

Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	45	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	x
CV	1.000	Connection Type	Level Soffits		
Time of Entry (mins)	5.00	Minimum Backdrop Height (m)	1.000		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Depth (m)	Invert Level (m)
RP1	0.028	5.00	6.274	0.524	5.750
Tank 1		5.00	6.500	0.900	5.600
PPCP1			6.292	0.742	5.550
SIC1			6.293	0.933	5.360
SIC2	0.014	5.00	6.204	1.059	5.145
SIC3	0.013	5.00	5.479	0.669	4.810
PPCP2	0.004	5.00	5.431	0.711	4.720
Swale In 1	0.009	5.00	5.500	0.800	4.700
Swale Out 1			5.300	0.700	4.600
Tank 2		5.00	5.241	0.991	4.250
PPCP3			5.239	1.039	4.200
SCP1			5.227	1.096	4.131

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)
1.000	RP1	PPCP1	18.822	0.600	5.750	5.550	0.200	94.1	150	Circular	5.30
2.000	Tank 1	PPCP1	6.475	0.600	5.600	5.550	0.050	129.5	150	Circular	5.12
1.001	PPCP1	SIC1	27.731	0.600	5.550	5.360	0.190	146.0	150	Circular	5.86
1.002	SIC1	SIC2	32.292	0.600	5.360	5.145	0.215	150.2	150	Circular	6.52
1.003	SIC2	SIC3	50.129	0.600	5.145	4.810	0.335	149.6	150	Circular	7.54
1.004	SIC3	PPCP2	13.364	0.600	4.810	4.720	0.090	148.5	150	Circular	7.81
1.005	PPCP2	Swale In 1	2.770	0.600	4.720	4.700	0.020	138.5	150	Circular	7.86
1.006	Swale In 1	Swale Out 1	17.511	0.300	4.700	4.600	0.100	175.1	600	Swale	10.23
1.007	Swale Out 1	PPCP3	4.917	0.600	4.600	4.200	0.400	12.3	225	Circular	10.25
3.000	Tank 2	PPCP3	2.913	0.600	4.250	4.200	0.050	58.3	225	Circular	5.03
1.008	PPCP3	SCP1	2.545	0.600	4.200	4.131	0.069	36.9	225	Circular	10.27

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.036	18.3	7.3	0.374	0.592	0.028	66	0.979
2.000	0.881	15.6	0.0	0.750	0.592	0.000	0	0.000
1.001	0.829	14.7	7.3	0.592	0.783	0.028	75	0.831
1.002	0.817	14.4	7.3	0.783	0.909	0.028	76	0.821
1.003	0.819	14.5	11.0	0.909	0.519	0.042	98	0.900
1.004	0.822	14.5	14.4	0.519	0.561	0.055	122	0.935
1.005	0.852	15.1	15.5	0.561	0.650	0.059	127	0.966
1.006	0.123	170.1	17.8	0.200	0.100	0.068	202	0.068
1.007	3.752	149.2	17.8	0.475	0.814	0.068	52	2.551
3.000	1.716	68.2	0.0	0.766	0.814	0.000	0	0.000
1.008	2.161	85.9	17.8	0.814	0.871	0.068	69	1.710

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	1440	Check Discharge Rate(s)	x
Rainfall Events	Singular	Analysis Speed	Normal	Additional Storage (m³/ha)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	x	Starting Level (m)			

Storm Durations															
15	30	60	120	180	240	360	480	600	720	960	1440	2160	2880	4320	5760
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	45	0	0				
30	40	0	0												

Node PPCP1 Online Orifice Control

Flap Valve	x	Replaces Downstream Link	x	Diameter (m)	0.035
Downstream Link	1.001	Invert Level (m)	5.550	Discharge Coefficient	0.600

Node PPCP3 Online Orifice Control

Flap Valve	x	Replaces Downstream Link	x	Diameter (m)	0.021
Downstream Link	1.008	Invert Level (m)	4.200	Discharge Coefficient	0.600

Node Tank 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	5.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	106

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	36.0	36.0	0.400	36.0	44.5	0.401	0.0	44.5

Node Tank 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	4.250
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	435

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	65.0	65.0	0.400	65.0	76.4	0.401	0.0	76.4

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	RP1	10	5.805	0.055	5.3	0.0014	0.0000	OK
120 minute summer	Tank 1	80	5.657	0.057	1.9	1.9531	0.0000	OK
15 minute summer	PPCP1	11	5.669	0.119	5.3	0.0190	0.0000	OK
15 minute summer	SIC1	12	5.384	0.024	0.8	0.0037	0.0000	OK
15 minute summer	SIC2	11	5.193	0.048	3.3	0.0076	0.0000	OK
15 minute summer	SIC3	11	4.874	0.064	5.6	0.0102	0.0000	OK
30 minute summer	PPCP2	20	4.849	0.129	5.7	0.0205	0.0000	OK
30 minute summer	Swale In 1	21	4.847	0.147	7.0	0.0000	0.0000	OK
30 minute summer	Swale Out 1	21	4.630	0.030	5.7	0.0000	0.0000	OK
360 minute winter	Tank 2	336	4.433	0.183	1.4	11.2769	0.0000	OK
360 minute winter	PPCP3	336	4.433	0.233	1.8	0.0658	0.0000	SURCHARGED
360 minute winter	SCP1	336	4.143	0.012	0.4	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	RP1	1.000	PPCP1	5.3	0.539	0.287	0.1946	
120 minute summer	Tank 1	2.000	PPCP1	-1.9	-0.278	-0.120	0.0635	
15 minute summer	PPCP1	1.001	SIC1	0.8	0.480	0.054	0.0491	
15 minute summer	SIC1	1.002	SIC2	0.8	0.416	0.054	0.1061	
15 minute summer	SIC2	1.003	SIC3	3.2	0.539	0.223	0.3011	
15 minute summer	SIC3	1.004	PPCP2	5.5	0.606	0.382	0.1498	
30 minute summer	PPCP2	1.005	Swale In 1	5.5	0.605	0.365	0.0466	
30 minute summer	Swale In 1	1.006	Swale Out 1	5.7	0.063	0.034	1.7317	
30 minute summer	Swale Out 1	1.007	PPCP3	5.7	0.664	0.038	0.0602	
360 minute winter	Tank 2	3.000	PPCP3	1.8	0.237	0.026	0.1082	
360 minute winter	PPCP3	1.008	SCP1	0.4	0.551	0.005	0.0020	18.1

