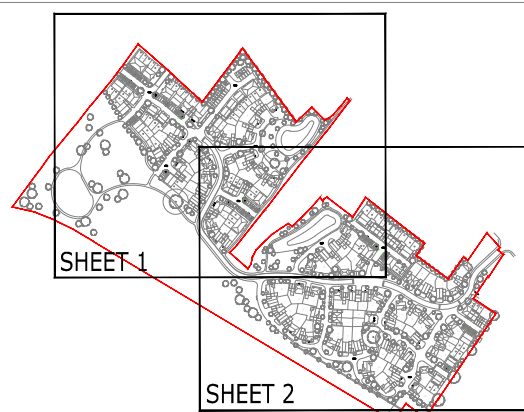




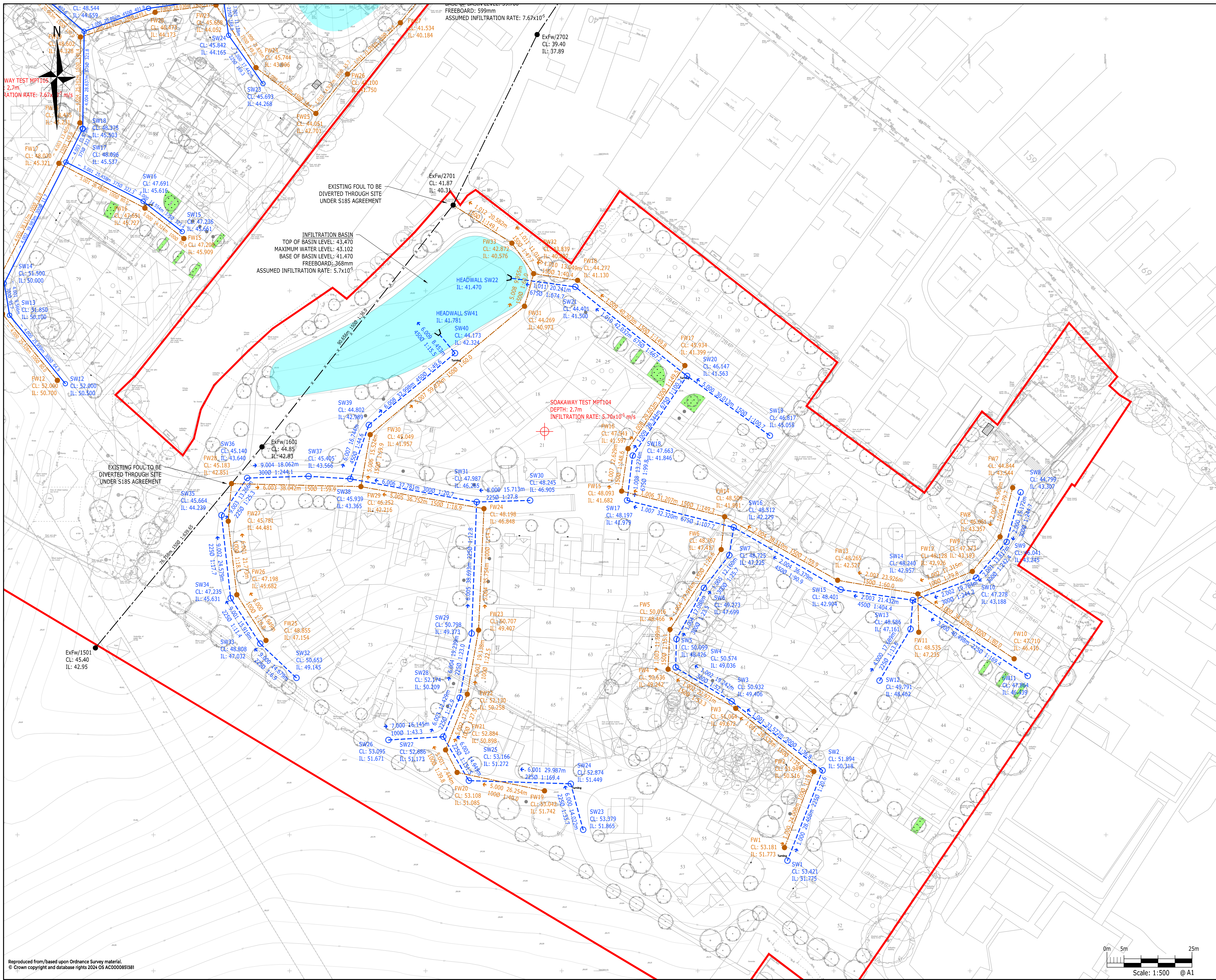
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- EXISTING FOUL WATER SEWER & MANHOLE
- EXISTING FOUL WATER SEWER & MANHOLE TO BE GRUBBED UP
- PROPOSED FOUL WATER SEWER & MANHOLE
- PROPOSED SURFACE WATER SEWER & MANHOLE
- PROPOSED SURFACE WATER POLYSTYROM OR AGREED EQUIVALENT CRATES
- PROPOSED INFILTRATION BASIN
- POTENTIAL TREE PIT LOCATIONS



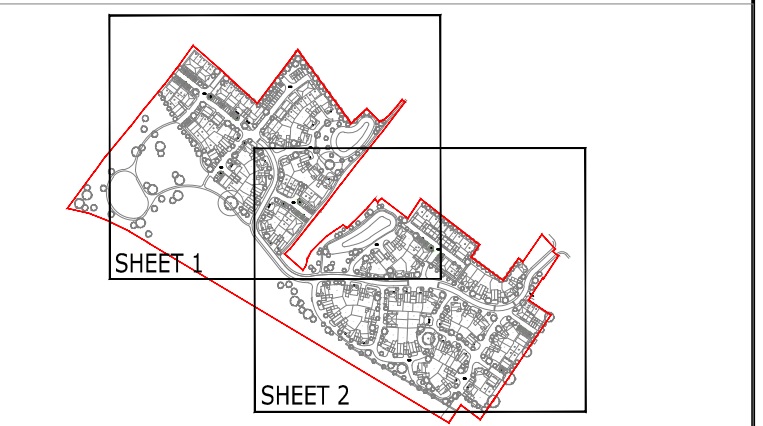
Project Title:

Scale 1:500@A1	Date 18-11-25	PI
Drawing Number		



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- DRAINAGE KEY**
- EXISTING FOUL WATER SEWER & MANHOLE
 - EXISTING FOUL WATER SEWER & MANHOLE TO BE GRUBBED UP
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 - PROPOSED INFILTRATION BASIN
 - POTENTIAL TREE PIT LOCATIONS



P1	FIRST ISSUE	AMC	AMC	AD	18-11-25
Rev	Description	Drn	Chk	App	Date
Purpose:		Status:			
PRELIMINARY		NOT YET APPROVED			
ARDENT CONSULTING ENGINEERS AN EMPLOYEE OWNED COMPANY Third Floor The Hallmark Building 52-56 Leadenhall Street London EC3M 5JE Tel: 020 7680 4088 Web: www.ardent-ce.co.uk E-mail: enquiries@ardent-ce.co.uk worksafe consultant www.amesst1.com SSIP MEMBER OF THE ASSOCIATION OF SUPPLY CHAIN PROFESSIONALS BSI 9001 BUREAU VERITAS certification 					
Client					
ESQUIRE DEVELOPMENTS					
Project Title:					
ROSE FARM, ISTEAD RISE					
Drawing Title:					
PROPOSED DRAINAGE LAYOUT SHEET 2					
Drawn by AMC	Checked by AMC	Approved by AD	Revision	P1	
Scale	Date				
1:500@A1	18-11-25				
Drawing Number					
2500920-ACE-XX-XX-DR-C-0702					

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)	0.600
CV	0.950	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	x
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
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)	Invert Level (m)
1	0.048	5.00	46.531	1350	563041.523	169841.090	1.650	44.881
2	0.000		47.044	1350	563063.103	169823.452	2.232	44.812
3	0.061	5.00	49.000	1200	563043.426	169800.777	1.365	47.635
4	0.000		47.616	1200	563057.242	169816.354	1.350	46.266
5	0.129	5.00	47.431	1350	563067.775	169814.934	2.643	44.788
6	0.000		47.940	1350	563095.325	169793.063	3.239	44.701
7	0.081	5.00	44.957	1200	563135.230	169803.787	1.425	43.532
8	0.081	5.00	42.328	1200	563166.255	169836.721	1.425	40.903
8.5	0.000		43.303	1200	563156.383	169829.335	2.478	40.825
9	0.124	5.00	50.900	1200	563080.339	169743.754	3.829	47.071
10	0.000		48.737	1200	563102.278	169772.828	1.881	46.856
11	0.024	5.00	48.194	1200	563114.537	169777.810	3.554	44.640
12	0.154	5.00	52.000	1200	563134.089	169652.696	1.500	50.500
13	0.000		51.850	1200	563117.694	169672.822	1.750	50.100
14	0.000		51.500	1200	563116.137	169682.260	1.500	50.000
15	0.109	5.00	47.236	1200	563168.442	169697.436	1.575	45.661
16	0.000		47.691	1200	563156.947	169706.363	2.075	45.616
17	0.000		48.096	1200	563134.262	169717.899	2.559	45.537
18	0.005	5.00	48.375	1200	563139.200	169727.700	2.872	45.503
19	0.119	5.00	48.544	1350	563139.618	169756.334	3.985	44.559
20	0.049	5.00	46.517	1350	563158.534	169763.108	2.008	44.509
21	0.075	5.00	43.352	1200	563191.940	169795.796	1.425	41.927
22	0.000		45.332	1200	563179.606	169772.691	3.560	41.772
23	0.065	5.00	45.693	1200	563192.187	169740.937	1.425	44.268
24	0.000		45.842	1200	563182.090	169755.159	1.677	44.165
25	0.000		45.529	1500	563180.516	169766.185	4.021	41.508
26			41.000		563204.922	169769.602	1.000	40.000
TANK	0.000	5.00	43.276	1200	563154.371	169831.580	4.126	39.150

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	27.871	403.9	450	Circular	46.531	44.881	1.200	47.044	44.812	1.782
1.001	9.715	404.8	450	Circular	47.044	44.812	1.782	47.431	44.788	2.193
2.000	20.821	15.2	150	Circular	49.000	47.635	1.215	47.616	46.266	1.200
2.001	10.628	57.5	150	Circular	47.616	46.266	1.200	47.431	46.081	1.200
1.002	35.176	404.3	450	Circular	47.431	44.788	2.193	47.940	44.701	2.789
1.003	24.531	402.1	450	Circular	47.940	44.701	2.789	48.194	44.640	3.104

