH-11	4560	68.181	0.010	0.2	0.0261	0.0000	OK
10080 minute winter	EXTN-SWMH-12	5280	68.140	0.026	2.5	0.1220	0.0000	OK
10080 minute winter	EXTN-SWMH-13	5280	67.969	0.097	2.6	0.2699	0.0000	OK
10080 minute winter	EXTN-SWMH-14	5220	67.863	0.037	2.6	0.0953	0.0000	OK
10080 minute winter	S1	5220	67.710	0.033	2.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
10080 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.2	0.250	0.004	0.0335	
10080 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.6	0.558	0.008	0.0250	
10080 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0041	
10080 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.2	0.407	0.003	0.0073	
10080 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.4	0.417	0.002	0.0036	
10080 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.1	0.507	0.002	0.0018	
10080 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.3	0.260	0.002	0.0262	
10080 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	0.7	0.334	0.005	0.1139	
10080 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
10080 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0080	
10080 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	2.5	0.191	0.007	0.2555	
10080 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	2.6	0.463	0.010	0.0371	
10080 minute winter	EXTN-SWMH-14	PIPE 14	S1	2.6	0.455	0.014	0.2442	556.6



Results for 100 year +40% CC 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 99.75%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EXTN-SWMH-01	12	69.457	0.504	32.7	0.9991	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-02	11	69.326	0.730	79.7	1.5831	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXTN-SWMH-04	10	69.038	0.115	27.4	0.2066	0.0000	OK
15 minute summer	EXTN-SWMH-05	11	68.849	0.108	50.4	0.1711	0.0000	OK
15 minute summer	EXTN-SWMH-06	10	69.318	0.077	19.3	0.1296	0.0000	OK
15 minute summer	EXTN-SWMH-07	21	68.841	0.397	52.6	1.2490	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-08	20	68.838	0.452	150.1	53.9086	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-09	19	68.836	0.483	2.1	0.5464	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-10	18	68.836	0.477	8.7	0.6066	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-11	18	68.836	0.665	180.0	74.9256	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-12	18	68.835	0.721	220.6	3.3744	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-13	18	68.835	0.964	42.1	2.6690	0.0000	SURCHARGED
15 minute summer	EXTN-SWMH-14	234	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute summer	S1	234	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	28.6	0.878	0.574	1.5431	
15 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	76.4	1.922	1.039	0.9267	
15 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.1361	
15 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	27.1	1.425	0.454	0.2669	
15 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	50.0	2.830	0.300	0.1026	
15 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	19.2	2.246	0.444	0.0807	
15 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	50.5	1.001	0.414	1.7096	
15 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-55.5	-0.528	-0.398	6.0002	
15 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-2.1	-0.122	-0.039	0.2784	
15 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	7.0	0.454	0.192	0.5568	
15 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-163.8	-1.485	-0.874	0.6287	
15 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	37.5	0.877	0.099	2.8044	
15 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.910	0.043	0.1095	
15 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	161.0



Results for 100 year +40% CC 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 99.62%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	EXTN-SWMH-01	12	69.343	0.390	30.7	0.7732	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-02	11	69.229	0.633	75.8	1.3721	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
15 minute winter	EXTN-SWMH-04	10	69.034	0.111	25.7	0.1985	0.0000	OK
15 minute winter	EXTN-SWMH-05	17	68.850	0.109	47.3	0.1719	0.0000	OK
15 minute winter	EXTN-SWMH-06	10	69.315	0.074	18.2	0.1247	0.0000	OK
15 minute winter	EXTN-SWMH-07	20	68.838	0.394	49.3	1.2405	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-08	21	68.838	0.452	139.1	53.8928	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-09	19	68.839	0.486	2.0	0.5502	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-10	19	68.838	0.479	8.1	0.6091	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-11	19	68.839	0.668	169.1	75.3577	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-12	19	68.838	0.724	209.3	3.3879	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-13	19	68.838	0.967	39.6	2.6769	0.0000	SURCHARGED
15 minute winter	EXTN-SWMH-14	235	67.902	0.076	11.5	0.1923	0.0000	OK
15 minute winter	S1	235	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	27.5	0.882	0.553	1.5431	
15 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	71.0	1.787	0.966	0.9267	
15 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.1293	
15 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	25.4	1.409	0.425	0.2497	
15 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	46.9	2.674	0.281	0.1028	
15 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	18.1	2.214	0.418	0.0825	
15 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	47.3	0.980	0.388	1.7096	
15 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-50.0	-0.477	-0.359	6.0002	
15 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-2.0	-0.160	-0.037	0.2784	
15 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	7.2	0.464	0.197	0.5568	
15 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-152.6	-1.384	-0.815	0.6287	
15 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	33.9	0.857	0.089	2.8044	
15 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.880	0.043	0.1095	
15 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	161.2



Results for 100 year +40% CC 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	EXTN-SWMH-01	19	69.415	0.462	29.5	0.9162	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-02	19	69.302	0.706	74.0	1.5305	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
30 minute summer	EXTN-SWMH-04	18	69.031	0.108	24.7	0.1941	0.0000	OK
30 minute summer	EXTN-SWMH-05	34	68.983	0.242	45.8	0.3826	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-06	18	69.313	0.072	17.5	0.1222	0.0000	OK
30 minute summer	EXTN-SWMH-07	34	68.983	0.539	47.6	1.6942	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-08	34	68.983	0.597	144.5	71.2275	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-09	34	68.982	0.629	1.4	0.7118	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-10	34	68.982	0.623	7.8	0.7923	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-11	34	68.982	0.811	155.9	96.8863	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-12	34	68.982	0.868	203.8	4.0624	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-13	34	68.982	1.111	26.7	3.0743	0.0000	SURCHARGED
30 minute summer	EXTN-SWMH-14	10	67.902	0.076	11.5	0.1923	0.0000	OK
30 minute summer	S1	10	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	26.0	0.865	0.522	1.5431	
30 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	69.9	1.757	0.950	0.9267	
30 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.1256	
30 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	24.7	1.385	0.414	0.3330	
30 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	45.1	2.114	0.271	0.1392	
30 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	17.5	2.200	0.405	0.1029	
30 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	44.6	0.887	0.366	1.7096	
30 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-59.5	-0.556	-0.427	6.0002	
30 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.4	-0.076	-0.027	0.2784	
30 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	7.0	0.415	0.193	0.5568	
30 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-138.1	-1.253	-0.738	0.6287	
30 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	24.9	0.787	0.066	2.8044	
30 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.852	0.043	0.1095	
30 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	164.1



Results for 100 year +40% CC 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	EXTN-SWMH-01	20	69.154	0.201	23.8	0.3981	0.0000	OK
30 minute winter	EXTN-SWMH-02	20	69.097	0.501	63.3	1.0862	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-03	1	69.116	0.000	0.0	0.0000	0.0000	OK
30 minute winter	EXTN-SWMH-04	18	69.019	0.096	19.9	0.1717	0.0000	OK
30 minute winter	EXTN-SWMH-05	33	68.986	0.245	36.9	0.3877	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-06	18	69.304	0.063	14.1	0.1072	0.0000	OK
30 minute winter	EXTN-SWMH-07	33	68.986	0.542	38.4	1.7031	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-08	33	68.986	0.600	117.9	71.5587	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-09	34	68.984	0.631	1.2	0.7141	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-10	34	68.984	0.625	6.3	0.7949	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-11	34	68.984	0.813	127.4	97.1882	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-12	33	68.984	0.870	166.9	4.0720	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-13	33	68.984	1.113	29.4	3.0801	0.0000	SURCHARGED
30 minute winter	EXTN-SWMH-14	10	67.902	0.076	11.5	0.1922	0.0000	OK
30 minute winter	S1	10	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	23.4	0.864	0.470	1.4977	
30 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	57.0	1.433	0.775	0.9267	
30 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.1071	
30 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	19.9	1.358	0.333	0.3375	
30 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	36.6	2.134	0.220	0.1392	
30 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	14.1	2.090	0.326	0.1016	
30 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	34.5	0.849	0.283	1.7096	
30 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-47.8	-0.447	-0.343	6.0002	
30 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-1.2	-0.072	-0.023	0.2784	
30 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	5.4	0.426	0.147	0.5568	
30 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-113.4	-1.028	-0.605	0.6287	
30 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	26.6	0.728	0.070	2.8044	
30 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.855	0.043	0.1095	
30 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7202	163.8



Results for 100 year +40% CC 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 99.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	EXTN-SWMH-01	35	69.148	0.195	22.1	0.3869	0.0000	OK
60 minute summer	EXTN-SWMH-02	63	69.127	0.531	58.6	1.1514	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-03	64	69.128	0.012	0.2	0.0138	0.0000	OK
60 minute summer	EXTN-SWMH-04	64	69.127	0.204	18.5	0.3663	0.0000	OK
60 minute summer	EXTN-SWMH-05	64	69.128	0.387	34.3	0.6118	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-06	33	69.302	0.061	13.1	0.1027	0.0000	OK
60 minute summer	EXTN-SWMH-07	63	69.126	0.682	35.7	2.1455	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-08	64	69.127	0.741	109.2	81.8128	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-09	63	69.128	0.775	0.9	0.8761	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-10	63	69.128	0.769	5.9	0.9769	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-11	63	69.128	0.957	117.0	118.6530	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-12	63	69.127	1.013	154.6	4.7424	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-13	63	69.127	1.256	26.3	3.4765	0.0000	SURCHARGED
60 minute summer	EXTN-SWMH-14	18	67.902	0.076	11.5	0.1923	0.0000	OK
60 minute summer	S1	18	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	21.6	0.845	0.433	1.4818	
60 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	52.6	1.324	0.716	0.9267	
60 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.2	0.012	0.004	0.2576	
60 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	18.5	1.384	0.310	0.5360	
60 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	33.9	1.666	0.204	0.1392	
60 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	13.1	2.053	0.303	0.1035	
60 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	30.7	0.733	0.252	1.7096	
60 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-44.6	-0.414	-0.320	6.0002	
60 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.9	-0.036	-0.017	0.2784	
60 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	5.0	0.365	0.137	0.5568	
60 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-103.9	-0.942	-0.555	0.6287	
60 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	25.0	0.714	0.066	2.8044	
60 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.772	0.043	0.1095	
60 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	179.6



