

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	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)	18.500	Minimum Backdrop Height (m)	0.200
Ratio-R	0.348	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

1 STANDARD Manhole Type

Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)
374	1200	749	1500
499	1350	900	1800

>900 Link+900 mm

Max Depth (m)	Diameter (mm)	Max Depth (m)	Diameter (mm)
1.500	1050	99.999	1350

1 STANDARD Link Type

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

Available Diameters (mm)

100 | 150

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Width (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.008	5.00	72.320	Manhole	1 STANDARD	450		385029.466	402427.276	1.070
2	0.043	5.00	72.220	Manhole	1 STANDARD	600		385036.329	402424.264	1.165
3	0.023	5.00	72.240	Manhole	1 STANDARD	600		385033.212	402418.862	1.257
4	0.043	5.00	72.250	Manhole	1 STANDARD	600		385045.238	402411.926	1.360
5	0.052	5.00	72.220	Manhole	1 STANDARD	600		385049.604	402411.177	1.504
6	0.151	5.00	72.080	Manhole	1 STANDARD	600		385069.672	402399.610	1.467
7	0.029	5.00	72.220	Manhole	1 STANDARD	1200		385100.744	402381.683	3.220
tank1			72.130	Junction				385102.273	402384.141	3.140
8			72.090	Manhole	1 STANDARD	1200		385105.917	402390.653	3.125
tank2			72.120	Junction				385109.065	402396.110	3.176
9	0.058	5.00	72.200	Manhole	1 STANDARD	600		385064.868	402440.174	0.950
10	0.056	5.00	72.200	Manhole	1 STANDARD	600		385091.906	402424.587	1.340
11	0.026	5.00	72.200	Manhole	1 STANDARD	600		385117.103	402410.048	1.752
12			72.270	Manhole	1 STANDARD	1200		385115.035	402406.462	3.366
13	0.019	5.00	72.310	Manhole	1 STANDARD	450		385123.171	402384.500	1.610
14	0.024	5.00	72.060	Manhole	1 STANDARD	450		385124.441	402396.419	1.510
15	0.017	5.00	71.690	Manhole	1 STANDARD	450		385130.732	402412.641	1.040
16	0.000	5.00	71.910	Manhole	1 STANDARD	1200		385124.905	402400.770	3.044
PI			71.950	Manhole	1 STANDARD	1700	1350	385131.010	402399.191	3.197
Outfall			70.294	Manhole	1 STANDARD	1200		385138.938	402397.137	1.684

Links

	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)	M D (l/s)
0	1	3	9.210	0.600	Colebrook-White	71.250	71.130	0.120	76.8	150	1 STANDARD	5.13	50.0	
0	2	3	6.237	0.600	Colebrook-White	71.055	70.983	0.072	86.6	225	1 STANDARD	5.07	50.0	
1	3	4	13.883	0.600	Colebrook-White	70.983	70.890	0.093	150.0	225	1 STANDARD	5.35	50.0	
2	4	5	4.430	0.600	Colebrook-White	70.890	70.860	0.030	150.0	225	1 STANDARD	5.42	50.0	
3	5	6	23.163	0.600	Colebrook-White	70.716	70.613	0.103	225.0	300	1 STANDARD	5.79	50.0	
4	6	7	35.873	0.600	Colebrook-White	70.613	70.454	0.159	225.0	300	1 STANDARD	6.36	50.0	
5	7	tank1	2.895	0.600	Colebrook-White	69.000	68.990	0.010	300.0	300	1 STANDARD	6.42	50.0	
6	tank1	8	7.462	0.600	Colebrook-White	68.990	68.965	0.025	300.0	300	1 STANDARD	6.55	50.0	
7	8	tank2	6.300	0.600	Colebrook-White	68.965	68.944	0.021	300.0	300	1 STANDARD	6.67	50.0	
8	tank2	12	11.950	0.600	Colebrook-White	68.944	68.904	0.040	300.0	300	1 STANDARD	6.89	50.0	
0	9	10	31.209	0.600	Colebrook-White	71.250	70.860	0.390	80.0	225	1 STANDARD	5.36	50.0	
1	10	11	29.091	0.600	Colebrook-White	70.860	70.448	0.412	70.6	225	1 STANDARD	5.67	50.0	
2	11	12	4.140	0.600	Colebrook-White	70.448	70.370	0.078	53.1	225	1 STANDARD	5.71	50.0	
9	12	16	11.394	0.600	Colebrook-White	68.904	68.866	0.038	300.0	300	1 STANDARD	7.10	50.0	
0	13	14	11.986	0.600	Colebrook-White	70.700	70.550	0.150	80.0	150	1 STANDARD	5.18	50.0	
1	14	16	4.376	0.600	Colebrook-White	70.550	70.495	0.055	80.0	150	1 STANDARD	5.24	50.0	
0	15	16	13.224	0.600	Colebrook-White	70.650	70.485	0.165	80.0	150	1 STANDARD	5.20	50.0	
0	16	PI	6.306	0.600	Colebrook-White	68.866	68.803	0.063	100.0	150	1 STANDARD	7.21	50.0	68
1	PI	Outfall	8.190	0.600	Colebrook-White	68.753	68.610	0.143	57.3	150	1 STANDARD	7.31	50.0	

