

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	240.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	1.000
Ratio-R	0.300	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Circular Link Type

Shape Circular | Barrels 1 | Auto Increment (mm) 75 | Follow Ground x

Available Diameters (mm)
100 | 150

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.015	5.00	72.719	1350	300421.153	514663.363	1.050
S2	0.090	5.00	73.218	1350	300447.903	514640.613	2.863
S3			72.343	1200	300482.220	514620.448	2.322
S4	0.062	5.00	72.348	1200	300504.719	514613.762	2.491
S5	0.043	5.00	73.907	1350	300629.028	514657.617	1.350
S6	0.038	5.00	73.599	1350	300603.318	514635.985	1.460
S7	0.071	5.00	73.459	450	300589.979	514610.653	1.425
S8	0.048	5.00	73.159	1350	300584.494	514625.199	2.234
S9	0.060	5.00	72.792	1350	300550.043	514618.726	3.278
S10	0.060	5.00	72.564	1350	300547.402	514637.252	3.183
S11	0.144	5.00	71.984	1350	300539.666	514653.553	2.648
S12	0.114	5.00	72.776	1200	300613.039	514670.787	1.731
S13	0.017	5.00	71.755	1350	300608.790	514695.640	1.430
S14			70.970	1350	300537.794	514684.886	1.788
S15			70.801	1350	300536.896	514690.818	1.651
S16			70.703	1350	300559.887	514721.741	1.712
S17			68.500	1500	300597.608	514769.582	1.425
S18			66.000	1500	300616.006	514814.119	1.450
S19	0.114	5.00	73.191	450	300656.115	514616.142	1.425
S20	0.019	5.00	74.155	450	300657.823	514641.592	2.955
S21	0.138	5.00	73.337	1350	300673.369	514660.842	2.612
S22	0.106	5.00	72.273	1350	300726.693	514629.619	1.675
S23	0.047	5.00	71.867	1350	300719.627	514655.534	1.750
S24	0.075	5.00	72.514	1350	300713.057	514695.803	1.491
S25	0.059	5.00	71.800	1350	300718.591	514666.742	1.975
S26	0.062	5.00	70.393	1350	300745.322	514669.656	1.874
S27	0.023	5.00	72.271	450	300785.744	514623.823	1.308
S28	0.037	5.00	71.122	450	300783.077	514642.256	1.463
S29	0.041	5.00	69.700	450	300776.043	514666.646	1.603
S30	0.045	5.00	68.898	1500	300773.834	514678.108	1.728
S31	0.019	5.00	68.956	1500	300767.914	514694.426	2.275
S32	0.015	5.00	69.150	1500	300764.546	514717.591	2.517
S33			68.893	1500	300753.994	514766.882	3.058
S34			66.000	1500	300667.628	514816.817	1.450
S35			66.000	1500	300636.433	514827.980	1.500
S36			66.500	1800	300635.498	514832.931	2.175
S37			64.669	1350	300633.491	514842.727	1.294
S38			64.000	1200	300633.761	514877.105	0.800

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)
1.000	1.855	32.8	1.9	0.900	2.583	0.015	0.0	24	1.008
1.001	1.052	41.8	12.6	2.638	2.022	0.105	0.0	85	0.925
1.002	1.312	92.7	12.3	2.022	2.191	0.105	0.0	74	0.920
1.003	1.202	85.0	18.7	2.191	2.903	0.167	0.0	95	0.970
2.000	1.015	17.9	5.3	1.200	1.235	0.043	0.0	56	0.886
2.001	3.012	119.7	9.9	1.235	1.934	0.081	0.0	44	1.839
3.000	3.223	128.1	9.1	1.200	1.834	0.071	0.0	40	1.872
2.002	3.081	217.8	24.1	1.934	2.903	0.200	0.0	67	2.056
1.004	1.003	110.8	47.0	2.903	2.733	0.427	0.0	170	0.963
1.005	1.009	160.5	52.6	2.733	2.198	0.487	0.0	177	0.908
1.006	1.014	161.2	66.0	2.198	1.263	0.631	0.0	200	0.964
4.000	2.218	88.2	14.4	1.506	1.205	0.114	0.0	61	1.643
4.001	1.779	125.8	15.7	1.130	1.263	0.131	0.0	71	1.226
1.007	1.632	353.3	79.4	1.263	1.126	0.761	0.0	168	1.329
1.008	1.434	310.4	77.4	1.126	1.187	0.761	0.0	178	1.199
1.009	3.982	862.0	76.3	1.187	0.900	0.761	0.0	104	2.502
1.010	4.962	1074.1	75.6	0.900	0.750	0.761	0.0	93	2.920
1.011	1.089	307.9	74.1	0.850	0.900	0.761	0.0	200	0.903
5.000	1.819	72.3	14.4	1.200	2.655	0.114	0.0	68	1.429
5.001	2.002	141.5	16.5	2.655	2.237	0.133	0.0	69	1.354
5.002	2.550	281.6	32.9	2.237	1.600	0.271	0.0	86	1.730
6.000	1.610	64.0	13.3	1.450	1.450	0.106	0.0	69	1.273
6.001	2.188	154.6	19.1	1.450	1.600	0.153	0.0	71	1.501
7.000	2.472	98.3	9.4	1.266	1.600	0.075	0.0	47	1.579
5.003	3.891	429.7	67.1	1.600	1.424	0.558	0.0	99	2.858
5.004	4.221	671.4	73.9	1.424	1.203	0.619	0.0	100	2.817
8.000	2.663	47.1	3.0	1.158	1.313	0.023	0.0	25	1.492
8.001	2.410	42.6	7.6	1.313	1.378	0.061	0.0	42	1.821
8.002	3.182	126.5	12.6	1.378	1.203	0.101	0.0	48	2.056
5.005	3.768	815.6	90.8	1.203	1.750	0.765	0.0	117	2.527
5.006	1.007	218.1	90.6	1.750	1.992	0.785	0.0	236	0.962
5.007	2.821	610.7	90.6	1.992	2.533	0.800	0.0	136	2.050
5.008	2.545	550.9	86.9	2.533	0.925	0.800	0.0	140	1.879
5.009	0.937	264.8	83.8	0.850	0.900	0.800	0.0	231	0.835
1.012	3.535	765.2	151.7	0.975	1.600	1.561	0.0	157	2.779
1.013	4.056	161.3	151.4	1.950	1.069	1.561	0.0	174	4.587
1.014	0.929	36.9	146.6	1.069	0.575	1.561	0.0	225	0.946