Results for 100 year +40% CC 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	EXTN-SWMH-01	62	69.135	0.182	16.0	0.3601	0.0000	OK
60 minute winter	EXTN-SWMH-02	62	69.135	0.539	42.7	1.1687	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-03	61	69.136	0.020	0.4	0.0226	0.0000	OK
60 minute winter	EXTN-SWMH-04	61	69.135	0.212	13.4	0.3796	0.0000	OK
60 minute winter	EXTN-SWMH-05	61	69.134	0.393	24.8	0.6226	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-06	33	69.292	0.051	9.5	0.0856	0.0000	OK
60 minute winter	EXTN-SWMH-07	63	69.135	0.691	25.8	2.1730	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-08	61	69.134	0.748	75.6	81.8311	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-09	62	69.136	0.783	0.7	0.8856	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-10	62	69.136	0.777	4.2	0.9875	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-11	62	69.136	0.965	87.7	119.9169	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-12	62	69.136	1.022	113.5	4.7807	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-13	62	69.135	1.264	25.1	3.4997	0.0000	SURCHARGED
60 minute winter	EXTN-SWMH-14	17	67.902	0.076	11.5	0.1923	0.0000	OK
60 minute winter	S1	17	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	16.0	0.826	0.321	1.4381	
60 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	40.0	1.071	0.543	0.9267	
60 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.4	-0.022	-0.006	0.2694	
60 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	13.4	1.324	0.224	0.5422	
60 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	24.8	1.741	0.149	0.1392	
60 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	9.5	1.892	0.220	0.1006	
60 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	22.5	0.727	0.184	1.7096	
60 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-29.2	-0.276	-0.209	6.0002	
60 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.7	-0.050	-0.014	0.2784	
60 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	3.6	0.381	0.100	0.5568	
60 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-78.5	-0.711	-0.419	0.6287	
60 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.7	0.662	0.062	2.8044	
60 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.753	0.043	0.1095	
60 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	178.9



Results for 100 year +40% CC 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	EXTN-SWMH-01	122	69.248	0.295	14.4	0.5852	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-02	122	69.248	0.652	38.4	1.4139	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-03	122	69.247	0.131	0.4	0.1484	0.0000	OK
120 minute summer	EXTN-SWMH-04	122	69.247	0.324	12.0	0.5811	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-05	122	69.247	0.506	22.3	0.8014	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-06	62	69.288	0.047	8.5	0.0803	0.0000	OK
120 minute summer	EXTN-SWMH-07	122	69.247	0.803	23.2	2.5261	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-08	122	69.247	0.861	66.2	82.1186	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-09	122	69.248	0.895	0.6	1.0122	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-10	122	69.248	0.889	3.8	1.1299	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-11	122	69.248	1.077	80.2	136.7062	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-12	122	69.248	1.134	102.4	5.3060	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-13	122	69.247	1.376	24.5	3.8101	0.0000	SURCHARGED
120 minute summer	EXTN-SWMH-14	38	67.902	0.076	11.5	0.1923	0.0000	OK
120 minute summer	S1	38	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	14.4	0.793	0.289	1.5431	
120 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	36.2	0.964	0.492	0.9267	
120 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.4	-0.012	-0.006	0.4242	
120 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	12.0	1.284	0.201	0.5488	
120 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	22.3	1.425	0.134	0.1392	
120 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	8.5	1.834	0.197	0.0984	
120 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	20.6	0.588	0.169	1.7096	
120 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-23.7	-0.215	-0.170	6.0002	
120 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.6	-0.030	-0.011	0.2784	
120 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	3.2	0.336	0.088	0.5568	
120 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-71.8	-0.651	-0.383	0.6287	
120 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.6	0.615	0.062	2.8044	
120 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.698	0.043	0.1095	
120 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	217.7



Results for 100 year +40% CC 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	EXTN-SWMH-01	118	69.265	0.312	9.9	0.6178	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-02	118	69.265	0.669	26.5	1.4494	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-03	120	69.264	0.148	0.7	0.1669	0.0000	OK
120 minute winter	EXTN-SWMH-04	120	69.263	0.340	8.3	0.6100	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-05	120	69.264	0.523	15.4	0.8272	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-06	62	69.280	0.039	5.9	0.0661	0.0000	OK
120 minute winter	EXTN-SWMH-07	120	69.263	0.819	16.0	2.5773	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-08	120	69.264	0.878	53.3	82.1601	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-09	120	69.264	0.911	0.4	1.0302	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-10	120	69.264	0.905	2.6	1.1501	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-11	120	69.264	1.093	54.2	139.0997	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-12	120	69.264	1.150	70.2	5.3809	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-13	120	69.263	1.392	17.6	3.8543	0.0000	SURCHARGED
120 minute winter	EXTN-SWMH-14	34	67.902	0.076	11.5	0.1923	0.0000	OK
120 minute winter	S1	34	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	9.9	0.756	0.199	1.5431	
120 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	24.6	0.989	0.335	0.9267	
120 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.7	-0.034	-0.012	0.4479	
120 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	8.3	1.162	0.139	0.5488	
120 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	25.4	1.498	0.153	0.1392	
120 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	5.9	1.665	0.137	0.0960	
120 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	14.5	0.587	0.119	1.7096	
120 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	18.7	0.170	0.134	6.0002	
120 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.022	-0.008	0.2784	
120 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	2.2	0.336	0.061	0.5568	
120 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-48.5	-0.440	-0.259	0.6287	
120 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	16.2	0.594	0.043	2.8044	
120 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
120 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	216.4



Results for 100 year +40% CC 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 99.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	EXTN-SWMH-01	180	69.252	0.299	10.7	0.5921	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-02	180	69.252	0.656	28.5	1.4213	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-03	180	69.251	0.135	0.3	0.1530	0.0000	OK
180 minute summer	EXTN-SWMH-04	180	69.251	0.328	8.9	0.5881	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-05	180	69.251	0.510	16.5	0.8076	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-06	92	69.281	0.040	6.3	0.0683	0.0000	OK
180 minute summer	EXTN-SWMH-07	180	69.251	0.807	17.2	2.5384	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-08	180	69.251	0.865	47.5	82.1283	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-09	180	69.251	0.898	0.4	1.0154	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-10	180	69.251	0.892	2.8	1.1336	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-11	180	69.251	1.080	59.2	137.1446	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-12	180	69.251	1.137	76.0	5.3207	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-13	180	69.251	1.380	27.9	3.8187	0.0000	SURCHARGED
180 minute summer	EXTN-SWMH-14	60	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute summer	S1	60	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	10.7	0.760	0.215	1.5431	
180 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	26.9	0.893	0.366	0.9267	
180 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.3	-0.009	-0.004	0.4302	
180 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	8.9	1.185	0.149	0.5488	
180 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	16.5	1.292	0.099	0.1392	
180 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	6.3	1.693	0.146	0.0957	
180 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	15.7	0.538	0.129	1.7096	
180 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	17.4	0.352	0.125	6.0002	
180 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.019	-0.008	0.2784	
180 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	2.3	0.320	0.064	0.5568	
180 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-53.0	-0.481	-0.283	0.6287	
180 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	27.1	0.351	0.071	2.8044	
180 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
180 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	253.5



Results for 100 year +40% CC 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 99.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	EXTN-SWMH-01	176	69.271	0.318	7.3	0.6311	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-02	176	69.271	0.675	19.6	1.4641	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-03	176	69.271	0.155	0.5	0.1752	0.0000	OK
180 minute winter	EXTN-SWMH-04	176	69.271	0.348	6.1	0.6235	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-05	176	69.271	0.530	11.3	0.8388	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-06	92	69.274	0.033	4.3	0.0561	0.0000	OK
180 minute winter	EXTN-SWMH-07	176	69.271	0.827	11.8	2.6002	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-08	176	69.271	0.885	35.3	82.1785	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-09	176	69.271	0.918	0.3	1.0381	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-10	176	69.271	0.912	1.9	1.1590	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-11	176	69.271	1.100	38.9	140.1420	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-12	176	69.271	1.157	51.7	5.4139	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-13	176	69.271	1.400	34.4	3.8738	0.0000	SURCHARGED
180 minute winter	EXTN-SWMH-14	56	67.902	0.076	11.5	0.1923	0.0000	OK
180 minute winter	S1	56	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	7.3	0.698	0.146	1.5431	
180 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	17.9	0.932	0.244	0.9267	
180 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.5	-0.025	-0.007	0.4583	
180 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	6.1	1.066	0.102	0.5488	
180 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	13.9	1.379	0.083	0.1392	
180 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	4.3	1.528	0.100	0.0928	
180 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	12.1	0.533	0.099	1.7096	
180 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	12.3	0.260	0.088	6.0002	
180 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.023	-0.006	0.2784	
180 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.6	0.331	0.044	0.5568	
180 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-34.6	0.361	-0.185	0.6287	
180 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	33.7	0.392	0.089	2.8044	
180 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
180 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	252.4