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1350	Manhole	Adoptable	2	1350	Manhole	Adoptable
1.001	2	1350	Manhole	Adoptable	5	1350	Manhole	Adoptable
2.000	3	1200	Manhole	Adoptable	4	1200	Manhole	Adoptable
2.001	4	1200	Manhole	Adoptable	5	1350	Manhole	Adoptable
1.002	5	1350	Manhole	Adoptable	6	1350	Manhole	Adoptable
1.003	6	1350	Manhole	Adoptable	11	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)
3.000	36.423	169.4	225	Circular	50.900	47.071	3.604	48.737	46.856	1.656
3.001	13.233	152.1	225	Circular	48.737	46.856	1.656	48.194	46.769	1.200
1.004	33.019	407.6	450	Circular	48.194	44.640	3.104	48.544	44.559	3.535
4.000	25.959	64.9	300	Circular	52.000	50.500	1.200	51.850	50.100	1.450
4.001	9.566	95.7	300	Circular	51.850	50.100	1.450	51.500	50.000	1.200
4.002	39.983	11.7	300	Circular	51.500	50.000	1.200	48.096	46.596	1.200
5.000	14.554	323.4	375	Circular	47.236	45.661	1.200	47.691	45.616	1.700
5.001	25.458	322.3	375	Circular	47.691	45.616	1.700	48.096	45.537	2.184
4.003	10.975	322.8	375	Circular	48.096	45.537	2.184	48.375	45.503	2.497
4.004	28.637	321.8	375	Circular	48.375	45.503	2.497	48.544	45.414	2.755
1.005	20.092	401.8	450	Circular	48.544	44.559	3.535	46.517	44.509	1.558
1.006	22.196	35.2	450	Circular	46.517	44.509	1.558	45.529	43.879	1.200
6.000	26.191	169.0	225	Circular	43.352	41.927	1.200	45.332	41.772	3.335
6.001	6.569	168.4	225	Circular	45.332	41.772	3.335	45.529	41.733	3.571
7.000	17.442	169.3	225	Circular	45.693	44.268	1.200	45.842	44.165	1.452
7.001	11.138	168.8	225	Circular	45.842	44.165	1.452	45.529	44.099	1.205
1.007	24.644	16.3	450	Circular	45.529	41.508	3.571	41.000	40.000	0.550
8.001	3.015	167.5	225	Circular	43.303	40.830	2.248	43.276	40.812	2.239
10.000	33.169	20.1	225	Circular	44.957	43.532	1.200	43.303	41.878	1.200
10.001	12.329	168.9	225	Circular	42.328	40.903	1.200	43.303	40.830	2.248
10.002	3.015	1.8	225	Circular	43.303	40.825	2.253	43.276	39.150	3.901

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
3.000	9	1200	Manhole	Adoptable	10	1200	Manhole	Adoptable
3.001	10	1200	Manhole	Adoptable	11	1200	Manhole	Adoptable
1.004	11	1200	Manhole	Adoptable	19	1350	Manhole	Adoptable
4.000	12	1200	Manhole	Adoptable	13	1200	Manhole	Adoptable
4.001	13	1200	Manhole	Adoptable	14	1200	Manhole	Adoptable
4.002	14	1200	Manhole	Adoptable	17	1200	Manhole	Adoptable
5.000	15	1200	Manhole	Adoptable	16	1200	Manhole	Adoptable
5.001	16	1200	Manhole	Adoptable	17	1200	Manhole	Adoptable
4.003	17	1200	Manhole	Adoptable	18	1200	Manhole	Adoptable
4.004	18	1200	Manhole	Adoptable	19	1350	Manhole	Adoptable
1.005	19	1350	Manhole	Adoptable	20	1350	Manhole	Adoptable
1.006	20	1350	Manhole	Adoptable	25	1500	Manhole	Adoptable
6.000	21	1200	Manhole	Adoptable	22	1200	Manhole	Adoptable
6.001	22	1200	Manhole	Adoptable	25	1500	Manhole	Adoptable
7.000	23	1200	Manhole	Adoptable	24	1200	Manhole	Adoptable
7.001	24	1200	Manhole	Adoptable	25	1500	Manhole	Adoptable
1.007	25	1500	Manhole	Adoptable	26		Junction	
8.001	8.5	1200	Manhole	Adoptable	TANK	1200	Manhole	Adoptable
10.000	7	1200	Manhole	Adoptable	8.5	1200	Manhole	Adoptable
10.001	8	1200	Manhole	Adoptable	8.5	1200	Manhole	Adoptable
10.002	8.5	1200	Manhole	Adoptable	TANK	1200	Manhole	Adoptable

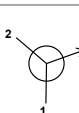
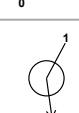
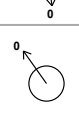
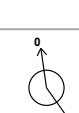
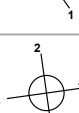
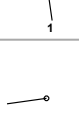
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
1	563041.523	169841.090	46.531	1.650	1350	Manhole	Adoptable		0	1.000	44.881	450	Circular
2	563063.103	169823.452	47.044	2.232	1350	Manhole	Adoptable		1	1.000	44.812	450	Circular
									0	1.001	44.812	450	Circular

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
3	563043.426	169800.777	49.000	1.365	1200	Manhole	Adoptable		0	2.000	47.635	150	Circular
4	563057.242	169816.354	47.616	1.350	1200	Manhole	Adoptable		1	2.000	46.266	150	Circular
5	563067.775	169814.934	47.431	2.643	1350	Manhole	Adoptable		0	2.001	46.266	150	Circular
									1	2.001	46.081	150	Circular
									2	1.001	44.788	450	Circular
									0	1.002	44.788	450	Circular
6	563095.325	169793.063	47.940	3.239	1350	Manhole	Adoptable		1	1.002	44.701	450	Circular
7	563135.230	169803.787	44.957	1.425	1200	Manhole	Adoptable		0	1.003	44.701	450	Circular
8	563166.255	169836.721	42.328	1.425	1200	Manhole	Adoptable		0	10.000	43.532	225	Circular
8.5	563156.383	169829.335	43.303	2.478	1200	Manhole	Adoptable		0	10.001	40.903	225	Circular
									1	10.001	40.830	225	Circular
									2	10.000	41.878	225	Circular
									0-1	8.001	40.830	225	Circular
									2	10.002	40.825	225	Circular
9	563080.339	169743.754	50.900	3.829	1200	Manhole	Adoptable		0	3.000	47.071	225	Circular
10	563102.278	169772.828	48.737	1.881	1200	Manhole	Adoptable		1	3.000	46.856	225	Circular
11	563114.537	169777.810	48.194	3.554	1200	Manhole	Adoptable		0	3.001	46.856	225	Circular
									1	3.001	46.769	225	Circular
									2	1.003	44.640	450	Circular
									0	1.004	44.640	450	Circular
12	563134.089	169652.696	52.000	1.500	1200	Manhole	Adoptable		0	4.000	50.500	300	Circular
13	563117.694	169672.822	51.850	1.750	1200	Manhole	Adoptable		1	4.000	50.100	300	Circular
									0	4.001	50.100	300	Circular
14	563116.137	169682.260	51.500	1.500	1200	Manhole	Adoptable		1	4.001	50.000	300	Circular
									0	4.002	50.000	300	Circular
15	563168.442	169697.436	47.236	1.575	1200	Manhole	Adoptable		0	5.000	45.661	375	Circular
16	563156.947	169706.363	47.691	2.075	1200	Manhole	Adoptable		1	5.000	45.616	375	Circular
									0	5.001	45.616	375	Circular