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	35.116	29.7	150	Circular	72.719	71.669	0.900	73.218	70.485	2.583
1.001	39.803	153.7	225	Circular	73.218	70.355	2.638	72.343	70.096	2.022
1.002	23.471	143.1	300	Circular	72.343	70.021	2.022	72.348	69.857	2.191
1.003	45.595	170.1	300	Circular	72.348	69.857	2.191	72.792	69.589	2.903
2.000	33.600	98.0	150	Circular	73.907	72.557	1.200	73.599	72.214	1.235
2.001	21.695	19.0	225	Circular	73.599	72.139	1.235	73.159	71.000	1.934
3.000	15.546	16.6	225	Circular	73.459	72.034	1.200	73.159	71.100	1.834

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1350	Manhole	Adoptable	S2	1350	Manhole	Adoptable
1.001	S2	1350	Manhole	Adoptable	S3	1200	Manhole	Adoptable
1.002	S3	1200	Manhole	Adoptable	S4	1200	Manhole	Adoptable
1.003	S4	1200	Manhole	Adoptable	S9	1350	Manhole	Adoptable
2.000	S5	1350	Manhole	Adoptable	S6	1350	Manhole	Adoptable
2.001	S6	1350	Manhole	Adoptable	S8	1350	Manhole	Adoptable
3.000	S7	450	Manhole	Adoptable	S8	1350	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
2.002	35.054	26.2	300	Circular	73.159	70.925	1.934	72.792	69.589	2.903
1.004	18.713	322.6	375	Circular	72.792	69.514	2.903	72.564	69.456	2.733
1.005	18.044	401.0	450	Circular	72.564	69.381	2.733	71.984	69.336	2.198
1.006	31.389	397.3	450	Circular	71.984	69.336	2.198	70.970	69.257	1.263
4.000	25.214	35.0	225	Circular	72.776	71.045	1.506	71.755	70.325	1.205
4.001	71.806	78.2	300	Circular	71.755	70.325	1.130	70.970	69.407	1.263
1.007	6.000	187.5	525	Circular	70.970	69.182	1.263	70.801	69.150	1.126
1.008	38.533	242.3	525	Circular	70.801	69.150	1.126	70.703	68.991	1.187
1.009	60.923	31.8	525	Circular	70.703	68.991	1.187	68.500	67.075	0.900
1.010	48.187	20.5	525	Circular	68.500	67.075	0.900	66.000	64.725	0.750
1.011	24.686	493.7	600	Circular	66.000	64.550	0.850	66.000	64.500	0.900
5.000	25.507	51.9	225	Circular	73.191	71.766	1.200	74.155	71.275	2.655
5.001	24.743	61.9	300	Circular	74.155	71.200	2.655	73.337	70.800	2.237
5.002	45.605	50.7	375	Circular	73.337	70.725	2.237	71.800	69.825	1.600
6.000	26.861	66.2	225	Circular	72.273	70.598	1.450	71.867	70.192	1.450
6.001	11.256	51.9	300	Circular	71.867	70.117	1.450	71.800	69.900	1.600
7.000	29.583	28.2	225	Circular	72.514	71.023	1.266	71.800	69.975	1.600
5.003	26.889	21.8	375	Circular	71.800	69.825	1.600	70.393	68.594	1.424
5.004	29.738	23.3	450	Circular	70.393	68.519	1.424	68.898	67.245	1.203
8.000	18.853	14.5	150	Circular	72.271	70.963	1.158	71.122	69.659	1.313
8.001	26.218	17.6	150	Circular	71.122	69.659	1.313	69.700	68.172	1.378
8.002	10.703	17.1	225	Circular	69.700	68.097	1.378	68.898	67.470	1.203
5.005	17.359	35.5	525	Circular	68.898	67.170	1.203	68.956	66.681	1.750
5.006	23.409	487.7	525	Circular	68.956	66.681	1.750	69.150	66.633	1.992
5.007	50.408	63.2	525	Circular	69.150	66.633	1.992	68.893	65.835	2.533
5.008	99.656	77.6	525	Circular	68.893	65.835	2.533	66.000	64.550	0.925
5.009	33.248	665.0	600	Circular	66.000	64.550	0.850	66.000	64.500	0.900
1.012	5.039	40.3	525	Circular	66.000	64.500	0.975	66.500	64.375	1.600

