

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
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)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Width (mm)	Easting (m)	Northing (m)	Depth (m)
MHS4	0.062	5.00	50.550			386969.583	393455.134	1.785
MHS15		5.00	50.720	1200		387016.628	393446.793	1.300
MHS16			50.600	1200		386979.090	393454.698	1.550
MHS17			50.700	1200		386974.720	393434.291	1.836
MHS7	0.021	5.00	50.700	1500		386965.472	393436.250	2.075
Node 2			50.750			386990.286	393452.378	1.599
MHS28	0.004	5.00	50.750	475		386990.151	393450.086	1.350
MHS6			50.700	7676	2684	386966.652	393441.796	2.030
MHS8A			50.750	1500		386938.590	393442.463	2.195
MHS7a	0.055	5.00	50.850	475		386942.677	393437.209	1.250
Node 6		5.00	50.850			386953.163	393432.055	1.104
Node 7		5.00	50.850			386941.816	393433.142	1.198
Node 8		5.00	50.850			386938.968	393436.126	0.600
Node 5	0.030	5.00	50.700			386979.471	393428.753	0.484
Node 3	0.020	5.00	50.700			386981.434	393438.051	1.684
Node 4			50.700			386975.752	393439.129	1.756
MHS8			50.750	1500		386924.617	393444.897	2.235
MHS9			50.650	1500		386918.462	393440.917	2.150
MHS29	0.095	5.00	50.600	1500		386914.396	393420.660	2.153
MHS30	0.034	5.00	50.800	1500		386910.097	393399.544	2.409
MHS31	0.034	5.00	50.800	1500		386908.999	393394.102	2.423
MHS10	0.145	5.00	50.328	1500		386906.525	393381.930	1.983
MHS11	0.138	5.00	50.346	1500		386961.308	393370.368	2.146
MHS25	0.016	5.00	50.800	475		386968.158	393403.666	1.200
MHS9d	0.044	5.00	50.500	475		386954.269	393456.371	0.600
MHS9c			50.700	1200		386931.181	393450.100	2.000
MHS9b	0.016	5.00	50.400	1050		386932.201	393463.675	1.450
Node 10		5.00	50.650			386913.409	393445.864	2.078
Node 9		5.00	50.650			386924.806	393438.937	0.417
Node 15		5.00	50.800			386913.022	393393.686	0.569
Node 14		5.00	50.800			386914.877	393398.741	0.549
Node 13		5.00	50.800			386897.985	393402.533	2.284
Node 16	0.083	5.00	50.300			386893.931	393381.783	1.829
MH11a			50.300	1500		386989.911	393364.000	4.000
Node 11		5.00	50.600			386902.337	393423.104	1.425
Node 12		5.00	50.600			386919.006	393419.965	1.425
MHS13			50.500	1500		387004.169	393345.874	4.040
MHS13a			49.500	1500		387030.584	393273.043	3.400
Outfall			49.500			387026.356	393264.670	3.447
MHS18	0.096	5.00	50.090	1200		387032.232	393430.618	1.490
MHS20			50.800	1200		387008.651	393398.183	2.875
MHS20c			50.934	1200		387003.324	393380.212	3.498
MHS26	0.020	5.00	50.900	475		386995.016	393401.678	0.750
MHS27			50.675	475		386991.417	393382.667	0.900
MHS20a	0.084	5.00	49.320	475		387033.624	393402.112	0.920
MHS20b			51.620	1200		387031.758	393393.307	3.420
Node 17		5.00	50.600			387040.472	393343.613	1.640
MHS23a			50.600	1200		387022.742	393353.613	3.800

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Width (mm)	Easting (m)	Northing (m)	Depth (m)
FCC			49.500	1500		387004.646	393343.563	3.150

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	Node 1	MHS2	20.028	0.600	49.200	49.100	0.100	200.3	300	5.30	50.0
5.000	MHS2	MHS3	33.680	0.600	49.100	48.940	0.160	210.5	300	5.52	50.0
5.000	MHS4a	MHS3	10.051	0.600	50.000	49.090	0.910	11.0	150	5.05	50.0
5.000	MHS4B	MHS4	4.974	0.600	50.000	48.915	1.085	4.6	150	5.02	50.0
5.001	MHS3	MHS4	15.580	0.600	48.890	48.765	0.125	124.6	150	5.34	50.0
1.000	MHS15	Node 2	26.928	0.600	49.420	49.151	0.269	100.0	150	5.45	50.0
1.002	MHS16	Node 4	15.923	0.600	49.050	48.944	0.106	150.0	150	5.97	50.0
1.004	MHS17	MHS7	9.453	0.600	48.864	48.850	0.014	675.2	225	6.36	49.0
1.001	Node 2	MHS16	11.434	0.600	49.151	49.050	0.101	113.2	150	5.65	50.0
2.000	MHS28	Node 2	2.296	0.600	49.400	49.151	0.249	9.2	150	5.01	50.0
5.000	MHS4	MHS6	13.656	0.600	48.765	48.670	0.095	143.7	375	5.15	50.0
5.001	MHS6	MHS7	5.670	0.600	48.670	48.625	0.045	126.0	375	5.21	50.0
1.005	MHS7	MHS8A	27.591	0.600	48.625	48.555	0.070	394.2	375	6.86	47.2
6.001	MHS7a	MHS8A	6.656	0.600	49.600	49.550	0.050	133.1	150	5.30	50.0
6.000	Node 6	MHS7a	11.684	0.600	49.746	49.600	0.146	80.0	150	5.17	50.0
7.000	Node 7	MHS7a	4.157	0.600	49.652	49.600	0.052	79.9	150	5.06	50.0
8.000	Node 8	MHS8A	6.348	0.600	50.250	50.170	0.080	79.4	150	5.09	50.0
4.000	Node 5	MHS17	7.297	0.600	50.216	50.125	0.091	80.0	150	5.11	50.0
3.000	Node 3	Node 4	5.783	0.600	49.016	48.944	0.072	80.3	150	5.09	50.0
1.003	Node 4	MHS17	4.947	0.600	48.944	48.864	0.080	61.8	150	6.04	50.0
1.006	MHS8A	MHS8	14.183	0.600	48.555	48.515	0.040	354.6	375	7.11	46.4
1.007	MHS8	MHS9	7.330	0.600	48.515	48.500	0.015	488.6	375	7.26	45.9
1.008	MHS9	MHS29	20.661	0.600	48.500	48.447	0.053	389.8	375	7.64	44.7
1.009	MHS29	MHS30	21.549	0.600	48.447	48.391	0.056	384.8	375	8.03	43.6

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									
5.000									
5.000									
5.000					1.485				
5.001					1.635				
1.000	1.005	17.8	0.0	1.150	1.449	0.000	0.0	0	0.000
1.002	0.818	14.5	0.5	1.400	1.606	0.004	0.0	20	0.393
1.004	0.496	19.7	7.2	1.611	1.625	0.054	0.0	94	0.457
1.001	0.943	16.7	0.5	1.449	1.400	0.004	0.0	18	0.428
2.000	3.338	59.0	0.5	1.200	1.449	0.004	0.0	10	1.037
5.000	1.509	166.6	8.4	1.410	1.655	0.062	0.0	57	0.801
5.001	1.612	178.1	8.4	1.655	1.700	0.062	0.0	55	0.836
1.005	0.906	100.1	17.5	1.700	1.820	0.137	0.0	106	0.687
6.001	0.869	15.4	7.5	1.100	1.050	0.055	0.0	74	0.862
6.000	1.124	19.9	0.0	0.954	1.100	0.000	0.0	0	0.000
7.000	1.125	19.9	0.0	1.048	1.100	0.000	0.0	0	0.000
8.000	1.129	20.0	0.0	0.450	0.430	0.000	0.0	0	0.000
4.000	1.125	19.9	4.1	0.334	0.425	0.030	0.0	46	0.886
3.000	1.122	19.8	2.7	1.534	1.606	0.020	0.0	37	0.785
1.003	1.281	22.6	3.3	1.606	1.686	0.024	0.0	38	0.913
1.006	0.956	105.6	24.1	1.820	1.860	0.192	0.0	121	0.779
1.007	0.813	89.8	31.3	1.860	1.775	0.252	0.0	153	0.742
1.008	0.911	100.7	30.5	1.775	1.778	0.252	0.0	141	0.801
1.009	0.917	101.3	41.0	1.778	2.034	0.347	0.0	166	0.871

