

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
SWM07			11.000	1500	445934.764	117461.838	1.682
Outfall 02			10.500	1200	445937.112	117454.880	1.225
Unit 10 Pumping Station	2.100	5.00	9.450	1800	445907.352	117738.104	2.091
Unit 10 Tank		5.00	9.450		445864.171	117753.145	2.000
Attenuation Pond 01	1.000	5.00	11.000		445907.603	117446.893	1.500
Outfall 01			10.000	1200	445736.086	117348.852	3.100
Unit 9 Flow Control	2.200	5.00	9.590	1500	445714.410	117503.085	2.186
Unit 8 Flow Control	1.400	5.00	10.985	1350	445699.644	117369.509	3.839
Unit 8 Pond			8.750		445663.313	117389.463	1.500
Unit 9 Tank	0.000	5.00	9.450		445702.045	117522.678	2.000
Unit 8 Tank		5.00	10.000		445687.159	117477.032	2.000
SWM02			11.500	1200	445985.625	117565.087	1.643
SWM03			13.460	1200	446094.551	117527.146	4.905
Unit 5 Flow Control	3.550	5.00	13.500	1800	446097.767	117536.409	3.026
Unit 5 Tank		5.00	13.500		446102.992	117548.251	3.000
SWM04			13.325	1200	446154.668	117506.205	2.808
SWM05			13.500	1200	446279.041	117506.386	2.250
Unit 6 Flow Control	1.400	5.00	13.500	1500	446290.384	117538.952	2.047
Unit 6 Tank		5.00	13.500		446298.023	117561.340	2.000
SWM06			10.170	1800	446089.150	117511.059	2.704
Outfall 03			10.000	1200	446090.892	117494.193	2.604
Attenuation Pond 02	2.320	5.00	10.000		446075.693	117514.337	2.500
Unit 4 Flow Control	1.400	5.00	12.000	1500	445989.562	117576.390	2.024
Unit 4 Tank		5.00	12.000		445994.453	117587.456	2.000

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)
6.002	Attenuation Pond 01	SWM07	31.001	0.600	9.500	9.318	0.182	170.0	225	30.00	50.0
6.003	SWM07	Outfall 02	7.343	0.600	9.318	9.275	0.043	170.0	225	30.00	50.0
1.000	Unit 10 Tank	Unit 10 Pumping Station	45.726	0.600	7.450	7.359	0.091	500.0	750	5.61	50.0
6.001	Unit 9 Flow Control	Attenuation Pond 01	201.199	0.600	7.404	9.500	-2.096	-96.0	150	30.00	50.0
7.000	Unit 8 Tank	Unit 8 Pond	90.758	0.600	8.000	7.750	0.250	363.0	450	6.43	50.0
7.001	Unit 8 Pond	Unit 8 Flow Control	41.450	0.600	7.250	7.146	0.104	400.0	450	7.11	50.0
7.002	Unit 8 Flow Control	Outfall 01	41.890	0.600	7.146	6.900	0.246	170.0	225	7.81	50.0
6.000	Unit 9 Tank	Unit 9 Flow Control	23.168	0.600	7.450	7.404	0.046	500.0	600	5.36	50.0
1.002	SWM02	SWM03	115.345	0.600	9.857	8.704	1.153	100.0	150	30.00	50.0
1.003	SWM03	SWM06	16.969	0.600	8.555	8.486	0.069	245.0	300	30.00	50.0
1.004	SWM06	Outfall 03	16.956	0.600	7.466	7.396	0.070	242.2	300	30.00	50.0
3.000	Unit 6 Tank	Unit 6 Flow Control	23.655	0.600	11.500	11.453	0.047	500.0	600	5.36	50.0
3.001	Unit 6 Flow Control	SWM05	34.485	0.600	11.453	11.250	0.203	170.0	225	5.94	50.0
3.002	SWM05	SWM04	124.373	0.600	11.250	10.517	0.733	169.7	225	8.01	50.0
3.003	SWM04	SWM03	63.660	0.600	10.517	8.630	1.887	33.7	225	8.48	50.0
4.000	Unit 5 Tank	Unit 5 Flow Control	12.943	0.600	10.500	10.474	0.026	500.0	750	5.17	50.0
4.001	Unit 5 Flow Control	SWM03	9.806	0.600	10.474	10.376	0.098	100.0	150	5.34	50.0
5.000	Attenuation Pond 02	SWM06	13.850	0.600	7.500	7.466	0.034	407.4	450	5.23	50.0
2.000	Unit 4 Tank	Unit 4 Flow Control	12.099	0.600	10.000	9.976	0.024	500.0	600	5.19	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)
6.002	1.000	39.7	433.7	1.275	1.457	3.200	0.0	225	1.018
6.003	1.000	39.7	433.7	1.457	1.000	3.200	0.0	225	1.018
1.000	1.244	549.7	0.0	1.250	1.341	0.000	0.0	0	0.000
6.001	0.007	0.1	298.2	2.036	1.350	2.200	0.0	150	0.000
7.000	1.061	168.7	0.0	1.550	0.550	0.000	0.0	0	0.000
7.001	1.010	160.7	0.0	1.050	3.389	0.000	0.0	0	0.000
7.002	1.000	39.7	189.7	3.614	2.875	1.400	0.0	225	1.018
6.000	1.082	305.9	0.0	1.400	1.586	0.000	0.0	0	0.000
1.002	1.005	17.8	474.3	1.493	4.606	3.500	0.0	150	1.023
1.003	1.000	70.7	1145.2	4.605	1.384	8.450	0.0	300	1.013
1.004	1.006	71.1	1459.6	2.404	2.304	10.770	0.0	300	1.019
3.000	1.082	305.9	0.0	1.400	1.447	0.000	0.0	0	0.000
3.001	1.000	39.7	189.7	1.822	2.025	1.400	0.0	225	1.018
3.002	1.001	39.8	189.7	2.025	2.583	1.400	0.0	225	1.019
3.003	2.260	89.8	189.7	2.583	4.605	1.400	0.0	225	2.301
4.000	1.244	549.7	0.0	2.250	2.276	0.000	0.0	0	0.000
4.001	1.005	17.8	481.1	2.876	2.934	3.550	0.0	150	1.023
5.000	1.001	159.2	314.4	2.050	2.254	2.320	0.0	450	1.014
2.000	1.082	305.9	0.0	1.400	1.424	0.000	0.0	0	0.000