Results for 100 year +40% CC 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 99.82%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	EXTN-SWMH-01	208	69.221	0.268	9.0	0.5310	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-02	208	69.221	0.625	23.9	1.3545	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-03	208	69.220	0.104	0.4	0.1180	0.0000	OK
240 minute summer	EXTN-SWMH-04	208	69.220	0.297	7.5	0.5328	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-05	208	69.220	0.479	13.9	0.7587	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-06	124	69.278	0.037	5.3	0.0619	0.0000	OK
240 minute summer	EXTN-SWMH-07	208	69.220	0.776	14.5	2.4412	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-08	208	69.220	0.834	48.8	82.0498	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-09	208	69.220	0.867	0.4	0.9806	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-10	208	69.220	0.861	2.4	1.0944	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-11	208	69.220	1.049	46.9	132.5225	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-12	208	69.220	1.106	62.2	5.1764	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-13	208	69.220	1.349	32.5	3.7334	0.0000	SURCHARGED
240 minute summer	EXTN-SWMH-14	84	67.902	0.076	11.5	0.1923	0.0000	OK
240 minute summer	S1	88	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	8.9	0.713	0.179	1.5431	
240 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	21.3	0.849	0.290	0.9267	
240 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.4	-0.016	-0.006	0.3842	
240 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	7.5	1.127	0.125	0.5488	
240 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	24.6	1.221	0.148	0.1392	
240 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	5.4	1.581	0.125	0.0937	
240 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	12.9	0.529	0.106	1.7096	
240 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	14.3	0.420	0.103	6.0002	
240 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.4	-0.018	-0.007	0.2784	
240 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	2.0	0.320	0.055	0.5568	
240 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-41.6	-0.377	-0.222	0.6287	
240 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	31.8	0.373	0.084	2.8044	
240 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
240 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	287.6



Results for 100 year +40% CC 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 99.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	EXTN-SWMH-01	228	69.237	0.284	5.9	0.5632	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-02	228	69.237	0.641	15.9	1.3897	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-03	228	69.237	0.121	0.2	0.1365	0.0000	OK
240 minute winter	EXTN-SWMH-04	228	69.237	0.314	5.0	0.5622	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-05	228	69.237	0.496	11.4	0.7846	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-06	120	69.271	0.030	3.5	0.0504	0.0000	OK
240 minute winter	EXTN-SWMH-07	228	69.237	0.793	9.6	2.4928	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-08	228	69.237	0.851	28.0	82.0914	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-09	228	69.237	0.884	0.2	0.9992	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-10	228	69.236	0.877	1.6	1.1152	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-11	228	69.236	1.065	30.3	134.9709	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-12	228	69.236	1.122	41.6	5.2528	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-13	228	69.236	1.365	37.4	3.7786	0.0000	SURCHARGED
240 minute winter	EXTN-SWMH-14	76	67.902	0.076	11.5	0.1923	0.0000	OK
240 minute winter	S1	76	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	5.9	0.666	0.118	1.5431	
240 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	14.6	0.882	0.198	0.9267	
240 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.2	-0.007	-0.003	0.4087	
240 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	5.1	1.009	0.086	0.5488	
240 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	14.1	1.266	0.085	0.1392	
240 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	3.5	1.442	0.081	0.0913	
240 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	8.9	0.501	0.073	1.7096	
240 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	14.1	0.398	0.101	6.0002	
240 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.023	-0.005	0.2784	
240 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.4	0.320	0.037	0.5568	
240 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-26.8	0.366	-0.143	0.6287	
240 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	36.7	0.398	0.097	2.8044	
240 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
240 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	287.2



Results for 100 year +40% CC 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 99.88%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute summer	EXTN-SWMH-01	272	69.152	0.199	6.7	0.3946	0.0000	OK
360 minute summer	EXTN-SWMH-02	272	69.152	0.556	17.9	1.2053	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-03	272	69.152	0.036	0.1	0.0403	0.0000	OK
360 minute summer	EXTN-SWMH-04	272	69.152	0.229	5.6	0.4097	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-05	272	69.152	0.411	10.4	0.6501	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-06	184	69.273	0.032	4.0	0.0540	0.0000	OK
360 minute summer	EXTN-SWMH-07	272	69.152	0.708	10.9	2.2252	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-08	272	69.152	0.766	37.2	81.8751	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-09	272	69.151	0.798	0.3	0.9028	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-10	272	69.151	0.792	1.8	1.0070	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-11	272	69.151	0.980	33.4	122.2130	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-12	272	69.151	1.037	46.7	4.8547	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-13	272	69.151	1.280	18.8	3.5431	0.0000	SURCHARGED
360 minute summer	EXTN-SWMH-14	136	67.902	0.076	11.5	0.1923	0.0000	OK
360 minute summer	S1	136	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	6.7	0.673	0.134	1.4929	
360 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	15.7	0.804	0.214	0.9267	
360 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.1	-0.003	-0.001	0.2912	
360 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	5.6	1.038	0.093	0.5488	
360 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	20.7	1.095	0.124	0.1392	
360 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	4.0	1.496	0.092	0.0903	
360 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	9.6	0.492	0.079	1.7096	
360 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	-8.0	0.444	-0.057	6.0002	
360 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.3	-0.013	-0.005	0.2784	
360 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.5	0.317	0.042	0.5568	
360 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-29.4	-0.309	-0.157	0.6287	
360 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	17.9	0.237	0.047	2.8044	
360 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
360 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	349.0



Results for 100 year +40% CC 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 99.86%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	EXTN-SWMH-01	288	69.148	0.195	4.4	0.3875	0.0000	OK
360 minute winter	EXTN-SWMH-02	288	69.148	0.552	11.7	1.1976	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-03	288	69.148	0.032	0.1	0.0363	0.0000	OK
360 minute winter	EXTN-SWMH-04	288	69.148	0.225	3.7	0.4033	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-05	288	69.148	0.407	6.8	0.6444	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-06	184	69.267	0.026	2.6	0.0434	0.0000	OK
360 minute winter	EXTN-SWMH-07	288	69.148	0.704	7.1	2.2138	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-08	288	69.148	0.762	20.4	81.8659	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-09	288	69.148	0.795	0.2	0.8990	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-10	288	69.148	0.789	1.2	1.0025	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-11	288	69.148	0.977	20.2	121.6818	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-12	288	69.148	1.034	30.6	4.8381	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-13	288	69.148	1.276	23.6	3.5333	0.0000	SURCHARGED
360 minute winter	EXTN-SWMH-14	120	67.902	0.076	11.5	0.1923	0.0000	OK
360 minute winter	S1	120	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	4.4	0.605	0.088	1.4825	
360 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	10.6	0.816	0.145	0.9267	
360 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	-0.1	-0.003	-0.001	0.2872	
360 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	3.7	0.925	0.062	0.5486	
360 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	9.9	1.089	0.060	0.1392	
360 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.6	1.324	0.060	0.0889	
360 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	6.9	0.452	0.057	1.7096	
360 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.9	0.430	0.049	6.0002	
360 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.015	-0.003	0.2784	
360 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.0	0.320	0.028	0.5568	
360 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-17.7	-0.228	-0.094	0.6287	
360 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.0	0.310	0.061	2.8044	
360 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
360 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	350.5



Results for 100 year +40% CC 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	EXTN-SWMH-01	344	69.082	0.129	5.2	0.2564	0.0000	OK
480 minute summer	EXTN-SWMH-02	344	69.082	0.486	13.9	1.0543	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
480 minute summer	EXTN-SWMH-04	336	69.082	0.159	4.4	0.2856	0.0000	OK
480 minute summer	EXTN-SWMH-05	344	69.082	0.341	8.1	0.5400	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-06	240	69.269	0.028	3.1	0.0474	0.0000	OK
480 minute summer	EXTN-SWMH-07	336	69.082	0.638	8.4	2.0062	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-08	344	69.082	0.696	20.9	81.6980	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-09	344	69.082	0.729	0.2	0.8241	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-10	344	69.082	0.723	1.4	0.9186	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-11	344	69.082	0.911	25.1	111.7747	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-12	344	69.082	0.968	36.4	4.5290	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-13	344	69.081	1.210	28.3	3.3505	0.0000	SURCHARGED
480 minute summer	EXTN-SWMH-14	192	67.902	0.076	11.5	0.1923	0.0000	OK
480 minute summer	S1	192	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	5.2	0.624	0.104	1.2296	
480 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	12.4	0.810	0.169	0.9267	
480 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.2000	
480 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	4.4	0.973	0.074	0.4820	
480 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	8.1	1.021	0.049	0.1392	
480 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	3.1	1.391	0.072	0.0891	
480 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	7.5	0.471	0.061	1.7096	
480 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	7.5	0.440	0.054	6.0002	
480 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.016	-0.004	0.2784	
480 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.2	0.317	0.033	0.5568	
480 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-22.1	-0.265	-0.118	0.6287	
480 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	27.6	0.308	0.073	2.8044	
480 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
480 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	406.2



Results for 100 year +40% CC 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	EXTN-SWMH-01	360	69.060	0.107	3.5	0.2119	0.0000	OK
480 minute winter	EXTN-SWMH-02	360	69.060	0.464	9.3	1.0056	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-03	8	69.116	0.000	0.0	0.0000	0.0000	OK
480 minute winter	EXTN-SWMH-04	360	69.059	0.136	2.9	0.2446	0.0000	OK
480 minute winter	EXTN-SWMH-05	360	69.059	0.318	5.4	0.5041	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-06	240	69.264	0.023	2.0	0.0381	0.0000	OK
480 minute winter	EXTN-SWMH-07	360	69.059	0.615	5.5	1.9355	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-08	360	69.059	0.673	19.1	80.3446	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-09	360	69.059	0.706	0.2	0.7988	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-10	360	69.059	0.700	0.9	0.8900	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-11	360	69.059	0.888	14.5	108.4020	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-12	360	69.059	0.945	25.1	4.4237	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-13	360	69.059	1.188	24.0	3.2883	0.0000	SURCHARGED
480 minute winter	EXTN-SWMH-14	176	67.902	0.076	11.5	0.1923	0.0000	OK
480 minute winter	S1	176	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.5	0.579	0.070	1.1319	
480 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	9.0	0.796	0.122	0.9267	
480 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.1675	
480 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.9	0.860	0.049	0.4482	
480 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	12.0	1.052	0.072	0.1392	
480 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.0	1.230	0.046	0.0876	
480 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	5.4	0.433	0.044	1.7096	
480 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	6.1	0.431	0.044	6.0002	
480 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.013	-0.003	0.2784	
480 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.8	0.319	0.021	0.5568	
480 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-12.5	0.470	-0.067	0.6287	
480 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	23.2	0.243	0.061	2.8044	
480 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.696	0.043	0.1095	
480 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	409.7