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
2.002	S8	1350	Manhole	Adoptable	S9	1350	Manhole	Adoptable
1.004	S9	1350	Manhole	Adoptable	S10	1350	Manhole	Adoptable
1.005	S10	1350	Manhole	Adoptable	S11	1350	Manhole	Adoptable
1.006	S11	1350	Manhole	Adoptable	S14	1350	Manhole	Adoptable
4.000	S12	1200	Manhole	Adoptable	S13	1350	Manhole	Adoptable
4.001	S13	1350	Manhole	Adoptable	S14	1350	Manhole	Adoptable
1.007	S14	1350	Manhole	Adoptable	S15	1350	Manhole	Adoptable
1.008	S15	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
1.009	S16	1350	Manhole	Adoptable	S17	1500	Manhole	Adoptable
1.010	S17	1500	Manhole	Adoptable	S18	1500	Manhole	Adoptable
1.011	S18	1500	Manhole	Adoptable	S35	1500	Manhole	Adoptable
5.000	S19	450	Manhole	Adoptable	S20	450	Manhole	Adoptable
5.001	S20	450	Manhole	Adoptable	S21	1350	Manhole	Adoptable
5.002	S21	1350	Manhole	Adoptable	S25	1350	Manhole	Adoptable
6.000	S22	1350	Manhole	Adoptable	S23	1350	Manhole	Adoptable
6.001	S23	1350	Manhole	Adoptable	S25	1350	Manhole	Adoptable
7.000	S24	1350	Manhole	Adoptable	S25	1350	Manhole	Adoptable
5.003	S25	1350	Manhole	Adoptable	S26	1350	Manhole	Adoptable
5.004	S26	1350	Manhole	Adoptable	S30	1500	Manhole	Adoptable
8.000	S27	450	Manhole	Adoptable	S28	450	Manhole	Adoptable
8.001	S28	450	Manhole	Adoptable	S29	450	Manhole	Adoptable
8.002	S29	450	Manhole	Adoptable	S30	1500	Manhole	Adoptable
5.005	S30	1500	Manhole	Adoptable	S31	1500	Manhole	Adoptable
5.006	S31	1500	Manhole	Adoptable	S32	1500	Manhole	Adoptable
5.007	S32	1500	Manhole	Adoptable	S33	1500	Manhole	Adoptable
5.008	S33	1500	Manhole	Adoptable	S34	1500	Manhole	Adoptable
5.009	S34	1500	Manhole	Adoptable	S35	1500	Manhole	Adoptable
1.012	S35	1500	Manhole	Adoptable	S36	1800	Manhole	Adoptable

Pipeline Schedule

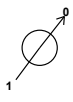
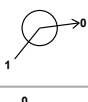
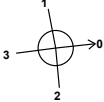
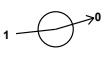
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.013	10.000	10.5	225	Circular	66.500	64.325	1.950	64.669	63.375	1.069
1.014	34.379	196.5	225	Circular	64.669	63.375	1.069	64.000	63.200	0.575