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)
2.001	Unit 4 Flow Control	SWM02	11.969	0.600	9.976	9.857	0.119	100.6	150	5.39	50.0
1.001	Unit 10 Pumping Station	SWM02	189.899	0.600	7.359	9.857	-2.498	-76.0	150	30.00	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)
2.001	1.002	17.7	189.7	1.874	1.493	1.400	0.0	150	1.020
1.001	0.007	0.1	284.6	1.941	1.493	2.100	0.0	150	0.000

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)
6.002	31.001	170.0	225	Circular	11.000	9.500	1.275	11.000	9.318	1.457
6.003	7.343	170.0	225	Circular	11.000	9.318	1.457	10.500	9.275	1.000
1.000	45.726	500.0	750	Circular	9.450	7.450	1.250	9.450	7.359	1.341
6.001	201.199	-96.0	150	Circular	9.590	7.404	2.036	11.000	9.500	1.350
7.000	90.758	363.0	450	Circular	10.000	8.000	1.550	8.750	7.750	0.550
7.001	41.450	400.0	450	Circular	8.750	7.250	1.050	10.985	7.146	3.389
7.002	41.890	170.0	225	Circular	10.985	7.146	3.614	10.000	6.900	2.875
6.000	23.168	500.0	600	Circular	9.450	7.450	1.400	9.590	7.404	1.586
1.002	115.345	100.0	150	Circular	11.500	9.857	1.493	13.460	8.704	4.606
1.003	16.969	245.0	300	Circular	13.460	8.555	4.605	10.170	8.486	1.384
1.004	16.956	242.2	300	Circular	10.170	7.466	2.404	10.000	7.396	2.304
3.000	23.655	500.0	600	Circular	13.500	11.500	1.400	13.500	11.453	1.447
3.001	34.485	170.0	225	Circular	13.500	11.453	1.822	13.500	11.250	2.025

