

Design Settings

Rainfall Methodology	FEH-13	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.025	5.00	43.018	1350	505825.613	119255.110	1.618
1A	0.047	5.00	42.700	1350	505804.052	119256.194	2.200
2	0.059	5.00	41.907	1350	505799.250	119235.196	2.907
12	0.039	5.00	40.659	1350	505785.575	119220.078	1.859
3	0.030	5.00	41.812	1800	505804.710	119229.618	3.212
13	0.063	5.00	43.990	1350	505876.291	119234.561	1.790
15	0.067	5.00	43.617	1350	505876.558	119204.843	1.517
14	0.012	5.00	43.775	1350	505875.982	119217.527	1.775
4	0.098	5.00	41.274	1800	505818.657	119203.617	2.849
5	0.124	5.00	40.884	1350	505818.002	119154.701	3.334
6	0.075	5.00	39.998	1350	505780.507	119159.437	2.598
7	0.000	5.00	38.500	1350	505781.749	119144.946	1.400
16	0.058	5.00	42.250	1350	505877.422	119138.534	1.650
22	0.014	5.00	41.564	1350	505877.271	119112.376	2.064
17	0.020	5.00	41.936	1350	505877.838	119124.761	2.611
17A	0.025	5.00	41.470	1350	505851.009	119126.571	2.504
18	0.036	5.00	40.957	1350	505819.921	119128.669	2.407
23	0.036	5.00	39.420	1350	505853.765	119069.256	2.020
24	0.070	5.00	38.360	1500	505811.982	119076.545	1.310
19	0.064	5.00	39.696	1500	505818.468	119100.257	2.836
20	0.007	5.00	39.500	1500	505804.182	119102.802	2.690
21	0.000	5.00	38.500	1350	505796.371	119112.124	1.735
8	0.000	5.00	38.500	1350	505784.316	119138.008	1.800
9	0.000	5.00	38.500	1350	505779.989	119135.463	1.810
10	0.000	5.00	38.900	1500	505771.972	119132.379	2.225
11	0.000		38.500	1350	505754.448	119137.347	1.900

