

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)	200.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
Cellular Storage.Inlet	0.000	5.00	42.410				0.810
Cellular Storage		5.00	42.410		530811.110	115437.517	0.810
Manhole	0.121	5.00	43.000	1200	530799.070	115441.952	1.500
Outlet to SW drainage			41.950		530795.644	115442.912	0.550

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)
Pipe	Cellular Storage	Manhole	12.831	0.600	41.600	41.500	0.100	128.3	225	5.19
Pipe (1)	Manhole	Outlet to SW drainage	3.558	0.600	41.500	41.400	0.100	35.6	150	5.22

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)
Pipe	1.153	45.8	0.0	0.585	1.275	0.000	0.0	0	0.000
Pipe (1)	1.693	29.9	72.5	1.350	0.400	0.121	0.0	150	1.724

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)
Pipe	12.831	128.3	225	1 Default	42.410	41.600	0.585	43.000	41.500	1.275
Pipe (1)	3.558	35.6	150	1 Default	43.000	41.500	1.350	41.950	41.400	0.400

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
Pipe	Cellular Storage		Junction		Manhole	1200	Manhole	1 Default
Pipe (1)	Manhole	1200	Manhole	1 Default	Outlet to SW drainage		Junction	

Simulation Settings

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

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 %)
30	45	0	0
100	45	0	0

Node Manhole Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	41.500	Product Number	CTL-SHE-0069-2000-0900-2000
Design Depth (m)	0.900	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.0	Min Node Diameter (mm)	1200

Node Cellular Storage Infiltration Basin Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	41.600
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	
Safety Factor	2.0	Analyse flow through structure	x
Porosity	0.95		

Inlets

Cellular Storage.Inlet

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	110.5	110.5	0.800	110.5	140.3	0.801	0.0	140.3

Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
240 minute winter	Cellular Storage.Inlet	240	42.200	0.600	6.7	0.0000	0.0000	OK
240 minute winter	Cellular Storage	232	42.202	0.602	13.1	61.4716	0.0000	FLOOD RISK
240 minute winter	Manhole	232	42.201	0.701	15.4	1.9248	0.0000	SURCHARGED
15 minute summer	Outlet to SW drainage	110	41.426	0.026	2.0	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Link Vol (m ³)	Discharge Vol (m ³)
15 minute summer	Cellular Storage	Pipe	Manhole	-79.1	-2.127	0.5103	
15 minute summer	Manhole	Pipe (1)	Outlet to SW drainage	2.0	0.924	0.0077	29.7

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.44%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
240 minute winter	Cellular Storage.Inlet	240	42.393	0.793	8.6	0.0000	0.0000	OK
240 minute winter	Cellular Storage	236	42.394	0.794	16.9	81.2144	0.0000	FLOOD RISK
240 minute winter	Manhole	232	42.394	0.894	19.2	2.4541	0.0000	SURCHARGED
15 minute summer	Outlet to SW drainage	193	41.426	0.026	2.0	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Link Vol (m ³)	Discharge Vol (m ³)
15 minute summer	Cellular Storage	Pipe	Manhole	-95.9	-2.512	0.5103	
15 minute summer	Manhole	Pipe (1)	Outlet to SW drainage	2.0	0.924	0.0077	29.7