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
17	563134.262	169717.899	48.096	2.559	1200	Manhole	Adoptable		1 2 0	5.001 4.002 4.003	45.537 46.596 45.537	375 300 375	Circular Circular Circular
18	563139.200	169727.700	48.375	2.872	1200	Manhole	Adoptable		1 0	4.003 4.004	45.503 45.503	375 375	Circular Circular
19	563139.618	169756.334	48.544	3.985	1350	Manhole	Adoptable		1 2 0	4.004 1.004 1.005	45.414 44.559 44.559	375 450 450	Circular Circular Circular
20	563158.534	169763.108	46.517	2.008	1350	Manhole	Adoptable		1 0	1.005 1.006	44.509 44.509	450 450	Circular Circular
21	563191.940	169795.796	43.352	1.425	1200	Manhole	Adoptable		0	6.000	41.927	225	Circular
22	563179.606	169772.691	45.332	3.560	1200	Manhole	Adoptable		1 0	6.000 6.001	41.772 41.772	225 225	Circular Circular
23	563192.187	169740.937	45.693	1.425	1200	Manhole	Adoptable		0	7.000	44.268	225	Circular
24	563182.090	169755.159	45.842	1.677	1200	Manhole	Adoptable		1 0	7.000 7.001	44.165 44.165	225 225	Circular Circular
25	563180.516	169766.185	45.529	4.021	1500	Manhole	Adoptable		1 2 3 0	7.001 6.001 1.006 1.007	44.099 41.733 43.879 41.508	225 225 450 450	Circular Circular Circular Circular
26	563204.922	169769.602	41.000	1.000		Junction			1	1.007	40.000	450	Circular
TANK	563154.371	169831.580	43.276	4.126	1200	Manhole	Adoptable		1 2	10.002 8.001	39.150 40.812	225 225	Circular Circular

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	0.950	Drain Down Time (mins)	240	Check Discharge Volume x
Winter CV	0.950	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 %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0	100	45	0	0
30	0	0	0				

Node TANK Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	39.150
Side Inf Coefficient (m/hr)	0.27600	Porosity	0.95	Time to half empty (mins)	1653

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	60.0	0.0	2.800	60.0	40.8	2.801	0.0	40.8

Node 26 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.27600	Safety Factor	2.0	Invert Level (m)	39.700
Side Inf Coefficient (m/hr)	0.27600	Porosity	1.00	Time to half empty (mins)	219

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	515.0	515.0	1.300	970.0	986.6

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	11	44.935	0.054	5.2	0.1083	0.0000	OK
15 minute summer	2	11	44.912	0.100	5.0	0.1428	0.0000	OK
15 minute summer	3	10	47.673	0.038	6.6	0.0777	0.0000	OK
15 minute summer	4	10	46.322	0.056	6.5	0.0639	0.0000	OK
15 minute summer	5	11	44.910	0.122	24.7	0.2943	0.0000	OK
15 minute summer	6	12	44.826	0.125	24.7	0.1788	0.0000	OK
15 minute summer	7	10	43.574	0.042	8.7	0.0947	0.0000	OK
15 minute summer	8	10	40.977	0.074	8.7	0.1681	0.0000	OK
15 minute summer	8.5	9	40.856	0.031	17.1	0.0349	0.0000	OK

15 minute summer	9	10	47.162	0.091	13.3	0.1616	0.0000	OK
15 minute summer	10	11	46.947	0.091	13.1	0.1027	0.0000	OK
15 minute summer	11	12	44.800	0.160	38.5	0.2024	0.0000	OK
15 minute summer	12	10	50.569	0.069	16.6	0.2211	0.0000	OK
15 minute summer	13	10	50.185	0.085	16.4	0.0956	0.0000	OK
15 minute summer	14	11	50.046	0.046	16.2	0.0521	0.0000	OK
15 minute summer	15	10	45.746	0.085	11.7	0.2138	0.0000	OK
15 minute summer	16	11	45.696	0.080	11.5	0.0907	0.0000	OK
15 minute summer	17	11	45.676	0.139	27.8	0.1569	0.0000	OK
15 minute summer	18	12	45.634	0.131	28.1	0.1531	0.0000	OK
15 minute summer	19	12	44.761	0.202	76.2	0.4099	0.0000	OK
15 minute summer	20	12	44.633	0.124	80.8	0.2378	0.0000	OK
15 minute summer	21	10	41.997	0.070	8.1	0.1518	0.0000	OK
15 minute summer	22	11	41.845	0.073	8.0	0.0824	0.0000	OK
15 minute summer	23	10	44.333	0.065	7.0	0.1335	0.0000	OK
15 minute summer	24	11	44.231	0.066	6.9	0.0746	0.0000	OK
15 minute summer	25	12	41.614	0.106	94.5	0.1873	0.0000	OK
120 minute summer	26	80	39.781	-0.219	51.2	42.8809	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	2	5.0	0.341	0.031	0.5120
15 minute summer	2	1.001	5	5.6	0.229	0.035	0.2955
15 minute summer	3	2.000	4	6.5	1.377	0.143	0.1000
15 minute summer	4	2.001	5	6.4	1.102	0.274	0.0622
15 minute summer	5	1.002	6	24.7	0.720	0.154	1.2171
15 minute summer	6	1.003	11	23.9	0.557	0.149	1.0583
15 minute summer	7	10.000	8.5	8.6	1.709	0.073	0.1660
15 minute summer	8	10.001	8.5	8.5	0.780	0.214	0.1351
15 minute summer	8.5	8.001	TANK	1.0	0.415	0.025	0.0073
15 minute summer	8.5	10.002	TANK	16.2	4.269	0.041	0.0353
15 minute summer	9	3.000	10	13.1	0.887	0.329	0.5403
15 minute summer	10	3.001	11	13.1	0.908	0.311	0.1905
15 minute summer	11	1.004	19	38.4	0.650	0.241	1.9706
15 minute summer	12	4.000	13	16.4	1.151	0.119	0.3710
15 minute summer	13	4.001	14	16.2	1.445	0.143	0.1099
15 minute summer	14	4.002	17	16.3	2.419	0.050	0.2699
15 minute summer	15	5.000	16	11.5	0.648	0.104	0.2592
15 minute summer	16	5.001	17	11.4	0.437	0.103	0.6904
15 minute summer	17	4.003	18	27.6	0.782	0.249	0.3911
15 minute summer	18	4.004	19	27.8	0.863	0.251	0.9231
15 minute summer	19	1.005	20	76.6	1.481	0.478	1.0484
15 minute summer	20	1.006	25	80.8	2.397	0.148	0.7485
15 minute summer	21	6.000	22	8.0	0.748	0.200	0.2792
15 minute summer	22	6.001	25	8.0	0.753	0.199	0.0694
15 minute summer	23	7.000	24	6.9	0.723	0.173	0.1666
15 minute summer	24	7.001	25	6.9	0.736	0.173	0.1043
15 minute summer	25	1.007	26	94.6	3.400	0.118	0.6861
120 minute summer	26	Infiltration		20.2			