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.013	S36	1800	Manhole	Adoptable	S37	1350	Manhole	Adoptable
1.014	S37	1350	Manhole	Adoptable	S38	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1	300421.153	514663.363	72.719	1.050	1350				
						0	1.000	71.669	150
S2	300447.903	514640.613	73.218	2.863	1350		1	1.000	70.485
						0	1.001	70.355	225
S3	300482.220	514620.448	72.343	2.322	1200		1	1.001	70.096
						0	1.002	70.021	300
S4	300504.719	514613.762	72.348	2.491	1200		1	1.002	69.857
						0	1.003	69.857	300
S5	300629.028	514657.617	73.907	1.350	1350		0	2.000	72.557
S6	300603.318	514635.985	73.599	1.460	1350		1	2.000	72.214
						0	2.001	72.139	225
S7	300589.979	514610.653	73.459	1.425	450				
						0	3.000	72.034	225
S8	300584.494	514625.199	73.159	2.234	1350		1	3.000	71.100
						2	2.001	71.000	225
						0	2.002	70.925	300
S9	300550.043	514618.726	72.792	3.278	1350		1	2.002	69.589
						2	1.003	69.589	300
						0	1.004	69.514	375
S10	300547.402	514637.252	72.564	3.183	1350		1	1.004	69.456
						0	1.005	69.381	450
S11	300539.666	514653.553	71.984	2.648	1350		1	1.005	69.336
						0	1.006	69.336	450
S12	300613.039	514670.787	72.776	1.731	1200				
						0	4.000	71.045	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S13	300608.790	514695.640	71.755	1.430	1350	 1	4.000	70.325	225
						0	4.001	70.325	300
S14	300537.794	514684.886	70.970	1.788	1350	 1	4.001	69.407	300
						2	1.006	69.257	450
						0	1.007	69.182	525
S15	300536.896	514690.818	70.801	1.651	1350	 1	1.007	69.150	525
						0	1.008	69.150	525
S16	300559.887	514721.741	70.703	1.712	1350	 1	1.008	68.991	525
						0	1.009	68.991	525
S17	300597.608	514769.582	68.500	1.425	1500	 1	1.009	67.075	525
						0	1.010	67.075	525
S18	300616.006	514814.119	66.000	1.450	1500	 1	1.010	64.725	525
						0	1.011	64.550	600
S19	300656.115	514616.142	73.191	1.425	450	 0	5.000	71.766	225
						0	5.000	71.275	225
S20	300657.823	514641.592	74.155	2.955	450	 1	5.001	71.200	300
						0	5.001	70.800	300
S21	300673.369	514660.842	73.337	2.612	1350	 1	5.002	70.725	375
						0	5.002	70.725	375
S22	300726.693	514629.619	72.273	1.675	1350	 0	6.000	70.598	225
						0	6.000	70.192	225
S23	300719.627	514655.534	71.867	1.750	1350	 1	6.001	70.117	300
						0	6.001	70.117	300
S24	300713.057	514695.803	72.514	1.491	1350	 0	7.000	71.023	225
						0	7.000	69.975	225
S25	300718.591	514666.742	71.800	1.975	1350	 1	6.001	69.900	300
						2	5.002	69.825	375
						3	5.002	69.825	375
						0	5.003	69.825	375
S26	300745.322	514669.656	70.393	1.874	1350	 1	5.003	68.594	375
						0	5.004	68.519	450
S27	300785.744	514623.823	72.271	1.308	450	 0	8.000	70.963	150
						0	8.000	70.963	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S28	300783.077	514642.256	71.122	1.463	450	0 1	1	8.000	69.659	150
S29	300776.043	514666.646	69.700	1.603	450	0 1	1	8.001	68.172	150
S30	300773.834	514678.108	68.898	1.728	1500	0 1 2	1 2	8.002 5.004	67.470 67.245	225 450
S31	300767.914	514694.426	68.956	2.275	1500	0 1	1	5.005	67.170	525
S32	300764.546	514717.591	69.150	2.517	1500	0 1	1	5.006	66.681	525
S33	300753.994	514766.882	68.893	3.058	1500	0 1	1	5.007	66.633	525
S34	300767.628	514816.817	66.000	1.450	1500	0 1	1	5.007	65.835	525
S35	300667.628	514816.817	66.000	1.450	1500	0 1	1	5.008	65.835	525
S36	300636.433	514827.980	66.000	1.500	1500	0 1 2	1 2	5.008 1.011	64.550 64.500	525 600
S37	300635.498	514832.931	66.500	2.175	1800	0 1	1	5.009	64.500	600
S38	300633.491	514842.727	64.669	1.294	1350	0 1	1	1.011	64.500	600
S39	300635.498	514832.931	66.500	2.175	1800	0 1	1	1.012	64.500	525
S40	300633.491	514842.727	64.669	1.294	1350	0 1	1	1.012	64.375	525
S41	300633.761	514877.105	64.000	0.800	1200	0 1	1	1.013	64.325	225
S42	300633.491	514842.727	64.669	1.294	1350	0 1	1	1.013	63.375	225
S43	300633.761	514877.105	64.000	0.800	1200	0 1	1	1.014	63.375	225
S44	300633.761	514877.105	64.000	0.800	1200	0 1	1	1.014	63.200	225

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	600
Ratio-R	0.300	Additional Storage (m³/ha)	0.0
Summer CV	1.000	Check Discharge Rate(s)	x
Winter CV	1.000	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0	100	50	10	0
30	45	10	0				

Node S36 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	64.325	Product Number	CTL-SHE-0205-2310-1500-2310
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	23.1	Min Node Diameter (mm)	1800

Node S35 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	64.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	536