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	1	2	33.039	0.600	41.400	39.000	2.400	13.8	225	5.16	50.0
8.000	1A	2	21.540	0.600	40.500	39.000	1.500	14.4	225	5.10	50.0
1.001	2	3	7.805	0.600	39.000	38.675	0.325	24.0	225	5.20	50.0
2.000	12	3	21.381	0.600	38.800	38.675	0.125	171.0	225	5.36	50.0
1.002	3	4	29.505	0.600	38.600	38.425	0.175	168.6	300	5.76	50.0
3.000	13	14	17.037	0.600	42.200	42.000	0.200	85.2	225	5.20	50.0
4.000	15	14	12.697	0.600	42.100	42.000	0.100	127.0	225	5.18	50.0
3.001	14	4	58.989	0.600	42.000	38.500	3.500	16.9	225	5.51	50.0
1.003	4	5	48.921	0.600	38.425	37.625	0.800	61.2	300	6.17	50.0
1.004	5	6	33.474	0.600	37.550	37.400	0.150	223.2	375	6.63	50.0
1.005	6	7	13.293	0.600	37.400	37.100	0.300	44.3	375	6.71	50.0
1.006	7	8	7.645	0.600	37.100	36.700	0.400	19.1	375	6.74	50.0
5.000	16	17	13.779	0.600	40.600	39.400	1.200	11.5	225	5.06	50.0
6.000	22	17	12.398	0.600	39.500	39.400	0.100	124.0	225	5.18	50.0
5.001	17	17A	58.049	0.600	39.325	38.966	0.359	161.7	300	5.96	50.0
5.001a	17A	18	31.159	0.600	38.966	38.550	0.416	74.9	300	6.25	50.0
5.002	18	19	28.449	0.600	38.550	36.860	1.690	16.8	300	6.37	50.0
7.000	23	24	44.295	0.600	37.400	37.050	0.350	126.6	300	5.53	50.0
7.001	24	20	24.631	0.600	37.050	36.935	0.115	214.2	300	5.91	50.0
5.003	19	20	14.511	0.600	36.860	36.810	0.050	290.2	375	6.60	50.0
5.004	20	21	12.162	0.600	36.810	36.765	0.045	270.3	375	6.78	50.0
5.005	21	8	28.554	0.600	36.765	36.700	0.065	439.3	375	7.34	50.0
1.007	8	9	5.020	0.600	36.700	36.690	0.010	502.0	525	7.42	50.0
1.008	9	10	8.590	0.600	36.690	36.675	0.015	572.7	525	7.58	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)
1.000	3.545	140.9	4.5	1.393	2.682	0.025	0.0	28	1.644
8.000	3.471	138.0	8.5	1.975	2.682	0.047	0.0	37	1.936
1.001	2.681	106.6	23.7	2.682	2.912	0.131	0.0	72	2.164
2.000	0.997	39.6	7.0	1.634	2.912	0.039	0.0	64	0.754
1.002	1.208	85.4	36.1	2.912	2.549	0.200	0.0	136	1.159
3.000	1.417	56.4	11.4	1.565	1.550	0.063	0.0	68	1.113
4.000	1.159	46.1	12.1	1.292	1.550	0.067	0.0	79	0.981
3.001	3.202	127.3	25.7	1.550	2.549	0.142	0.0	68	2.518
1.003	2.014	142.3	79.5	2.549	2.959	0.440	0.0	160	2.067
1.004	1.209	133.5	101.9	2.959	2.223	0.564	0.0	246	1.326
1.005	2.728	301.3	115.5	2.223	1.025	0.639	0.0	161	2.554
1.006	4.160	459.5	115.5	1.025	1.425	0.639	0.0	128	3.490
5.000	3.883	154.4	10.5	1.425	2.311	0.058	0.0	39	2.227
6.000	1.173	46.6	2.5	1.839	2.311	0.014	0.0	36	0.632
5.001	1.234	87.2	16.6	2.311	2.204	0.092	0.0	88	0.955
5.001a	1.818	128.5	21.1	2.204	2.107	0.117	0.0	82	1.353
5.002	3.850	272.1	27.6	2.107	2.536	0.153	0.0	64	2.505
7.000	1.396	98.7	6.5	1.720	1.010	0.036	0.0	52	0.799
7.001	1.070	75.6	19.2	1.010	2.265	0.106	0.0	103	0.898
5.003	1.058	116.9	39.2	2.461	2.315	0.217	0.0	149	0.956
5.004	1.097	121.2	59.6	2.315	1.360	0.330	0.0	186	1.093
5.005	0.858	94.7	59.6	1.360	1.425	0.330	0.0	216	0.905
1.007	0.993	214.9	175.1	1.275	1.285	0.969	0.0	362	1.101
1.008	0.929	201.0	175.1	1.285	1.700	0.969	0.0	381	1.040

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)
1.009	10	11	18.215	0.600	36.675	36.600	0.075	242.9	525	7.79	49.5

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)
1.009	1.433	310.1	173.3	1.700	1.375	0.969	0.0	281	1.470

