Design Settings

Rainfall Methodology	FEH-22	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)	Depth (m)
SIC1	0.007	5.00	30.000	600	0.800
EXSMH	0.000		30.000	100	0.850

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	SIC1	EXSMH	5.000	0.600	29.200	29.150	0.050	100.0	100	5.11	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	0.769	6.0	1.3	0.700	0.750	0.007	0.0	31	0.605

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	5.000	100.0	100	Circular	30.000	29.200	0.700	30.000	29.150	0.750

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	SIC1	600	Manhole	Adoptable	EXSMH	100	Manhole	Adoptable

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SIC1	30.000	0.800	600	0	1.000	29.200	100
EXSMH	30.000	0.850	100	1	1.000	29.150	100

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Additional Storage (m³/ha)	0.0
Summer CV	1.000	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	1.000	Drain Down Time (mins)	10080	Check Discharge Volume	x

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	35	0	0
100	40	0	0

Node SIC1 Online Orifice Control

Flap Valve	x	Invert Level (m)	29.200	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Diameter (m)	0.025		

Node SIC1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	29.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	72

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	10.0	0.0	0.300	10.0	0.0	0.301	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	✓	Minimum Full Bore Velocity (m/s)	
Node Losses	✓	Maximum Full Bore Velocity (m/s)	3.000
Link Size	✓	Proportional Velocity	✓
Minimum Diameter (mm)	150	Return Period (years)	
Link Length	✓	Minimum Proportional Velocity (m/s)	0.750
Maximum Length (m)	100.000	Maximum Proportional Velocity (m/s)	3.000
Coordinates	✓	Surcharged Depth	✓
Accuracy (m)	1.000	Return Period (years)	
Crossings	✓	Maximum Surcharged Depth (m)	0.100
Cover Depth	✓	Flooding	✓
Minimum Cover Depth (m)		Return Period (years)	30
Maximum Cover Depth (m)	3.000	Time to Half Empty	x
Backdrops	✓	Discharge Rates	✓
Minimum Backdrop Height (m)		Discharge Volume	✓
Maximum Backdrop Height (m)	1.500	100 year 360 minute (m³)	
Full Bore Velocity	✓		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	103.552	29.302
2 year 15 minute winter	72.668	29.302
2 year 30 minute summer	66.619	18.851
2 year 30 minute winter	46.750	18.851
2 year 60 minute summer	43.991	11.625
2 year 60 minute winter	29.226	11.625
2 year 120 minute summer	32.696	8.641
2 year 120 minute winter	21.722	8.641
2 year 180 minute summer	26.819	6.901
2 year 180 minute winter	17.433	6.901
2 year 240 minute summer	21.824	5.767
2 year 240 minute winter	14.499	5.767
2 year 360 minute summer	16.930	4.357
2 year 360 minute winter	11.005	4.357
2 year 480 minute summer	13.296	3.514
2 year 480 minute winter	8.834	3.514
2 year 600 minute summer	10.814	2.958
2 year 600 minute winter	7.389	2.958
2 year 720 minute summer	9.564	2.563
2 year 720 minute winter	6.427	2.563
2 year 960 minute summer	7.745	2.040
2 year 960 minute winter	5.131	2.040
2 year 1440 minute summer	5.491	1.472
2 year 1440 minute winter	3.690	1.472
2 year 2160 minute summer	3.874	1.071
2 year 2160 minute winter	2.669	1.071
2 year 2880 minute summer	3.215	0.862
2 year 2880 minute winter	2.161	0.862
2 year 4320 minute summer	2.472	0.646
2 year 4320 minute winter	1.628	0.646
2 year 5760 minute summer	2.090	0.535
2 year 5760 minute winter	1.353	0.535
2 year 7200 minute summer	1.831	0.467
2 year 7200 minute winter	1.182	0.467
2 year 8640 minute summer	1.652	0.421
2 year 8640 minute winter	1.066	0.421
2 year 10080 minute summer	1.523	0.389
2 year 10080 minute winter	0.983	0.389
30 year +35% CC 15 minute summer	405.507	114.745
30 year +35% CC 15 minute winter	284.567	114.745
30 year +35% CC 30 minute summer	263.432	74.542
30 year +35% CC 30 minute winter	184.865	74.542
30 year +35% CC 60 minute summer	174.037	45.993
30 year +35% CC 60 minute winter	115.626	45.993
30 year +35% CC 120 minute summer	110.407	29.177
30 year +35% CC 120 minute winter	73.352	29.177
30 year +35% CC 180 minute summer	85.065	21.890
30 year +35% CC 180 minute winter	55.294	21.890
30 year +35% CC 240 minute summer	66.891	17.677
30 year +35% CC 240 minute winter	44.440	17.677
30 year +35% CC 360 minute summer	50.075	12.886
30 year +35% CC 360 minute winter	32.550	12.886

