

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)	Depth (m)
PP1	0.020	5.00	74.900	450	0.570
SA1	0.027		74.800	450	1.400
SA2	0.008		75.500	450	1.000

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)
1.000	PP1	SA1	10.000	0.600	74.330	73.400	0.930	10.8	100	5.07	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	2.370	18.6	3.6	0.470	1.300	0.020	0.0	30	1.843

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	10.000	10.8	100	Circular	74.900	74.330	0.470	74.800	73.400	1.300

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	PP1	450	Manhole	Adoptable	SA1	450	Manhole	Adoptable

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
PP1	74.900	0.570	450					
				0	1.000	74.330	100	
SA1	74.800	1.400	450		1	1.000	73.400	100
SA2	75.500	1.000	450					

Simulation Settings

Rainfall Methodology	FEH-13	Analysis Speed	Normal	Additional Storage (m ³ /ha)	0.0
Summer CV	1.000	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x

Storm Durations

15	60	180	360	600	960	10080
30	120	240	480	720	1440	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
10	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Node PP1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.01800	Invert Level (m)	74.330	Slope (1:X)	150.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	1.5	Width (m)	20.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node SA1 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00360	Invert Level (m)	73.400	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.01800	Time to half empty (mins)	2944	Inf Depth (m)	
Safety Factor	1.5	Pit Width (m)	8.000	Number Required	1
Porosity	0.95	Pit Length (m)	5.500		

Node SA2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00360	Invert Level (m)	74.500	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.01800	Time to half empty (mins)	2714	Inf Depth (m)	
Safety Factor	1.5	Pit Width (m)	4.000	Number Required	1
Porosity	0.95	Pit Length (m)	8.000		

Results for 2 year Critical Storm Duration. Lowest mass balance: 97.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	PP1	11	74.356	0.026	3.5	0.3151	0.0000	OK
10080 minute winter	SA1	6240	73.688	0.288	0.2	12.0644	0.0000	OK
1440 minute winter	SA2	930	74.559	0.059	0.1	1.8044	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)
15 minute summer	PP1	1.000	SA1	2.8	1.486	0.149	0.0351
15 minute summer	PP1	Infiltration		0.3			
10080 minute winter	SA1	Infiltration		0.1			
1440 minute winter	SA2	Infiltration		0.0			

Results for 10 year Critical Storm Duration. Lowest mass balance: 97.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	PP1	12	74.368	0.038	7.1	0.6616	0.0000	OK
600 minute winter	SA1	570	74.348	0.948	1.4	16.8916	0.0000	OK
480 minute winter	SA2	456	74.612	0.112	0.3	3.4326	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	
15 minute summer	PP1	1.000	SA1	5.7	1.519	0.308	0.0528	
15 minute summer	PP1	Infiltration		0.4				
600 minute winter	SA1	Infiltration		0.1				
480 minute winter	SA2	Infiltration		0.0				

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 97.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	PP1	495	74.530	0.200	3.5	10.0137	0.0000	SURCHARGED
720 minute summer	SA1	495	74.530	1.130	3.4	16.9206	0.0000	OK
960 minute winter	SA2	915	74.720	0.220	0.3	6.7325	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
720 minute summer	PP1	1.000	SA1	-2.0	0.443	-0.107	0.0782
720 minute summer	PP1	Infiltration		0.7			
720 minute summer	SA1	Infiltration		0.1			
960 minute winter	SA2	Infiltration		0.0			

Results for 100 year Critical Storm Duration. Lowest mass balance: 97.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	PP1	495	74.530	0.200	3.5	10.0137	0.0000	SURCHARGED
720 minute summer	SA1	495	74.530	1.130	3.4	16.9206	0.0000	OK
960 minute winter	SA2	915	74.720	0.220	0.3	6.7325	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
720 minute summer	PP1	1.000	SA1	-2.0	0.443	-0.107	0.0782
720 minute summer	PP1	Infiltration		0.7			
720 minute summer	SA1	Infiltration		0.1			
960 minute winter	SA2	Infiltration		0.0			

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 97.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	PP1	570	74.776	0.446	3.4	24.8397	0.0000	FLOOD RISK
720 minute winter	SA1	570	74.777	1.377	2.4	16.9598	0.0000	OK
1440 minute summer	SA2	1350	74.834	0.334	0.5	10.2036	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
720 minute winter	PP1	1.000	SA1	-1.9	0.548	-0.102	0.0782
720 minute winter	PP1	Infiltration		0.7			
720 minute winter	SA1	Infiltration		0.1			
1440 minute summer	SA2	Infiltration		0.0			