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.010	MHS30	MHS31	5.552	0.600	48.391	48.377	0.014	396.5	375	8.13	43.3
1.011	MHS31	MHS10	12.421	0.600	48.377	48.345	0.032	388.2	375	8.36	42.7
1.012	MHS10	MHS11	55.990	0.600	48.345	48.200	0.145	386.1	375	9.38	40.2
19.000	MHS25	MHS11	33.995	0.600	49.600	48.200	1.400	24.3	150	5.28	50.0
9.000	MHS9d	MHS9c	23.924	0.600	49.900	48.700	1.200	19.9	150	5.18	50.0
9.001	MHS9c	MHS8	8.376	0.600	48.700	48.515	0.185	45.3	150	5.27	50.0
10.000	MHS9b	MHS9c	13.613	0.600	48.950	48.700	0.250	54.5	150	5.17	50.0
11.000	Node 10	MHS9	7.071	0.600	48.572	48.500	0.072	98.2	225	5.09	50.0
12.000	Node 9	MHS9	6.646	0.600	50.233	50.150	0.083	80.1	150	5.10	50.0
17.000	Node 15	MHS31	4.044	0.600	50.231	50.190	0.041	98.6	150	5.07	50.0
16.000	Node 14	MHS30	4.847	0.600	50.251	50.190	0.061	80.0	225	5.06	50.0
15.000	Node 13	MHS30	12.475	0.600	48.516	48.391	0.125	100.0	150	5.21	50.0
18.000	Node 16	MHS10	12.595	0.600	48.471	48.345	0.126	100.0	150	5.21	50.0
1.013	MHS11	MH11a	29.303	0.600	48.200	48.125	0.075	390.7	375	9.91	39.0
1.014	MH11a	MHS13	23.062	0.600	46.600	46.460	0.140	164.7	375	10.19	38.5
13.000	Node 11	MHS29	12.304	0.600	49.175	48.941	0.234	52.6	225	5.11	50.0
14.000	Node 12	MHS29	4.662	0.600	49.175	48.941	0.234	19.9	225	5.03	50.0
1.016	MHS13	FCC	77.772	0.600	46.460	46.400	0.060	1296.2	525	12.30	34.6
1.017	FCC	MHS13a	75.139	0.600	46.350	46.100	0.250	300.6	525	13.27	33.3
1.018	MHS13a	Outfall	9.380	0.600	46.100	46.053	0.047	199.6	525	13.37	33.1
20.000	MHS18	MHS20	40.101	0.600	48.600	47.925	0.675	59.4	225	5.39	50.0
20.001	MHS20	MHS20c	18.744	0.600	47.925	47.436	0.489	38.3	225	5.54	50.0
22.000	MHS26	MHS27	19.349	0.600	50.150	49.775	0.375	51.6	150	5.23	50.0
22.001	MHS27	MHS20c	12.157	0.600	49.775	49.367	0.408	29.8	150	5.34	50.0
24.002	MHS20c	MHS13	34.348	0.600	47.436	46.685	0.751	45.7	225	5.84	50.0
21.000	MHS20a	MHS20b	9.001	0.600	48.400	48.200	0.200	45.0	150	5.10	50.0
21.001	MHS20b	MHS20	23.616	0.600	48.200	47.925	0.275	85.9	225	5.38	50.0
23.000	Node 17	MHS23a	20.356	0.600	48.960	48.845	0.115	177.0	225	5.35	50.0

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)
1.010	0.904	99.8	44.7	2.034	2.048	0.381	0.0	175	0.879
1.011	0.913	100.9	48.0	2.048	1.608	0.415	0.0	182	0.902
1.012	0.916	101.1	70.0	1.608	1.771	0.643	0.0	230	0.986
19.000	2.052	36.3	2.2	1.050	1.996	0.016	0.0	25	1.132
9.000	2.266	40.0	6.0	0.450	1.850	0.044	0.0	39	1.631
9.001	1.499	26.5	8.1	1.850	2.085	0.060	0.0	57	1.323
10.000	1.366	24.1	2.2	1.300	1.850	0.016	0.0	30	0.846
11.000	1.319	52.4	0.0	1.853	1.925	0.000	0.0	0	0.000
12.000	1.124	19.9	0.0	0.267	0.350	0.000	0.0	0	0.000
17.000	1.012	17.9	0.0	0.419	0.460	0.000	0.0	0	0.000
16.000	1.463	58.2	0.0	0.324	0.385	0.000	0.0	0	0.000
15.000	1.005	17.8	0.0	2.134	2.259	0.000	0.0	0	0.000
18.000	1.005	17.8	11.2	1.679	1.833	0.083	0.0	86	1.061
1.013	0.910	100.5	84.3	1.771	1.800	0.797	0.0	264	1.015
1.014	1.409	155.6	83.1	3.325	3.665	0.797	0.0	195	1.431
13.000	1.807	71.9	0.0	1.200	1.434	0.000	0.0	0	0.000
14.000	2.944	117.1	0.0	1.200	1.434	0.000	0.0	0	0.000
1.016	0.613	132.8	93.5	3.515	2.575	0.997	0.0	326	0.662
1.017	1.286	278.5	89.9	2.625	2.875	0.997	0.0	204	1.152
1.018	1.582	342.4	89.5	2.875	2.922	0.997	0.0	182	1.340
20.000	1.700	67.6	13.0	1.265	2.650	0.096	0.0	66	1.317
20.001	2.119	84.3	24.4	2.650	3.273	0.180	0.0	83	1.845
22.000	1.403	24.8	2.7	0.600	0.750	0.020	0.0	34	0.928
22.001	1.851	32.7	2.7	0.750	1.417	0.020	0.0	29	1.120
24.002	1.939	77.1	27.1	3.273	3.590	0.200	0.0	92	1.772
21.000	1.504	26.6	11.4	0.770	3.270	0.084	0.0	68	1.444
21.001	1.412	56.1	11.4	3.195	2.650	0.084	0.0	68	1.109
23.000	0.979	38.9	0.0	1.415	1.530	0.000	0.0	0	0.000

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
25.001	MHS23a	MHS13	20.121	0.600	46.800	46.685	0.115	175.0	225	5.69	50.0

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)
25.001	0.985	39.2	0.0	3.575	3.590	0.000	0.0	0	0.000