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	1	3	1.148	20.3	1.1	0.920	0.960	0.920	0.960	0.008	0.0
2.000	2	3	1.405	55.9	5.8	0.940	1.032	0.940	1.032	0.043	0.0
1.001	3	4	1.065	42.3	10.0	1.032	1.135	1.032	1.135	0.074	0.0
1.002	4	5	1.065	42.3	15.9	1.135	1.135	1.135	1.135	0.117	0.0
1.003	5	6	1.044	73.8	22.9	1.204	1.167	1.167	1.204	0.169	0.0
1.004	6	7	1.044	73.8	43.4	1.167	1.466	1.167	1.466	0.320	0.0
1.005	7	tank1	0.902	63.8	47.3	2.920	2.840	2.840	2.920	0.349	0.0
1.006	tank1	8	0.902	63.8	47.3	2.840	2.825	2.825	2.840	0.349	0.0
1.007	8	tank2	0.902	63.8	47.3	2.825	2.876	2.825	2.876	0.349	0.0
1.008	tank2	12	0.902	63.8	47.3	2.876	3.066	2.876	3.066	0.349	0.0
3.000	9	10	1.463	58.2	7.9	0.725	1.115	0.725	1.115	0.058	0.0
3.001	10	11	1.558	61.9	15.4	1.115	1.527	1.115	1.527	0.114	0.0
3.002	11	12	1.799	71.5	19.0	1.527	1.675	1.527	1.675	0.140	0.0
1.009	12	16	0.902	63.8	66.3	3.066	2.744	2.744	3.066	0.489	0.0
4.000	13	14	1.125	19.9	2.6	1.460	1.360	1.360	1.460	0.019	0.0
4.001	14	16	1.125	19.9	5.8	1.360	1.265	1.265	1.360	0.043	0.0
5.000	15	16	1.125	19.9	2.3	0.890	1.275	0.890	1.275	0.017	0.0
1.010	16	PI	1.005	17.8	74.4	2.894	2.997	2.894	2.997	0.549	0.0
1.011	PI	Outfall	1.331	23.5	74.4	3.047	1.534	1.534	3.047	0.549	0.0

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	9.210	76.8	150	1 STANDARD	72.320	71.250	0.920	72.240	71.130	0.960
2.000	6.237	86.6	225	1 STANDARD	72.220	71.055	0.940	72.240	70.983	1.032
1.001	13.883	150.0	225	1 STANDARD	72.240	70.983	1.032	72.250	70.890	1.135
1.002	4.430	150.0	225	1 STANDARD	72.250	70.890	1.135	72.220	70.860	1.135
1.003	23.163	225.0	300	1 STANDARD	72.220	70.716	1.204	72.080	70.613	1.167
1.004	35.873	225.0	300	1 STANDARD	72.080	70.613	1.167	72.220	70.454	1.466
1.005	2.895	300.0	300	1 STANDARD	72.220	69.000	2.920	72.130	68.990	2.840
1.006	7.462	300.0	300	1 STANDARD	72.130	68.990	2.840	72.090	68.965	2.825
1.007	6.300	300.0	300	1 STANDARD	72.090	68.965	2.825	72.120	68.944	2.876
1.008	11.950	300.0	300	1 STANDARD	72.120	68.944	2.876	72.270	68.904	3.066
3.000	31.209	80.0	225	1 STANDARD	72.200	71.250	0.725	72.200	70.860	1.115
3.001	29.091	70.6	225	1 STANDARD	72.200	70.860	1.115	72.200	70.448	1.527
3.002	4.140	53.1	225	1 STANDARD	72.200	70.448	1.527	72.270	70.370	1.675
1.009	11.394	300.0	300	1 STANDARD	72.270	68.904	3.066	71.910	68.866	2.744
4.000	11.986	80.0	150	1 STANDARD	72.310	70.700	1.460	72.060	70.550	1.360
4.001	4.376	80.0	150	1 STANDARD	72.060	70.550	1.360	71.910	70.495	1.265
5.000	13.224	80.0	150	1 STANDARD	71.690	70.650	0.890	71.910	70.485	1.275
1.010	6.306	100.0	150	1 STANDARD	71.910	68.866	2.894	71.950	68.803	2.997
1.011	8.190	57.3	150	1 STANDARD	71.950	68.753	3.047	70.294	68.610	1.534