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	33.039	13.8	225	Circular_Default Sewer Type	43.018	41.400	1.393	41.907	39.000	2.682
8.000	21.540	14.4	225	Circular_Default Sewer Type	42.700	40.500	1.975	41.907	39.000	2.682
1.001	7.805	24.0	225	Circular_Default Sewer Type	41.907	39.000	2.682	41.812	38.675	2.912
2.000	21.381	171.0	225	Circular_Default Sewer Type	40.659	38.800	1.634	41.812	38.675	2.912
1.002	29.505	168.6	300	Circular_Default Sewer Type	41.812	38.600	2.912	41.274	38.425	2.549
3.000	17.037	85.2	225	Circular_Default Sewer Type	43.990	42.200	1.565	43.775	42.000	1.550
4.000	12.697	127.0	225	Circular_Default Sewer Type	43.617	42.100	1.292	43.775	42.000	1.550
3.001	58.989	16.9	225	Circular_Default Sewer Type	43.775	42.000	1.550	41.274	38.500	2.549
1.003	48.921	61.2	300	Circular_Default Sewer Type	41.274	38.425	2.549	40.884	37.625	2.959
1.004	33.474	223.2	375	Circular_Default Sewer Type	40.884	37.550	2.959	39.998	37.400	2.223
1.005	13.293	44.3	375	Circular_Default Sewer Type	39.998	37.400	2.223	38.500	37.100	1.025
1.006	7.645	19.1	375	Circular_Default Sewer Type	38.500	37.100	1.025	38.500	36.700	1.425
5.000	13.779	11.5	225	Circular_Default Sewer Type	42.250	40.600	1.425	41.936	39.400	2.311
6.000	12.398	124.0	225	Circular_Default Sewer Type	41.564	39.500	1.839	41.936	39.400	2.311
5.001	58.049	161.7	300	Circular_Default Sewer Type	41.936	39.325	2.311	41.470	38.966	2.204
5.001a	31.159	74.9	300	Circular_Default Sewer Type	41.470	38.966	2.204	40.957	38.550	2.107
5.002	28.449	16.8	300	Circular_Default Sewer Type	40.957	38.550	2.107	39.696	36.860	2.536
7.000	44.295	126.6	300	Circular_Default Sewer Type	39.420	37.400	1.720	38.360	37.050	1.010
7.001	24.631	214.2	300	Circular_Default Sewer Type	38.360	37.050	1.010	39.500	36.935	2.265

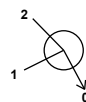
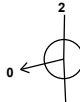
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1350	Manhole	Adoptable	2	1350	Manhole	Adoptable
8.000	1A	1350	Manhole	Adoptable	2	1350	Manhole	Adoptable
1.001	2	1350	Manhole	Adoptable	3	1800	Manhole	Adoptable
2.000	12	1350	Manhole	Adoptable	3	1800	Manhole	Adoptable
1.002	3	1800	Manhole	Adoptable	4	1800	Manhole	Adoptable
3.000	13	1350	Manhole	Adoptable	14	1350	Manhole	Adoptable
4.000	15	1350	Manhole	Adoptable	14	1350	Manhole	Adoptable
3.001	14	1350	Manhole	Adoptable	4	1800	Manhole	Adoptable
1.003	4	1800	Manhole	Adoptable	5	1350	Manhole	Adoptable
1.004	5	1350	Manhole	Adoptable	6	1350	Manhole	Adoptable
1.005	6	1350	Manhole	Adoptable	7	1350	Manhole	Adoptable
1.006	7	1350	Manhole	Adoptable	8	1350	Manhole	Adoptable
5.000	16	1350	Manhole	Adoptable	17	1350	Manhole	Adoptable
6.000	22	1350	Manhole	Adoptable	17	1350	Manhole	Adoptable
5.001	17	1350	Manhole	Adoptable	17A	1350	Manhole	Adoptable
5.001a	17A	1350	Manhole	Adoptable	18	1350	Manhole	Adoptable
5.002	18	1350	Manhole	Adoptable	19	1500	Manhole	Adoptable
7.000	23	1350	Manhole	Adoptable	24	1500	Manhole	Adoptable
7.001	24	1500	Manhole	Adoptable	20	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)
5.003	14.511	290.2	375	Circular_Default Sewer Type	39.696	36.860	2.461	39.500	36.810	2.315
5.004	12.162	270.3	375	Circular_Default Sewer Type	39.500	36.810	2.315	38.500	36.765	1.360
5.005	28.554	439.3	375	Circular_Default Sewer Type	38.500	36.765	1.360	38.500	36.700	1.425
1.007	5.020	502.0	525	Circular_Default Sewer Type	38.500	36.700	1.275	38.500	36.690	1.285
1.008	8.590	572.7	525	Circular_Default Sewer Type	38.500	36.690	1.285	38.900	36.675	1.700
1.009	18.215	242.9	525	Circular_Default Sewer Type	38.900	36.675	1.700	38.500	36.600	1.375

