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	0.750	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)	Easting (m)	Northing (m)	Depth (m)
SWMH06C	0.018	5.00	32.300	1200	-132.569	17.823	1.350
TANK	0.019	5.00	31.600	1200	-131.663	45.145	0.923
SWMH06B	0.018	5.00	31.600	1200	-130.754	74.654	1.218
SWMH06A			31.700	1200	-124.481	76.448	1.383
SWMH06			31.600	1200	-121.831	80.888	1.400

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	SWMH06C	TANK	27.337	0.600	30.950	30.677	0.273	100.0	150	5.45	50.0
1.001	TANK	SWMH06B	29.523	0.600	30.677	30.382	0.295	100.0	150	5.94	50.0
1.002	SWMH06B	SWMH06A	6.524	0.600	30.382	30.317	0.065	100.0	150	6.05	50.0
1.003	SWMH06A	SWMH06	5.171	0.600	30.317	30.200	0.117	44.2	150	6.11	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	1.005	17.8	2.4	1.200	0.773	0.018	0.0	38	0.709
1.001	1.005	17.8	5.0	0.773	1.068	0.037	0.0	54	0.863
1.002	1.005	17.8	7.5	1.068	1.233	0.055	0.0	68	0.961
1.003	1.517	26.8	7.5	1.233	1.250	0.055	0.0	54	1.304

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	27.337	100.0	150	Circular	32.300	30.950	1.200	31.600	30.677	0.773
1.001	29.523	100.0	150	Circular	31.600	30.677	0.773	31.600	30.382	1.068
1.002	6.524	100.0	150	Circular	31.600	30.382	1.068	31.700	30.317	1.233
1.003	5.171	44.2	150	Circular	31.700	30.317	1.233	31.600	30.200	1.250

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	SWMH06C	1200	Manhole	Adoptable	TANK	1200	Manhole	Adoptable
1.001	TANK	1200	Manhole	Adoptable	SWMH06B	1200	Manhole	Adoptable
1.002	SWMH06B	1200	Manhole	Adoptable	SWMH06A	1200	Manhole	Adoptable
1.003	SWMH06A	1200	Manhole	Adoptable	SWMH06	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SWMH06C	-132.569	17.823	32.300	1.350	1200	 0	1.000	30.950	150
TANK	-131.663	45.145	31.600	0.923	1200	 1	1.000	30.677	150
						0	1.001	30.677	150
SWMH06B	-130.754	74.654	31.600	1.218	1200	1	1.001	30.382	150
						 0	1.002	30.382	150
SWMH06A	-124.481	76.448	31.700	1.383	1200	1	1.002	30.317	150
						 0	1.003	30.317	150

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SWMH06	-121.831	80.888	31.600	1.400	1200	1	1.003	30.200	150



Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	20.0		

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 %)
2	0	0	0
30	0	0	0
100	45	0	0

Node SWMH06A Online Orifice Control

Flap Valve	x	Design Depth (m)	0.800	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Flow (l/s)	2.3		
Invert Level (m)	30.317	Diameter (m)	0.035		

Node SWMH06A Online Orifice Control

Flap Valve	x	Design Depth (m)	0.550	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Flow (l/s)	7.3		
Invert Level (m)	30.950	Diameter (m)	0.069		

Node SWMH06A Online Weir Control

Flap Valve	x	Invert Level (m)	31.420	Discharge Coefficient	0.590
Replaces Downstream Link	✓	Width (m)	0.150		

Node TANK Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	30.677
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	55

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	32.0	32.0	0.400	32.0	40.0	0.401	0.0	40.0

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	104.606	29.600
2 year 15 minute winter	73.408	29.600
2 year 30 minute summer	67.146	19.000
2 year 30 minute winter	47.120	19.000
2 year 60 minute summer	45.030	11.900
2 year 60 minute winter	29.917	11.900
2 year 120 minute summer	30.083	7.950
2 year 120 minute winter	19.986	7.950
2 year 180 minute summer	23.860	6.140
2 year 180 minute winter	15.510	6.140
2 year 240 minute summer	19.205	5.075
2 year 240 minute winter	12.759	5.075
2 year 360 minute summer	14.962	3.850
2 year 360 minute winter	9.726	3.850
2 year 480 minute summer	11.868	3.136
2 year 480 minute winter	7.885	3.136
2 year 600 minute summer	9.752	2.667
2 year 600 minute winter	6.663	2.667
2 year 720 minute summer	8.709	2.334
2 year 720 minute winter	5.853	2.334