Link	US Node	Dia (mm)	Width (mm)	Node Type	MH Type	DS Node	Dia (mm)	Width (mm)	Node Type	MH Type
1.000	1	450		Manhole	1 STANDARD	3	600		Manhole	1 STANDARD
2.000	2	600		Manhole	1 STANDARD	3	600		Manhole	1 STANDARD
1.001	3	600		Manhole	1 STANDARD	4	600		Manhole	1 STANDARD
1.002	4	600		Manhole	1 STANDARD	5	600		Manhole	1 STANDARD
1.003	5	600		Manhole	1 STANDARD	6	600		Manhole	1 STANDARD
1.004	6	600		Manhole	1 STANDARD	7	1200		Manhole	1 STANDARD
1.005	7	1200		Manhole	1 STANDARD	tank1			Junction	
1.006	tank1			Junction		8	1200		Manhole	1 STANDARD
1.007	8	1200		Manhole	1 STANDARD	tank2			Junction	
1.008	tank2			Junction		12	1200		Manhole	1 STANDARD
3.000	9	600		Manhole	1 STANDARD	10	600		Manhole	1 STANDARD
3.001	10	600		Manhole	1 STANDARD	11	600		Manhole	1 STANDARD
3.002	11	600		Manhole	1 STANDARD	12	1200		Manhole	1 STANDARD
1.009	12	1200		Manhole	1 STANDARD	16	1200		Manhole	1 STANDARD
4.000	13	450		Manhole	1 STANDARD	14	450		Manhole	1 STANDARD
4.001	14	450		Manhole	1 STANDARD	16	1200		Manhole	1 STANDARD
5.000	15	450		Manhole	1 STANDARD	16	1200		Manhole	1 STANDARD
1.010	16	1200		Manhole	1 STANDARD	PI	1700	1350	Manhole	1 STANDARD
1.011	PI	1700	1350	Manhole	1 STANDARD	Outfall	1200		Manhole	1 STANDARD

Manhole Schedule

Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
385029.466	402427.276	72.320	1.070	450		Manhole	1 STANDARD		0	1.000	71.250	150	1 STANDARD

Manhole Schedule

Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
385036.329	402424.264	72.220	1.165	600		Manhole	1 STANDARD		0	2.000	71.055	225	1 STANDARD
385033.212	402418.862	72.240	1.257	600		Manhole	1 STANDARD		1	2.000	70.983	225	1 STANDARD
									2	1.000	71.130	150	1 STANDARD
									0	1.001	70.983	225	1 STANDARD
385045.238	402411.926	72.250	1.360	600		Manhole	1 STANDARD		1	1.001	70.890	225	1 STANDARD
									0	1.002	70.890	225	1 STANDARD
385049.604	402411.177	72.220	1.504	600		Manhole	1 STANDARD		1	1.002	70.860	225	1 STANDARD
									0	1.003	70.716	300	1 STANDARD
385069.672	402399.610	72.080	1.467	600		Manhole	1 STANDARD		1	1.003	70.613	300	1 STANDARD
									0	1.004	70.613	300	1 STANDARD
385100.744	402381.683	72.220	3.220	1200		Manhole	1 STANDARD		1	1.004	70.454	300	1 STANDARD
									0	1.005	69.000	300	1 STANDARD
385102.273	402384.141	72.130	3.140			Junction			1	1.005	68.990	300	1 STANDARD
									0	1.006	68.990	300	1 STANDARD
385105.917	402390.653	72.090	3.125	1200		Manhole	1 STANDARD		1	1.006	68.965	300	1 STANDARD
									0	1.007	68.965	300	1 STANDARD
385109.065	402396.110	72.120	3.176			Junction			1	1.007	68.944	300	1 STANDARD
									0	1.008	68.944	300	1 STANDARD
385064.868	402440.174	72.200	0.950	600		Manhole	1 STANDARD		0	3.000	71.250	225	1 STANDARD
385091.906	402424.587	72.200	1.340	600		Manhole	1 STANDARD		1	3.000	70.860	225	1 STANDARD
									0	3.001	70.860	225	1 STANDARD
385117.103	402410.048	72.200	1.752	600		Manhole	1 STANDARD		1	3.001	70.448	225	1 STANDARD
									0	3.002	70.448	225	1 STANDARD
385115.035	402406.462	72.270	3.366	1200		Manhole	1 STANDARD		1	3.002	70.370	225	1 STANDARD
									2	1.008	68.904	300	1 STANDARD
									0	1.009	68.904	300	1 STANDARD