Results for 100 year +40% CC 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute summer	EXTN-SWMH-01	420	69.038	0.085	4.2	0.1691	0.0000	OK
600 minute summer	EXTN-SWMH-02	420	69.038	0.442	11.3	0.9588	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
600 minute summer	EXTN-SWMH-04	420	69.038	0.115	3.5	0.2060	0.0000	OK
600 minute summer	EXTN-SWMH-05	420	69.038	0.297	6.5	0.4700	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-06	300	69.266	0.025	2.5	0.0426	0.0000	OK
600 minute summer	EXTN-SWMH-07	420	69.038	0.594	6.8	1.8678	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-08	420	69.038	0.652	16.2	77.7748	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-09	420	69.038	0.685	0.2	0.7744	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-10	420	69.038	0.679	1.1	0.8627	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-11	420	69.038	0.867	19.3	105.1778	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-12	420	69.038	0.924	30.7	4.3231	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-13	420	69.037	1.166	15.5	3.2288	0.0000	SURCHARGED
600 minute summer	EXTN-SWMH-14	255	67.902	0.076	11.5	0.1922	0.0000	OK
600 minute summer	S1	255	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	4.2	0.612	0.084	1.0389	
600 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	11.2	0.805	0.153	0.9267	
600 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.1356	
600 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	3.5	0.909	0.059	0.4151	
600 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	6.5	0.979	0.039	0.1392	
600 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.5	1.309	0.058	0.0873	
600 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	6.1	0.435	0.050	1.7096	
600 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.7	0.429	0.041	6.0002	
600 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.2	-0.011	-0.003	0.2784	
600 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	1.0	0.295	0.026	0.5568	
600 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-16.9	0.400	-0.090	0.6287	
600 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	14.9	0.236	0.039	2.8044	
600 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.693	0.043	0.1095	
600 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7202	457.9



Results for 100 year +40% CC 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 99.90%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	EXTN-SWMH-01	450	69.002	0.049	2.9	0.0967	0.0000	OK
600 minute winter	EXTN-SWMH-02	450	69.002	0.406	7.7	0.8796	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
600 minute winter	EXTN-SWMH-04	450	69.001	0.078	2.4	0.1406	0.0000	OK
600 minute winter	EXTN-SWMH-05	450	69.001	0.260	4.5	0.4123	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-06	315	69.262	0.021	1.7	0.0352	0.0000	OK
600 minute winter	EXTN-SWMH-07	450	69.001	0.557	4.6	1.7531	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-08	450	69.001	0.615	10.5	73.4202	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-09	450	69.001	0.648	0.1	0.7332	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-10	450	69.001	0.642	0.8	0.8163	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-11	450	69.001	0.830	11.2	99.7083	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-12	450	69.001	0.887	21.0	4.1524	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-13	450	69.001	1.130	26.6	3.1279	0.0000	SURCHARGED
600 minute winter	EXTN-SWMH-14	840	67.902	0.076	11.5	0.1923	0.0000	OK
600 minute winter	S1	840	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.9	0.553	0.058	0.8943	
600 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	7.7	0.799	0.104	0.9267	
600 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0818	
600 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.4	0.812	0.040	0.3593	
600 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	4.5	0.921	0.027	0.1392	
600 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.7	1.172	0.039	0.0864	
600 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	4.2	0.413	0.034	1.7096	
600 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.6	0.431	0.040	6.0002	
600 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.012	-0.002	0.2784	
600 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.7	0.318	0.020	0.5568	
600 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-9.4	0.167	-0.050	0.6287	
600 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	25.9	0.242	0.068	2.8044	
600 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
600 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	466.5



Results for 100 year +40% CC 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	EXTN-SWMH-01	480	68.998	0.045	3.7	0.0885	0.0000	OK
720 minute summer	EXTN-SWMH-02	480	68.998	0.402	9.9	0.8705	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
720 minute summer	EXTN-SWMH-04	480	68.997	0.074	3.1	0.1328	0.0000	OK
720 minute summer	EXTN-SWMH-05	480	68.997	0.256	5.8	0.4054	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-06	375	69.265	0.024	2.2	0.0400	0.0000	OK
720 minute summer	EXTN-SWMH-07	480	68.997	0.553	6.0	1.7394	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-08	480	68.997	0.611	14.8	72.9016	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-09	480	68.997	0.644	0.1	0.7283	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-10	480	68.997	0.638	1.0	0.8109	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-11	480	68.997	0.826	16.1	99.0620	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-12	480	68.997	0.883	27.0	4.1322	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-13	480	68.997	1.126	34.9	3.1160	0.0000	SURCHARGED
720 minute summer	EXTN-SWMH-14	915	67.902	0.076	11.5	0.1923	0.0000	OK
720 minute summer	S1	915	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.7	0.591	0.074	0.8796	
720 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	9.8	0.793	0.134	0.9267	
720 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0757	
720 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	3.1	0.875	0.052	0.3529	
720 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	9.8	0.932	0.059	0.1392	
720 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	2.2	1.264	0.051	0.0870	
720 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	5.4	0.430	0.044	1.7096	
720 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.9	0.424	0.042	6.0002	
720 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	0.015	-0.002	0.2784	
720 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.9	0.318	0.024	0.5568	
720 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-13.8	0.272	-0.074	0.6287	
720 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	34.3	0.353	0.090	2.8044	
720 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
720 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	497.1



Results for 100 year +40% CC 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	EXTN-SWMH-01	375	68.987	0.034	2.5	0.0676	0.0000	OK
720 minute winter	EXTN-SWMH-02	525	68.940	0.344	6.7	0.7465	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
720 minute winter	EXTN-SWMH-04	375	68.953	0.030	2.1	0.0542	0.0000	OK
720 minute winter	EXTN-SWMH-05	525	68.940	0.199	7.3	0.3151	0.0000	OK
720 minute winter	EXTN-SWMH-06	375	69.261	0.020	1.5	0.0331	0.0000	OK
720 minute winter	EXTN-SWMH-07	525	68.940	0.496	4.1	1.5601	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-08	525	68.940	0.554	14.9	66.0922	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-09	525	68.940	0.587	0.1	0.6638	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-10	525	68.940	0.581	0.7	0.7383	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-11	525	68.940	0.769	9.8	90.5037	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-12	525	68.940	0.826	19.3	3.8652	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-13	525	68.940	1.069	36.7	2.9581	0.0000	SURCHARGED
720 minute winter	EXTN-SWMH-14	900	67.902	0.076	11.5	0.1923	0.0000	OK
720 minute winter	S1	900	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.5	0.528	0.050	0.8322	
720 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	6.7	0.797	0.091	0.9267	
720 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0210	
720 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.1	0.782	0.035	0.2661	
720 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	11.2	0.949	0.067	0.1347	
720 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.5	1.130	0.035	0.0855	
720 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.8	0.398	0.031	1.7096	
720 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.5	0.438	0.039	6.0002	
720 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	0.015	-0.002	0.2784	
720 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.6	0.295	0.017	0.5568	
720 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	9.0	0.168	0.048	0.6287	
720 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	36.1	0.403	0.095	2.8044	
720 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
720 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	499.3



Results for 100 year +40% CC 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute summer	EXTN-SWMH-01	495	68.990	0.037	3.0	0.0739	0.0000	OK
960 minute summer	EXTN-SWMH-02	615	68.919	0.323	8.1	0.7000	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
960 minute summer	EXTN-SWMH-04	495	68.956	0.033	2.5	0.0589	0.0000	OK
960 minute summer	EXTN-SWMH-05	615	68.918	0.177	8.1	0.2809	0.0000	OK
960 minute summer	EXTN-SWMH-06	495	69.262	0.021	1.8	0.0362	0.0000	OK
960 minute summer	EXTN-SWMH-07	630	68.918	0.474	4.9	1.4921	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-08	630	68.918	0.532	9.8	63.5124	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-09	615	68.918	0.565	0.1	0.6394	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-10	615	68.918	0.559	0.8	0.7109	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-11	615	68.918	0.747	12.8	87.2670	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-12	615	68.918	0.804	22.0	3.7642	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-13	615	68.918	1.047	41.0	2.8983	0.0000	SURCHARGED
960 minute summer	EXTN-SWMH-14	1035	67.902	0.076	11.5	0.1923	0.0000	OK
960 minute summer	S1	1035	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	3.0	0.554	0.060	0.8319	
960 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	8.1	0.813	0.110	0.9267	
960 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0238	
960 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	2.5	0.822	0.042	0.2422	
960 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	-5.0	0.876	-0.030	0.1284	
960 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.8	1.192	0.042	0.0855	
960 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	4.5	0.409	0.037	1.7096	
960 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.7	0.442	0.041	6.0002	
960 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	0.012	-0.002	0.2784	
960 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.7	0.295	0.019	0.5568	
960 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-11.1	0.167	-0.059	0.6287	
960 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	40.4	0.469	0.107	2.8044	
960 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
960 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	528.4