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute summer	TANK	1500	39.693	0.543	1.2	31.5416	0.0000	OK
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	
2160 minute summer	TANK	Infiltration			0.3			

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	12	45.108	0.227	19.4	0.4569	0.0000	OK
15 minute summer	2	12	45.107	0.295	16.0	0.4223	0.0000	OK
15 minute summer	3	10	47.713	0.078	24.7	0.1583	0.0000	OK
15 minute summer	4	11	46.457	0.191	24.6	0.2165	0.0000	SURCHARGED
15 minute summer	5	12	45.105	0.317	86.7	0.7641	0.0000	OK
15 minute summer	6	12	45.087	0.386	79.9	0.5521	0.0000	OK
15 minute summer	7	10	43.615	0.083	32.8	0.1893	0.0000	OK
15 minute summer	8	10	41.072	0.169	32.8	0.3837	0.0000	OK
15 minute summer	8.5	10	40.882	0.057	64.8	0.0649	0.0000	OK
15 minute summer	9	11	47.476	0.405	50.2	0.7200	0.0000	SURCHARGED
15 minute summer	10	11	47.110	0.254	48.3	0.2868	0.0000	SURCHARGED
15 minute summer	11	12	45.070	0.430	126.2	0.5447	0.0000	OK
15 minute summer	12	10	50.647	0.147	62.3	0.4681	0.0000	OK
15 minute summer	13	10	50.275	0.175	61.7	0.1984	0.0000	OK
15 minute summer	14	10	50.090	0.090	61.3	0.1017	0.0000	OK
15 minute summer	15	11	45.882	0.221	44.1	0.5548	0.0000	OK
15 minute summer	16	11	45.868	0.252	41.6	0.2848	0.0000	OK
15 minute summer	17	11	45.855	0.318	101.6	0.3599	0.0000	OK
15 minute summer	18	11	45.792	0.289	102.9	0.3371	0.0000	OK
15 minute summer	19	12	45.010	0.451	267.5	0.9152	0.0000	SURCHARGED
15 minute summer	20	11	44.771	0.262	282.9	0.5028	0.0000	OK
15 minute summer	21	10	42.081	0.154	30.3	0.3367	0.0000	OK
15 minute summer	22	11	41.935	0.163	29.9	0.1840	0.0000	OK
15 minute summer	23	10	44.411	0.143	26.3	0.2930	0.0000	OK
15 minute summer	24	11	44.308	0.143	26.0	0.1614	0.0000	OK
15 minute summer	25	11	41.721	0.213	337.0	0.3769	0.0000	OK
120 minute summer	26	96	40.054	0.054	162.1	204.1121	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	2	16.0	0.385	0.100	2.6517
15 minute summer	2	1.001	5	24.2	0.332	0.152	1.1155
15 minute summer	3	2.000	4	24.6	1.812	0.535	0.2799
15 minute summer	4	2.001	5	23.7	1.409	1.009	0.1831
15 minute summer	5	1.002	6	79.9	0.862	0.500	4.6459
15 minute summer	6	1.003	11	81.6	0.663	0.510	3.6883
15 minute summer	7	10.000	8.5	32.4	2.479	0.278	0.4341
15 minute summer	8	10.001	8.5	32.3	1.071	0.810	0.3716
15 minute summer	8.5	8.001	TANK	4.0	0.614	0.101	0.0199
15 minute summer	8.5	10.002	TANK	60.7	4.901	0.155	0.0717
15 minute summer	9	3.000	10	48.3	1.214	1.213	1.4486
15 minute summer	10	3.001	11	48.3	1.233	1.149	0.4922
15 minute summer	11	1.004	19	133.7	0.901	0.840	5.1905
15 minute summer	12	4.000	13	61.7	1.601	0.447	1.0008
15 minute summer	13	4.001	14	61.3	2.039	0.539	0.2894
15 minute summer	14	4.002	17	61.1	3.516	0.187	0.6945
15 minute summer	15	5.000	16	41.6	0.820	0.376	1.0629
15 minute summer	16	5.001	17	40.5	0.500	0.365	2.2705
15 minute summer	17	4.003	18	101.0	1.057	0.912	1.0475
15 minute summer	18	4.004	19	101.7	1.245	0.917	2.3423
15 minute summer	19	1.005	20	265.3	2.026	1.655	2.5499
15 minute summer	20	1.006	25	281.5	3.223	0.515	1.9418
15 minute summer	21	6.000	22	29.9	1.005	0.749	0.7783
15 minute summer	22	6.001	25	29.7	1.036	0.745	0.1883
15 minute summer	23	7.000	24	26.0	0.976	0.652	0.4638
15 minute summer	24	7.001	25	25.8	1.024	0.646	0.2803
15 minute summer	25	1.007	26	336.1	4.740	0.419	1.7479
120 minute summer	26	Infiltration		24.1			