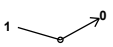
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
6.002	Attenuation Pond 01		Junction		SWM07	1500	Manhole	Adoptable
6.003	SWM07	1500	Manhole	Adoptable	Outfall 02	1200	Manhole	Adoptable
1.000	Unit 10 Tank		Junction		Unit 10 Pumping Station	1800	Manhole	Adoptable
6.001	Unit 9 Flow Control	1500	Manhole	Adoptable	Attenuation Pond 01		Junction	
7.000	Unit 8 Tank		Junction		Unit 8 Pond		Junction	
7.001	Unit 8 Pond		Junction		Unit 8 Flow Control	1350	Manhole	Adoptable
7.002	Unit 8 Flow Control	1350	Manhole	Adoptable	Outfall 01	1200	Manhole	Adoptable
6.000	Unit 9 Tank		Junction		Unit 9 Flow Control	1500	Manhole	Adoptable
1.002	SWM02	1200	Manhole	Adoptable	SWM03	1200	Manhole	Adoptable
1.003	SWM03	1200	Manhole	Adoptable	SWM06	1800	Manhole	Adoptable
1.004	SWM06	1800	Manhole	Adoptable	Outfall 03	1200	Manhole	Adoptable
3.000	Unit 6 Tank		Junction		Unit 6 Flow Control	1500	Manhole	Adoptable
3.001	Unit 6 Flow Control	1500	Manhole	Adoptable	SWM05	1200	Manhole	Adoptable

Pipeline Schedule

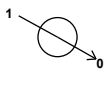
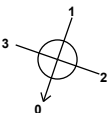
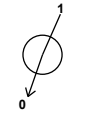
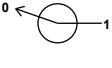
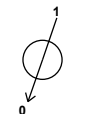
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
3.002	124.373	169.7	225	Circular	13.500	11.250	2.025	13.325	10.517	2.583
3.003	63.660	33.7	225	Circular	13.325	10.517	2.583	13.460	8.630	4.605
4.000	12.943	500.0	750	Circular	13.500	10.500	2.250	13.500	10.474	2.276
4.001	9.806	100.0	150	Circular	13.500	10.474	2.876	13.460	10.376	2.934
5.000	13.850	407.4	450	Circular	10.000	7.500	2.050	10.170	7.466	2.254
2.000	12.099	500.0	600	Circular	12.000	10.000	1.400	12.000	9.976	1.424
2.001	11.969	100.6	150	Circular	12.000	9.976	1.874	11.500	9.857	1.493
1.001	189.899	-76.0	150	Circular	9.450	7.359	1.941	11.500	9.857	1.493

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
3.002	SWM05	1200	Manhole	Adoptable	SWM04	1200	Manhole	Adoptable
3.003	SWM04	1200	Manhole	Adoptable	SWM03	1200	Manhole	Adoptable
4.000	Unit 5 Tank		Junction		Unit 5 Flow Control	1800	Manhole	Adoptable
4.001	Unit 5 Flow Control	1800	Manhole	Adoptable	SWM03	1200	Manhole	Adoptable
5.000	Attenuation Pond 02		Junction		SWM06	1800	Manhole	Adoptable
2.000	Unit 4 Tank		Junction		Unit 4 Flow Control	1500	Manhole	Adoptable
2.001	Unit 4 Flow Control	1500	Manhole	Adoptable	SWM02	1200	Manhole	Adoptable
1.001	Unit 10 Pumping Station	1800	Manhole	Adoptable	SWM02	1200	Manhole	Adoptable

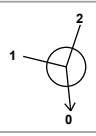
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SWM07	445934.764	117461.838	11.000	1.682	1500		6.002	9.318	225
Outfall 02	445937.112	117454.880	10.500	1.225	1200		6.003	9.275	225
Unit 10 Pumping Station	445907.352	117738.104	9.450	2.091	1800		1.000	7.359	750
Unit 10 Tank	445864.171	117753.145	9.450	2.000			1.000	7.450	750
Attenuation Pond 01	445907.603	117446.893	11.000	1.500			6.001	9.500	150
Outfall 01	445736.086	117348.852	10.000	3.100	1200		7.002	6.900	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Unit 9 Flow Control	445714.410	117503.085	9.590	2.186	1500		1 6.000	7.404	600
							0 6.001	7.404	150
Unit 8 Flow Control	445699.644	117369.509	10.985	3.839	1350		1 7.001	7.146	450
							0 7.002	7.146	225
Unit 8 Pond	445663.313	117389.463	8.750	1.500			1 7.000	7.750	450
							0 7.001	7.250	450
Unit 9 Tank	445702.045	117522.678	9.450	2.000			0 6.000	7.450	600
Unit 8 Tank	445687.159	117477.032	10.000	2.000			0 7.000	8.000	450
SWM02	445985.625	117565.087	11.500	1.643	1200		1 2.001	9.857	150
							2 1.001	9.857	150
							0 1.002	9.857	150
SWM03	446094.551	117527.146	13.460	4.905	1200		1 4.001	10.376	150
							2 3.003	8.630	225
							3 1.002	8.704	150
							0 1.003	8.555	300
Unit 5 Flow Control	446097.767	117536.409	13.500	3.026	1800		1 4.000	10.474	750
							0 4.001	10.474	150
Unit 5 Tank	446102.992	117548.251	13.500	3.000			0 4.000	10.500	750
SWM04	446154.668	117506.205	13.325	2.808	1200		1 3.002	10.517	225
							0 3.003	10.517	225
SWM05	446279.041	117506.386	13.500	2.250	1200		1 3.001	11.250	225
							0 3.002	11.250	225
Unit 6 Flow Control	446290.384	117538.952	13.500	2.047	1500		1 3.000	11.453	600
							0 3.001	11.453	225
Unit 6 Tank	446298.023	117561.340	13.500	2.000			0 3.000	11.500	600