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	20.028	200.3	300			49.200			49.100	
5.000	33.680	210.5	300			49.100			48.940	
5.000	10.051	11.0	150			50.000			49.090	
5.000	4.974	4.6	150			50.000		50.550	48.915	1.485
5.001	15.580	124.6	150			48.890		50.550	48.765	1.635
1.000	26.928	100.0	150	Circular	50.720	49.420	1.150	50.750	49.151	1.449
1.002	15.923	150.0	150	Circular	50.600	49.050	1.400	50.700	48.944	1.606
1.004	9.453	675.2	225	Circular	50.700	48.864	1.611	50.700	48.850	1.625
1.001	11.434	113.2	150	Circular	50.750	49.151	1.449	50.600	49.050	1.400
2.000	2.296	9.2	150	Circular	50.750	49.400	1.200	50.750	49.151	1.449
5.000	13.656	143.7	375	Circular	50.550	48.765	1.410	50.700	48.670	1.655
5.001	5.670	126.0	375	Circular	50.700	48.670	1.655	50.700	48.625	1.700
1.005	27.591	394.2	375	Circular	50.700	48.625	1.700	50.750	48.555	1.820
6.001	6.656	133.1	150	Circular	50.850	49.600	1.100	50.750	49.550	1.050
6.000	11.684	80.0	150	Circular	50.850	49.746	0.954	50.850	49.600	1.100
7.000	4.157	79.9	150	Circular	50.850	49.652	1.048	50.850	49.600	1.100
8.000	6.348	79.4	150	Circular	50.850	50.250	0.450	50.750	50.170	0.430
4.000	7.297	80.0	150	Circular	50.700	50.216	0.334	50.700	50.125	0.425
3.000	5.783	80.3	150	Circular	50.700	49.016	1.534	50.700	48.944	1.606
1.003	4.947	61.8	150	Circular	50.700	48.944	1.606	50.700	48.864	1.686
1.006	14.183	354.6	375	Circular	50.750	48.555	1.820	50.750	48.515	1.860
1.007	7.330	488.6	375	Circular	50.750	48.515	1.860	50.650	48.500	1.775
1.008	20.661	389.8	375	Circular	50.650	48.500	1.775	50.600	48.447	1.778

Link	US Node	Dia (mm)	Width (mm)	Node Type	MH Type	DS Node	Dia (mm)	Width (mm)	Node Type	MH Type
1.000										
5.000										
5.000										
5.000						MHS4			Junction	
5.001						MHS4			Junction	
1.000	MHS15	1200		Manhole	Adoptable	Node 2			Junction	
1.002	MHS16	1200		Manhole	Adoptable	Node 4			Junction	
1.004	MHS17	1200		Manhole	Adoptable	MHS7	1500		Manhole	Adoptable
1.001	Node 2			Junction		MHS16	1200		Manhole	Adoptable
2.000	MHS28	475		Manhole	Adoptable	Node 2			Junction	
5.000	MHS4			Junction		MHS6	7676	2684	Manhole	Adoptable
5.001	MHS6	7676	2684	Manhole	Adoptable	MHS7	1500		Manhole	Adoptable
1.005	MHS7	1500		Manhole	Adoptable	MHS8A	1500		Manhole	Adoptable
6.001	MHS7a	475		Manhole	Adoptable	MHS8A	1500		Manhole	Adoptable
6.000	Node 6			Junction		MHS7a	475		Manhole	Adoptable
7.000	Node 7			Junction		MHS7a	475		Manhole	Adoptable
8.000	Node 8			Junction		MHS8A	1500		Manhole	Adoptable
4.000	Node 5			Junction		MHS17	1200		Manhole	Adoptable
3.000	Node 3			Junction		Node 4			Junction	
1.003	Node 4			Junction		MHS17	1200		Manhole	Adoptable
1.006	MHS8A	1500		Manhole	Adoptable	MHS8	1500		Manhole	Adoptable
1.007	MHS8	1500		Manhole	Adoptable	MHS9	1500		Manhole	Adoptable
1.008	MHS9	1500		Manhole	Adoptable	MHS29	1500		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)
1.009	21.549	384.8	375	Circular	50.600	48.447	1.778	50.800	48.391	2.034
1.010	5.552	396.5	375	Circular	50.800	48.391	2.034	50.800	48.377	2.048
1.011	12.421	388.2	375	Circular	50.800	48.377	2.048	50.328	48.345	1.608
1.012	55.990	386.1	375	Circular	50.328	48.345	1.608	50.346	48.200	1.771
19.000	33.995	24.3	150	Circular	50.800	49.600	1.050	50.346	48.200	1.996
9.000	23.924	19.9	150	Circular	50.500	49.900	0.450	50.700	48.700	1.850
9.001	8.376	45.3	150	Circular	50.700	48.700	1.850	50.750	48.515	2.085
10.000	13.613	54.5	150	Circular	50.400	48.950	1.300	50.700	48.700	1.850
11.000	7.071	98.2	225	Circular	50.650	48.572	1.853	50.650	48.500	1.925
12.000	6.646	80.1	150	Circular	50.650	50.233	0.267	50.650	50.150	0.350
17.000	4.044	98.6	150	Circular	50.800	50.231	0.419	50.800	50.190	0.460
16.000	4.847	80.0	225	Circular	50.800	50.251	0.324	50.800	50.190	0.385
15.000	12.475	100.0	150	Circular	50.800	48.516	2.134	50.800	48.391	2.259
18.000	12.595	100.0	150	Circular	50.300	48.471	1.679	50.328	48.345	1.833
1.013	29.303	390.7	375	Circular	50.346	48.200	1.771	50.300	48.125	1.800
1.014	23.062	164.7	375	Circular	50.300	46.600	3.325	50.500	46.460	3.665
13.000	12.304	52.6	225	Circular	50.600	49.175	1.200	50.600	48.941	1.434
14.000	4.662	19.9	225	Circular	50.600	49.175	1.200	50.600	48.941	1.434
1.016	77.772	1296.2	525	Circular	50.500	46.460	3.515	49.500	46.400	2.575
1.017	75.139	300.6	525	Circular	49.500	46.350	2.625	49.500	46.100	2.875
1.018	9.380	199.6	525	Circular	49.500	46.100	2.875	49.500	46.053	2.922
20.000	40.101	59.4	225	Circular	50.090	48.600	1.265	50.800	47.925	2.650
20.001	18.744	38.3	225	Circular	50.800	47.925	2.650	50.934	47.436	3.273
22.000	19.349	51.6	150	Circular	50.900	50.150	0.600	50.675	49.775	0.750
22.001	12.157	29.8	150	Circular	50.675	49.775	0.750	50.934	49.367	1.417
24.002	34.348	45.7	225	Circular	50.934	47.436	3.273	50.500	46.685	3.590
21.000	9.001	45.0	150	Circular	49.320	48.400	0.770	51.620	48.200	3.270
21.001	23.616	85.9	225	Circular	51.620	48.200	3.195	50.800	47.925	2.650