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2160 minute summer	TANK	1440	40.514	1.364	3.4	79.3087	0.0000	OK
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	
2160 minute summer	TANK	Infiltration		0.7				

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	12	46.351	1.470	35.8	2.9586	0.0000	FLOOD RISK
15 minute summer	2	12	46.338	1.526	72.3	2.1837	0.0000	SURCHARGED
15 minute summer	3	12	48.158	0.523	45.6	1.0600	0.0000	SURCHARGED
15 minute summer	4	12	46.990	0.724	39.9	0.8185	0.0000	SURCHARGED
15 minute summer	5	12	46.345	1.557	149.3	3.7497	0.0000	SURCHARGED
15 minute summer	6	12	46.245	1.544	147.1	2.2092	0.0000	SURCHARGED
15 minute summer	7	10	43.651	0.119	60.5	0.2708	0.0000	OK
2880 minute summer	8	1920	41.773	0.870	2.8	1.9738	0.0000	SURCHARGED
2880 minute summer	8.5	1920	41.773	0.948	5.6	1.0725	0.0000	SURCHARGED
15 minute summer	9	11	48.691	1.620	92.6	2.8826	0.0000	SURCHARGED
15 minute summer	10	11	47.484	0.628	87.6	0.7102	0.0000	SURCHARGED
15 minute summer	11	12	46.168	1.528	247.8	1.9347	0.0000	SURCHARGED
15 minute summer	12	10	50.733	0.233	115.0	0.7422	0.0000	OK
15 minute summer	13	10	50.366	0.266	113.8	0.3013	0.0000	OK
15 minute summer	14	11	50.126	0.126	112.9	0.1425	0.0000	OK
15 minute summer	15	12	46.419	0.758	81.4	1.9055	0.0000	SURCHARGED
15 minute summer	16	12	46.391	0.775	75.6	0.8765	0.0000	SURCHARGED
15 minute summer	17	12	46.345	0.808	185.5	0.9134	0.0000	SURCHARGED
15 minute summer	18	12	46.199	0.696	187.3	0.8114	0.0000	SURCHARGED
15 minute summer	19	12	45.904	1.345	498.3	2.7280	0.0000	SURCHARGED
15 minute summer	20	12	45.165	0.656	528.2	1.2583	0.0000	SURCHARGED
15 minute summer	21	11	42.400	0.473	56.0	1.0323	0.0000	SURCHARGED
15 minute summer	22	11	42.055	0.283	54.3	0.3195	0.0000	SURCHARGED
15 minute summer	23	11	44.600	0.332	48.5	0.6783	0.0000	SURCHARGED
15 minute summer	24	11	44.416	0.251	47.0	0.2840	0.0000	SURCHARGED
15 minute summer	25	12	41.832	0.324	624.0	0.5723	0.0000	OK
120 minute winter	26	118	40.401	0.401	209.8	447.3788	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
30 minute summer	1	1.000	2	33.9	0.376	0.212	4.4160
15 minute winter	2	1.001	5	-70.3	-0.452	-0.440	1.5393
15 minute summer	3	2.000	4	39.9	2.269	0.871	0.3666
15 minute summer	4	2.001	5	39.3	2.233	1.673	0.1871
15 minute summer	5	1.002	6	147.1	0.929	0.921	5.5734
15 minute summer	6	1.003	11	154.2	0.973	0.962	3.8868
15 minute summer	7	10.000	8.5	59.9	2.889	0.513	0.6879
15 minute summer	8	10.001	8.5	59.4	1.496	1.490	0.4747
15 minute summer	8.5	8.001	TANK	10.9	0.802	0.272	0.0410
15 minute summer	8.5	10.002	TANK	108.6	5.254	0.278	0.0837
15 minute summer	9	3.000	10	87.6	2.202	2.199	1.4486
15 minute summer	10	3.001	11	87.2	2.194	2.075	0.5210
15 minute summer	11	1.004	19	249.2	1.573	1.566	5.2316
15 minute summer	12	4.000	13	113.8	1.816	0.824	1.6206
15 minute summer	13	4.001	14	112.9	2.317	0.994	0.4505
15 minute summer	14	4.002	17	112.7	4.132	0.346	1.0909
15 minute summer	15	5.000	16	75.6	0.794	0.683	1.6053
15 minute winter	16	5.001	17	73.3	0.665	0.662	2.8079
15 minute summer	17	4.003	18	183.6	1.665	1.658	1.2105
15 minute summer	18	4.004	19	183.2	1.677	1.651	3.1586
15 minute summer	19	1.005	20	499.5	3.153	3.116	3.1834
15 minute summer	20	1.006	25	530.8	3.488	0.972	3.2164
15 minute summer	21	6.000	22	54.3	1.364	1.361	1.0416
15 minute summer	22	6.001	25	54.4	1.376	1.362	0.2496
15 minute summer	23	7.000	24	47.0	1.182	1.180	0.6937
15 minute summer	24	7.001	25	47.2	1.208	1.183	0.4124
15 minute summer	25	1.007	26	625.8	5.410	0.780	2.8484
120 minute winter	26	Infiltration		29.2			

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute summer	TANK	1920	41.773	2.623	5.6	152.4919	0.0000	OK
Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	
2880 minute summer	TANK	Infiltration			1.5			