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
SWM06	446089.150	117511.059	10.170	2.704	1800		1	5.000	7.466	450
							2	1.003	8.486	300
							0	1.004	7.466	300
Outfall 03	446090.892	117494.193	10.000	2.604	1200		1	1.004	7.396	300
Attenuation Pond 02	446075.693	117514.337	10.000	2.500			0	5.000	7.500	450
Unit 4 Flow Control	445989.562	117576.390	12.000	2.024	1500		1	2.000	9.976	600
							0	2.001	9.976	150
Unit 4 Tank	445994.453	117587.456	12.000	2.000			0	2.000	10.000	600

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
Ratio-R	0.400	Starting Level (m)	
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

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 %)
1	0	0	0
30	25	0	0
100	25	0	0

Node Unit 10 Pumping Station Online Pump Control

Flap Valve	x	Design Depth (m)	2.000	Switch off depth (m)	0.000
Replaces Downstream Link	✓	Design Flow (l/s)	5.0		
Invert Level (m)	7.359	Switch on depth (m)	0.100		

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.000	0.500	5.000	0.900	5.000	1.300	5.000	1.700	5.000
0.200	5.000	0.600	5.000	1.000	5.000	1.400	5.000	1.800	5.000
0.300	5.000	0.700	5.000	1.100	5.000	1.500	5.000	1.900	5.000
0.400	5.000	0.800	5.000	1.200	5.000	1.600	5.000	2.000	5.000

Node Unit 5 Flow Control Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	10.474	Product Number	CTL-SHE-0131-1000-2000-1000
Design Depth (m)	2.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	10.0	Min Node Diameter (mm)	1500

Node Unit 6 Flow Control Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	11.453	Product Number	CTL-SHE-0113-7500-2000-7500
Design Depth (m)	2.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	7.5	Min Node Diameter (mm)	1500

Node SWM06 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	7.466	Product Number	CTL-SHE-0180-1750-1500-1750
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	17.5	Min Node Diameter (mm)	1800

Node Unit 8 Flow Control Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	7.146	Product Number	CTL-SHE-0064-2500-2000-2500
Design Depth (m)	2.000	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.5	Min Node Diameter (mm)	1200

Node Unit 9 Flow Control Online Pump Control

Flap Valve	x	Design Depth (m)	2.000	Switch off depth (m)	0.000
Replaces Downstream Link	✓	Design Flow (l/s)	10.0		
Invert Level (m)	7.404	Switch on depth (m)	0.100		

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	10.000	0.500	10.000	0.900	10.000	1.300	10.000	1.700	10.000	2.100	10.000
0.200	10.000	0.600	10.000	1.000	10.000	1.400	10.000	1.800	10.000	2.200	10.000
0.300	10.000	0.700	10.000	1.100	10.000	1.500	10.000	1.900	10.000		
0.400	10.000	0.800	10.000	1.200	10.000	1.600	10.000	2.000	10.000		

Node Unit 4 Flow Control Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	9.976	Product Number	CTL-SHE-0092-5000-2000-5000
Design Depth (m)	2.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node SWM07 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	9.318	Product Number	CTL-SHE-0124-8000-1500-8000
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	8.0	Min Node Diameter (mm)	1500