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year +35% CC 480 minute summer	38.539	10.185
30 year +35% CC 480 minute winter	25.605	10.185
30 year +35% CC 600 minute summer	30.895	8.451
30 year +35% CC 600 minute winter	21.110	8.451
30 year +35% CC 720 minute summer	27.012	7.240
30 year +35% CC 720 minute winter	18.154	7.240
30 year +35% CC 960 minute summer	21.476	5.655
30 year +35% CC 960 minute winter	14.226	5.655
30 year +35% CC 1440 minute summer	14.860	3.983
30 year +35% CC 1440 minute winter	9.987	3.983
30 year +35% CC 2160 minute summer	10.166	2.810
30 year +35% CC 2160 minute winter	7.005	2.810
30 year +35% CC 2880 minute summer	8.222	2.204
30 year +35% CC 2880 minute winter	5.526	2.204
30 year +35% CC 4320 minute summer	6.068	1.587
30 year +35% CC 4320 minute winter	3.996	1.587
30 year +35% CC 5760 minute summer	4.964	1.271
30 year +35% CC 5760 minute winter	3.213	1.271
30 year +35% CC 7200 minute summer	4.231	1.079
30 year +35% CC 7200 minute winter	2.731	1.079
30 year +35% CC 8640 minute summer	3.726	0.951
30 year +35% CC 8640 minute winter	2.405	0.951
30 year +35% CC 10080 minute summer	3.364	0.858
30 year +35% CC 10080 minute winter	2.171	0.858
100 year +40% CC 15 minute summer	541.480	153.220
100 year +40% CC 15 minute winter	379.986	153.220
100 year +40% CC 30 minute summer	354.963	100.442
100 year +40% CC 30 minute winter	249.096	100.442
100 year +40% CC 60 minute summer	236.126	62.401
100 year +40% CC 60 minute winter	156.876	62.401
100 year +40% CC 120 minute summer	147.760	39.049
100 year +40% CC 120 minute winter	98.168	39.049
100 year +40% CC 180 minute summer	113.772	29.277
100 year +40% CC 180 minute winter	73.955	29.277
100 year +40% CC 240 minute summer	89.625	23.685
100 year +40% CC 240 minute winter	59.545	23.685
100 year +40% CC 360 minute summer	67.396	17.343
100 year +40% CC 360 minute winter	43.809	17.343
100 year +40% CC 480 minute summer	52.066	13.760
100 year +40% CC 480 minute winter	34.592	13.760
100 year +40% CC 600 minute summer	41.810	11.436
100 year +40% CC 600 minute winter	28.567	11.436
100 year +40% CC 720 minute summer	36.570	9.801
100 year +40% CC 720 minute winter	24.577	9.801
100 year +40% CC 960 minute summer	29.009	7.639
100 year +40% CC 960 minute winter	19.216	7.639
100 year +40% CC 1440 minute summer	19.961	5.350
100 year +40% CC 1440 minute winter	13.415	5.350
100 year +40% CC 2160 minute summer	13.483	3.726
100 year +40% CC 2160 minute winter	9.290	3.726
100 year +40% CC 2880 minute summer	10.770	2.887
100 year +40% CC 2880 minute winter	7.238	2.887

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC 4320 minute summer	7.768	2.031
100 year +40% CC 4320 minute winter	5.115	2.031
100 year +40% CC 5760 minute summer	6.231	1.595
100 year +40% CC 5760 minute winter	4.033	1.595
100 year +40% CC 7200 minute summer	5.229	1.334
100 year +40% CC 7200 minute winter	3.375	1.334
100 year +40% CC 8640 minute summer	4.546	1.160
100 year +40% CC 8640 minute winter	2.934	1.160
100 year +40% CC 10080 minute summer	4.060	1.036
100 year +40% CC 10080 minute winter	2.621	1.036

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	SIC1	74	29.258	0.058	0.6	0.5633	0.0000	OK
15 minute summer	EXSMH	1	29.150	0.000	0.2	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Discharge Vol (m³)
120 minute summer	SIC1	Orifice	EXSMH	0.3	1.3

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	SIC1	80	29.421	0.221	2.1	2.1601	0.0000	SURCHARGED
15 minute summer	EXSMH	1	29.150	0.000	0.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Discharge Vol (m³)
120 minute summer	SIC1	Orifice	EXSMH	0.6	4.1

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	SIC1	80	29.563	0.363	2.7	2.9574	0.0000	SURCHARGED
15 minute summer	EXSMH	1	29.150	0.000	0.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Discharge Vol (m³)
120 minute summer	SIC1	Orifice	EXSMH	0.8	5.5