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)	0.600
CV	0.950	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)	Invert Level (m)
1	0.077	5.00	53.421	1200	563346.351	169512.416	1.646	51.775
2	0.107	5.00	51.894	1200	563356.682	169538.943	1.576	50.318
3	0.038	5.00	50.932	1200	563329.957	169559.261	1.526	49.406
4			50.574	1200	563313.501	169569.233	1.538	49.036
5	0.063	5.00	50.099	1200	563313.737	169577.568	1.673	48.426
6			49.273	1200	563321.800	169592.634	1.574	47.699
7			48.725	1200	563329.251	169602.244	1.500	47.225
8	0.081	5.00	44.799	1200	563414.893	169620.766	1.492	43.307
9			46.041	1200	563410.784	169606.161	2.796	43.245
10			47.278	1200	563401.841	169595.629	4.090	43.188
11	0.071	5.00	47.864	1200	563417.013	169566.738	1.425	46.439
12	0.090	5.00	49.791	1200	563373.430	169565.358	1.329	48.462
13			48.586	1200	563382.551	169580.514	1.425	47.161
14			48.240	1350	563383.194	169589.018	5.283	42.957
15	0.128	5.00	48.401	1350	563361.989	169592.130	5.497	42.904
16	0.045	5.00	48.512	1500	563330.558	169610.448	6.233	42.279
17	0.780	5.00	48.197	1500	563299.228	169618.387	6.218	41.979
18	0.058	5.00	47.663	1500	563300.866	169631.560	5.817	41.846
19	0.053	5.00	46.817	1200	563341.201	169637.417	1.762	45.055
20	0.096	5.00	46.147	1500	563316.853	169654.965	4.584	41.563
21			44.401	1500	563284.002	169681.186	2.901	41.500
22			43.470		563263.942	169683.885	2.000	41.470
23	0.056	5.00	53.379	1200	563286.299	169521.476	1.514	51.865
24	0.058	5.00	52.874	1200	563282.672	169535.021	1.425	51.449
25			53.166	1200	563252.699	169535.950	1.894	51.272
26	0.031	5.00	53.095	1200	563229.059	169547.910	1.424	51.671
27			52.686	1200	563245.176	169548.868	1.513	51.173
28	0.081	5.00	52.174	1200	563250.016	169560.316	1.965	50.209
29			50.798	1200	563253.524	169579.232	1.425	49.373
30	0.058	5.00	48.245	1200	563270.709	169618.376	1.340	46.905
31			47.987	1200	563255.003	169617.897	1.722	46.265
32	0.102	5.00	50.653	1200	563202.022	169566.162	1.508	49.145
33			48.808	1200	563191.353	169576.244	1.776	47.032
34			47.235	1200	563182.683	169589.595	1.604	45.631
35			45.664	1200	563179.996	169614.027	1.425	44.239
36	0.045	5.00	45.140	1200	563187.531	169624.945	1.500	43.640
37			45.405	1200	563205.585	169625.481	1.839	43.566
38	0.097	5.00	45.939	1350	563217.841	169624.709	2.574	43.365
39	0.109	5.00	44.802	1350	563223.298	169640.539	1.813	42.989
40			44.173	1350	563248.643	169661.669	1.849	42.324
41			43.503	1350	563243.249	169668.177	1.722	41.781

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	28.468	20.6	225	Circular	53.421	51.775	1.421	51.894	50.393	1.276
1.001	33.572	36.8	300	Circular	51.894	50.318	1.276	50.932	49.406	1.226
1.002	19.242	52.1	300	Circular	50.932	49.406	1.226	50.574	49.036	1.238
1.003	8.338	13.7	300	Circular	50.574	49.036	1.238	50.099	48.426	1.373
1.004	17.088	23.5	300	Circular	50.099	48.426	1.373	49.273	47.699	1.274
1.005	12.160	25.7	300	Circular	49.273	47.699	1.274	48.725	47.225	1.200
1.006	8.307	39.0	300	Circular	48.725	47.225	1.200	48.512	47.012	1.200
2.000	15.172	244.7	300	Circular	44.799	43.307	1.192	46.041	43.245	2.496
2.001	13.817	242.4	300	Circular	46.041	43.245	2.496	47.278	43.188	3.790
2.002	19.784	244.2	300	Circular	47.278	43.188	3.790	48.240	43.107	4.833
3.000	40.498	169.4	225	Circular	47.864	46.439	1.200	48.240	46.200	1.815
4.000	17.689	13.6	225	Circular	49.791	48.462	1.104	48.586	47.161	1.200
4.001	8.528	24.6	225	Circular	48.586	47.161	1.200	48.240	46.815	1.200
2.003	21.432	404.4	450	Circular	48.240	42.957	4.833	48.401	42.904	5.047
2.004	36.379	90.9	450	Circular	48.401	42.904	5.047	48.512	42.504	5.558
1.007	32.320	107.7	675	Circular	48.512	42.279	5.558	48.197	41.979	5.543
1.008	13.274	99.8	675	Circular	48.197	41.979	5.543	47.663	41.846	5.142
1.009	28.344	100.2	675	Circular	47.663	41.846	5.142	46.147	41.563	3.909
5.000	30.013	100.7	150	Circular	46.817	45.055	1.612	46.147	44.757	1.240
1.010	42.032	667.2	675	Circular	46.147	41.563	3.909	44.401	41.500	2.226
1.011	20.241	674.7	675	Circular	44.401	41.500	2.226	43.470	41.470	1.325
6.000	14.022	33.7	225	Circular	53.379	51.865	1.289	52.874	51.449	1.200
6.001	29.987	169.4	225	Circular	52.874	51.449	1.200	53.166	51.272	1.669
6.002	14.949	151.5	225	Circular	53.166	51.272	1.669	52.686	51.173	1.288
7.000	16.145	43.3	100	Circular	53.095	51.671	1.324	52.686	51.298	1.288
6.003	12.429	12.9	225	Circular	52.686	51.173	1.288	52.174	50.209	1.740
6.004	19.239	23.0	225	Circular	52.174	50.209	1.740	50.798	49.373	1.200
6.005	38.693	12.8	225	Circular	50.798	49.373	1.200	47.987	46.340	1.422