Results for 100 year +40% CC 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 99.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	EXTN-SWMH-01	480	68.984	0.031	2.0	0.0607	0.0000	OK
960 minute winter	EXTN-SWMH-02	660	68.800	0.204	5.3	0.4430	0.0000	OK
960 minute winter	EXTN-SWMH-03	15	69.116	0.000	0.0	0.0000	0.0000	OK
960 minute winter	EXTN-SWMH-04	495	68.950	0.027	1.7	0.0490	0.0000	OK
960 minute winter	EXTN-SWMH-05	675	68.800	0.059	3.1	0.0936	0.0000	OK
960 minute winter	EXTN-SWMH-06	480	69.259	0.018	1.2	0.0297	0.0000	OK
960 minute winter	EXTN-SWMH-07	660	68.800	0.356	3.2	1.1188	0.0000	OK
960 minute winter	EXTN-SWMH-08	660	68.800	0.414	6.2	49.3857	0.0000	SURCHARGED
960 minute winter	EXTN-SWMH-09	660	68.800	0.447	0.1	0.5054	0.0000	SURCHARGED
960 minute winter	EXTN-SWMH-10	660	68.800	0.441	0.5	0.5603	0.0000	SURCHARGED
960 minute winter	EXTN-SWMH-11	660	68.800	0.629	6.7	69.4992	0.0000	SURCHARGED
960 minute winter	EXTN-SWMH-12	660	68.800	0.686	23.5	3.2097	0.0000	SURCHARGED
960 minute winter	EXTN-SWMH-13	660	68.800	0.929	27.7	2.5703	0.0000	SURCHARGED
960 minute winter	EXTN-SWMH-14	990	67.902	0.076	11.5	0.1923	0.0000	OK
960 minute winter	S1	990	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.0	0.496	0.040	0.7715	
960 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	5.3	0.797	0.072	0.9050	
960 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0182	
960 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.7	0.739	0.028	0.0667	
960 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	4.6	0.867	0.028	0.0841	
960 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.2	1.057	0.028	0.0574	
960 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.0	0.384	0.025	1.6929	
960 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.0	0.439	0.036	6.0002	
960 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.1	0.014	0.002	0.2784	
960 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.5	0.295	0.013	0.5568	
960 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	8.9	0.495	0.048	0.6287	
960 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	27.1	0.310	0.072	2.8044	
960 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.696	0.043	0.1095	
960 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	530.5



Results for 100 year +40% CC 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	EXTN-SWMH-01	750	68.984	0.031	2.1	0.0622	0.0000	OK
1440 minute summer	EXTN-SWMH-02	900	68.742	0.146	5.7	0.3158	0.0000	OK
1440 minute summer	EXTN-SWMH-03	30	69.116	0.000	0.0	0.0000	0.0000	OK
1440 minute summer	EXTN-SWMH-04	750	68.951	0.028	1.8	0.0504	0.0000	OK
1440 minute summer	EXTN-SWMH-05	750	68.763	0.022	3.3	0.0348	0.0000	OK
1440 minute summer	EXTN-SWMH-06	750	69.259	0.018	1.3	0.0309	0.0000	OK
1440 minute summer	EXTN-SWMH-07	900	68.742	0.298	3.5	0.9357	0.0000	OK
1440 minute summer	EXTN-SWMH-08	900	68.742	0.356	6.5	42.3889	0.0000	OK
1440 minute summer	EXTN-SWMH-09	900	68.741	0.388	0.1	0.4392	0.0000	SURCHARGED
1440 minute summer	EXTN-SWMH-10	900	68.741	0.382	0.6	0.4860	0.0000	SURCHARGED
1440 minute summer	EXTN-SWMH-11	900	68.741	0.570	7.5	60.7269	0.0000	SURCHARGED
1440 minute summer	EXTN-SWMH-12	900	68.741	0.627	23.0	2.9360	0.0000	SURCHARGED
1440 minute summer	EXTN-SWMH-13	900	68.741	0.870	19.1	2.4084	0.0000	SURCHARGED
1440 minute summer	EXTN-SWMH-14	660	67.902	0.076	11.5	0.1923	0.0000	OK
1440 minute summer	S1	660	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	2.1	0.498	0.042	0.5648	
1440 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	5.7	0.798	0.077	0.7800	
1440 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0189	
1440 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.8	0.751	0.030	0.0333	
1440 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	3.3	0.754	0.020	0.0727	
1440 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	1.3	1.083	0.030	0.0187	
1440 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	3.2	0.393	0.027	1.5647	
1440 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	5.4	0.445	0.038	5.9405	
1440 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	-0.1	-0.006	-0.002	0.2784	
1440 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.5	0.295	0.015	0.5568	
1440 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-6.4	0.250	-0.034	0.6287	
1440 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	18.4	0.234	0.049	2.8044	
1440 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.694	0.043	0.1095	
1440 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	572.9



Results for 100 year +40% CC 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	EXTN-SWMH-01	720	68.979	0.026	1.4	0.0513	0.0000	OK
1440 minute winter	EXTN-SWMH-02	750	68.631	0.035	3.8	0.0752	0.0000	OK
1440 minute winter	EXTN-SWMH-03	30	69.116	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	EXTN-SWMH-04	720	68.946	0.023	1.2	0.0415	0.0000	OK
1440 minute winter	EXTN-SWMH-05	720	68.759	0.018	2.2	0.0288	0.0000	OK
1440 minute winter	EXTN-SWMH-06	750	69.256	0.015	0.9	0.0259	0.0000	OK
1440 minute winter	EXTN-SWMH-07	900	68.563	0.119	2.4	0.3746	0.0000	OK
1440 minute winter	EXTN-SWMH-08	900	68.563	0.177	4.6	21.0848	0.0000	OK
1440 minute winter	EXTN-SWMH-09	900	68.563	0.210	0.0	0.2375	0.0000	OK
1440 minute winter	EXTN-SWMH-10	900	68.563	0.204	0.4	0.2593	0.0000	OK
1440 minute winter	EXTN-SWMH-11	900	68.563	0.392	3.9	33.9770	0.0000	SURCHARGED
1440 minute winter	EXTN-SWMH-12	900	68.563	0.449	21.0	2.1013	0.0000	OK
1440 minute winter	EXTN-SWMH-13	900	68.563	0.692	26.2	1.9146	0.0000	SURCHARGED
1440 minute winter	EXTN-SWMH-14	660	67.902	0.076	11.5	0.1923	0.0000	OK
1440 minute winter	S1	660	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.4	0.446	0.028	0.1238	
1440 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	3.8	0.787	0.052	0.5083	
1440 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0142	
1440 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.2	0.665	0.020	0.0251	
1440 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.2	0.702	0.013	0.0607	
1440 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.9	0.971	0.021	0.0085	
1440 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.4	0.355	0.020	0.6294	
1440 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.3	0.453	0.031	4.3918	
1440 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.1	0.009	0.001	0.2743	
1440 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.4	0.295	0.010	0.5435	
1440 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	7.6	0.186	0.041	0.6287	
1440 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	25.6	0.235	0.067	2.8032	
1440 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
1440 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7204	571.5



Results for 100 year +40% CC 2160 minute summer. 2400 minute analysis at 60 minute timestep. Mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute summer	EXTN-SWMH-01	1140	68.980	0.027	1.5	0.0530	0.0000	OK
2160 minute summer	EXTN-SWMH-02	1140	68.632	0.036	4.0	0.0770	0.0000	OK
2160 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2160 minute summer	EXTN-SWMH-04	1140	68.947	0.024	1.3	0.0431	0.0000	OK
2160 minute summer	EXTN-SWMH-05	1140	68.760	0.019	2.4	0.0300	0.0000	OK
2160 minute summer	EXTN-SWMH-06	1140	69.256	0.015	0.9	0.0259	0.0000	OK
2160 minute summer	EXTN-SWMH-07	1260	68.544	0.100	2.4	0.3158	0.0000	OK
2160 minute summer	EXTN-SWMH-08	1260	68.544	0.158	4.8	18.8511	0.0000	OK
2160 minute summer	EXTN-SWMH-09	1260	68.544	0.191	0.1	0.2163	0.0000	OK
2160 minute summer	EXTN-SWMH-10	1260	68.544	0.185	0.4	0.2354	0.0000	OK
2160 minute summer	EXTN-SWMH-11	1260	68.544	0.373	5.2	31.1642	0.0000	OK
2160 minute summer	EXTN-SWMH-12	1260	68.544	0.430	17.7	2.0135	0.0000	OK
2160 minute summer	EXTN-SWMH-13	1260	68.544	0.673	26.0	1.8627	0.0000	SURCHARGED
2160 minute summer	EXTN-SWMH-14	1440	67.902	0.076	11.5	0.1922	0.0000	OK
2160 minute summer	S1	1440	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2160 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.5	0.454	0.030	0.1290	
2160 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	4.0	0.780	0.054	0.5100	
2160 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0150	
2160 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.3	0.679	0.022	0.0265	
2160 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	2.4	0.679	0.014	0.0543	
2160 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.9	0.971	0.021	0.0085	
2160 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.4	0.368	0.020	0.5261	
2160 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	4.6	0.449	0.033	4.2026	
2160 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.1	0.006	0.001	0.2651	
2160 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.009	0.5233	
2160 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	5.8	0.178	0.031	0.6283	
2160 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	25.4	0.243	0.067	2.7832	
2160 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
2160 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7201	616.1