Link	US Node	Dia (mm)	Width (mm)	Node Type	MH Type	DS Node	Dia (mm)	Width (mm)	Node Type	MH Type
1.009	MHS29	1500		Manhole	Adoptable	MHS30	1500		Manhole	Adoptable
1.010	MHS30	1500		Manhole	Adoptable	MHS31	1500		Manhole	Adoptable
1.011	MHS31	1500		Manhole	Adoptable	MHS10	1500		Manhole	Adoptable
1.012	MHS10	1500		Manhole	Adoptable	MHS11	1500		Manhole	Adoptable
19.000	MHS25	475		Manhole	Adoptable	MHS11	1500		Manhole	Adoptable
9.000	MHS9d	475		Manhole	Adoptable	MHS9c	1200		Manhole	Adoptable
9.001	MHS9c	1200		Manhole	Adoptable	MHS8	1500		Manhole	Adoptable
10.000	MHS9b	1050		Manhole	Adoptable	MHS9c	1200		Manhole	Adoptable
11.000	Node 10			Junction		MHS9	1500		Manhole	Adoptable
12.000	Node 9			Junction		MHS9	1500		Manhole	Adoptable
17.000	Node 15			Junction		MHS31	1500		Manhole	Adoptable
16.000	Node 14			Junction		MHS30	1500		Manhole	Adoptable
15.000	Node 13			Junction		MHS30	1500		Manhole	Adoptable
18.000	Node 16			Junction		MHS10	1500		Manhole	Adoptable
1.013	MHS11	1500		Manhole	Adoptable	MH11a	1500		Manhole	Adoptable
1.014	MH11a	1500		Manhole	Adoptable	MHS13	1500		Manhole	Adoptable
13.000	Node 11			Junction		MHS29	1500		Manhole	Adoptable
14.000	Node 12			Junction		MHS29	1500		Manhole	Adoptable
1.016	MHS13	1500		Manhole	Adoptable	FCC	1500		Manhole	Adoptable
1.017	FCC	1500		Manhole	Adoptable	MHS13a	1500		Manhole	Adoptable
1.018	MHS13a	1500		Manhole	Adoptable	Outfall			Junction	
20.000	MHS18	1200		Manhole	Adoptable	MHS20	1200		Manhole	Adoptable
20.001	MHS20	1200		Manhole	Adoptable	MHS20c	1200		Manhole	Adoptable
22.000	MHS26	475		Manhole	Adoptable	MHS27	475		Manhole	Adoptable
22.001	MHS27	475		Manhole	Adoptable	MHS20c	1200		Manhole	Adoptable
24.002	MHS20c	1200		Manhole	Adoptable	MHS13	1500		Manhole	Adoptable
21.000	MHS20a	475		Manhole	Adoptable	MHS20b	1200		Manhole	Adoptable
21.001	MHS20b	1200		Manhole	Adoptable	MHS20	1200		Manhole	Adoptable

Pipeline Schedule

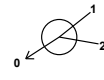
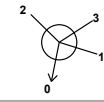
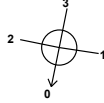
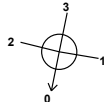
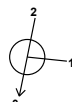
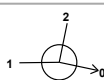
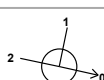
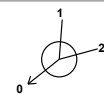
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
23.000	20.356	177.0	225	Circular	50.600	48.960	1.415	50.600	48.845	1.530
25.001	20.121	175.0	225	Circular	50.600	46.800	3.575	50.500	46.685	3.590

Link	US Node	Dia (mm)	Width (mm)	Node Type	MH Type	DS Node	Dia (mm)	Width (mm)	Node Type	MH Type
23.000	Node 17			Junction		MHS23a	1200		Manhole	Adoptable
25.001	MHS23a	1200		Manhole	Adoptable	MHS13	1500		Manhole	Adoptable

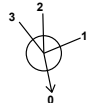
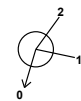
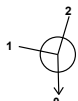
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections	Link	IL (m)	Dia (mm)	
MHS4	386969.583	393455.134	50.550	1.785				0	5.000	48.765	375
MHS15	387016.628	393446.793	50.720	1.300	1200			0	1.000	49.420	150
MHS16	386979.090	393454.698	50.600	1.550	1200			1	1.001	49.050	150
								0	1.002	49.050	150
MHS17	386974.720	393434.291	50.700	1.836	1200			1	4.000	50.125	150
								2	1.003	48.864	150
								0	1.004	48.864	225
MHS7	386965.472	393436.250	50.700	2.075	1500			1	5.001	48.625	375
								2	1.004	48.850	225
								0	1.005	48.625	375
Node 2	386990.286	393452.378	50.750	1.599				1	2.000	49.151	150
								2	1.000	49.151	150
								0	1.001	49.151	150
MHS28	386990.151	393450.086	50.750	1.350	475			0	2.000	49.400	150
MHS6	386966.652	393441.796	50.700	2.030	7676	2684		1	5.000	48.670	375
								0	5.001	48.670	375
MHS8A	386938.590	393442.463	50.750	2.195	1500			1	8.000	50.170	150
								2	6.001	49.550	150
								3	1.005	48.555	375
								0	1.006	48.555	375
MHS7a	386942.677	393437.209	50.850	1.250	475			1	7.000	49.600	150
								2	6.000	49.600	150
								0	6.001	49.600	150
Node 6	386953.163	393432.055	50.850	1.104				0	6.000	49.746	150
Node 7	386941.816	393433.142	50.850	1.198				0	7.000	49.652	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections	Link	IL (m)	Dia (mm)
Node 8	386938.968	393436.126	50.850	0.600						
							0	8.000	50.250	150
Node 5	386979.471	393428.753	50.700	0.484						
							0	4.000	50.216	150
Node 3	386981.434	393438.051	50.700	1.684						
							0	3.000	49.016	150
Node 4	386975.752	393439.129	50.700	1.756						
							1	3.000	48.944	150
							2	1.002	48.944	150
							0	1.003	48.944	150
MHS8	386924.617	393444.897	50.750	2.235	1500					
							1	9.001	48.515	150
							2	1.006	48.515	375
							0	1.007	48.515	375
MHS9	386918.462	393440.917	50.650	2.150	1500					
							1	12.000	50.150	150
							2	11.000	48.500	225
							3	1.007	48.500	375
							0	1.008	48.500	375
MHS29	386914.396	393420.660	50.600	2.153	1500					
							1	14.000	48.941	225
							2	13.000	48.941	225
							3	1.008	48.447	375
							0	1.009	48.447	375
MHS30	386910.097	393399.544	50.800	2.409	1500					
							1	16.000	50.190	225
							2	15.000	48.391	150
							3	1.009	48.391	375
							0	1.010	48.391	375
MHS31	386908.999	393394.102	50.800	2.423	1500					
							1	17.000	50.190	150
							2	1.010	48.377	375
							0	1.011	48.377	375
MHS10	386906.525	393381.930	50.328	1.983	1500					
							1	18.000	48.345	150
							2	1.011	48.345	375
							0	1.012	48.345	375
MHS11	386961.308	393370.368	50.346	2.146	1500					
							1	19.000	48.200	150
							2	1.012	48.200	375
							0	1.013	48.200	375
MHS25	386968.158	393403.666	50.800	1.200	475					
							0	19.000	49.600	150
MHS9d	386954.269	393456.371	50.500	0.600	475					
							0	9.000	49.900	150
MHS9c	386931.181	393450.100	50.700	2.000	1200					
							1	10.000	48.700	150
							2	9.000	48.700	150
							0	9.001	48.700	150
MHS9b	386932.201	393463.675	50.400	1.450	1050					
							0	10.000	48.950	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections	Link	IL (m)	Dia (mm)	
Node 10	386913.409	393445.864	50.650	2.078				0	11.000	48.572	225
Node 9	386924.806	393438.937	50.650	0.417				0	12.000	50.233	150
Node 15	386913.022	393393.686	50.800	0.569				0	17.000	50.231	150
Node 14	386914.877	393398.741	50.800	0.549				0	16.000	50.251	225
Node 13	386897.985	393402.533	50.800	2.284				0	15.000	48.516	150
Node 16	386893.931	393381.783	50.300	1.829				0	18.000	48.471	150
MH11a	386989.911	393364.000	50.300	4.000	1500			1	1.013	48.125	375
Node 11	386902.337	393423.104	50.600	1.425				0	1.014	46.600	375
Node 12	386919.006	393419.965	50.600	1.425				0	13.000	49.175	225
MHS13	387004.169	393345.874	50.500	4.040	1500			1 2 3 0	25.001 24.002 1.014 1.016	46.685 46.685 46.460 46.460	225 225 375 525
MHS13a	387030.584	393273.043	49.500	3.400	1500			1 0	1.017 1.018	46.100 46.100	525 525
Outfall	387026.356	393264.670	49.500	3.447				1	1.018	46.053	525
MHS18	387032.232	393430.618	50.090	1.490	1200			0	20.000	48.600	225
MHS20	387008.651	393398.183	50.800	2.875	1200			1 2 0	21.001 20.000 20.001	47.925 47.925 47.925	225 225 225
MHS20c	387003.324	393380.212	50.934	3.498	1200			1 2 0	22.001 20.001 24.002	49.367 47.436 47.436	150 225 225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections	Link	IL (m)	Dia (mm)	
MHS26	386995.016	393401.678	50.900	0.750	475			0	22.000	50.150	150
MHS27	386991.417	393382.667	50.675	0.900	475			1	22.000	49.775	150
								0	22.001	49.775	150
MHS20a	387033.624	393402.112	49.320	0.920	475			0	21.000	48.400	150
MHS20b	387031.758	393393.307	51.620	3.420	1200			1	21.000	48.200	150
								0	21.001	48.200	225
Node 17	387040.472	393343.613	50.600	1.640				0	23.000	48.960	225
MHS23a	387022.742	393353.613	50.600	3.800	1200			1	23.000	48.845	225
								0	25.001	46.800	225
FCC	387004.646	393343.563	49.500	3.150	1500			1	1.016	46.400	525
								0	1.017	46.350	525