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
5.003	19	1500	Manhole	Adoptable	20	1500	Manhole	Adoptable
5.004	20	1500	Manhole	Adoptable	21	1350	Manhole	Adoptable
5.005	21	1350	Manhole	Adoptable	8	1350	Manhole	Adoptable
1.007	8	1350	Manhole	Adoptable	9	1350	Manhole	Adoptable
1.008	9	1350	Manhole	Adoptable	10	1500	Manhole	Adoptable
1.009	10	1500	Manhole	Adoptable	11	1350	Manhole	Adoptable

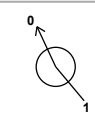
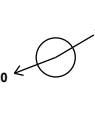
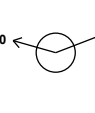
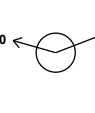
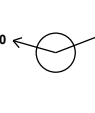
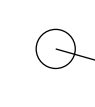
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	505825.613	119255.110	43.018	1.618	1350		0	1.000	41.400	225
1A	505804.052	119256.194	42.700	2.200	1350		0	8.000	40.500	225
2	505799.250	119235.196	41.907	2.907	1350		1 2 0	8.000 1.000 1.001	39.000 39.000 39.000	225 225 225
12	505785.575	119220.078	40.659	1.859	1350		0	2.000	38.800	225
3	505804.710	119229.618	41.812	3.212	1800		1 2 0	2.000 1.001 1.002	38.675 38.675 38.600	225 225 300
13	505876.291	119234.561	43.990	1.790	1350		0	3.000	42.200	225
15	505876.558	119204.843	43.617	1.517	1350		0	4.000	42.100	225
14	505875.982	119217.527	43.775	1.775	1350		1 2 0	4.000 3.000 3.001	42.000 42.000 42.000	225 225 225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
4	505818.657	119203.617	41.274	2.849	1800	1 2 0 1 2 0	1.002 3.001 1.003	38.425 38.500 38.425	300 225 300
5	505818.002	119154.701	40.884	3.334	1350	1 0 1 0	1.003 1.004	37.625 37.550	300 375
6	505780.507	119159.437	39.998	2.598	1350	1 0 1 0	1.004 1.005	37.400 37.400	375 375
7	505781.749	119144.946	38.500	1.400	1350	1 0 1 0	1.005 1.006	37.100 37.100	375 375
16	505877.422	119138.534	42.250	1.650	1350	0 0	5.000	40.600	225
22	505877.271	119112.376	41.564	2.064	1350	0 0	6.000	39.500	225
17	505877.838	119124.761	41.936	2.611	1350	2 0 1 1 2 0	6.000 5.000 5.001	39.400 39.400 39.325	225 225 300
17A	505851.009	119126.571	41.470	2.504	1350	0 1 1 0	5.001 5.001a	38.966 38.966	300 300
18	505819.921	119128.669	40.957	2.407	1350	1 0 1 0	5.001a 5.002	38.550 38.550	300 300
23	505853.765	119069.256	39.420	2.020	1350	0 0	7.000	37.400	300
24	505811.982	119076.545	38.360	1.310	1500	0 1 1 0	7.000 7.001	37.050 37.050	300 300
19	505818.468	119100.257	39.696	2.836	1500	1 0 1 0	5.002 5.003	36.860 36.860	300 375
20	505804.182	119102.802	39.500	2.690	1500	0 2 1 1 2 0	7.001 5.003 5.004	36.935 36.810 36.810	300 375 375

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
21	505796.371	119112.124	38.500	1.735	1350		1	5.004	36.765	375
8	505784.316	119138.008	38.500	1.800	1350		0	5.005	36.765	375
							1	1.006	36.700	375
							2	5.005	36.700	375
							0	1.007	36.700	525
9	505779.989	119135.463	38.500	1.810	1350		1	1.007	36.690	525
10	505771.972	119132.379	38.900	2.225	1500		0	1.008	36.690	525
							1	1.008	36.675	525
							0	1.009	36.675	525
11	505754.448	119137.347	38.500	1.900	1350		1	1.009	36.600	525