Results for 100 year +40% CC 2160 minute winter. 2400 minute analysis at 60 minute timestep. Mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute winter	EXTN-SWMH-01	1080	68.975	0.022	1.0	0.0437	0.0000	OK
2160 minute winter	EXTN-SWMH-02	1140	68.625	0.029	2.7	0.0638	0.0000	OK
2160 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	EXTN-SWMH-04	1140	68.943	0.020	0.9	0.0362	0.0000	OK
2160 minute winter	EXTN-SWMH-05	1140	68.757	0.016	1.6	0.0249	0.0000	OK
2160 minute winter	EXTN-SWMH-06	1080	69.254	0.013	0.6	0.0213	0.0000	OK
2160 minute winter	EXTN-SWMH-07	1140	68.475	0.031	1.7	0.0967	0.0000	OK
2160 minute winter	EXTN-SWMH-08	1140	68.426	0.040	3.3	4.6592	0.0000	OK
2160 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2160 minute winter	EXTN-SWMH-10	1080	68.374	0.015	0.3	0.0191	0.0000	OK
2160 minute winter	EXTN-SWMH-11	1200	68.342	0.171	2.8	0.7634	0.0000	OK
2160 minute winter	EXTN-SWMH-12	1200	68.339	0.225	11.1	1.0529	0.0000	OK
2160 minute winter	EXTN-SWMH-13	1200	68.347	0.476	16.5	1.3179	0.0000	SURCHARGED
2160 minute winter	EXTN-SWMH-14	1200	67.902	0.076	11.5	0.1922	0.0000	OK
2160 minute winter	S1	1200	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2160 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.0	0.406	0.020	0.0977	
2160 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.7	0.789	0.037	0.4801	
2160 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0116	
2160 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.9	0.613	0.015	0.0203	
2160 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.6	0.707	0.010	0.0103	
2160 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.6	0.861	0.014	0.0064	
2160 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.7	0.331	0.014	0.0805	
2160 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.3	0.450	0.024	1.9686	
2160 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0314	
2160 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.008	0.0554	
2160 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	-2.1	0.164	-0.011	0.3282	
2160 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	16.0	0.234	0.042	2.1034	
2160 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
2160 minute winter	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7202	623.8



Results for 100 year +40% CC 2880 minute summer. 3120 minute analysis at 60 minute timestep. Mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute summer	EXTN-SWMH-01	1500	68.977	0.024	1.2	0.0477	0.0000	OK
2880 minute summer	EXTN-SWMH-02	1500	68.628	0.032	3.3	0.0702	0.0000	OK
2880 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2880 minute summer	EXTN-SWMH-04	1500	68.944	0.021	1.0	0.0379	0.0000	OK
2880 minute summer	EXTN-SWMH-05	1500	68.758	0.017	1.9	0.0269	0.0000	OK
2880 minute summer	EXTN-SWMH-06	1500	69.255	0.014	0.7	0.0230	0.0000	OK
2880 minute summer	EXTN-SWMH-07	1500	68.477	0.033	2.0	0.1044	0.0000	OK
2880 minute summer	EXTN-SWMH-08	1560	68.432	0.046	3.9	5.4829	0.0000	OK
2880 minute summer	EXTN-SWMH-09	1560	68.432	0.079	0.0	0.0892	0.0000	OK
2880 minute summer	EXTN-SWMH-10	1560	68.432	0.073	0.3	0.0926	0.0000	OK
2880 minute summer	EXTN-SWMH-11	1560	68.432	0.261	2.6	14.3141	0.0000	OK
2880 minute summer	EXTN-SWMH-12	1560	68.432	0.318	12.9	1.4878	0.0000	OK
2880 minute summer	EXTN-SWMH-13	1560	68.432	0.561	22.2	1.5521	0.0000	SURCHARGED
2880 minute summer	EXTN-SWMH-14	1440	67.902	0.076	11.5	0.1923	0.0000	OK
2880 minute summer	S1	1440	67.749	0.072	11.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	1.2	0.419	0.024	0.1118	
2880 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	3.3	0.773	0.045	0.5041	
2880 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0124	
2880 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	1.0	0.624	0.017	0.0222	
2880 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.9	0.622	0.011	0.0124	
2880 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.7	0.903	0.016	0.0071	
2880 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	2.0	0.349	0.016	0.0921	
2880 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	3.9	0.445	0.028	2.8695	
2880 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.003	0.000	0.1439	
2880 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.3	0.295	0.008	0.2624	
2880 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	3.3	0.162	0.018	0.5117	
2880 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	21.7	0.331	0.057	2.4617	
2880 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	11.5	0.692	0.043	0.1095	
2880 minute summer	EXTN-SWMH-14	PIPE 14	S1	11.5	0.680	0.060	0.7203	652.2



Results for 100 year +40% CC 2880 minute winter. 3120 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute winter	EXTN-SWMH-01	1440	68.973	0.020	0.8	0.0394	0.0000	OK
2880 minute winter	EXTN-SWMH-02	1500	68.623	0.027	2.2	0.0579	0.0000	OK
2880 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	EXTN-SWMH-04	1440	68.941	0.018	0.7	0.0321	0.0000	OK
2880 minute winter	EXTN-SWMH-05	1440	68.755	0.014	1.3	0.0226	0.0000	OK
2880 minute winter	EXTN-SWMH-06	1440	69.253	0.012	0.5	0.0196	0.0000	OK
2880 minute winter	EXTN-SWMH-07	1440	68.471	0.027	1.3	0.0855	0.0000	OK
2880 minute winter	EXTN-SWMH-08	1560	68.421	0.035	2.6	4.1542	0.0000	OK
2880 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
2880 minute winter	EXTN-SWMH-10	1260	68.371	0.012	0.2	0.0157	0.0000	OK
2880 minute winter	EXTN-SWMH-11	1320	68.185	0.014	0.5	0.0393	0.0000	OK
2880 minute winter	EXTN-SWMH-12	1500	68.162	0.048	9.1	0.2230	0.0000	OK
2880 minute winter	EXTN-SWMH-13	1500	68.092	0.221	9.5	0.6120	0.0000	OK
2880 minute winter	EXTN-SWMH-14	1500	67.895	0.069	9.5	0.1752	0.0000	OK
2880 minute winter	S1	1500	67.742	0.065	9.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.8	0.377	0.016	0.0842	
2880 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.2	0.771	0.030	0.0666	
2880 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0097	
2880 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.7	0.562	0.012	0.0173	
2880 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.3	0.707	0.008	0.0088	
2880 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.5	0.813	0.012	0.0057	
2880 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.3	0.303	0.011	0.0677	
2880 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.6	0.453	0.019	0.3156	
2880 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
2880 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
2880 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.163	0.003	0.0221	
2880 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	9.1	0.234	0.024	0.7645	
2880 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	9.5	0.659	0.036	0.0951	
2880 minute winter	EXTN-SWMH-14	PIPE 14	S1	9.5	0.646	0.050	0.6277	658.9



Results for 100 year +40% CC 4320 minute summer. 4560 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
4320 minute summer	EXTN-SWMH-01	2220	68.974	0.021	0.9	0.0416	0.0000	OK
4320 minute summer	EXTN-SWMH-02	2220	68.624	0.028	2.4	0.0603	0.0000	OK
4320 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
4320 minute summer	EXTN-SWMH-04	2220	68.942	0.019	0.8	0.0341	0.0000	OK
4320 minute summer	EXTN-SWMH-05	2220	68.756	0.015	1.5	0.0242	0.0000	OK
4320 minute summer	EXTN-SWMH-06	2160	69.253	0.012	0.5	0.0196	0.0000	OK
4320 minute summer	EXTN-SWMH-07	2220	68.472	0.028	1.4	0.0884	0.0000	OK
4320 minute summer	EXTN-SWMH-08	2220	68.423	0.037	2.9	4.3758	0.0000	OK
4320 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
4320 minute summer	EXTN-SWMH-10	2040	68.371	0.012	0.2	0.0157	0.0000	OK
4320 minute summer	EXTN-SWMH-11	2100	68.185	0.014	0.5	0.0393	0.0000	OK
4320 minute summer	EXTN-SWMH-12	2220	68.164	0.050	10.0	0.2334	0.0000	OK
4320 minute summer	EXTN-SWMH-13	2220	68.130	0.259	10.4	0.7177	0.0000	OK
4320 minute summer	EXTN-SWMH-14	2220	67.898	0.072	10.4	0.1832	0.0000	OK
4320 minute summer	S1	2220	67.745	0.068	10.4	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
4320 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.9	0.390	0.018	0.0903	
4320 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	2.4	0.776	0.033	0.0725	
4320 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0106	
4320 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.8	0.583	0.013	0.0189	
4320 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.5	0.591	0.009	0.0095	
4320 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.5	0.813	0.012	0.0057	
4320 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.4	0.306	0.011	0.0723	
4320 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.9	0.464	0.021	0.3412	
4320 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
4320 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.164	0.003	0.0236	
4320 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	10.0	0.234	0.026	0.9209	
4320 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	10.4	0.676	0.039	0.1018	
4320 minute summer	EXTN-SWMH-14	PIPE 14	S1	10.4	0.663	0.055	0.6698	709.8



Results for 100 year +40% CC 4320 minute winter. 4560 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
4320 minute winter	EXTN-SWMH-01	2100	68.970	0.017	0.6	0.0344	0.0000	OK
4320 minute winter	EXTN-SWMH-02	2100	68.619	0.023	1.6	0.0502	0.0000	OK
4320 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-04	2040	68.938	0.015	0.5	0.0276	0.0000	OK
4320 minute winter	EXTN-SWMH-05	2040	68.753	0.012	0.9	0.0190	0.0000	OK
4320 minute winter	EXTN-SWMH-06	2220	69.251	0.010	0.4	0.0177	0.0000	OK
4320 minute winter	EXTN-SWMH-07	2220	68.468	0.024	1.0	0.0759	0.0000	OK
4320 minute winter	EXTN-SWMH-08	2220	68.416	0.030	1.9	3.5786	0.0000	OK
4320 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
4320 minute winter	EXTN-SWMH-10	2100	68.371	0.012	0.2	0.0157	0.0000	OK
4320 minute winter	EXTN-SWMH-11	2100	68.184	0.013	0.4	0.0355	0.0000	OK
4320 minute winter	EXTN-SWMH-12	2220	68.155	0.041	6.7	0.1929	0.0000	OK
4320 minute winter	EXTN-SWMH-13	2220	68.045	0.174	7.0	0.4811	0.0000	OK
4320 minute winter	EXTN-SWMH-14	2220	67.885	0.059	7.0	0.1512	0.0000	OK
4320 minute winter	S1	2220	67.733	0.056	7.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
4320 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.6	0.343	0.012	0.0687	
4320 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.6	0.752	0.022	0.0499	
4320 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0077	
4320 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.5	0.511	0.008	0.0136	
4320 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.9	0.575	0.005	0.0070	
4320 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
4320 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.0	0.283	0.008	0.0552	
4320 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.9	0.420	0.014	0.2488	
4320 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
4320 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
4320 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.4	0.164	0.002	0.0174	
4320 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	6.7	0.231	0.018	0.5632	
4320 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	7.0	0.608	0.026	0.0759	
4320 minute winter	EXTN-SWMH-14	PIPE 14	S1	7.0	0.593	0.037	0.5038	713.8