Node Unit 10 Tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.450
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	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)
0.000	1650.0	1650.0	1.000	1650.0	1794.0	1.001	0.0	1794.0

Node Unit 5 Tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	10.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	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)
0.000	1420.0	1420.0	2.000	1420.0	1687.2	2.001	0.0	1687.2

Node Attenuation Pond 02 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.500
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)
0.000	442.0	442.0	2.500	1595.0	1626.2	2.501	0.0	1626.2

Node Unit 6 Tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	11.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	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)
0.000	900.0	900.0	1.000	900.0	1006.3	1.001	0.0	1006.3

Node Unit 9 Tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.450
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	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)
0.000	1370.0	1370.0	1.000	1370.0	1501.2	1.001	0.0	1501.2

Node Attenuation Pond 01 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	9.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

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	415.0	415.0	1.500	1070.0	1085.0	1.501	0.0	1085.0

Node Unit 8 Tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	8.000
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

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	285.0	285.0	1.000	285.0	344.8	1.001	0.0	344.8

Node Unit 8 Pond Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	7.250
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

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	450.0	450.0	1.500	935.0	954.2	1.501	0.0	954.2

Node Unit 4 Tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	10.000
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

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	1000.0	1000.0	1.000	1000.0	1112.1	1.001	0.0	1112.1

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	SWM07	1260	10.104	0.786	8.0	1.3887	0.0000	SURCHARGED
120 minute winter	Outfall 02	198	9.343	0.068	8.0	0.0000	0.0000	OK
15 minute winter	Unit 10 Pumping Station	10	7.846	0.487	295.5	1.2406	0.0000	SURCHARGED
360 minute winter	Unit 10 Tank	352	7.627	0.177	40.0	276.7661	0.0000	OK
1440 minute winter	Attenuation Pond 01	1260	10.111	0.611	17.8	335.3131	0.0000	SURCHARGED
30 minute winter	Outfall 01	133	6.932	0.032	1.8	0.0000	0.0000	OK
15 minute winter	Unit 9 Flow Control	10	7.855	0.451	309.6	0.7975	0.0000	SURCHARGED
960 minute winter	Unit 8 Flow Control	930	7.707	0.561	14.6	0.8032	0.0000	SURCHARGED
960 minute winter	Unit 8 Pond	930	7.707	0.457	12.6	239.6052	0.0000	SURCHARGED
180 minute winter	Unit 9 Tank	176	7.624	0.174	66.5	226.5857	0.0000	OK
15 minute summer	Unit 8 Tank	1	8.000	0.000	0.0	0.0000	0.0000	OK
15 minute winter	SWM02	12	9.933	0.076	9.0	0.0858	0.0000	OK
1440 minute winter	SWM03	1680	8.817	0.262	23.8	0.2958	0.0000	OK
15 minute winter	Unit 5 Flow Control	10	10.923	0.449	499.6	1.1422	0.0000	SURCHARGED
960 minute winter	Unit 5 Tank	720	10.897	0.397	28.8	535.4557	0.0000	OK
15 minute winter	SWM04	12	10.558	0.041	6.6	0.0464	0.0000	OK
15 minute winter	SWM05	11	11.316	0.066	6.6	0.0749	0.0000	OK
15 minute winter	Unit 6 Flow Control	10	11.824	0.371	197.0	0.6562	0.0000	SURCHARGED
480 minute winter	Unit 6 Tank	368	11.698	0.198	19.2	169.1298	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)
120 minute winter	SWM07	6.003	Outfall 02	8.0	0.753	0.201	0.0780	157.9
15 minute summer	Unit 10 Pumping Station	Pump	SWM02	5.0				
15 minute winter	Unit 10 Tank	1.000	Unit 10 Pumping Station	-288.6	-2.110	-0.525	7.1014	
15 minute winter	Attenuation Pond 01	6.002	SWM07	15.2	0.554	0.382	1.1294	
15 minute summer	Unit 9 Flow Control	Pump	Attenuation Pond 01	10.0				
30 minute winter	Unit 8 Flow Control	7.002	Outfall 01	1.8	0.506	0.044	0.1454	28.1
15 minute winter	Unit 8 Pond	7.001	Unit 8 Flow Control	-193.9	-1.828	-1.207	3.9884	
15 minute winter	Unit 9 Tank	6.000	Unit 9 Flow Control	-298.6	-2.696	-0.976	2.7545	
15 minute summer	Unit 8 Tank	7.000	Unit 8 Pond	0.0	0.000	0.000	0.0001	
15 minute winter	SWM02	1.002	SWM03	9.0	1.010	0.505	1.0247	
960 minute winter	SWM03	1.003	SWM06	25.2	0.886	0.357	0.8591	
15 minute winter	Unit 5 Flow Control	4.001	SWM03	9.5	0.982	0.535	0.0949	
15 minute winter	Unit 5 Tank	4.000	Unit 5 Flow Control	-489.4	-3.542	-0.890	1.9378	
15 minute winter	SWM04	3.003	SWM03	6.6	1.202	0.073	0.3927	
15 minute winter	SWM05	3.002	SWM04	6.6	0.916	0.166	0.9106	
15 minute winter	Unit 6 Flow Control	3.001	SWM05	6.6	0.897	0.167	0.3219	
15 minute winter	Unit 6 Tank	3.000	Unit 6 Flow Control	-189.5	-2.178	-0.620	2.2820	