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	20.0
Ratio-R	0.400	Starting Level (m)	
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 %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0	100	40	0	0
30	0	0	0				

Node MHS13 Online Orifice Control

Flap Valve	x	Design Depth (m)	2.000	Discharge Coefficient	1.000
Replaces Downstream Link	✓	Design Flow (l/s)	50.0		
Invert Level (m)	46.460	Diameter (m)	0.101		

Node MHS13 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	46.460
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	102

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	523.6	0.0	1.050	523.6	0.0	1.051	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	MHS4	10	48.832	0.067	11.3	0.0466	0.0000	OK
15 minute summer	MHS15	1	49.420	0.000	0.0	0.0000	0.0000	OK
15 minute winter	MHS16	12	49.072	0.022	0.7	0.0251	0.0000	OK
15 minute winter	MHS17	11	48.967	0.103	9.5	0.1161	0.0000	OK
15 minute winter	MHS7	12	48.748	0.123	21.2	0.2433	0.0000	OK
15 minute summer	Node 2	11	49.172	0.021	0.7	0.0000	0.0000	OK
15 minute winter	MHS28	10	49.412	0.012	0.7	0.0027	0.0000	OK
15 minute winter	MHS6	12	48.748	0.078	11.2	1.5985	0.0000	OK
15 minute winter	MHS8A	12	48.733	0.178	29.8	0.3144	0.0000	OK
15 minute winter	MHS7a	10	49.694	0.094	10.0	0.0999	0.0000	OK
15 minute summer	Node 6	1	49.746	0.000	0.0	0.0000	0.0000	OK
15 minute winter	Node 7	10	49.695	0.043	0.3	0.0000	0.0000	OK
15 minute summer	Node 8	1	50.250	0.000	0.0	0.0000	0.0000	OK
15 minute winter	Node 5	10	50.272	0.056	5.5	0.0688	0.0000	OK
15 minute winter	Node 3	10	49.059	0.043	3.6	0.0103	0.0000	OK
15 minute winter	Node 4	11	48.987	0.043	4.2	0.0000	0.0000	OK
15 minute winter	MHS8	12	48.722	0.207	38.2	0.3663	0.0000	OK
15 minute winter	MHS9	12	48.707	0.207	36.9	0.3656	0.0000	OK
15 minute winter	MHS29	12	48.692	0.245	49.1	0.6484	0.0000	OK
15 minute winter	MHS30	12	48.671	0.280	52.6	0.5742	0.0000	OK
15 minute winter	MHS31	12	48.658	0.281	57.0	0.5757	0.0000	OK
15 minute winter	MHS10	12	48.639	0.294	90.1	0.9487	0.0000	OK
15 minute winter	MHS11	12	48.520	0.320	111.4	0.9770	0.0000	OK
15 minute winter	MHS25	10	49.629	0.029	2.9	0.0127	0.0000	OK
15 minute winter	MHS9d	10	49.945	0.045	8.0	0.0745	0.0000	OK
15 minute winter	MHS9c	10	48.766	0.066	10.8	0.0746	0.0000	OK
15 minute winter	MHS9b	10	48.985	0.035	2.9	0.0379	0.0000	OK
15 minute winter	Node 10	12	48.707	0.135	1.0	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	MHS4	5.000	MHS6	11.2	0.966	0.067	0.1920	
15 minute summer	MHS15	1.000	Node 2	0.0	0.000	0.000	0.0202	
15 minute winter	MHS16	1.002	Node 4	0.7	0.259	0.047	0.0463	
15 minute winter	MHS17	1.004	MHS7	9.5	0.629	0.481	0.1426	
15 minute winter	MHS7	1.005	MHS8A	20.3	0.545	0.203	1.1460	
15 minute summer	Node 2	1.001	MHS16	0.7	0.472	0.042	0.0175	
15 minute winter	MHS28	2.000	Node 2	0.7	0.798	0.012	0.0024	
15 minute winter	MHS6	5.001	MHS7	8.9	0.471	0.050	0.1361	
15 minute winter	MHS8A	1.006	MHS8	28.2	0.548	0.267	0.8082	
15 minute winter	MHS7a	6.001	MHS8A	9.7	0.876	0.629	0.0736	
15 minute summer	Node 6	6.000	MHS7a	0.0	0.000	0.000	0.0659	
15 minute winter	Node 7	7.000	MHS7a	-0.3	-0.086	-0.016	0.0328	
15 minute summer	Node 8	8.000	MHS8A	0.0	0.000	0.000	0.0000	
15 minute winter	Node 5	4.000	MHS17	5.4	0.938	0.272	0.0421	
15 minute winter	Node 3	3.000	Node 4	3.6	0.854	0.180	0.0242	
15 minute winter	Node 4	1.003	MHS17	4.1	0.486	0.183	0.0422	
15 minute winter	MHS8	1.007	MHS9	36.9	0.710	0.411	0.4574	
15 minute winter	MHS9	1.008	MHS29	36.4	0.585	0.361	1.4305	
15 minute winter	MHS29	1.009	MHS30	48.2	0.617	0.475	1.7723	
15 minute winter	MHS30	1.010	MHS31	53.4	0.650	0.535	0.4913	
15 minute winter	MHS31	1.011	MHS10	58.2	0.703	0.577	1.1257	
15 minute winter	MHS10	1.012	MHS11	88.6	0.917	0.876	5.3980	
15 minute winter	MHS11	1.013	MHS11a	109.6	1.233	1.090	2.5799	
15 minute winter	MHS25	19.000	MHS11	2.8	0.237	0.079	0.3388	
15 minute winter	MHS9d	9.000	MHS9c	7.9	1.334	0.198	0.1427	
15 minute winter	MHS9c	9.001	MHS8	10.6	0.803	0.400	0.1049	
15 minute winter	MHS9b	10.000	MHS9c	2.9	0.551	0.118	0.0718	
15 minute winter	Node 10	11.000	MHS9	-1.0	-0.116	-0.020	0.2231	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Node 9	1	50.233	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Node 15	1	50.231	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Node 14	1	50.251	0.000	0.0	0.0000	0.0000	OK
15 minute winter	Node 13	12	48.671	0.155	1.6	0.0000	0.0000	SURCHARGED
15 minute winter	Node 16	11	48.718	0.247	15.1	0.2242	0.0000	SURCHARGED
15 minute winter	MH11a	9	47.054	0.454	109.6	0.8015	0.0000	SURCHARGED
15 minute summer	Node 11	1	49.175	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Node 12	1	49.175	0.000	0.0	0.0000	0.0000	OK
180 minute winter	MHS13	136	46.674	0.214	42.6	112.4092	0.0000	OK
180 minute winter	MHS13a	136	46.174	0.074	14.3	0.1316	0.0000	OK
180 minute winter	Outfall	136	46.125	0.072	14.3	0.0000	0.0000	OK