Results for 100 year +40% CC 5760 minute summer. 6000 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
5760 minute summer	EXTN-SWMH-01	2880	68.972	0.019	0.7	0.0370	0.0000	OK
5760 minute summer	EXTN-SWMH-02	2940	68.621	0.025	1.9	0.0541	0.0000	OK
5760 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
5760 minute summer	EXTN-SWMH-04	2880	68.940	0.017	0.6	0.0300	0.0000	OK
5760 minute summer	EXTN-SWMH-05	2880	68.754	0.013	1.1	0.0209	0.0000	OK
5760 minute summer	EXTN-SWMH-06	2820	69.251	0.010	0.4	0.0177	0.0000	OK
5760 minute summer	EXTN-SWMH-07	2940	68.470	0.026	1.2	0.0825	0.0000	OK
5760 minute summer	EXTN-SWMH-08	2940	68.419	0.033	2.3	3.9221	0.0000	OK
5760 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
5760 minute summer	EXTN-SWMH-10	2820	68.371	0.012	0.2	0.0157	0.0000	OK
5760 minute summer	EXTN-SWMH-11	2940	68.185	0.014	0.5	0.0393	0.0000	OK
5760 minute summer	EXTN-SWMH-12	2940	68.159	0.045	8.1	0.2109	0.0000	OK
5760 minute summer	EXTN-SWMH-13	2940	68.070	0.199	8.4	0.5509	0.0000	OK
5760 minute summer	EXTN-SWMH-14	2940	67.891	0.065	8.4	0.1650	0.0000	OK
5760 minute summer	S1	2940	67.739	0.062	8.4	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
5760 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.7	0.365	0.014	0.0764	
5760 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.9	0.762	0.026	0.0591	
5760 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0088	
5760 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.6	0.542	0.010	0.0155	
5760 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	1.1	0.531	0.007	0.0080	
5760 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
5760 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.2	0.297	0.010	0.0628	
5760 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	2.3	0.439	0.017	0.2880	
5760 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
5760 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.5	0.163	0.003	0.0204	
5760 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	8.1	0.234	0.021	0.6710	
5760 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	8.4	0.639	0.032	0.0868	
5760 minute summer	EXTN-SWMH-14	PIPE 14	S1	8.4	0.623	0.044	0.5761	745.8



Results for 100 year +40% CC 5760 minute winter. 6000 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
5760 minute winter	EXTN-SWMH-01	2820	68.969	0.016	0.5	0.0317	0.0000	OK
5760 minute winter	EXTN-SWMH-02	2820	68.617	0.021	1.3	0.0455	0.0000	OK
5760 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-04	2640	68.937	0.014	0.4	0.0248	0.0000	OK
5760 minute winter	EXTN-SWMH-05	2640	68.752	0.011	0.7	0.0169	0.0000	OK
5760 minute winter	EXTN-SWMH-06	2700	69.250	0.009	0.3	0.0154	0.0000	OK
5760 minute winter	EXTN-SWMH-07	2760	68.466	0.022	0.8	0.0682	0.0000	OK
5760 minute winter	EXTN-SWMH-08	2940	68.413	0.027	1.5	3.2050	0.0000	OK
5760 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
5760 minute winter	EXTN-SWMH-10	1920	68.368	0.009	0.1	0.0118	0.0000	OK
5760 minute winter	EXTN-SWMH-11	2640	68.182	0.011	0.3	0.0312	0.0000	OK
5760 minute winter	EXTN-SWMH-12	2940	68.151	0.037	5.3	0.1728	0.0000	OK
5760 minute winter	EXTN-SWMH-13	2940	68.020	0.149	5.5	0.4132	0.0000	OK
5760 minute winter	EXTN-SWMH-14	2940	67.879	0.053	5.5	0.1350	0.0000	OK
5760 minute winter	S1	2940	67.726	0.049	5.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
5760 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.5	0.326	0.010	0.0598	
5760 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.3	0.708	0.018	0.0428	
5760 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
5760 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0115	
5760 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.7	0.490	0.004	0.0060	
5760 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
5760 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.8	0.268	0.007	0.0471	
5760 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.5	0.400	0.011	0.2077	
5760 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
5760 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
5760 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.162	0.002	0.0143	
5760 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	5.3	0.224	0.014	0.4603	
5760 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	5.5	0.571	0.021	0.0638	
5760 minute winter	EXTN-SWMH-14	PIPE 14	S1	5.5	0.558	0.029	0.4210	747.9



Results for 100 year +40% CC 7200 minute summer. 7440 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
7200 minute summer	EXTN-SWMH-01	3600	68.970	0.017	0.6	0.0344	0.0000	OK
7200 minute summer	EXTN-SWMH-02	3720	68.619	0.023	1.6	0.0502	0.0000	OK
7200 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-04	3600	68.938	0.015	0.5	0.0276	0.0000	OK
7200 minute summer	EXTN-SWMH-05	3600	68.753	0.012	0.9	0.0190	0.0000	OK
7200 minute summer	EXTN-SWMH-06	3660	69.251	0.010	0.4	0.0177	0.0000	OK
7200 minute summer	EXTN-SWMH-07	3660	68.468	0.024	1.0	0.0759	0.0000	OK
7200 minute summer	EXTN-SWMH-08	3660	68.416	0.030	1.9	3.5786	0.0000	OK
7200 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
7200 minute summer	EXTN-SWMH-10	3600	68.371	0.012	0.2	0.0157	0.0000	OK
7200 minute summer	EXTN-SWMH-11	3600	68.184	0.013	0.4	0.0355	0.0000	OK
7200 minute summer	EXTN-SWMH-12	3660	68.155	0.041	6.7	0.1929	0.0000	OK
7200 minute summer	EXTN-SWMH-13	3660	68.045	0.174	7.0	0.4811	0.0000	OK
7200 minute summer	EXTN-SWMH-14	3660	67.885	0.059	7.0	0.1512	0.0000	OK
7200 minute summer	S1	3660	67.733	0.056	7.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
7200 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.6	0.343	0.012	0.0687	
7200 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.6	0.752	0.022	0.0499	
7200 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0077	
7200 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.5	0.511	0.008	0.0136	
7200 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.9	0.499	0.005	0.0070	
7200 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.4	0.760	0.009	0.0048	
7200 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	1.0	0.283	0.008	0.0552	
7200 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.9	0.417	0.014	0.2488	
7200 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.2	0.258	0.006	0.0108	
7200 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.4	0.162	0.002	0.0174	
7200 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	6.7	0.231	0.018	0.5632	
7200 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	7.0	0.608	0.026	0.0759	
7200 minute summer	EXTN-SWMH-14	PIPE 14	S1	7.0	0.593	0.037	0.5038	770.9



Results for 100 year +40% CC 7200 minute winter. 7440 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
7200 minute winter	EXTN-SWMH-01	3300	68.967	0.014	0.4	0.0287	0.0000	OK
7200 minute winter	EXTN-SWMH-02	3600	68.615	0.019	1.1	0.0420	0.0000	OK
7200 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-04	3060	68.935	0.012	0.3	0.0218	0.0000	OK
7200 minute winter	EXTN-SWMH-05	3300	68.751	0.010	0.6	0.0158	0.0000	OK
7200 minute winter	EXTN-SWMH-06	2820	69.249	0.008	0.2	0.0127	0.0000	OK
7200 minute winter	EXTN-SWMH-07	3300	68.463	0.019	0.6	0.0596	0.0000	OK
7200 minute winter	EXTN-SWMH-08	3540	68.411	0.025	1.2	2.8982	0.0000	OK
7200 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
7200 minute winter	EXTN-SWMH-10	2520	68.368	0.009	0.1	0.0118	0.0000	OK
7200 minute winter	EXTN-SWMH-11	2520	68.181	0.010	0.2	0.0261	0.0000	OK
7200 minute winter	EXTN-SWMH-12	3600	68.148	0.034	4.3	0.1569	0.0000	OK
7200 minute winter	EXTN-SWMH-13	3600	68.003	0.132	4.5	0.3667	0.0000	OK
7200 minute winter	EXTN-SWMH-14	3600	67.874	0.048	4.5	0.1228	0.0000	OK
7200 minute winter	S1	3660	67.721	0.044	4.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
7200 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.4	0.309	0.008	0.0523	
7200 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.1	0.674	0.015	0.0381	
7200 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
7200 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0097	
7200 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.6	0.442	0.004	0.0052	
7200 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
7200 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.6	0.260	0.005	0.0396	
7200 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.2	0.385	0.009	0.1753	
7200 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
7200 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
7200 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0117	
7200 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	4.3	0.215	0.011	0.3912	
7200 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	4.5	0.540	0.017	0.0550	
7200 minute winter	EXTN-SWMH-14	PIPE 14	S1	4.5	0.526	0.024	0.3654	773.0