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Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 960 minute summer	7.176	1.890
2 year 960 minute winter	4.753	1.890
2 year 1440 minute summer	5.272	1.413
2 year 1440 minute winter	3.543	1.413
30 year 15 minute summer	265.433	75.108
30 year 15 minute winter	186.269	75.108
30 year 30 minute summer	173.381	49.061
30 year 30 minute winter	121.671	49.061
30 year 60 minute summer	116.455	30.776
30 year 60 minute winter	77.370	30.776
30 year 120 minute summer	68.599	18.129
30 year 120 minute winter	45.576	18.129
30 year 180 minute summer	51.644	13.290
30 year 180 minute winter	33.570	13.290
30 year 240 minute summer	40.327	10.657
30 year 240 minute winter	26.793	10.657
30 year 360 minute summer	30.319	7.802
30 year 360 minute winter	19.708	7.802
30 year 480 minute summer	23.649	6.250
30 year 480 minute winter	15.712	6.250
30 year 600 minute summer	19.248	5.265
30 year 600 minute winter	13.151	5.265
30 year 720 minute summer	17.087	4.579
30 year 720 minute winter	11.483	4.579
30 year 960 minute summer	13.992	3.684
30 year 960 minute winter	9.269	3.684
30 year 1440 minute summer	10.147	2.719
30 year 1440 minute winter	6.819	2.719
100 year +45% CC 15 minute summer	487.949	138.073
100 year +45% CC 15 minute winter	342.420	138.073
100 year +45% CC 30 minute summer	321.892	91.084
100 year +45% CC 30 minute winter	225.889	91.084
100 year +45% CC 60 minute summer	217.872	57.577
100 year +45% CC 60 minute winter	144.749	57.577
100 year +45% CC 120 minute summer	125.965	33.289
100 year +45% CC 120 minute winter	83.688	33.289
100 year +45% CC 180 minute summer	94.323	24.273
100 year +45% CC 180 minute winter	61.313	24.273
100 year +45% CC 240 minute summer	73.545	19.436
100 year +45% CC 240 minute winter	48.861	19.436
100 year +45% CC 360 minute summer	55.331	14.239
100 year +45% CC 360 minute winter	35.967	14.239
100 year +45% CC 480 minute summer	43.395	11.468
100 year +45% CC 480 minute winter	28.831	11.468
100 year +45% CC 600 minute summer	35.506	9.712
100 year +45% CC 600 minute winter	24.260	9.712
100 year +45% CC 720 minute summer	31.659	8.485
100 year +45% CC 720 minute winter	21.277	8.485
100 year +45% CC 960 minute summer	26.040	6.857
100 year +45% CC 960 minute winter	17.249	6.857
100 year +45% CC 1440 minute summer	18.965	5.083
100 year +45% CC 1440 minute winter	12.746	5.083

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Results for 2 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	SWMH06C	10	30.990	0.040	2.4	0.0555	0.0000	OK
30 minute winter	TANK	25	30.717	0.040	3.7	1.2761	0.0000	OK
30 minute winter	SWMH06B	24	30.723	0.341	4.0	0.4866	0.0000	SURCHARGED
30 minute winter	SWMH06A	24	30.723	0.406	2.5	0.4590	0.0000	SURCHARGED
15 minute summer	SWMH06	1	30.200	0.000	1.4	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	SWMH06C	1.000	TANK	2.4	0.869	0.135	0.0883	
15 minute winter	TANK	1.001	SWMH06B	2.6	0.246	0.147	0.3132	
15 minute winter	SWMH06B	1.002	SWMH06A	2.8	0.421	0.156	0.1149	
30 minute winter	SWMH06A	Orifice	SWMH06	1.6				4.3
15 minute summer	SWMH06A	Orifice	SWMH06	0.0				0.0
15 minute summer	SWMH06A	Weir	SWMH06	0.0				0.0

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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	SWMH06C	10	31.013	0.063	6.2	0.0875	0.0000	OK
60 minute winter	TANK	51	30.896	0.219	7.9	6.9928	0.0000	SURCHARGED
60 minute winter	SWMH06B	50	30.894	0.512	5.1	0.7309	0.0000	SURCHARGED
60 minute winter	SWMH06A	52	30.893	0.576	2.6	0.6516	0.0000	SURCHARGED
15 minute summer	SWMH06	1	30.200	0.000	1.8	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	SWMH06C	1.000	TANK	6.2	0.985	0.347	0.2887	
15 minute winter	TANK	1.001	SWMH06B	-5.4	-0.346	-0.307	0.5197	
15 minute summer	SWMH06B	1.002	SWMH06A	4.6	0.496	0.258	0.1149	
60 minute winter	SWMH06A	Orifice	SWMH06	1.9				14.2
15 minute summer	SWMH06A	Orifice	SWMH06	0.0				0.0
15 minute summer	SWMH06A	Weir	SWMH06	0.0				0.0

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	SWMH06C	44	31.252	0.302	5.9	0.4222	0.0000	SURCHARGED
60 minute winter	TANK	44	31.247	0.570	14.9	13.0542	0.0000	SURCHARGED
60 minute winter	SWMH06B	44	31.222	0.840	8.6	1.1980	0.0000	SURCHARGED
60 minute winter	SWMH06A	44	31.206	0.889	7.3	1.0056	0.0000	SURCHARGED
15 minute summer	SWMH06	1	30.200	0.000	2.0	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	SWMH06C	1.000	TANK	11.1	1.051	0.628	0.3820	
15 minute summer	TANK	1.001	SWMH06B	-8.1	-0.464	-0.455	0.5197	
60 minute winter	SWMH06B	1.002	SWMH06A	7.3	0.476	0.410	0.1149	
60 minute winter	SWMH06A	Orifice	SWMH06	2.4				20.3
60 minute winter	SWMH06A	Orifice	SWMH06	4.7				6.2
15 minute summer	SWMH06A	Weir	SWMH06	0.0				0.0

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