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	
1440 minute winter	SWM06	1680	8.811	1.345	32.7	3.4223	0.0000	SURCHARGED	
60 minute winter	Outfall 03	108	7.496	0.100	17.5	0.0000	0.0000	OK	
1440 minute winter	Attenuation Pond 02	1680	8.811	1.311	22.3	976.0665	0.0000	SURCHARGED	
15 minute winter	Unit 4 Flow Control	10	10.299	0.323	197.0	0.5714	0.0000	SURCHARGED	
960 minute winter	Unit 4 Tank	720	10.218	0.218	11.3	207.4724	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)
60 minute winter	SWM06	1.004	Outfall 03		17.5	0.817	0.246	0.3633	291.2
1440 minute summer	Attenuation Pond 02	5.000	SWM06		25.8	-0.284	0.162	2.1944	
15 minute winter	Unit 4 Flow Control	2.001	SWM02		4.0	0.834	0.228	0.0828	
15 minute winter	Unit 4 Tank	2.000	Unit 4 Flow Control		-192.6	-2.642	-0.630	0.9916	

Results for 30 year +25% CC 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
1440 minute winter	SWM07	1680	10.772	1.454	8.0	2.5694	0.0000	FLOOD RISK
30 minute summer	Outfall 02	20	9.343	0.068	8.0	0.0000	0.0000	OK
15 minute winter	Unit 10 Pumping Station	10	8.144	0.785	907.0	1.9981	0.0000	SURCHARGED
960 minute winter	Unit 10 Tank	945	8.100	0.650	52.1	1019.0680	0.0000	OK
1440 minute winter	Attenuation Pond 01	1680	10.780	1.280	29.9	888.6446	0.0000	FLOOD RISK
15 minute winter	Outfall 01	10	6.937	0.037	2.4	0.0000	0.0000	OK
15 minute winter	Unit 9 Flow Control	10	8.415	1.011	950.2	1.7860	0.0000	SURCHARGED
15 minute winter	Unit 8 Flow Control	10	9.043	1.897	604.7	2.7146	0.0000	SURCHARGED
1440 minute winter	Unit 8 Pond	1410	8.353	1.103	26.2	692.9796	0.0000	SURCHARGED
480 minute winter	Unit 9 Tank	472	8.142	0.692	93.2	901.1791	0.0000	SURCHARGED
1440 minute winter	Unit 8 Tank	1410	8.353	0.353	8.1	95.5597	0.0000	OK
60 minute winter	SWM02	189	9.934	0.077	9.1	0.0868	0.0000	OK
1440 minute winter	SWM03	1680	9.633	1.078	25.7	1.2195	0.0000	SURCHARGED
1440 minute winter	Unit 5 Flow Control	1410	11.857	1.383	70.7	3.5189	0.0000	SURCHARGED
1440 minute winter	Unit 5 Tank	1410	11.857	1.357	60.8	1830.1630	0.0000	SURCHARGED
120 minute summer	SWM04	136	10.559	0.042	6.9	0.0475	0.0000	OK
15 minute winter	SWM05	10	11.318	0.068	6.9	0.0766	0.0000	OK
600 minute winter	Unit 6 Flow Control	585	12.195	0.742	55.1	1.3105	0.0000	SURCHARGED
600 minute winter	Unit 6 Tank	585	12.195	0.695	47.9	593.9510	0.0000	SURCHARGED
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	SWM07	6.003	Outfall 02	8.0	0.753	0.201	0.0780	122.8
15 minute summer	Unit 10 Pumping Station	Pump	SWM02	5.0				
15 minute winter	Unit 10 Tank	1.000	Unit 10 Pumping Station	-899.1	-3.232	-1.635	11.5516	
15 minute winter	Attenuation Pond 01	6.002	SWM07	20.6	0.641	0.519	1.2329	
15 minute summer	Unit 9 Flow Control	Pump	Attenuation Pond 01	10.0				
15 minute winter	Unit 8 Flow Control	7.002	Outfall 01	2.4	0.554	0.060	0.1814	22.7
15 minute winter	Unit 8 Pond	7.001	Unit 8 Flow Control	-601.2	-4.284	-3.742	6.5675	
15 minute winter	Unit 9 Tank	6.000	Unit 9 Flow Control	-936.8	-4.584	-3.062	4.5467	
240 minute winter	Unit 8 Tank	7.000	Unit 8 Pond	-20.1	-0.302	-0.119	9.6709	
120 minute summer	SWM02	1.002	SWM03	9.2	1.015	0.516	1.5323	
60 minute winter	SWM03	1.003	SWM06	31.3	0.905	0.443	1.0674	
15 minute summer	Unit 5 Flow Control	4.001	SWM03	9.8	0.990	0.554	0.0975	
15 minute winter	Unit 5 Tank	4.000	Unit 5 Flow Control	-1521.1	-4.962	-2.767	4.2706	
120 minute summer	SWM04	3.003	SWM03	6.9	1.156	0.077	1.4269	
15 minute winter	SWM05	3.002	SWM04	6.9	0.936	0.173	0.9413	
30 minute summer	Unit 6 Flow Control	3.001	SWM05	6.9	0.950	0.173	0.3317	
15 minute winter	Unit 6 Tank	3.000	Unit 6 Flow Control	-596.6	-3.228	-1.950	4.2273	