Manhole Schedule

	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
385	123.171	402384.500	72.310	1.610	450		Manhole	1 STANDARD		0	4.000	70.700	150	1 STANDARD
385	124.441	402396.419	72.060	1.510	450		Manhole	1 STANDARD		1	4.000	70.550	150	1 STANDARD
385	130.732	402412.641	71.690	1.040	450		Manhole	1 STANDARD		0	4.001	70.550	150	1 STANDARD
385	124.905	402400.770	71.910	3.044	1200		Manhole	1 STANDARD		1 2 3 0	5.000 4.001 1.009 1.010	70.485 70.495 68.866 68.866	150 150 300 150	1 STANDARD 1 STANDARD 1 STANDARD 1 STANDARD
385	131.010	402399.191	71.950	3.197	1700	1350	Manhole	1 STANDARD		1 0	1.010 1.011	68.803 68.753	150 150	1 STANDARD 1 STANDARD
385	138.938	402397.137	70.294	1.684	1200		Manhole	1 STANDARD		1	1.011	68.610	150	1 STANDARD

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	18.500	Drain Down Time (mins)	240
Ratio-R	0.348	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	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 %)
1	0	0	0
30	0	0	0
100	40	0	0

Node Outfall Surcharged Outfall

Overrides Design Area	x	Depression Storage Area (m²)	0	Evapo-transpiration (mm/day)	0
Overrides Design Additional Inflow	x	Depression Storage Depth (mm)	0		

Applies to All storms

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
0	-0.401	51	0.841	102	0.796	153	0.663	204	0.523	255	0.383
1	-0.395	52	0.850	103	0.793	154	0.660	205	0.520	256	0.380
2	-0.387	53	0.858	104	0.791	155	0.658	206	0.517	257	0.377
3	-0.374	54	0.866	105	0.788	156	0.655	207	0.514	258	0.375
4	-0.359	55	0.874	106	0.785	157	0.653	208	0.511	259	0.372
5	-0.341	56	0.880	107	0.783	158	0.650	209	0.509	260	0.369
6	-0.320	57	0.888	108	0.780	159	0.647	210	0.506	261	0.367
7	-0.302	58	0.893	109	0.778	160	0.645	211	0.503	262	0.364
8	-0.288	59	0.897	110	0.775	161	0.642	212	0.500	263	0.361
9	-0.279	60	0.901	111	0.772	162	0.639	213	0.497	264	0.359
10	-0.274	61	0.902	112	0.770	163	0.637	214	0.495	265	0.356
11	-0.271	62	0.902	113	0.767	164	0.634	215	0.492	266	0.353
12	-0.269	63	0.901	114	0.765	165	0.632	216	0.489	267	0.351
13	-0.268	64	0.899	115	0.762	166	0.629	217	0.486	268	0.348
14	-0.265	65	0.896	116	0.760	167	0.626	218	0.483	269	0.346
15	-0.262	66	0.895	117	0.757	168	0.624	219	0.481	270	0.343
16	-0.258	67	0.891	118	0.754	169	0.621	220	0.478	271	0.340
17	-0.253	68	0.889	119	0.752	170	0.618	221	0.475	272	0.338
18	-0.248	69	0.886	120	0.749	171	0.616	222	0.472	273	0.335
19	-0.237	70	0.882	121	0.747	172	0.613	223	0.470	274	0.333
20	-0.227	71	0.880	122	0.744	173	0.610	224	0.467	275	0.330
21	-0.213	72	0.877	123	0.741	174	0.608	225	0.464	276	0.327
22	-0.198	73	0.874	124	0.738	175	0.605	226	0.461	277	0.325
23	-0.182	74	0.872	125	0.736	176	0.602	227	0.459	278	0.322
24	-0.163	75	0.869	126	0.733	177	0.600	228	0.456	279	0.319
25	-0.141	76	0.866	127	0.731	178	0.597	229	0.453	280	0.317
26	-0.111	77	0.863	128	0.728	179	0.594	230	0.450	281	0.314
27	-0.075	78	0.860	129	0.726	180	0.591	231	0.448	282	0.312
28	-0.009	79	0.857	130	0.723	181	0.588	232	0.445	283	0.309
29	0.069	80	0.854	131	0.720	182	0.585	233	0.442	284	0.306
30	0.139	81	0.851	132	0.718	183	0.583	234	0.439	285	0.304
31	0.219	82	0.849	133	0.715	184	0.580	235	0.437	286	0.301
32	0.307	83	0.846	134	0.713	185	0.577	236	0.434	287	0.298
33	0.352	84	0.843	135	0.710	186	0.574	237	0.431	288	0.296
34	0.415	85	0.840	136	0.707	187	0.571	238	0.428	289	0.293
35	0.466	86	0.838	137	0.705	188	0.568	239	0.426	290	0.290
36	0.508	87	0.835	138	0.702	189	0.566	240	0.423	291	0.288
37	0.552	88	0.832	139	0.699	190	0.563	241	0.420	292	0.285
38	0.589	89	0.830	140	0.697	191	0.560	242	0.418	293	0.283
39	0.625	90	0.827	141	0.694	192	0.557	243	0.415	294	0.280
40	0.656	91	0.825	142	0.692	193	0.554	244	0.412	295	0.277
41	0.685	92	0.822	143	0.689	194	0.551	245	0.409	296	0.275
42	0.710	93	0.819	144	0.686	195	0.548	246	0.407	297	0.272
43	0.733	94	0.816	145	0.684	196	0.546	247	0.404	298	0.269
44	0.752	95	0.813	146	0.681	197	0.543	248	0.401	299	0.267
45	0.770	96	0.811	147	0.679	198	0.540	249	0.399	300	-0.401
46	0.785	97	0.808	148	0.676	199	0.537	250	0.396		
47	0.799	98	0.806	149	0.673	200	0.534	251	0.393		
48	0.811	99	0.803	150	0.671	201	0.531	252	0.391		
49	0.822	100	0.801	151	0.668	202	0.528	253	0.388		
50	0.831	101	0.798	152	0.666	203	0.526	254	0.385		

