

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)	4.00	Include Intermediate Ground	x
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	75.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
DB	0.029	4.00	50.500	1200	517999.000	129904.000	0.900
FLOW			50.500	1200	517996.000	129917.000	0.930
ATT	0.190	4.00	51.000	1200	518019.334	129877.699	1.200
ATT2	0.133	4.00	51.100		517986.422	129896.683	1.300
S08			51.000	600	517996.780	129899.478	1.250

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)
1.002	DB	FLOW	3.000	0.600	49.600	49.570	0.030	100.0	300	4.12	54.0
1.000	ATT2	S08	4.500	0.600	49.800	49.750	0.050	90.0	225	4.05	54.0
2.000	ATT	S08	1.500	0.600	49.800	49.750	0.050	30.0	225	4.01	54.0
1.001	S08	DB	5.038	0.600	49.750	49.600	0.150	33.6	225	4.09	54.0

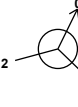
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.002	1.572	111.1	68.7	0.600	0.630	0.352	0.0	171	1.651
1.000	1.379	54.8	26.0	1.075	1.025	0.133	0.0	109	1.358
2.000	2.397	95.3	37.1	0.975	1.025	0.190	0.0	97	2.249
1.001	2.265	90.1	63.0	1.025	0.675	0.323	0.0	139	2.446

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)
1.002	3.000	100.0	300	Circular	50.500	49.600	0.600	50.500	49.570	0.630
1.000	4.500	90.0	225	Circular	51.100	49.800	1.075	51.000	49.750	1.025
2.000	1.500	30.0	225	Circular	51.000	49.800	0.975	51.000	49.750	1.025
1.001	5.038	33.6	225	Circular	51.000	49.750	1.025	50.500	49.600	0.675

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.002	DB	1200	Manhole	Adoptable	FLOW	1200	Manhole	Adoptable
1.000	ATT2		Junction		S08	600	Manhole	Adoptable
2.000	ATT	1200	Manhole	Adoptable	S08	600	Manhole	Adoptable
1.001	S08	600	Manhole	Adoptable	DB	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
DB	517999.000	129904.000	50.500	0.900	1200		1	1.001	49.600	225
FLOW	517996.000	129917.000	50.500	0.930	1200		1	1.002	49.570	300
ATT	518019.334	129877.699	51.000	1.200	1200		0	2.000	49.800	225
ATT2	517986.422	129896.683	51.100	1.300			0	1.000	49.800	225
S08	517996.780	129899.478	51.000	1.250	600		1	2.000	49.750	225
							2	1.000	49.750	225
							0	1.001	49.750	225

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)	0.0		

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 %)
10	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Node FLOW Online Orifice Control

Flap Valve	x	Design Depth (m)	0.700	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	2.0		
Invert Level (m)	49.570	Diameter (m)	0.034		

Node S08 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.600	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	15.0		
Invert Level (m)	49.750	Diameter (m)	0.098		

Node DB Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	118.0	118.0	0.200	142.2	143.5	0.400	168.7	171.4	0.600	197.5	201.8
0.100	129.8	130.4	0.300	155.2	157.2	0.500	182.8	186.3	0.700	212.7	217.8

Node ATT Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	49.800	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	10.500	Number Required	1
Porosity	0.95	Pit Length (m)	38.000		

Node ATT2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	49.800	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.95	Pit Length (m)	20.000		