Simulation Settings

Rainfall Methodology	FEH-13	Skip Steady State	✓	2 year (l/s)	6.1
Rainfall Events	Singular	Drain Down Time (mins)	240	30 year (l/s)	13.8
Summer CV	1.000	Additional Storage (m³/ha)	20.0	100 year (l/s)	19.4
Winter CV	1.000	Starting Level (m)		Check Discharge Volume	✓
Analysis Speed	Normal	Check Discharge Rate(s)	✓	100 year 360 minute (m³)	

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)	1.600	Betterment (%)	0
SAAR (mm)	975	QBar	0.4
Soil Index	1	Q 2 year (l/s)	0.4
SPR	0.10	Q 30 year (l/s)	0.8
Region	1	Q 100 year (l/s)	1.0
Growth Factor 2 year	0.90		

Pre-development Discharge Volume

Site Makeup	Greenfield	Return Period (years)	100
Greenfield Method	FSR/FEH	Climate Change (%)	0
Positively Drained Area (ha)	1.600	Storm Duration (mins)	360
Soil Index	1	Betterment (%)	0
SPR	0.10	PR	
CWI		Runoff Volume (m ³)	

Node 10 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	36.675	Product Number	CTL-SHE-0093-4900-1800-4900
Design Depth (m)	1.800	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	4.9	Min Node Diameter (mm)	1200

Node 8 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	36.700
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

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	112.0	0.0	1.000	716.0	0.0	1.600	1140.0	0.0
0.700	371.0	0.0	1.200	979.0	0.0	1.601	0.1	0.0

Node 24 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.050	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.500
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node 23 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	37.400	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.500
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node 12 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	38.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	12

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	96.0	0.0	0.500	96.0	0.0	0.501	0.1	0.0

Node 12 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	38.800	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	11	Depth (m)	0.500
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node 1A Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	40.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.50	Time to half empty (mins)	0