Node 16 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	68.866	Product Number	CTL-SHE-0085-5000-2700-5000
Design Depth (m)	2.700	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node tank1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	68.990
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	36.0	0.0	2.400	36.0	0.0	2.401	0.0	0.0

Node tank2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	68.944
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	100.0	0.0	2.400	100.0	0.0	2.401	0.0	0.0

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Approval Settings

Node Size	✓	Full Bore Velocity	✓
Node Losses	✓	Minimum Full Bore Velocity (m/s)	1.000
Link Size	✓	Maximum Full Bore Velocity (m/s)	3.000
Minimum Diameter (mm)	150	Proportional Velocity	✓
Link Length	✓	Return Period (years)	2
Maximum Length (m)	100.000	Minimum Proportional Velocity (m/s)	0.750
Coordinates	✓	Maximum Proportional Velocity (m/s)	3.000
Accuracy (m)	1.000	Surcharged Depth	✓
Crossings	✓	Return Period (years)	2
Cover Depth	✓	Maximum Surcharged Depth (m)	0.100
Minimum Cover Depth (m)	1.200	Flooding	✓
Maximum Cover Depth (m)	3.000	Return Period (years)	30
Backdrops	✓	Time to Half Empty	x
Minimum Backdrop Height (m)	0.200	Discharge Rates	✓
Maximum Backdrop Height (m)	1.500	Discharge Volume	x