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	918.3	0.0	0.400	1117.4	0.0	0.800	1326.5	0.0	1.200	1544.6	0.0
0.100	966.5	0.0	0.500	1168.8	0.0	0.900	1380.2	0.0	1.300	1600.6	0.0
0.200	1016.2	0.0	0.600	1220.8	0.0	1.000	1434.4	0.0	1.400	1657.1	0.0
0.300	1066.5	0.0	0.700	1273.4	0.0	1.100	1489.2	0.0	1.500	1714.2	0.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 98.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	11	71.696	0.027	2.4	0.0391	0.0000	OK
15 minute summer	S2	11	70.456	0.101	17.0	0.1439	0.0000	OK
15 minute summer	S3	11	70.108	0.087	16.7	0.0987	0.0000	OK
15 minute summer	S4	11	69.971	0.114	26.3	0.1286	0.0000	OK
15 minute summer	S5	11	72.622	0.065	7.0	0.0933	0.0000	OK
15 minute summer	S6	10	72.190	0.051	12.9	0.0728	0.0000	OK
15 minute summer	S7	10	72.081	0.047	11.6	0.0075	0.0000	OK
15 minute summer	S8	10	71.002	0.077	32.1	0.1102	0.0000	OK
15 minute summer	S9	11	69.733	0.219	67.2	0.3138	0.0000	OK
15 minute summer	S10	11	69.634	0.253	76.0	0.3616	0.0000	OK
15 minute summer	S11	11	69.593	0.257	97.9	0.3681	0.0000	OK
15 minute summer	S12	10	71.115	0.070	18.5	0.0791	0.0000	OK
15 minute summer	S13	11	70.408	0.083	21.2	0.1182	0.0000	OK
15 minute summer	S14	11	69.433	0.251	116.6	0.3594	0.0000	OK
15 minute summer	S15	11	69.377	0.227	116.2	0.3249	0.0000	OK
15 minute summer	S16	12	69.127	0.136	117.1	0.1945	0.0000	OK
30 minute summer	S17	20	67.191	0.116	111.4	0.2052	0.0000	OK
15 minute summer	S18	12	65.192	0.642	117.6	1.1344	0.0000	SURCHARGED
15 minute summer	S19	10	71.846	0.080	18.6	0.0127	0.0000	OK
15 minute summer	S20	10	71.281	0.081	21.5	0.0129	0.0000	OK
15 minute summer	S21	10	70.823	0.098	43.6	0.1404	0.0000	OK
15 minute summer	S22	10	70.680	0.082	17.2	0.1167	0.0000	OK
15 minute summer	S23	10	70.204	0.087	24.6	0.1245	0.0000	OK
15 minute summer	S24	10	71.077	0.054	12.2	0.0775	0.0000	OK
15 minute summer	S25	11	69.946	0.121	89.3	0.1735	0.0000	OK
15 minute summer	S26	11	68.641	0.122	98.4	0.1739	0.0000	OK
15 minute summer	S27	10	70.992	0.029	3.8	0.0046	0.0000	OK
15 minute summer	S28	10	69.709	0.050	9.8	0.0079	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	S1	1.000	S2	2.3	1.072	0.071	0.0765	
15 minute summer	S2	1.001	S3	16.7	0.989	0.398	0.6706	
15 minute summer	S3	1.002	S4	16.7	0.809	0.180	0.4866	
15 minute summer	S4	1.003	S9	26.4	0.916	0.311	1.3217	
15 minute summer	S5	2.000	S6	6.8	0.941	0.380	0.2437	
15 minute summer	S6	2.001	S8	12.8	1.946	0.107	0.1428	
15 minute summer	S7	3.000	S8	11.5	1.968	0.090	0.0910	
15 minute summer	S8	2.002	S9	31.9	1.807	0.146	0.8348	
15 minute summer	S9	1.004	S10	66.8	1.092	0.603	1.1439	
15 minute summer	S10	1.005	S11	75.6	0.816	0.471	1.6716	
15 minute summer	S11	1.006	S14	96.0	1.148	0.596	2.6455	
15 minute summer	S12	4.000	S13	18.4	1.607	0.209	0.2939	
15 minute summer	S13	4.001	S14	20.6	1.321	0.164	1.1186	
15 minute summer	S14	1.007	S15	116.2	1.215	0.329	0.5741	
15 minute summer	S15	1.008	S16	117.1	1.773	0.377	2.5710	
15 minute summer	S16	1.009	S17	117.9	2.980	0.137	2.4146	
30 minute summer	S17	1.010	S18	111.4	3.224	0.104	1.6647	
15 minute summer	S18	1.011	S35	188.4	2.461	0.612	3.5155	
15 minute summer	S19	5.000	S20	18.4	1.494	0.254	0.3136	
15 minute summer	S20	5.001	S21	21.2	1.425	0.150	0.3690	
15 minute summer	S21	5.002	S25	43.2	1.613	0.153	1.2241	
15 minute summer	S22	6.000	S23	16.9	1.340	0.265	0.3397	
15 minute summer	S23	6.001	S25	24.5	1.531	0.158	0.1801	
15 minute summer	S24	7.000	S25	12.0	1.666	0.122	0.2137	
15 minute summer	S25	5.003	S26	88.8	3.002	0.207	0.7953	
15 minute summer	S26	5.004	S30	98.9	2.979	0.147	0.9873	
15 minute summer	S27	8.000	S28	3.8	1.030	0.080	0.0702	
15 minute summer	S28	8.001	S29	9.7	1.926	0.227	0.1315	