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	21.0	0.0	0.500	88.0	0.0	0.501	0.1	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.41%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	41.428	0.028	4.7	0.0487	0.0000	OK
15 minute summer	1A	11	40.538	0.038	8.9	0.5186	0.0000	OK
15 minute summer	2	11	39.080	0.080	24.3	0.1474	0.0000	OK
120 minute summer	12	72	38.836	0.036	3.7	3.4128	0.0000	OK
15 minute summer	3	11	38.726	0.126	30.1	0.3443	0.0000	OK
15 minute summer	13	10	42.273	0.073	12.0	0.1561	0.0000	OK
15 minute summer	15	10	42.185	0.085	12.7	0.1966	0.0000	OK
15 minute summer	14	10	42.069	0.069	26.7	0.1086	0.0000	OK
15 minute summer	4	11	38.583	0.158	74.2	0.5101	0.0000	OK
15 minute summer	5	11	37.791	0.241	97.1	0.5250	0.0000	OK
15 minute summer	6	11	37.580	0.180	110.9	0.3619	0.0000	OK
600 minute winter	7	525	37.420	0.320	16.2	0.4577	0.0000	OK
15 minute summer	16	10	40.642	0.042	11.0	0.0892	0.0000	OK
15 minute summer	22	10	39.537	0.037	2.7	0.0581	0.0000	OK
15 minute summer	17	10	39.416	0.091	17.3	0.1446	0.0000	OK
15 minute summer	17A	11	39.055	0.089	21.6	0.1445	0.0000	OK
15 minute summer	18	11	38.615	0.065	28.2	0.1121	0.0000	OK
15 minute summer	23	11	37.452	0.052	6.8	0.2952	0.0000	OK
600 minute winter	24	570	37.420	0.370	2.4	5.8509	0.0000	SURCHARGED
600 minute winter	19	570	37.420	0.560	5.1	1.2418	0.0000	SURCHARGED
600 minute winter	20	570	37.420	0.610	6.8	1.1093	0.0000	SURCHARGED
600 minute winter	21	570	37.420	0.655	6.2	0.9370	0.0000	SURCHARGED
600 minute winter	8	525	37.420	0.720	37.8	177.6579	0.0000	SURCHARGED
600 minute winter	9	510	37.421	0.731	14.3	1.0461	0.0000	SURCHARGED
600 minute winter	10	510	37.416	0.741	10.3	1.3097	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	1	1.000	2	4.7	0.647	0.033	0.2556	
15 minute summer	1A	8.000	2	8.6	1.037	0.062	0.1843	
15 minute summer	2	1.001	3	24.1	2.032	0.226	0.0925	
120 minute summer	12	2.000	3	2.1	0.531	0.053	0.0850	
15 minute summer	3	1.002	4	30.3	0.923	0.355	0.9681	
15 minute summer	13	3.000	14	11.9	1.102	0.211	0.1835	
15 minute summer	15	4.000	14	12.6	1.045	0.273	0.1528	
15 minute summer	14	3.001	4	26.4	2.408	0.208	0.6946	
15 minute summer	4	1.003	5	74.8	1.934	0.525	1.8991	
15 minute summer	5	1.004	6	97.3	1.526	0.729	2.1302	
15 minute summer	6	1.005	7	110.6	2.413	0.367	0.6099	
600 minute winter	7	1.006	8	32.2	1.423	0.070	0.8045	
15 minute summer	16	5.000	17	10.9	2.209	0.071	0.0682	
15 minute summer	22	6.000	17	2.6	0.626	0.056	0.0517	
15 minute summer	17	5.001	17A	17.1	0.973	0.197	1.0255	
15 minute summer	17A	5.001a	18	21.7	1.530	0.169	0.4445	
15 minute summer	18	5.002	19	28.2	1.069	0.104	0.7829	
15 minute summer	23	7.000	24	6.4	0.472	0.065	0.6339	
600 minute winter	24	7.001	20	2.4	0.446	0.031	1.7345	
600 minute winter	19	5.003	20	5.2	0.350	0.044	1.6005	
600 minute winter	20	5.004	21	6.2	0.367	0.051	1.3414	
600 minute winter	21	5.005	8	5.8	0.424	0.062	3.1494	
600 minute winter	8	1.007	9	14.2	0.226	0.066	1.0845	
600 minute winter	9	1.008	10	10.3	0.154	0.051	1.8557	
600 minute winter	10	Hydro-Brake®	11	4.3				180.2