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 15 minute summer	96.449	27.292	30 year 360 minute summer	30.813	7.929
1 year 15 minute winter	67.684	27.292	30 year 360 minute winter	20.029	7.929
1 year 30 minute summer	64.005	18.111	30 year 480 minute summer	24.236	6.405
1 year 30 minute winter	44.915	18.111	30 year 480 minute winter	16.102	6.405
1 year 60 minute summer	44.383	11.729	30 year 600 minute summer	19.829	5.424
1 year 60 minute winter	29.487	11.729	30 year 600 minute winter	13.549	5.424
1 year 120 minute summer	28.260	7.468	30 year 720 minute summer	17.660	4.733
1 year 120 minute winter	18.775	7.468	30 year 720 minute winter	11.868	4.733
1 year 180 minute summer	22.198	5.712	30 year 960 minute summer	14.487	3.815
1 year 180 minute winter	14.429	5.712	30 year 960 minute winter	9.597	3.815
1 year 240 minute summer	17.859	4.719	30 year 1440 minute summer	10.489	2.811
1 year 240 minute winter	11.865	4.719	30 year 1440 minute winter	7.049	2.811
1 year 360 minute summer	13.948	3.589	100 year +40% CC 15 minute summer	426.885	120.794
1 year 360 minute winter	9.066	3.589	100 year +40% CC 15 minute winter	299.568	120.794
1 year 480 minute summer	11.136	2.943	100 year +40% CC 30 minute summer	287.368	81.315
1 year 480 minute winter	7.398	2.943	100 year +40% CC 30 minute winter	201.662	81.315
1 year 600 minute summer	9.224	2.523	100 year +40% CC 60 minute summer	197.898	52.299
1 year 600 minute winter	6.302	2.523	100 year +40% CC 60 minute winter	131.479	52.299
1 year 720 minute summer	8.302	2.225	100 year +40% CC 120 minute summer	123.042	32.516
1 year 720 minute winter	5.579	2.225	100 year +40% CC 120 minute winter	81.746	32.516
1 year 960 minute summer	6.931	1.825	100 year +40% CC 180 minute summer	94.337	24.276
1 year 960 minute winter	4.591	1.825	100 year +40% CC 180 minute winter	61.321	24.276
1 year 1440 minute summer	5.154	1.381	100 year +40% CC 240 minute summer	74.150	19.596
1 year 1440 minute winter	3.464	1.381	100 year +40% CC 240 minute winter	49.263	19.596
30 year 15 minute summer	236.029	66.788	100 year +40% CC 360 minute summer	55.980	14.406
30 year 15 minute winter	165.635	66.788	100 year +40% CC 360 minute winter	36.388	14.406
30 year 30 minute summer	157.319	44.516	100 year +40% CC 480 minute summer	43.831	11.583
30 year 30 minute winter	110.399	44.516	100 year +40% CC 480 minute winter	29.120	11.583
30 year 60 minute summer	107.642	28.447	100 year +40% CC 600 minute summer	35.728	9.772
30 year 60 minute winter	71.515	28.447	100 year +40% CC 600 minute winter	24.411	9.772
30 year 120 minute summer	66.830	17.661	100 year +40% CC 720 minute summer	31.717	8.501
30 year 120 minute winter	44.400	17.661	100 year +40% CC 720 minute winter	21.316	8.501
30 year 180 minute summer	51.368	13.219	100 year +40% CC 960 minute summer	25.882	6.815
30 year 180 minute winter	33.390	13.219	100 year +40% CC 960 minute winter	17.145	6.815
30 year 240 minute summer	40.530	10.711	100 year +40% CC 1440 minute summer	18.590	4.982
30 year 240 minute winter	26.927	10.711	100 year +40% CC 1440 minute winter	12.494	4.982

Results for 1 year Critical Storm Duration. Lowest 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 winter	1	10	71.273	0.023	1.0	0.0070	0.0000	OK
15 minute winter	2	10	71.105	0.050	5.3	0.0506	0.0000	OK
15 minute winter	3	10	71.054	0.071	9.1	0.0460	0.0000	OK
15 minute winter	4	10	70.989	0.099	14.3	0.0907	0.0000	OK
15 minute winter	5	10	70.823	0.107	20.6	0.1044	0.0000	OK
15 minute winter	6	11	70.773	0.160	39.1	0.3735	0.0000	OK
360 minute winter	7	264	69.441	0.441	7.4	0.5784	0.0000	SURCHARGED
360 minute winter	tank1	264	69.441	0.451	7.3	15.4298	0.0000	SURCHARGED
360 minute winter	8	264	69.441	0.476	5.1	0.5385	0.0000	SURCHARGED
360 minute winter	tank2	264	69.441	0.497	7.6	47.2233	0.0000	SURCHARGED
15 minute winter	9	10	71.303	0.053	7.2	0.0793	0.0000	OK
15 minute winter	10	10	70.932	0.072	14.1	0.0805	0.0000	OK
15 minute winter	11	11	70.534	0.086	16.9	0.0499	0.0000	OK
360 minute winter	12	264	69.441	0.537	3.6	0.6074	0.0000	SURCHARGED
15 minute winter	13	10	70.735	0.035	2.4	0.0138	0.0000	OK
15 minute winter	14	10	70.608	0.058	5.4	0.0276	0.0000	OK
15 minute winter	15	10	70.683	0.033	2.1	0.0162	0.0000	OK
360 minute winter	16	264	69.441	0.575	3.5	0.6502	0.0000	SURCHARGED
120 minute winter	PI	110	69.384	0.631	3.6	1.4491	0.0000	SURCHARGED
30 minute winter	Outfall	61	69.512	0.902	3.6	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	1	1.000	3	1.0	0.583	0.047	0.0152	
15 minute winter	2	2.000	3	5.3	0.617	0.094	0.0536	
15 minute winter	3	1.001	4	9.0	0.655	0.212	0.1911	
15 minute winter	4	1.002	5	14.1	0.903	0.332	0.0692	
15 minute winter	5	1.003	6	20.4	0.683	0.277	0.7001	
15 minute winter	6	1.004	7	38.5	1.045	0.521	1.3206	
360 minute winter	7	1.005	tank1	7.3	0.614	0.114	0.2039	
360 minute winter	tank1	1.006	8	5.1	0.369	0.079	0.5255	
360 minute winter	8	1.007	tank2	5.0	0.682	0.078	0.4436	
360 minute winter	tank2	1.008	12	-3.5	0.111	-0.055	0.8415	
15 minute winter	9	3.000	10	7.1	0.791	0.122	0.2808	
15 minute winter	10	3.001	11	13.7	1.113	0.222	0.3598	
15 minute winter	11	3.002	12	16.9	1.336	0.236	0.0523	
360 minute winter	12	1.009	16	3.5	0.138	0.054	0.8024	
15 minute winter	13	4.000	14	2.4	0.510	0.119	0.0561	
15 minute winter	14	4.001	16	5.2	0.894	0.264	0.0257	
15 minute winter	15	5.000	16	2.1	0.719	0.104	0.0379	
360 minute winter	16	1.010	PI	3.5	0.754	0.200	0.1110	
120 minute winter	PI	1.011	Outfall	3.7	0.951	0.157	0.1442	48.3

