

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	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	x
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)	Invert Level (m)
SW4	0.012	5.00	82.700	450	478383.604	168605.586	0.600	82.100
SW1	0.012	5.00	83.350	450	478367.568	168585.378	0.600	82.750
SW5	0.003	5.00	83.300	450	478388.159	168594.496	1.530	81.770
SW3	0.006	5.00	83.350	450	478387.926	168587.586	1.710	81.640
SW2	0.000	5.00	83.350	450	478375.444	168582.343	1.820	81.530
Outfall(S1)	0.000	5.00	83.300		478375.658	168580.370	1.790	81.510

Links (Input)

Name	US Node	DS Node	Length (m)	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)
2.000	SW4	SW5	11.992	82.100	81.770	0.330	36.3	150	Circular	5.12
1.002	SW5	SW3	6.922	81.770	81.640	0.130	53.2	150	Circular	5.20
1.001	SW3	SW2	12.413	81.640	81.530	0.110	112.8	150	Circular	5.42
3.000	SW2	Outfall(S1)	2.447	81.530	81.510	0.020	122.4	100	Circular	5.48
1.000	SW1	SW2	8.154	82.750	81.530	1.220	6.7	150	Circular	5.03

Simulation Settings

Rainfall Methodology	FEH-22	Skip Steady State	x	Check Discharge Rate(s)	x
Rainfall Events	Singular	Drain Down Time (mins)	240	Check Discharge Volume	x
Summer CV	1.000	Additional Storage (m³/ha)	20.0		
Analysis Speed	Normal	Starting Level (m)			

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	35	0	0				

Node SW2 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.940	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.2		
Invert Level (m)	81.530	Diameter (m)	0.024		

Node SW3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	81.650
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	172

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	24.0	24.0	0.750	24.0	37.0	0.751	0.0	37.0

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
15 minute summer	SW4	11	82.126	0.026	2.0	0.0148	0.0000	OK
15 minute summer	SW1	10	82.768	0.018	2.0	0.0098	0.0000	OK
15 minute summer	SW5	9	81.803	0.033	2.5	0.0066	0.0000	OK
180 minute summer	SW3	124	81.768	0.128	1.6	2.7235	0.0000	OK
180 minute summer	SW2	124	81.768	0.238	0.8	0.0378	0.0000	SURCHARGED
180 minute summer	Outfall(S1)	124	81.532	0.022	0.6	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 summer	SW4	2.000	SW5	2.0	0.821	0.068	0.0298	
15 minute summer	SW1	1.000	SW2	2.0	0.494	0.029	0.0765	
15 minute summer	SW5	1.002	SW3	2.5	0.933	0.104	0.0370	
180 minute summer	SW3	1.001	SW2	0.5	0.091	0.029	0.2084	
180 minute summer	SW2	3.000	Outfall(S1)	0.6	0.441	0.102	0.0031	6.5

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 99.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	SW4	148	82.212	0.112	2.6	0.0627	0.0000	OK
15 minute summer	SW1	10	82.785	0.035	8.2	0.0195	0.0000	OK
180 minute summer	SW5	148	82.212	0.442	3.3	0.0875	0.0000	SURCHARGED
180 minute summer	SW3	148	82.212	0.572	5.9	12.9584	0.0000	SURCHARGED
180 minute summer	SW2	148	82.212	0.682	2.6	0.1084	0.0000	SURCHARGED
180 minute summer	Outfall(S1)	148	81.539	0.029	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)
180 minute summer	SW4	2.000	SW5	2.6	0.747	0.088	0.1903	
15 minute summer	SW1	1.000	SW2	8.2	0.747	0.118	0.0844	
180 minute summer	SW5	1.002	SW3	3.0	0.486	0.125	0.1219	
180 minute summer	SW3	1.001	SW2	-1.6	0.102	-0.095	0.2185	
180 minute summer	SW2	3.000	Outfall(S1)	1.0	0.515	0.178	0.0046	18.3

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.04%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	SW4	118	82.516	0.416	4.7	0.2325	0.0000	FLOOD RISK
15 minute summer	SW1	10	82.790	0.040	10.9	0.0225	0.0000	OK
120 minute summer	SW5	118	82.516	0.746	5.9	0.1477	0.0000	SURCHARGED
120 minute summer	SW3	118	82.516	0.876	11.1	17.3233	0.0000	SURCHARGED
120 minute summer	SW2	118	82.515	0.985	4.7	0.1567	0.0000	SURCHARGED
120 minute summer	Outfall(S1)	118	81.541	0.031	1.2	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)
120 minute summer	SW4	2.000	SW5	4.7	0.770	0.159	0.2111	
15 minute summer	SW1	1.000	SW2	10.9	0.847	0.157	0.0872	
120 minute summer	SW5	1.002	SW3	5.4	0.609	0.222	0.1219	
120 minute summer	SW3	1.001	SW2	-3.4	-0.190	-0.201	0.2185	
120 minute summer	SW2	3.000	Outfall(S1)	1.2	0.542	0.215	0.0053	18.8