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.41%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	11	1	36.600	0.000	4.3	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)
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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.41%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	41.444	0.044	12.2	0.0774	0.0000	OK
15 minute summer	1A	10	40.561	0.061	22.9	0.8776	0.0000	OK
15 minute summer	2	11	39.234	0.234	63.1	0.4300	0.0000	SURCHARGED
15 minute summer	12	14	38.931	0.131	55.8	13.3779	0.0000	OK
15 minute summer	3	11	39.095	0.495	71.2	1.3514	0.0000	SURCHARGED
15 minute summer	13	10	42.327	0.127	30.7	0.2705	0.0000	OK
15 minute summer	15	10	42.249	0.149	32.6	0.3442	0.0000	OK
15 minute summer	14	10	42.116	0.116	68.6	0.1823	0.0000	OK
15 minute summer	4	11	39.071	0.646	167.8	2.0882	0.0000	SURCHARGED
15 minute summer	5	11	38.125	0.575	200.2	1.2501	0.0000	SURCHARGED
720 minute winter	6	705	37.821	0.421	24.5	0.8465	0.0000	SURCHARGED
720 minute winter	7	705	37.822	0.722	24.3	1.0327	0.0000	SURCHARGED
15 minute summer	16	10	40.666	0.066	28.2	0.1402	0.0000	OK
15 minute summer	22	10	39.559	0.059	6.8	0.0925	0.0000	OK
15 minute summer	17	10	39.480	0.155	44.6	0.2451	0.0000	OK
15 minute summer	17A	11	39.116	0.150	56.0	0.2442	0.0000	OK
15 minute summer	18	11	38.655	0.105	72.7	0.1820	0.0000	OK
720 minute winter	23	705	37.821	0.421	1.4	6.3269	0.0000	SURCHARGED
720 minute winter	24	705	37.821	0.771	3.9	8.9500	0.0000	SURCHARGED
720 minute winter	19	705	37.821	0.961	8.3	2.1323	0.0000	SURCHARGED
720 minute winter	20	705	37.821	1.011	10.7	1.8397	0.0000	SURCHARGED
720 minute winter	21	705	37.821	1.056	10.6	1.5116	0.0000	SURCHARGED
720 minute winter	8	705	37.821	1.121	49.3	430.2952	0.0000	SURCHARGED
600 minute winter	9	585	37.823	1.133	10.1	1.6210	0.0000	SURCHARGED
600 minute winter	10	585	37.815	1.140	9.0	2.0153	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	1	1.000	2	12.1	0.770	0.086	0.7462	
15 minute summer	1A	8.000	2	22.3	1.220	0.161	0.5213	
15 minute summer	2	1.001	3	58.6	2.269	0.550	0.3104	
15 minute summer	12	2.000	3	-37.8	-1.238	-0.953	0.6750	
15 minute summer	3	1.002	4	64.5	1.143	0.756	2.0777	
15 minute summer	13	3.000	14	30.4	1.393	0.540	0.3724	
15 minute summer	15	4.000	14	32.3	1.329	0.701	0.3081	
15 minute summer	14	3.001	4	68.0	2.449	0.534	1.7836	
15 minute summer	4	1.003	5	142.6	2.026	1.002	3.4450	
15 minute summer	5	1.004	6	200.6	1.840	1.503	3.4781	
720 minute winter	6	1.005	7	24.3	1.588	0.081	1.4662	
720 minute winter	7	1.006	8	41.6	1.500	0.091	0.8432	
15 minute summer	16	5.000	17	28.1	2.637	0.182	0.1529	
15 minute summer	22	6.000	17	6.8	0.709	0.145	0.1292	
15 minute summer	17	5.001	17A	43.8	1.231	0.503	2.0672	
15 minute summer	17A	5.001a	18	56.0	1.967	0.436	0.8900	
15 minute summer	18	5.002	19	72.9	1.332	0.268	1.3147	
720 minute winter	23	7.000	24	1.3	0.245	0.013	3.1192	
720 minute winter	24	7.001	20	2.6	0.427	0.034	1.7345	
720 minute winter	19	5.003	20	8.1	0.321	0.069	1.6005	
720 minute winter	20	5.004	21	10.6	0.389	0.088	1.3414	
720 minute winter	21	5.005	8	10.6	0.423	0.112	3.1494	
720 minute winter	8	1.007	9	5.9	0.239	0.028	1.0845	
600 minute winter	9	1.008	10	9.0	0.147	0.045	1.8557	
600 minute winter	10	Hydro-Brake®	11	4.3				185.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.41%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	11	1	36.600	0.000	4.3	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)