Results for 100 year +40% CC 8640 minute summer. 8880 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
8640 minute summer	EXTN-SWMH-01	4260	68.969	0.016	0.5	0.0317	0.0000	OK
8640 minute summer	EXTN-SWMH-02	4380	68.618	0.022	1.4	0.0471	0.0000	OK
8640 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-04	4140	68.937	0.014	0.4	0.0248	0.0000	OK
8640 minute summer	EXTN-SWMH-05	4320	68.752	0.011	0.8	0.0180	0.0000	OK
8640 minute summer	EXTN-SWMH-06	4200	69.250	0.009	0.3	0.0154	0.0000	OK
8640 minute summer	EXTN-SWMH-07	4200	68.466	0.022	0.8	0.0682	0.0000	OK
8640 minute summer	EXTN-SWMH-08	4440	68.414	0.028	1.6	3.3018	0.0000	OK
8640 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
8640 minute summer	EXTN-SWMH-10	3480	68.368	0.009	0.1	0.0118	0.0000	OK
8640 minute summer	EXTN-SWMH-11	4140	68.182	0.011	0.3	0.0312	0.0000	OK
8640 minute summer	EXTN-SWMH-12	4380	68.153	0.039	5.8	0.1804	0.0000	OK
8640 minute summer	EXTN-SWMH-13	4380	68.028	0.157	6.0	0.4359	0.0000	OK
8640 minute summer	EXTN-SWMH-14	4380	67.881	0.055	6.0	0.1406	0.0000	OK
8640 minute summer	S1	4380	67.728	0.051	6.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
8640 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.5	0.326	0.010	0.0617	
8640 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.4	0.723	0.019	0.0451	
8640 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
8640 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0119	
8640 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.8	0.479	0.005	0.0063	
8640 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
8640 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.8	0.269	0.007	0.0484	
8640 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.6	0.403	0.011	0.2209	
8640 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
8640 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.162	0.002	0.0152	
8640 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	5.8	0.228	0.015	0.4947	
8640 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	6.0	0.583	0.023	0.0679	
8640 minute summer	EXTN-SWMH-14	PIPE 14	S1	6.0	0.571	0.032	0.4488	776.0



Results for 100 year +40% CC 8640 minute winter. 8880 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
8640 minute winter	EXTN-SWMH-01	3600	68.966	0.013	0.3	0.0250	0.0000	OK
8640 minute winter	EXTN-SWMH-02	4200	68.614	0.018	0.9	0.0382	0.0000	OK
8640 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-04	3900	68.935	0.012	0.3	0.0218	0.0000	OK
8640 minute winter	EXTN-SWMH-05	3900	68.750	0.009	0.5	0.0146	0.0000	OK
8640 minute winter	EXTN-SWMH-06	3600	69.249	0.008	0.2	0.0127	0.0000	OK
8640 minute winter	EXTN-SWMH-07	4380	68.463	0.019	0.6	0.0596	0.0000	OK
8640 minute winter	EXTN-SWMH-08	4380	68.410	0.024	1.1	2.7717	0.0000	OK
8640 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
8640 minute winter	EXTN-SWMH-10	3180	68.368	0.009	0.1	0.0118	0.0000	OK
8640 minute winter	EXTN-SWMH-11	3180	68.181	0.010	0.2	0.0261	0.0000	OK
8640 minute winter	EXTN-SWMH-12	4380	68.146	0.032	3.8	0.1484	0.0000	OK
8640 minute winter	EXTN-SWMH-13	4380	67.995	0.124	4.0	0.3426	0.0000	OK
8640 minute winter	EXTN-SWMH-14	4380	67.872	0.046	4.0	0.1160	0.0000	OK
8640 minute winter	S1	4380	67.719	0.042	4.0	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
8640 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0446	
8640 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.9	0.632	0.012	0.0332	
8640 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
8640 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0093	
8640 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.5	0.416	0.003	0.0048	
8640 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
8640 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.6	0.260	0.005	0.0382	
8640 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.1	0.372	0.008	0.1606	
8640 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
8640 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
8640 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0107	
8640 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.8	0.208	0.010	0.3561	
8640 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	4.0	0.523	0.015	0.0504	
8640 minute winter	EXTN-SWMH-14	PIPE 14	S1	4.0	0.507	0.021	0.3369	801.9



Results for 100 year +40% CC 10080 minute summer. 10320 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
10080 minute summer	EXTN-SWMH-01	5040	68.969	0.016	0.5	0.0317	0.0000	OK
10080 minute summer	EXTN-SWMH-02	5040	68.617	0.021	1.3	0.0455	0.0000	OK
10080 minute summer	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-04	4980	68.937	0.014	0.4	0.0248	0.0000	OK
10080 minute summer	EXTN-SWMH-05	4980	68.752	0.011	0.7	0.0169	0.0000	OK
10080 minute summer	EXTN-SWMH-06	4980	69.250	0.009	0.3	0.0154	0.0000	OK
10080 minute summer	EXTN-SWMH-07	5040	68.466	0.022	0.8	0.0682	0.0000	OK
10080 minute summer	EXTN-SWMH-08	5160	68.413	0.027	1.5	3.2049	0.0000	OK
10080 minute summer	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
10080 minute summer	EXTN-SWMH-10	4140	68.368	0.009	0.1	0.0118	0.0000	OK
10080 minute summer	EXTN-SWMH-11	4980	68.182	0.011	0.3	0.0312	0.0000	OK
10080 minute summer	EXTN-SWMH-12	5100	68.151	0.037	5.3	0.1728	0.0000	OK
10080 minute summer	EXTN-SWMH-13	5100	68.020	0.149	5.5	0.4132	0.0000	OK
10080 minute summer	EXTN-SWMH-14	5100	67.879	0.053	5.5	0.1350	0.0000	OK
10080 minute summer	S1	5100	67.726	0.049	5.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
10080 minute summer	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.5	0.326	0.010	0.0598	
10080 minute summer	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	1.3	0.708	0.018	0.0428	
10080 minute summer	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0066	
10080 minute summer	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.4	0.479	0.007	0.0115	
10080 minute summer	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.7	0.461	0.004	0.0060	
10080 minute summer	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.3	0.696	0.007	0.0040	
10080 minute summer	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.8	0.268	0.007	0.0471	
10080 minute summer	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.5	0.396	0.011	0.2077	
10080 minute summer	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute summer	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
10080 minute summer	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.3	0.164	0.002	0.0143	
10080 minute summer	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	5.3	0.224	0.014	0.4603	
10080 minute summer	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	5.5	0.571	0.021	0.0638	
10080 minute summer	EXTN-SWMH-14	PIPE 14	S1	5.5	0.558	0.029	0.4210	789.1



Results for 100 year +40% CC 10080 minute winter. 10320 minute analysis at 60 minute timestep. Mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
10080 minute winter	EXTN-SWMH-01	4440	68.966	0.013	0.3	0.0250	0.0000	OK
10080 minute winter	EXTN-SWMH-02	4620	68.613	0.017	0.8	0.0362	0.0000	OK
10080 minute winter	EXTN-SWMH-03	60	69.116	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-04	5040	68.935	0.012	0.3	0.0218	0.0000	OK
10080 minute winter	EXTN-SWMH-05	5040	68.750	0.009	0.5	0.0146	0.0000	OK
10080 minute winter	EXTN-SWMH-06	4440	69.249	0.008	0.2	0.0127	0.0000	OK
10080 minute winter	EXTN-SWMH-07	4440	68.461	0.017	0.5	0.0550	0.0000	OK
10080 minute winter	EXTN-SWMH-08	5160	68.409	0.023	1.0	2.6469	0.0000	OK
10080 minute winter	EXTN-SWMH-09	60	68.353	0.000	0.0	0.0000	0.0000	OK
10080 minute winter	EXTN-SWMH-10	3900	68.368	0.009	0.1	0.0118	0.0000	OK
10080 minute winter	EXTN-SWMH-11	3900	68.181	0.010	0.2	0.0261	0.0000	OK
10080 minute winter	EXTN-SWMH-12	5160	68.144	0.030	3.4	0.1413	0.0000	OK
10080 minute winter	EXTN-SWMH-13	5160	67.986	0.115	3.5	0.3180	0.0000	OK
10080 minute winter	EXTN-SWMH-14	5160	67.869	0.043	3.5	0.1089	0.0000	OK
10080 minute winter	S1	5160	67.717	0.040	3.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
10080 minute winter	EXTN-SWMH-01	PIPE 1	EXTN-SWMH-02	0.3	0.292	0.006	0.0424	
10080 minute winter	EXTN-SWMH-02	PIPE 2	EXTN-SWMH-12	0.8	0.609	0.011	0.0306	
10080 minute winter	EXTN-SWMH-03	PIPE 3	EXTN-SWMH-04	0.0	0.000	0.000	0.0055	
10080 minute winter	EXTN-SWMH-04	PIPE 4	EXTN-SWMH-05	0.3	0.447	0.005	0.0093	
10080 minute winter	EXTN-SWMH-05	PIPE 5	EXTN-SWMH-08	0.5	0.417	0.003	0.0046	
10080 minute winter	EXTN-SWMH-06	PIPE 6	EXTN-SWMH-07	0.2	0.616	0.005	0.0030	
10080 minute winter	EXTN-SWMH-07	PIPE 7	EXTN-SWMH-08	0.5	0.260	0.004	0.0349	
10080 minute winter	EXTN-SWMH-08	PIPE 8	EXTN-SWMH-12	1.0	0.366	0.007	0.1488	
10080 minute winter	EXTN-SWMH-09	PIPE 9	EXTN-SWMH-11	0.0	0.000	0.000	0.0000	
10080 minute winter	EXTN-SWMH-10	PIPE 10	EXTN-SWMH-11	0.1	0.236	0.003	0.0060	
10080 minute winter	EXTN-SWMH-11	PIPE 11	EXTN-SWMH-12	0.2	0.164	0.001	0.0100	
10080 minute winter	EXTN-SWMH-12	PIPE 12	EXTN-SWMH-13	3.4	0.206	0.009	0.3218	
10080 minute winter	EXTN-SWMH-13	PIPE 13	EXTN-SWMH-14	3.5	0.506	0.013	0.0458	
10080 minute winter	EXTN-SWMH-14	PIPE 14	S1	3.5	0.486	0.018	0.3078	808.5