Results for 1 year Critical Storm Duration. Lowest mass balance: 98.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S29	10	68.154	0.057	16.3	0.0091	0.0000	OK
15 minute summer	S30	11	67.312	0.142	121.7	0.2502	0.0000	OK
15 minute summer	S31	11	66.935	0.254	125.0	0.4486	0.0000	OK
15 minute summer	S32	11	66.801	0.168	128.2	0.2962	0.0000	OK
15 minute summer	S33	12	66.002	0.167	128.7	0.2956	0.0000	OK
15 minute summer	S34	12	65.149	0.599	125.9	1.0585	0.0000	OK
240 minute summer	S35	164	64.682	0.182	86.5	175.3499	0.0000	OK
240 minute summer	S36	160	64.753	0.428	71.6	1.0897	0.0000	SURCHARGED
240 minute summer	S37	168	63.506	0.131	22.9	0.1871	0.0000	OK
240 minute summer	S38	164	63.324	0.124	22.4	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	S29	8.002	S30	16.2	2.115	0.128	0.0819	
15 minute summer	S30	5.005	S31	122.0	1.641	0.150	1.3043	
15 minute summer	S31	5.006	S32	125.8	1.554	0.577	1.9041	
15 minute summer	S32	5.007	S33	128.7	2.179	0.211	2.9812	
15 minute summer	S33	5.008	S34	125.9	1.340	0.229	13.7113	
15 minute summer	S34	5.009	S35	225.6	2.306	0.852	4.7308	
240 minute summer	S35	1.012	S36	71.6	0.801	0.094	0.5859	
240 minute summer	S36	1.013	S37	22.9	1.533	0.142	0.1589	
240 minute summer	S37	1.014	S38	22.4	0.967	0.607	0.7978	334.7

Results for 30 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 98.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	12	71.801	0.132	9.5	0.1884	0.0000	OK
15 minute summer	S2	12	71.745	1.390	66.8	1.9892	0.0000	SURCHARGED
15 minute summer	S3	12	71.284	1.263	53.2	1.4286	0.0000	SURCHARGED
15 minute summer	S4	12	71.209	1.352	84.9	1.5288	0.0000	SURCHARGED
15 minute summer	S5	11	73.056	0.499	27.2	0.7139	0.0000	SURCHARGED
15 minute summer	S6	11	72.237	0.098	47.7	0.1405	0.0000	OK
15 minute summer	S7	10	72.133	0.099	45.1	0.0157	0.0000	OK
15 minute summer	S8	12	71.309	0.384	122.4	0.5489	0.0000	SURCHARGED
15 minute summer	S9	12	70.878	1.364	227.8	1.9522	0.0000	SURCHARGED
15 minute summer	S10	11	70.536	1.155	260.6	1.6527	0.0000	SURCHARGED
15 minute summer	S11	11	70.353	1.017	343.3	1.4556	0.0000	SURCHARGED
15 minute summer	S12	10	71.210	0.165	72.1	0.1864	0.0000	OK
15 minute summer	S13	10	70.499	0.174	82.7	0.2486	0.0000	OK
15 minute summer	S14	11	69.877	0.695	423.4	0.9941	0.0000	SURCHARGED
15 minute summer	S15	11	69.735	0.585	419.3	0.8375	0.0000	SURCHARGED
15 minute summer	S16	12	69.267	0.276	417.5	0.3952	0.0000	OK
15 minute summer	S17	12	67.306	0.231	420.0	0.4077	0.0000	OK
15 minute winter	S18	9	65.604	1.054	401.5	1.8616	0.0000	SURCHARGED
15 minute summer	S19	10	71.974	0.208	72.6	0.0331	0.0000	OK
15 minute summer	S20	10	71.378	0.178	83.2	0.0284	0.0000	OK
15 minute summer	S21	10	70.938	0.213	170.1	0.3046	0.0000	OK
15 minute summer	S22	11	70.868	0.270	67.1	0.3870	0.0000	SURCHARGED
15 minute summer	S23	10	70.319	0.202	93.7	0.2896	0.0000	OK
15 minute summer	S24	9	71.133	0.110	47.5	0.1570	0.0000	OK
15 minute summer	S25	10	70.119	0.294	347.7	0.4213	0.0000	OK
15 minute summer	S26	10	68.775	0.256	382.8	0.3663	0.0000	OK
15 minute summer	S27	10	71.021	0.058	14.8	0.0092	0.0000	OK
15 minute summer	S28	10	69.777	0.118	38.3	0.0188	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	S1	1.000	S2	11.8	1.230	0.360	0.5966	
15 minute summer	S2	1.001	S3	53.2	1.337	1.271	1.5830	
15 minute summer	S3	1.002	S4	64.0	0.956	0.690	1.6528	
15 minute summer	S4	1.003	S9	86.7	1.231	1.020	3.2108	
15 minute summer	S5	2.000	S6	24.6	1.397	1.371	0.5812	
15 minute summer	S6	2.001	S8	47.7	2.664	0.398	0.6118	
15 minute summer	S7	3.000	S8	44.9	2.815	0.350	0.3982	
15 minute summer	S8	2.002	S9	116.0	1.795	0.533	2.4685	
15 minute summer	S9	1.004	S10	230.7	2.092	2.082	2.0640	
15 minute summer	S10	1.005	S11	263.4	1.662	1.641	2.8590	
15 minute summer	S11	1.006	S14	342.7	2.163	2.126	4.9734	
15 minute summer	S12	4.000	S13	71.7	2.237	0.813	0.8079	
15 minute summer	S13	4.001	S14	81.5	1.552	0.648	4.0464	
15 minute summer	S14	1.007	S15	419.3	1.941	1.187	1.2962	
15 minute summer	S15	1.008	S16	417.5	2.408	1.345	6.3792	
15 minute summer	S16	1.009	S17	420.0	4.071	0.487	6.2864	
15 minute summer	S17	1.010	S18	421.3	4.014	0.392	6.7320	
15 minute winter	S18	1.011	S35	423.9	2.960	1.377	4.2565	
15 minute summer	S19	5.000	S20	71.2	1.980	0.984	0.9816	
15 minute summer	S20	5.001	S21	82.8	2.005	0.585	1.0225	
15 minute summer	S21	5.002	S25	169.2	2.133	0.601	3.5882	
15 minute summer	S22	6.000	S23	64.6	1.796	1.010	1.0438	
15 minute summer	S23	6.001	S25	93.9	1.896	0.607	0.5952	
15 minute summer	S24	7.000	S25	47.3	2.215	0.481	0.6811	
15 minute summer	S25	5.003	S26	344.5	4.034	0.802	2.2922	
15 minute summer	S26	5.004	S30	382.7	3.751	0.570	3.7196	
15 minute summer	S27	8.000	S28	14.8	1.396	0.313	0.1991	
15 minute summer	S28	8.001	S29	37.9	2.635	0.889	0.3767	