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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.41%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	41.460	0.060	22.3	0.1047	0.0000	OK
15 minute summer	1A	12	40.638	0.138	42.0	2.3381	0.0000	OK
15 minute summer	2	12	40.604	1.604	111.5	2.9459	0.0000	SURCHARGED
30 minute summer	12	23	39.781	0.981	134.8	54.2689	0.0000	SURCHARGED
15 minute summer	3	12	40.275	1.675	118.9	4.5747	0.0000	SURCHARGED
15 minute summer	13	12	42.861	0.661	56.3	1.4119	0.0000	SURCHARGED
15 minute summer	15	12	42.845	0.745	59.8	1.7246	0.0000	SURCHARGED
15 minute summer	14	12	42.702	0.701	113.2	1.0993	0.0000	SURCHARGED
15 minute summer	4	12	40.272	1.847	190.0	5.9713	0.0000	SURCHARGED
30 minute summer	5	19	39.004	1.454	254.2	3.1619	0.0000	SURCHARGED
30 minute summer	6	19	38.331	0.931	310.2	1.8701	0.0000	SURCHARGED
1440 minute winter	7	1380	38.295	1.195	25.1	1.7104	0.0000	FLOOD RISK
15 minute summer	16	10	40.689	0.089	51.8	0.1905	0.0000	OK
15 minute summer	22	10	39.579	0.079	12.5	0.1233	0.0000	OK
15 minute summer	17	10	39.563	0.238	82.0	0.3774	0.0000	OK
15 minute summer	17A	11	39.186	0.220	102.2	0.3592	0.0000	OK
30 minute summer	18	20	38.740	0.190	125.3	0.3291	0.0000	OK
30 minute summer	23	20	38.300	0.900	70.2	8.3716	0.0000	SURCHARGED
1440 minute winter	24	1410	38.295	1.245	4.0	10.2931	0.0000	FLOOD RISK
30 minute summer	19	20	38.306	1.446	175.4	3.2080	0.0000	SURCHARGED
1440 minute winter	20	1410	38.295	1.485	12.5	2.7010	0.0000	SURCHARGED
1440 minute winter	21	1410	38.295	1.530	12.5	2.1892	0.0000	FLOOD RISK
1440 minute winter	8	1410	38.295	1.595	37.4	921.7383	0.0000	FLOOD RISK
1440 minute winter	9	1410	38.294	1.604	7.9	2.2952	0.0000	FLOOD RISK
1440 minute winter	10	1380	38.295	1.620	9.8	2.8631	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	1	1.000	2	22.2	0.782	0.157	0.7976	
15 minute summer	1A	8.000	2	37.1	1.203	0.269	0.7026	
15 minute summer	2	1.001	3	89.4	2.301	0.839	0.3104	
30 minute summer	12	2.000	3	-105.7	-2.657	-2.666	0.8503	
15 minute summer	3	1.002	4	88.3	1.480	1.035	2.0777	
15 minute summer	13	3.000	14	51.5	1.503	0.914	0.6776	
15 minute summer	15	4.000	14	51.5	1.420	1.118	0.5050	
15 minute summer	14	3.001	4	106.5	2.767	0.836	2.3461	
15 minute summer	4	1.003	5	172.2	2.445	1.210	3.4450	
30 minute summer	5	1.004	6	251.5	2.281	1.884	3.6921	
30 minute summer	6	1.005	7	306.3	2.777	1.017	1.4662	
1440 minute winter	7	1.006	8	25.6	0.950	0.056	0.8432	
15 minute summer	16	5.000	17	51.7	2.730	0.335	0.3133	
15 minute summer	22	6.000	17	12.4	0.697	0.266	0.2677	
15 minute summer	17	5.001	17A	80.4	1.400	0.922	3.3424	
15 minute summer	17A	5.001a	18	103.0	2.128	0.801	1.5707	
30 minute summer	18	5.002	19	122.9	1.954	0.451	1.6713	
30 minute summer	23	7.000	24	-40.6	-0.637	-0.411	3.1192	
1440 minute winter	24	7.001	20	3.9	0.371	0.052	1.7345	
30 minute summer	19	5.003	20	162.5	1.473	1.390	1.6005	
1440 minute winter	20	5.004	21	12.5	0.387	0.103	1.3414	
1440 minute winter	21	5.005	8	12.4	0.335	0.131	3.1494	
1440 minute winter	8	1.007	9	7.9	0.221	0.037	1.0845	
1440 minute winter	9	1.008	10	9.8	0.154	0.049	1.8557	
1440 minute winter	10	Hydro-Brake®	11	4.7				412.9

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.41%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	11	1	36.600	0.000	4.3	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)
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