Results for 30 year +25% CC 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
1440 minute winter	SWM06	1680	9.622	2.156	25.5	5.4877	0.0000	SURCHARGED
1440 minute winter	Outfall 03	1680	7.504	0.108	20.3	0.0000	0.0000	OK
1440 minute winter	Attenuation Pond 02	1680	9.622	2.122	56.0	1976.6540	0.0000	SURCHARGED
960 minute winter	Unit 4 Flow Control	930	10.733	0.757	38.4	1.3370	0.0000	SURCHARGED
960 minute winter	Unit 4 Tank	930	10.733	0.733	34.1	696.0236	0.0000	SURCHARGED
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	SWM06	1.004	Outfall 03	20.3	0.849	0.285	0.4048	1655.9
60 minute winter	Attenuation Pond 02	5.000	SWM06	-31.2	-0.595	-0.196	2.1944	
60 minute winter	Unit 4 Flow Control	2.001	SWM02	4.1	0.931	0.234	0.0843	
15 minute winter	Unit 4 Tank	2.000	Unit 4 Flow Control	-599.8	-3.836	-1.961	1.9364	

Results for 100 year +25% CC Critical Storm Duration. Lowest mass balance: 99.75%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	SWM07	1680	10.951	1.633	8.1	2.8860	0.0000	FLOOD RISK
1440 minute winter	Outfall 02	1680	9.344	0.069	8.1	0.0000	0.0000	OK
15 minute winter	Unit 10 Pumping Station	10	8.373	1.014	1177.4	2.5803	0.0000	SURCHARGED
1440 minute winter	Unit 10 Tank	1410	8.334	0.884	47.6	1386.4340	0.0000	SURCHARGED
1440 minute winter	Attenuation Pond 01	1680	10.960	1.460	35.3	1071.0940	0.0000	FLOOD RISK
15 minute winter	Outfall 01	11	6.940	0.040	2.8	0.0000	0.0000	OK
15 minute winter	Unit 9 Flow Control	10	8.861	1.457	1233.4	2.5736	0.0000	SURCHARGED
15 minute winter	Unit 8 Flow Control	10	9.859	2.713	784.9	3.8827	0.0000	SURCHARGED
1440 minute winter	Unit 8 Pond	1440	8.578	1.328	33.6	882.2962	0.0000	FLOOD RISK
600 minute winter	Unit 9 Tank	585	8.408	0.958	101.1	1247.4520	0.0000	SURCHARGED
1440 minute winter	Unit 8 Tank	1440	8.578	0.578	11.3	156.3712	0.0000	SURCHARGED
1440 minute winter	SWM02	1680	10.194	0.337	9.1	0.3807	0.0000	SURCHARGED
1440 minute winter	SWM03	1680	9.894	1.339	25.7	1.5149	0.0000	SURCHARGED
1440 minute winter	Unit 5 Flow Control	1410	12.304	1.830	89.7	4.6561	0.0000	SURCHARGED
1440 minute winter	Unit 5 Tank	1410	12.304	1.804	80.3	2432.9550	0.0000	SURCHARGED
60 minute summer	SWM04	228	10.559	0.042	6.9	0.0475	0.0000	OK
15 minute winter	SWM05	9	11.318	0.068	6.9	0.0765	0.0000	OK