Results for 30 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 98.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S29	10	68.220	0.123	59.7	0.0195	0.0000	OK
15 minute summer	S30	11	67.711	0.541	474.8	0.9560	0.0000	SURCHARGED
15 minute summer	S31	11	67.428	0.747	485.6	1.3198	0.0000	SURCHARGED
15 minute summer	S32	11	67.027	0.394	495.5	0.6960	0.0000	OK
15 minute summer	S33	10	66.269	0.434	494.9	0.7663	0.0000	OK
15 minute winter	S34	9	65.667	1.117	477.6	1.9733	0.0000	SURCHARGED
360 minute winter	S35	352	65.314	0.814	151.2	915.4699	0.0000	SURCHARGED
360 minute winter	S36	352	65.314	0.989	70.8	2.5166	0.0000	SURCHARGED
15 minute summer	S37	56	63.508	0.133	23.0	0.1903	0.0000	OK
15 minute summer	S38	56	63.326	0.126	23.0	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 winter	S29	8.002	S30	59.4	2.903	0.470	0.2191	
15 minute summer	S30	5.005	S31	474.0	2.194	0.581	3.7501	
15 minute summer	S31	5.006	S32	486.2	2.329	2.230	4.5628	
15 minute summer	S32	5.007	S33	494.9	2.831	0.810	9.1674	
15 minute summer	S33	5.008	S34	511.1	2.413	0.928	20.2715	
15 minute winter	S34	5.009	S35	503.4	2.730	1.901	5.7484	
360 minute winter	S35	1.012	S36	70.8	0.778	0.093	1.0886	
360 minute winter	S36	1.013	S37	23.0	1.528	0.143	0.1617	
15 minute summer	S37	1.014	S38	23.0	0.973	0.624	0.8137	415.8

Results for 100 year +50% CC +10% A Critical Storm Duration. Lowest mass balance: 98.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	11	72.719	1.050	23.6	1.5026	2.3159	FLOOD
15 minute summer	S2	11	72.838	2.483	84.8	3.5538	0.0000	SURCHARGED
15 minute summer	S3	12	72.326	2.305	58.3	2.6073	0.0000	FLOOD RISK
15 minute summer	S4	12	72.247	2.390	101.7	2.7031	0.0000	FLOOD RISK
15 minute summer	S5	12	73.811	1.254	36.4	1.7948	0.0000	FLOOD RISK
15 minute summer	S6	12	72.812	0.673	62.5	0.9624	0.0000	SURCHARGED
15 minute summer	S7	12	72.684	0.650	60.4	0.1033	0.0000	SURCHARGED
15 minute summer	S8	12	72.496	1.571	154.2	2.2476	0.0000	SURCHARGED
15 minute summer	S9	12	71.806	2.292	280.1	3.2802	0.0000	SURCHARGED
15 minute summer	S10	12	71.253	1.872	323.2	2.6793	0.0000	SURCHARGED
15 minute summer	S11	11	70.970	1.634	433.2	2.3383	0.0000	SURCHARGED
15 minute summer	S12	11	71.739	0.694	96.4	0.7844	0.0000	SURCHARGED
15 minute summer	S13	11	70.862	0.537	107.1	0.7691	0.0000	SURCHARGED
15 minute summer	S14	12	70.228	1.046	527.3	1.4975	0.0000	SURCHARGED
15 minute summer	S15	12	70.008	0.858	525.4	1.2285	0.0000	SURCHARGED
15 minute summer	S16	12	69.314	0.323	529.6	0.4627	0.0000	OK
15 minute summer	S17	12	67.338	0.263	531.8	0.4650	0.0000	OK
15 minute winter	S18	8	65.855	1.305	503.4	2.3055	0.0000	FLOOD RISK
15 minute summer	S19	10	72.501	0.735	97.0	0.1169	0.0000	SURCHARGED
15 minute summer	S20	12	71.665	0.465	111.4	0.0739	0.0000	SURCHARGED
15 minute summer	S21	12	71.409	0.684	228.1	0.9782	0.0000	SURCHARGED
15 minute summer	S22	11	71.766	1.168	89.6	1.6711	0.0000	SURCHARGED
15 minute summer	S23	12	71.069	0.952	120.4	1.3625	0.0000	SURCHARGED
15 minute summer	S24	12	71.203	0.180	63.6	0.2571	0.0000	OK
15 minute summer	S25	12	70.888	1.063	438.7	1.5205	0.0000	SURCHARGED
15 minute summer	S26	12	69.409	0.890	464.8	1.2736	0.0000	SURCHARGED
15 minute summer	S27	11	71.037	0.074	19.9	0.0118	0.0000	OK
15 minute summer	S28	12	70.610	0.951	51.4	0.1511	0.0000	SURCHARGED