Results for 10 year Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	DB	585	49.963	0.363	5.6	51.3630	0.0000	SURCHARGED
600 minute winter	FLOW	585	49.963	0.393	1.8	0.4448	0.0000	OK
600 minute winter	ATT	585	49.968	0.168	10.3	63.9845	0.0000	OK
600 minute winter	ATT2	585	49.968	0.168	6.2	15.9880	0.0000	OK
600 minute winter	S08	585	49.968	0.218	7.9	0.0618	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)
600 minute winter	DB	1.002	FLOW	1.8	0.267	0.017	0.2113	56.6
600 minute winter	FLOW	Orifice		1.5				
600 minute winter	ATT	2.000	S08	5.1	0.254	0.053	0.0535	
600 minute winter	ATT2	1.000	S08	7.9	0.529	0.144	0.1604	
600 minute winter	S08	1.001	DB	4.8	0.850	0.053	0.1983	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.87%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	DB	705	50.019	0.419	5.1	60.7828	0.0000	SURCHARGED
720 minute winter	FLOW	690	50.019	0.449	3.4	0.5078	0.0000	OK
720 minute winter	ATT	690	50.026	0.226	8.4	85.8559	0.0000	SURCHARGED
480 minute winter	ATT2	464	50.027	0.227	7.5	21.5748	0.0000	SURCHARGED
720 minute winter	S08	690	50.028	0.278	6.5	0.0787	0.0000	SURCHARGED
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	DB	1.002	FLOW	3.4	0.218	0.030	0.2113	69.6
720 minute winter	FLOW	Orifice		1.6				
720 minute winter	ATT	2.000	S08	6.3	0.523	0.066	0.0596	
480 minute winter	ATT2	1.000	S08	8.2	0.548	0.149	0.1789	
720 minute winter	S08	1.001	DB	4.5	0.849	0.050	0.2004	

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	DB	705	50.140	0.540	5.5	82.6087	0.0000	SURCHARGED
720 minute winter	FLOW	705	50.140	0.570	4.3	0.6444	0.0000	OK
720 minute winter	ATT	705	50.148	0.348	11.6	132.3828	0.0000	SURCHARGED
720 minute winter	ATT2	705	50.149	0.349	6.6	33.1733	0.0000	SURCHARGED
960 minute winter	S08	930	50.146	0.396	5.7	0.1120	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	DB	1.002	FLOW	4.3	0.267	0.038	0.2113	
720 minute winter	FLOW	Orifice		1.8				78.7
720 minute winter	ATT	2.000	S08	-4.5	0.400	-0.047	0.0597	
720 minute winter	ATT2	1.000	S08	7.7	0.445	0.141	0.1790	
960 minute winter	S08	1.001	DB	8.1	0.834	0.089	0.2004	

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	DB	705	50.096	0.496	4.9	74.3976	0.0000	SURCHARGED
960 minute winter	FLOW	915	50.095	0.525	2.8	0.5943	0.0000	OK
720 minute winter	ATT	705	50.103	0.303	10.1	115.3037	0.0000	SURCHARGED
720 minute winter	ATT2	690	50.105	0.305	7.6	28.9599	0.0000	SURCHARGED
960 minute winter	S08	930	50.102	0.352	7.1	0.0995	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	DB	1.002	FLOW	3.8	0.219	0.034	0.2113	93.9
960 minute winter	FLOW	Orifice		1.7				
720 minute winter	ATT	2.000	S08	7.3	0.533	0.076	0.0597	
720 minute winter	ATT2	1.000	S08	7.2	0.442	0.131	0.1790	
960 minute winter	S08	1.001	DB	3.3	0.833	0.037	0.2004	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	DB	930	50.423	0.823	10.9	141.2265	0.0000	FLOOD RISK
960 minute winter	FLOW	915	50.423	0.853	5.2	0.9648	0.0000	OK
240 minute winter	ATT	176	50.696	0.896	33.6	152.8229	0.0000	SURCHARGED
240 minute winter	ATT2	176	50.696	0.896	20.6	38.0475	0.0000	SURCHARGED
240 minute winter	S08	176	50.695	0.945	16.5	0.2675	0.0000	SURCHARGED
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	DB	1.002	FLOW	5.2	0.162	0.047	0.2113	113.9
960 minute winter	FLOW	Orifice		2.2				
240 minute winter	ATT	2.000	S08	9.9	0.537	0.104	0.0597	
240 minute winter	ATT2	1.000	S08	12.2	0.578	0.222	0.1790	
240 minute winter	S08	1.001	DB	15.5	1.262	0.172	0.2004	