15 minute winter	MHS18	10	48.677	0.077	17.5	0.1865	0.0000	OK
15 minute winter	MHS20	11	48.024	0.099	32.2	0.1125	0.0000	OK
15 minute winter	MHS20c	11	47.548	0.112	35.6	0.1262	0.0000	OK
15 minute winter	MHS26	10	50.190	0.040	3.6	0.0285	0.0000	OK
15 minute winter	MHS27	10	49.809	0.034	3.6	0.0060	0.0000	OK
15 minute winter	MHS20a	10	48.489	0.089	15.3	0.1792	0.0000	OK
15 minute winter	MHS20b	10	48.280	0.080	15.1	0.0906	0.0000	OK
15 minute summer	Node 17	1	48.960	0.000	0.0	0.0000	0.0000	OK
15 minute summer	MHS23a	1	46.800	0.000	0.0	0.0000	0.0000	OK
180 minute winter	FCC	136	46.431	0.081	14.4	0.1434	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	Node 9	12.000	MHS9	0.0	0.000	0.000	0.0000	
15 minute summer	Node 15	17.000	MHS31	0.0	0.000	0.000	0.0000	
15 minute summer	Node 14	16.000	MHS30	0.0	0.000	0.000	0.0000	
15 minute winter	Node 13	15.000	MHS30	-1.6	-0.159	-0.089	0.2196	
15 minute winter	Node 16	18.000	MHS10	14.3	0.812	0.805	0.2217	
15 minute winter	MH11a	1.014	MHS13	110.9	2.383	0.713	1.2896	
15 minute summer	Node 11	13.000	MHS29	0.0	0.000	0.000	0.0000	
15 minute summer	Node 12	14.000	MHS29	0.0	0.000	0.000	0.0000	
180 minute winter	MHS13	Orifice	FCC	14.4				
180 minute winter	MHS13a	1.018	Outfall	14.3	0.788	0.042	0.1708	167.0
15 minute winter	MHS18	20.000	MHS20	17.2	1.195	0.255	0.5792	
15 minute winter	MHS20	20.001	MHS20c	32.1	1.763	0.381	0.3425	
15 minute winter	MHS20c	24.002	MHS13	35.8	1.873	0.464	0.6568	
15 minute winter	MHS26	22.000	MHS27	3.6	1.053	0.144	0.0655	
15 minute winter	MHS27	22.001	MHS20c	3.5	1.190	0.107	0.0358	
15 minute winter	MHS20a	21.000	MHS20b	15.1	1.475	0.570	0.0924	
15 minute winter	MHS20b	21.001	MHS20	15.0	1.015	0.267	0.3488	
15 minute summer	Node 17	23.000	MHS23a	0.0	0.000	0.000	0.0000	
15 minute summer	MHS23a	25.001	MHS13	0.0	0.000	0.000	0.0000	
180 minute winter	FCC	1.017	MHS13a	14.3	0.722	0.052	1.4941	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	MHS4	13	49.097	0.332	25.0	0.2307	0.0000	OK
15 minute summer	MHS15	1	49.420	0.000	0.0	0.0000	0.0000	OK
15 minute winter	MHS16	14	49.091	0.041	1.4	0.0461	0.0000	OK
15 minute winter	MHS17	13	49.086	0.222	18.2	0.2510	0.0000	OK
15 minute winter	MHS7	13	49.080	0.455	57.1	0.8969	0.0000	SURCHARGED
15 minute winter	Node 2	11	49.180	0.029	1.4	0.0000	0.0000	OK
15 minute winter	MHS28	10	49.416	0.016	1.4	0.0038	0.0000	OK
15 minute winter	MHS6	13	49.080	0.410	47.6	8.4463	0.0000	SURCHARGED
15 minute winter	MHS8A	13	49.068	0.513	55.3	0.9064	0.0000	SURCHARGED
15 minute winter	MHS7a	11	49.775	0.175	19.0	0.1850	0.0000	SURCHARGED
15 minute winter	Node 6	11	49.777	0.031	0.4	0.0000	0.0000	OK
15 minute winter	Node 7	11	49.776	0.124	0.7	0.0000	0.0000	OK
15 minute summer	Node 8	1	50.250	0.000	0.0	0.0000	0.0000	OK
15 minute winter	Node 5	10	50.297	0.081	10.4	0.0999	0.0000	OK
15 minute winter	Node 3	14	49.102	0.086	6.9	0.0206	0.0000	OK
15 minute winter	Node 4	13	49.103	0.159	8.1	0.0000	0.0000	SURCHARGED
15 minute winter	MHS8	13	49.066	0.551	67.4	0.9729	0.0000	SURCHARGED
15 minute winter	MHS9	13	49.057	0.557	70.7	0.9844	0.0000	SURCHARGED
15 minute winter	MHS29	13	49.034	0.587	79.0	1.5557	0.0000	SURCHARGED
15 minute winter	MHS30	13	49.001	0.610	85.2	1.2497	0.0000	SURCHARGED
15 minute winter	MHS31	13	48.982	0.605	90.1	1.2383	0.0000	SURCHARGED
15 minute winter	MHS10	13	48.946	0.601	127.4	1.9408	0.0000	SURCHARGED
15 minute winter	MHS11	11	48.697	0.497	170.5	1.5162	0.0000	SURCHARGED
15 minute winter	MHS25	10	49.639	0.039	5.5	0.0175	0.0000	OK
15 minute winter	MHS9d	10	49.964	0.064	15.2	0.1050	0.0000	OK
15 minute winter	MHS9c	13	49.121	0.421	20.5	0.4760	0.0000	SURCHARGED
15 minute winter	MHS9b	13	49.127	0.177	5.5	0.1923	0.0000	SURCHARGED
15 minute winter	Node 10	13	49.057	0.485	2.2	0.0000	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 winter	MHS4	5.000	MHS6	27.5	1.038	0.165	1.4571	
15 minute summer	MHS15	1.000	Node 2	0.0	0.000	0.000	0.0312	
15 minute winter	MHS16	1.002	Node 4	1.4	0.292	0.096	0.1687	
15 minute winter	MHS17	1.004	MHS7	18.1	0.773	0.919	0.3753	
15 minute winter	MHS7	1.005	MHS8A	51.1	0.547	0.510	3.0432	
15 minute winter	Node 2	1.001	MHS16	1.4	0.552	0.081	0.0314	
15 minute winter	MHS28	2.000	Node 2	1.4	0.939	0.024	0.0039	
15 minute winter	MHS6	5.001	MHS7	-47.6	0.559	-0.267	0.6254	
15 minute winter	MHS8A	1.006	MHS8	60.4	0.580	0.572	1.5643	
15 minute winter	MHS7a	6.001	MHS8A	18.1	1.039	1.176	0.1103	
15 minute winter	Node 6	6.000	MHS7a	0.5	0.043	0.023	0.1183	
15 minute winter	Node 7	7.000	MHS7a	0.8	-0.091	0.039	0.0688	
15 minute summer	Node 8	8.000	MHS8A	0.0	0.000	0.000	0.0000	
15 minute winter	Node 5	4.000	MHS17	10.3	1.103	0.518	0.0680	
15 minute winter	Node 3	3.000	Node 4	6.9	1.018	0.346	0.0782	
15 minute winter	Node 4	1.003	MHS17	8.0	0.617	0.353	0.0871	
15 minute winter	MHS8	1.007	MHS9	69.8	0.731	0.778	0.8085	
15 minute winter	MHS9	1.008	MHS29	75.2	0.699	0.747	2.2788	