Results for 30 year Critical Storm Duration. Lowest 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 winter	1	10	71.286	0.036	2.4	0.0111	0.0000	OK
15 minute winter	2	10	71.139	0.084	13.1	0.0857	0.0000	OK
15 minute winter	3	10	71.111	0.128	22.4	0.0829	0.0000	OK
15 minute winter	4	11	71.082	0.192	35.1	0.1755	0.0000	OK
15 minute winter	5	11	71.035	0.319	50.4	0.3108	0.0000	SURCHARGED
15 minute winter	6	11	70.977	0.364	91.9	0.8513	0.0000	SURCHARGED
480 minute winter	7	440	70.234	1.234	13.2	1.6179	0.0000	SURCHARGED
480 minute winter	tank1	440	70.234	1.244	13.0	42.5470	0.0000	SURCHARGED
480 minute winter	8	440	70.234	1.269	8.5	1.4353	0.0000	SURCHARGED
480 minute winter	tank2	440	70.234	1.290	12.5	122.5480	0.0000	SURCHARGED
15 minute winter	9	10	71.334	0.084	17.6	0.1260	0.0000	OK
15 minute winter	10	10	70.981	0.121	34.4	0.1356	0.0000	OK
15 minute winter	11	10	70.599	0.151	41.7	0.0875	0.0000	OK
480 minute winter	12	440	70.234	1.330	5.3	1.5041	0.0000	SURCHARGED
15 minute winter	13	10	70.755	0.055	5.8	0.0217	0.0000	OK
15 minute winter	14	10	70.651	0.101	13.0	0.0481	0.0000	OK
15 minute winter	15	10	70.704	0.054	5.2	0.0263	0.0000	OK
480 minute winter	16	440	70.234	1.368	3.6	1.5469	0.0000	SURCHARGED
60 minute winter	PI	62	69.516	0.763	3.7	1.7519	0.0000	SURCHARGED
120 minute winter	Outfall	62	69.512	0.902	3.7	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	1	1.000	3	2.4	0.754	0.117	0.0290	
15 minute winter	2	2.000	3	13.0	0.712	0.233	0.1145	
15 minute winter	3	1.001	4	22.0	0.766	0.520	0.4107	
15 minute winter	4	1.002	5	34.6	1.108	0.817	0.1533	
15 minute winter	5	1.003	6	48.7	0.745	0.660	1.6311	
15 minute winter	6	1.004	7	92.1	1.337	1.248	2.3307	
480 minute winter	7	1.005	tank1	13.0	0.732	0.204	0.2039	
480 minute winter	tank1	1.006	8	8.5	0.422	0.134	0.5255	
480 minute winter	8	1.007	tank2	8.4	0.776	0.132	0.4436	
480 minute winter	tank2	1.008	12	-4.2	-0.151	-0.066	0.8415	
15 minute winter	9	3.000	10	17.4	0.989	0.299	0.5499	
15 minute winter	10	3.001	11	33.8	1.346	0.545	0.7287	
15 minute winter	11	3.002	12	41.3	1.642	0.577	0.1040	
480 minute winter	12	1.009	16	3.5	0.132	0.055	0.8024	
15 minute winter	13	4.000	14	5.7	0.621	0.289	0.1106	
15 minute winter	14	4.001	16	12.9	1.105	0.647	0.0508	
15 minute winter	15	5.000	16	5.1	0.921	0.257	0.0734	
480 minute winter	16	1.010	PI	3.6	0.759	0.202	0.1110	
60 minute winter	PI	1.011	Outfall	3.7	0.947	0.158	0.1442	59.5