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	S1	1.000	S2	19.3	1.340	0.589	0.6182	
15 minute summer	S2	1.001	S3	58.3	1.465	1.393	1.5830	
15 minute summer	S3	1.002	S4	69.4	1.020	0.749	1.6528	
15 minute summer	S4	1.003	S9	100.5	1.428	1.183	3.2108	
15 minute summer	S5	2.000	S6	30.1	1.709	1.677	0.5915	
15 minute summer	S6	2.001	S8	60.5	2.670	0.505	0.8628	
15 minute summer	S7	3.000	S8	60.2	2.805	0.470	0.6183	
15 minute summer	S8	2.002	S9	140.6	1.997	0.646	2.4685	
15 minute summer	S9	1.004	S10	283.3	2.569	2.557	2.0640	
15 minute summer	S10	1.005	S11	326.7	2.062	2.036	2.8590	
15 minute summer	S11	1.006	S14	429.4	2.710	2.664	4.9734	
15 minute summer	S12	4.000	S13	92.3	2.321	1.047	1.0028	
15 minute summer	S13	4.001	S14	98.2	1.529	0.781	5.0565	
15 minute summer	S14	1.007	S15	525.4	2.432	1.487	1.2962	
15 minute summer	S15	1.008	S16	529.6	2.684	1.706	6.8504	
15 minute summer	S16	1.009	S17	531.8	4.289	0.617	7.5478	
15 minute summer	S17	1.010	S18	532.7	3.987	0.496	7.1434	
15 minute winter	S18	1.011	S35	503.7	2.991	1.636	5.7948	
15 minute summer	S19	5.000	S20	95.5	2.400	1.320	1.0144	
15 minute summer	S20	5.001	S21	110.9	2.043	0.784	1.7424	
15 minute summer	S21	5.002	S25	215.3	2.124	0.764	5.0301	
15 minute summer	S22	6.000	S23	80.1	2.014	1.251	1.0683	
15 minute summer	S23	6.001	S25	113.7	1.859	0.735	0.7926	
15 minute summer	S24	7.000	S25	61.3	2.275	0.624	1.0908	
15 minute summer	S25	5.003	S26	412.4	3.957	0.960	2.9658	
15 minute summer	S26	5.004	S30	450.1	3.510	0.670	4.7118	
15 minute summer	S27	8.000	S28	19.8	1.437	0.421	0.2481	
15 minute summer	S28	8.001	S29	41.8	2.616	0.981	0.4616	

Results for 100 year +50% CC +10% A Critical Storm Duration. Lowest mass balance: 98.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S29	12	68.905	0.808	75.4	0.1285	0.0000	SURCHARGED
15 minute summer	S30	12	68.620	1.450	556.0	2.5629	0.0000	FLOOD RISK
15 minute summer	S31	12	68.230	1.549	565.9	2.7369	0.0000	SURCHARGED
15 minute summer	S32	12	67.736	1.103	577.1	1.9484	0.0000	SURCHARGED
15 minute summer	S33	12	66.837	1.002	578.4	1.7701	0.0000	SURCHARGED
15 minute winter	S34	8	65.781	1.231	560.2	2.1746	0.0000	FLOOD RISK
480 minute winter	S35	464	65.623	1.123	166.4	1353.5240	0.0000	SURCHARGED
480 minute winter	S36	464	65.622	1.297	62.6	3.3020	0.0000	SURCHARGED
30 minute winter	S37	330	63.508	0.133	23.0	0.1903	0.0000	OK
15 minute summer	S38	158	63.326	0.126	23.0	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	S29	8.002	S30	71.6	2.898	0.566	0.4257	
15 minute summer	S30	5.005	S31	552.4	2.557	0.677	3.7501	
15 minute summer	S31	5.006	S32	566.9	2.624	2.600	5.0571	
15 minute summer	S32	5.007	S33	578.4	2.785	0.947	10.8898	
15 minute summer	S33	5.008	S34	579.2	2.681	1.051	21.5290	
15 minute winter	S34	5.009	S35	561.2	2.707	2.119	8.0008	
480 minute winter	S35	1.012	S36	62.6	0.794	0.082	1.0886	
480 minute winter	S36	1.013	S37	23.0	1.513	0.143	0.1617	
30 minute winter	S37	1.014	S38	23.0	0.973	0.624	0.8137	769.4