15 minute winter	MHS29	1.009	MHS30	83.6	0.763	0.825	2.3768	
15 minute winter	MHS30	1.010	MHS31	87.1	0.796	0.873	0.6124	
15 minute winter	MHS31	1.011	MHS10	92.6	0.839	0.918	1.3700	
15 minute winter	MHS10	1.012	MHS11	128.7	1.167	1.272	6.1755	
15 minute winter	MHS11	1.013	MHS11a	167.3	1.545	1.664	3.0033	
15 minute winter	MHS25	19.000	MHS11	5.4	0.426	0.150	0.3617	
15 minute winter	MHS9d	9.000	MHS9c	15.1	1.486	0.377	0.2961	
15 minute winter	MHS9c	9.001	MHS8	15.5	0.968	0.584	0.1475	
15 minute winter	MHS9b	10.000	MHS9c	5.5	0.610	0.226	0.2397	
15 minute winter	Node 10	11.000	MHS9	-2.2	-0.103	-0.042	0.2812	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Node 9	1	50.233	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Node 15	1	50.231	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Node 14	1	50.251	0.000	0.0	0.0000	0.0000	OK
15 minute winter	Node 13	13	49.006	0.490	2.3	0.0000	0.0000	SURCHARGED
15 minute winter	Node 16	11	49.270	0.799	28.7	0.7259	0.0000	SURCHARGED
15 minute summer	MH11a	8	47.097	0.497	160.7	0.8775	0.0000	SURCHARGED
15 minute summer	Node 11	1	49.175	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Node 12	1	49.175	0.000	0.0	0.0000	0.0000	OK
120 minute winter	MHS13	102	46.879	0.419	106.1	219.9028	0.0000	OK
120 minute winter	MHS13a	104	46.191	0.091	21.5	0.1612	0.0000	OK
120 minute winter	Outfall	104	46.141	0.088	21.5	0.0000	0.0000	OK
15 minute winter	MHS18	10	48.710	0.110	33.2	0.2656	0.0000	OK
15 minute winter	MHS20	11	48.076	0.151	59.7	0.1706	0.0000	OK
15 minute winter	MHS20c	11	47.608	0.172	66.8	0.1949	0.0000	OK
15 minute winter	MHS26	10	50.207	0.057	6.9	0.0402	0.0000	OK
15 minute winter	MHS27	10	49.823	0.048	6.8	0.0085	0.0000	OK
15 minute winter	MHS20a	11	48.631	0.231	29.1	0.4618	0.0000	SURCHARGED
15 minute winter	MHS20b	11	48.316	0.116	27.9	0.1314	0.0000	OK
15 minute summer	Node 17	1	48.960	0.000	0.0	0.0000	0.0000	OK
120 minute winter	MHS23a	102	46.879	0.079	0.3	0.0890	0.0000	OK
120 minute winter	FCC	102	46.449	0.099	21.5	0.1750	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	Node 9	12.000	MHS9	0.0	0.000	0.000	0.0000	
15 minute summer	Node 15	17.000	MHS31	0.0	0.000	0.000	0.0000	
15 minute summer	Node 14	16.000	MHS30	0.0	0.000	0.000	0.0000	
15 minute winter	Node 13	15.000	MHS30	-2.3	-0.162	-0.127	0.2196	
15 minute winter	Node 16	18.000	MHS10	26.5	1.508	1.495	0.2217	
15 minute summer	MH11a	1.014	MHS13	163.2	2.488	1.049	1.5346	
15 minute summer	Node 11	13.000	MHS29	0.0	0.000	0.000	0.0099	
15 minute summer	Node 12	14.000	MHS29	0.0	0.000	0.000	0.0037	
120 minute winter	MHS13	Orifice	FCC	21.5				
120 minute winter	MHS13a	1.018	Outfall	21.5	0.885	0.063	0.2282	274.4
15 minute winter	MHS18	20.000	MHS20	32.8	1.397	0.485	0.9427	
15 minute winter	MHS20	20.001	MHS20c	60.1	1.970	0.713	0.5709	
15 minute winter	MHS20c	24.002	MHS13	66.6	2.122	0.864	1.0784	
15 minute winter	MHS26	22.000	MHS27	6.8	1.249	0.275	0.1059	
15 minute winter	MHS27	22.001	MHS20c	6.7	1.420	0.206	0.0576	
15 minute winter	MHS20a	21.000	MHS20b	27.9	1.625	1.049	0.1451	
15 minute winter	MHS20b	21.001	MHS20	28.0	1.148	0.498	0.5780	
15 minute summer	Node 17	23.000	MHS23a	0.0	0.000	0.000	0.0000	
120 minute winter	MHS23a	25.001	MHS13	-0.3	-0.021	-0.008	0.4900	
120 minute winter	FCC	1.017	MHS13a	21.5	0.810	0.077	1.9989	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	MHS4	14	49.948	1.183	48.4	0.8223	0.0000	SURCHARGED
15 minute winter	MHS15	15	49.977	0.557	9.2	0.6297	0.0000	SURCHARGED
15 minute winter	MHS16	15	49.961	0.911	14.6	1.0302	0.0000	SURCHARGED
15 minute winter	MHS17	14	49.949	1.085	26.3	1.2276	0.0000	SURCHARGED
15 minute winter	MHS7	14	49.944	1.319	104.3	2.5984	0.0000	SURCHARGED
15 minute winter	Node 2	15	49.969	0.818	12.6	0.0000	0.0000	SURCHARGED
15 minute winter	MHS28	15	49.969	0.569	3.5	0.1344	0.0000	SURCHARGED
15 minute winter	MHS6	14	49.946	1.276	105.7	26.2975	0.0000	SURCHARGED
15 minute winter	MHS8A	14	49.927	1.372	82.3	2.4242	0.0000	SURCHARGED
15 minute winter	MHS7a	13	50.027	0.427	34.6	0.4509	0.0000	SURCHARGED
15 minute winter	Node 6	13	50.027	0.281	2.5	0.0000	0.0000	SURCHARGED
15 minute winter	Node 7	13	50.027	0.375	1.9	0.0000	0.0000	SURCHARGED
15 minute summer	Node 8	1	50.250	0.000	0.0	0.0000	0.0000	OK
15 minute winter	Node 5	10	50.341	0.125	18.9	0.1548	0.0000	OK
15 minute winter	Node 3	14	49.957	0.941	12.6	0.2241	0.0000	SURCHARGED
15 minute winter	Node 4	14	49.953	1.009	18.4	0.0000	0.0000	SURCHARGED
15 minute winter	MHS8	14	49.909	1.394	99.9	2.4639	0.0000	SURCHARGED
15 minute winter	MHS9	14	49.888	1.388	105.7	2.4521	0.0000	SURCHARGED
15 minute winter	MHS29	13	49.862	1.415	120.8	3.7495	0.0000	SURCHARGED
15 minute winter	MHS30	13	49.804	1.413	131.5	2.8962	0.0000	SURCHARGED
15 minute winter	MHS31	13	49.772	1.395	138.5	2.8574	0.0000	SURCHARGED
15 minute winter	MHS10	13	49.709	1.364	192.7	4.4049	0.0000	SURCHARGED