Results for 100 year +40% CC Critical Storm Duration. Lowest 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 winter	1	11	71.934	0.684	6.7	0.2115	0.0000	SURCHARGED
15 minute winter	2	11	71.943	0.888	23.6	0.9068	0.0000	FLOOD RISK
15 minute winter	3	11	71.927	0.944	35.8	0.6124	0.0000	SURCHARGED
15 minute winter	4	11	71.846	0.956	56.4	0.8745	0.0000	SURCHARGED
15 minute winter	5	11	71.746	1.030	81.4	1.0033	0.0000	SURCHARGED
15 minute winter	6	11	71.583	0.970	158.6	2.2716	0.0000	SURCHARGED
600 minute winter	7	570	71.411	2.411	19.9	3.1611	0.0000	SURCHARGED
600 minute winter	tank1	570	71.411	2.421	19.6	82.0971	0.0000	SURCHARGED
600 minute winter	8	570	71.411	2.446	12.6	2.7665	0.0000	SURCHARGED
600 minute winter	tank2	570	71.411	2.467	19.6	228.0475	0.0000	SURCHARGED
600 minute winter	9	570	71.411	0.161	3.3	0.2419	0.0000	OK
600 minute winter	10	570	71.411	0.551	6.5	0.6164	0.0000	SURCHARGED
600 minute winter	11	570	71.411	0.963	8.0	0.5583	0.0000	SURCHARGED
600 minute winter	12	570	71.411	2.507	8.2	2.8351	0.0000	SURCHARGED
600 minute winter	13	570	71.410	0.710	1.1	0.2806	0.0000	SURCHARGED
600 minute winter	14	570	71.411	0.861	2.5	0.4105	0.0000	SURCHARGED
600 minute winter	15	570	71.410	0.760	1.0	0.3696	0.0000	FLOOD RISK
600 minute winter	16	570	71.410	2.544	4.8	2.8778	0.0000	SURCHARGED
15 minute winter	PI	62	69.516	0.763	3.6	1.7521	0.0000	SURCHARGED
120 minute summer	Outfall	62	69.512	0.902	4.2	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	1	1.000	3	8.0	0.792	0.396	0.1621	
15 minute winter	2	2.000	3	20.6	0.724	0.369	0.2481	
15 minute winter	3	1.001	4	38.6	0.971	0.912	0.5521	
15 minute winter	4	1.002	5	58.5	1.472	1.382	0.1762	
15 minute winter	5	1.003	6	83.1	1.180	1.126	1.6311	
15 minute winter	6	1.004	7	157.2	2.232	2.131	2.4992	
600 minute winter	7	1.005	tank1	19.6	0.566	0.308	0.2039	
600 minute winter	tank1	1.006	8	12.6	0.464	0.197	0.5255	
600 minute winter	8	1.007	tank2	12.3	0.736	0.194	0.4436	
600 minute winter	tank2	1.008	12	-7.3	-0.183	-0.115	0.8415	
600 minute winter	9	3.000	10	3.3	0.633	0.057	1.0945	
600 minute winter	10	3.001	11	6.5	0.921	0.105	1.1570	
600 minute winter	11	3.002	12	8.2	1.109	0.115	0.1647	
600 minute winter	12	1.009	16	4.6	0.087	0.072	0.8024	
600 minute winter	13	4.000	14	1.1	0.417	0.055	0.2110	
600 minute winter	14	4.001	16	2.5	0.739	0.126	0.0770	
600 minute winter	15	5.000	16	1.0	0.585	0.050	0.2328	
600 minute winter	16	1.010	PI	4.8	0.819	0.271	0.1110	
15 minute winter	PI	1.011	Outfall	3.7	0.929	0.159	0.1442	50.5