720 minute winter	Unit 6 Flow Control	705	12.465	1.012	61.6	1.7882	0.0000	SURCHARGED
720 minute winter	Unit 6 Tank	705	12.465	0.965	54.4	825.0978	0.0000	SURCHARGED
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	SWM07	6.003	Outfall 02	8.1	0.757	0.205	0.0791	732.0
15 minute summer	Unit 10 Pumping Station	Pump	SWM02	5.0				
15 minute winter	Unit 10 Tank	1.000	Unit 10 Pumping Station	-1165.9	-3.808	-2.121	12.8726	
15 minute summer	Attenuation Pond 01	6.002	SWM07	18.9	0.617	0.476	1.2329	
15 minute summer	Unit 9 Flow Control	Pump	Attenuation Pond 01	10.0				
15 minute winter	Unit 8 Flow Control	7.002	Outfall 01	2.8	0.582	0.071	0.2037	23.7
15 minute winter	Unit 8 Pond	7.001	Unit 8 Flow Control	-774.2	-5.142	-4.819	6.5675	
15 minute winter	Unit 9 Tank	6.000	Unit 9 Flow Control	-1220.8	-5.615	-3.991	5.3518	
120 minute winter	Unit 8 Tank	7.000	Unit 8 Pond	-49.0	-0.513	-0.290	11.4370	
180 minute summer	SWM02	1.002	SWM03	9.2	1.015	0.518	1.5287	
30 minute winter	SWM03	1.003	SWM06	31.5	0.904	0.446	1.1064	
15 minute winter	Unit 5 Flow Control	4.001	SWM03	9.8	0.990	0.554	0.0975	
15 minute winter	Unit 5 Tank	4.000	Unit 5 Flow Control	-1974.6	-5.500	-3.592	5.4280	
60 minute summer	SWM04	3.003	SWM03	6.9	1.092	0.077	1.4286	
60 minute summer	SWM05	3.002	SWM04	6.9	0.924	0.173	0.9415	
60 minute summer	Unit 6 Flow Control	3.001	SWM05	6.9	0.931	0.173	0.3319	
15 minute winter	Unit 6 Tank	3.000	Unit 6 Flow Control	-774.2	-3.590	-2.531	5.1567	

Results for 100 year +25% CC Critical Storm Duration. Lowest mass balance: 99.75%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	SWM06	1680	9.883	2.417	25.5	6.1511	0.0000	FLOOD RISK
1440 minute winter	Outfall 03	1680	7.507	0.111	21.4	0.0000	0.0000	OK
1440 minute winter	Attenuation Pond 02	1680	9.883	2.383	66.8	2362.6400	0.0000	FLOOD RISK
1440 minute winter	Unit 4 Flow Control	1410	11.436	1.460	35.4	2.5796	0.0000	SURCHARGED
1440 minute winter	Unit 4 Tank	1410	11.436	1.436	31.2	950.4750	0.0000	SURCHARGED
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	SWM06	1.004	Outfall 03	21.4	0.862	0.302	0.4217	1751.7
30 minute winter	Attenuation Pond 02	5.000	SWM06	-37.6	-0.515	-0.236	2.1944	
30 minute summer	Unit 4 Flow Control	2.001	SWM02	4.1	1.110	0.234	0.0843	
15 minute winter	Unit 4 Tank	2.000	Unit 4 Flow Control	-779.6	-4.128	-2.549	2.3341	