15 minute winter	MHS11	12	49.122	0.922	262.8	2.8163	0.0000	SURCHARGED
15 minute winter	MHS25	10	49.654	0.054	10.1	0.0239	0.0000	OK
15 minute winter	MHS9d	13	50.336	0.436	27.7	0.7171	0.0000	FLOOD RISK
15 minute winter	MHS9c	13	50.074	1.374	30.4	1.5544	0.0000	SURCHARGED
15 minute winter	MHS9b	13	50.089	1.139	10.1	1.2383	0.0000	SURCHARGED
15 minute winter	Node 10	14	49.888	1.316	5.6	0.0000	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 winter	MHS4	5.000	MHS6	40.9	1.078	0.246	1.5062	
15 minute winter	MHS15	1.000	Node 2	-9.2	-0.578	-0.521	0.4741	
15 minute winter	MHS16	1.002	Node 4	-14.6	-0.829	-1.010	0.2803	
15 minute winter	MHS17	1.004	MHS7	21.4	0.810	1.086	0.3760	
15 minute winter	MHS7	1.005	MHS8A	78.9	0.715	0.788	3.0432	
15 minute winter	Node 2	1.001	MHS16	-12.0	-0.683	-0.721	0.2013	
15 minute winter	MHS28	2.000	Node 2	2.5	1.027	0.042	0.0404	
15 minute winter	MHS6	5.001	MHS7	-101.2	-0.918	-0.568	0.6254	
15 minute winter	MHS8A	1.006	MHS8	86.5	0.784	0.819	1.5643	
15 minute winter	MHS7a	6.001	MHS8A	32.8	1.861	2.133	0.1172	
15 minute winter	Node 6	6.000	MHS7a	2.7	-0.170	0.137	0.2057	
15 minute winter	Node 7	7.000	MHS7a	3.1	0.243	0.157	0.0732	
15 minute summer	Node 8	8.000	MHS8A	0.0	0.000	0.000	0.0000	
15 minute winter	Node 5	4.000	MHS17	18.6	1.236	0.938	0.1100	
15 minute winter	Node 3	3.000	Node 4	11.7	1.054	0.589	0.1018	
15 minute winter	Node 4	1.003	MHS17	16.9	0.961	0.748	0.0871	
15 minute winter	MHS8	1.007	MHS9	103.5	0.938	1.153	0.8085	
15 minute winter	MHS9	1.008	MHS29	109.4	0.992	1.087	2.2788	
15 minute winter	MHS29	1.009	MHS30	126.8	1.149	1.251	2.3768	
15 minute winter	MHS30	1.010	MHS31	136.0	1.233	1.363	0.6124	
15 minute winter	MHS31	1.011	MHS10	143.4	1.300	1.421	1.3700	
15 minute winter	MHS10	1.012	MHS11	195.1	1.769	1.929	6.1755	
15 minute winter	MHS11	1.013	MHS11a	262.9	2.383	2.614	3.1891	
15 minute winter	MHS25	19.000	MHS11	10.0	0.727	0.276	0.3960	
15 minute winter	MHS9d	9.000	MHS9c	25.4	1.494	0.633	0.4212	
15 minute winter	MHS9c	9.001	MHS8	23.5	1.338	0.889	0.1475	
15 minute winter	MHS9b	10.000	MHS9c	7.6	0.609	0.314	0.2397	
15 minute winter	Node 10	11.000	MHS9	-5.6	-0.147	-0.108	0.2812	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Node 9	1	50.233	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Node 15	1	50.231	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Node 14	1	50.251	0.000	0.0	0.0000	0.0000	OK
15 minute winter	Node 13	13	49.807	1.291	4.4	0.0000	0.0000	SURCHARGED
15 minute summer	Node 16	11	50.300	1.829	49.6	1.7467	0.0000	FLOOD RISK
15 minute winter	MH11a	12	47.348	0.748	262.9	1.3214	0.0000	SURCHARGED
15 minute winter	Node 11	13	49.864	0.689	9.1	0.0000	0.0000	SURCHARGED
15 minute winter	Node 12	13	49.863	0.688	3.8	0.0000	0.0000	SURCHARGED
120 minute winter	MHS13	118	47.282	0.822	181.2	431.9747	0.0000	SURCHARGED
120 minute winter	MHS13a	118	46.210	0.110	31.2	0.1942	0.0000	OK
120 minute winter	Outfall	118	46.158	0.105	31.2	0.0000	0.0000	OK
15 minute winter	MHS18	12	49.179	0.579	60.3	1.4009	0.0000	SURCHARGED
15 minute winter	MHS20	12	48.763	0.838	90.5	0.9477	0.0000	SURCHARGED
15 minute winter	MHS20c	12	48.151	0.715	93.6	0.8089	0.0000	SURCHARGED
15 minute winter	MHS26	10	50.230	0.080	12.6	0.0569	0.0000	OK
15 minute winter	MHS27	10	49.843	0.068	12.5	0.0120	0.0000	OK
15 minute winter	MHS20a	11	49.320	0.920	52.8	1.8428	2.0228	FLOOD
15 minute winter	MHS20b	12	48.884	0.684	41.5	0.7736	0.0000	SURCHARGED
15 minute summer	Node 17	1	48.960	0.000	0.0	0.0000	0.0000	OK
120 minute winter	MHS23a	116	47.283	0.483	1.1	0.5458	0.0000	SURCHARGED
120 minute winter	FCC	118	46.469	0.119	31.2	0.2105	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	Node 9	12.000	MHS9	0.0	0.000	0.000	0.0000	
15 minute summer	Node 15	17.000	MHS31	0.0	0.000	0.000	0.0000	
15 minute summer	Node 14	16.000	MHS30	0.0	0.000	0.000	0.0000	
15 minute winter	Node 13	15.000	MHS30	-4.4	-0.252	-0.250	0.2196	
15 minute summer	Node 16	18.000	MHS10	44.7	2.540	2.519	0.2217	
15 minute winter	MH11a	1.014	MHS13	264.1	2.849	1.698	2.5437	
15 minute winter	Node 11	13.000	MHS29	-9.1	-0.229	-0.127	0.4893	
15 minute winter	Node 12	14.000	MHS29	-3.8	0.116	-0.032	0.1854	
120 minute winter	MHS13	Orifice	FCC	31.2				
120 minute winter	MHS13a	1.018	Outfall	31.2	0.984	0.091	0.2973	455.7
15 minute winter	MHS18	20.000	MHS20	53.9	1.526	0.797	1.5949	
15 minute winter	MHS20	20.001	MHS20c	83.0	2.086	0.985	0.7455	
15 minute winter	MHS20c	24.002	MHS13	93.7	2.357	1.216	1.3652	
15 minute winter	MHS26	22.000	MHS27	12.5	1.444	0.503	0.1671	
15 minute winter	MHS27	22.001	MHS20c	12.3	1.658	0.376	0.0901	
15 minute winter	MHS20a	21.000	MHS20b	41.5	2.357	1.562	0.1585	
15 minute winter	MHS20b	21.001	MHS20	36.7	1.117	0.653	0.9392	
15 minute summer	Node 17	23.000	MHS23a	0.0	0.000	0.000	0.0000	
120 minute winter	MHS23a	25.001	MHS13	-1.1	-0.089	-0.029	0.8002	
120 minute winter	FCC	1.017	MHS13a	31.2	0.899	0.112	2.6085	