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 96.06%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	RP1	11	6.029	0.279	19.1	0.0070	0.0000	FLOOD RISK
120 minute summer	Tank 1	90	5.886	0.286	7.1	9.7920	0.0000	SURCHARGED
120 minute summer	PPCP1	90	5.886	0.336	8.4	0.0535	0.0000	SURCHARGED
120 minute summer	SIC1	90	5.392	0.032	1.4	0.0050	0.0000	OK
15 minute summer	SIC2	12	5.269	0.124	10.5	0.0197	0.0000	OK
15 minute summer	SIC3	11	5.160	0.350	17.8	0.0557	0.0000	SURCHARGED
480 minute winter	PPCP2	480	5.044	0.324	3.2	0.0515	0.0000	SURCHARGED
480 minute winter	Swale In 1	480	5.044	0.344	3.8	0.0000	0.0000	OK
480 minute winter	Swale Out 1	480	5.044	0.444	9.2	0.0000	0.0000	FLOOD RISK
480 minute winter	Tank 2	480	5.044	0.794	5.4	24.7309	0.0000	FLOOD RISK
480 minute winter	PPCP3	480	5.044	0.844	7.0	0.2388	0.0000	FLOOD RISK
480 minute winter	SCP1	480	4.147	0.016	0.8	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	RP1	1.000	PPCP1	18.2	1.034	0.994	0.3314	
120 minute summer	Tank 1	2.000	PPCP1	-7.1	-0.404	-0.456	0.1140	
120 minute summer	PPCP1	1.001	SIC1	1.4	0.523	0.096	0.0748	
120 minute summer	SIC1	1.002	SIC2	1.4	0.511	0.098	0.1497	
15 minute summer	SIC2	1.003	SIC3	9.3	0.615	0.643	0.8312	
15 minute summer	SIC3	1.004	PPCP2	16.6	0.942	1.141	0.2353	
480 minute winter	PPCP2	1.005	Swale In 1	3.2	0.359	0.214	0.0488	
480 minute winter	Swale In 1	1.006	Swale Out 1	4.0	0.054	0.024	12.4190	
480 minute winter	Swale Out 1	1.007	PPCP3	7.0	0.381	0.047	0.1956	
480 minute winter	Tank 2	3.000	PPCP3	-5.4	0.253	-0.080	0.1159	
480 minute winter	PPCP3	1.008	SCP1	0.8	0.667	0.010	0.0032	56.1

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 94.86%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	RP1	11	6.268	0.518	24.9	0.0129	0.0000	FLOOD RISK
120 minute summer	Tank 1	94	5.995	0.395	9.1	13.4958	0.0000	SURCHARGED
120 minute summer	PPCP1	94	5.995	0.445	10.7	0.0707	0.0000	FLOOD RISK
15 minute summer	SIC1	12	5.465	0.105	4.3	0.0167	0.0000	OK
15 minute summer	SIC2	12	5.459	0.314	13.5	0.0499	0.0000	SURCHARGED
15 minute summer	SIC3	11	5.287	0.477	20.4	0.0759	0.0000	FLOOD RISK
600 minute winter	PPCP2	585	5.237	0.517	3.5	0.0823	0.0000	FLOOD RISK
600 minute winter	Swale In 1	585	5.237	0.537	4.3	0.0000	0.0000	OK
600 minute winter	Swale Out 1	585	5.237	0.637	4.8	0.0000	0.0000	FLOOD RISK
600 minute winter	Tank 2	585	5.237	0.987	10.8	24.7309	0.0000	FLOOD RISK
600 minute winter	PPCP3	585	5.237	1.037	13.2	0.2935	0.0000	FLOOD RISK
600 minute winter	SCP1	585	4.148	0.017	0.9	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	RP1	1.000	PPCP1	23.4	1.331	1.280	0.3314	
120 minute summer	Tank 1	2.000	PPCP1	-9.1	-0.518	-0.585	0.1140	
120 minute summer	PPCP1	1.001	SIC1	1.6	0.546	0.112	0.0832	
15 minute summer	SIC1	1.002	SIC2	3.8	0.511	0.266	0.4965	
15 minute summer	SIC2	1.003	SIC3	10.8	0.619	0.747	0.8825	
15 minute summer	SIC3	1.004	PPCP2	20.1	1.144	1.386	0.2353	
600 minute winter	PPCP2	1.005	Swale In 1	3.6	0.337	0.239	0.0488	
600 minute winter	Swale In 1	1.006	Swale Out 1	4.8	0.055	0.028	23.4318	
600 minute winter	Swale Out 1	1.007	PPCP3	13.2	0.456	0.088	0.1956	
600 minute winter	Tank 2	3.000	PPCP3	-10.8	-0.271	-0.158	0.1159	
600 minute winter	PPCP3	1.008	SCP1	0.9	0.688	0.011	0.0034	72.0