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable
1.001	2	1200	Manhole	Adoptable	3	1200	Manhole	Adoptable
1.002	3	1200	Manhole	Adoptable	4	1200	Manhole	Adoptable
1.003	4	1200	Manhole	Adoptable	5	1200	Manhole	Adoptable
1.004	5	1200	Manhole	Adoptable	6	1200	Manhole	Adoptable
1.005	6	1200	Manhole	Adoptable	7	1200	Manhole	Adoptable
1.006	7	1200	Manhole	Adoptable	16	1500	Manhole	Adoptable
2.000	8	1200	Manhole	Adoptable	9	1200	Manhole	Adoptable
2.001	9	1200	Manhole	Adoptable	10	1200	Manhole	Adoptable
2.002	10	1200	Manhole	Adoptable	14	1350	Manhole	Adoptable
3.000	11	1200	Manhole	Adoptable	14	1350	Manhole	Adoptable
4.000	12	1200	Manhole	Adoptable	13	1200	Manhole	Adoptable
4.001	13	1200	Manhole	Adoptable	14	1350	Manhole	Adoptable
2.003	14	1350	Manhole	Adoptable	15	1350	Manhole	Adoptable
2.004	15	1350	Manhole	Adoptable	16	1500	Manhole	Adoptable
1.007	16	1500	Manhole	Adoptable	17	1500	Manhole	Adoptable
1.008	17	1500	Manhole	Adoptable	18	1500	Manhole	Adoptable
1.009	18	1500	Manhole	Adoptable	20	1500	Manhole	Adoptable
5.000	19	1200	Manhole	Adoptable	20	1500	Manhole	Adoptable
1.010	20	1500	Manhole	Adoptable	21	1500	Manhole	Adoptable
1.011	21	1500	Manhole	Adoptable	22		Junction	
6.000	23	1200	Manhole	Adoptable	24	1200	Manhole	Adoptable
6.001	24	1200	Manhole	Adoptable	25	1200	Manhole	Adoptable
6.002	25	1200	Manhole	Adoptable	27	1200	Manhole	Adoptable
7.000	26	1200	Manhole	Adoptable	27	1200	Manhole	Adoptable
6.003	27	1200	Manhole	Adoptable	28	1200	Manhole	Adoptable
6.004	28	1200	Manhole	Adoptable	29	1200	Manhole	Adoptable
6.005	29	1200	Manhole	Adoptable	31	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)
8.000	15.713	27.8	225	Circular	48.245	46.905	1.115	47.987	46.340	1.422
6.006	37.781	20.7	300	Circular	47.987	46.265	1.422	45.939	44.439	1.200
9.000	14.679	6.9	225	Circular	50.653	49.145	1.283	48.808	47.032	1.551
9.001	15.919	11.4	225	Circular	48.808	47.032	1.551	47.235	45.631	1.379
9.002	24.579	17.7	225	Circular	47.235	45.631	1.379	45.664	44.239	1.200
9.003	13.266	25.3	225	Circular	45.664	44.239	1.200	45.140	43.715	1.200
9.004	18.062	244.1	300	Circular	45.140	43.640	1.200	45.405	43.566	1.539
9.005	12.280	240.8	300	Circular	45.405	43.566	1.539	45.939	43.515	2.124
6.007	16.744	44.6	450	Circular	45.939	43.365	2.124	44.802	42.989	1.363
6.008	32.998	49.6	450	Circular	44.802	42.989	1.363	44.173	42.324	1.399
6.009	8.453	15.5	450	Circular	44.173	42.324	1.399	43.503	41.781	1.272
6.010	25.980	405.9	450	Circular	43.503	41.781	1.272	43.470	41.717	1.303

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
8.000	30	1200	Manhole	Adoptable	31	1200	Manhole	Adoptable
6.006	31	1200	Manhole	Adoptable	38	1350	Manhole	Adoptable
9.000	32	1200	Manhole	Adoptable	33	1200	Manhole	Adoptable
9.001	33	1200	Manhole	Adoptable	34	1200	Manhole	Adoptable
9.002	34	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
9.003	35	1200	Manhole	Adoptable	36	1200	Manhole	Adoptable
9.004	36	1200	Manhole	Adoptable	37	1200	Manhole	Adoptable
9.005	37	1200	Manhole	Adoptable	38	1350	Manhole	Adoptable
6.007	38	1350	Manhole	Adoptable	39	1350	Manhole	Adoptable
6.008	39	1350	Manhole	Adoptable	40	1350	Manhole	Adoptable
6.009	40	1350	Manhole	Adoptable	41	1350	Manhole	Adoptable
6.010	41	1350	Manhole	Adoptable	22		Junction	

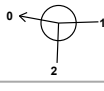
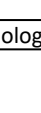
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
1	563346.351	169512.416	53.421	1.646	1200	Manhole	Adoptable		0	1.000	51.775	225	Circular
2	563356.682	169538.943	51.894	1.576	1200	Manhole	Adoptable		1	1.000	50.393	225	Circular
3	563329.957	169559.261	50.932	1.526	1200	Manhole	Adoptable		0	1.001	50.318	300	Circular
4	563313.501	169569.233	50.574	1.538	1200	Manhole	Adoptable		1	1.001	49.406	300	Circular
5	563313.737	169577.568	50.099	1.673	1200	Manhole	Adoptable		0	1.002	49.406	300	Circular
6	563321.800	169592.634	49.273	1.574	1200	Manhole	Adoptable		1	1.002	49.036	300	Circular
7	563329.251	169602.244	48.725	1.500	1200	Manhole	Adoptable		0	1.003	49.036	300	Circular
									1	1.003	48.426	300	Circular
									0	1.004	48.426	300	Circular
									1	1.004	47.699	300	Circular
									0	1.005	47.699	300	Circular
									1	1.005	47.225	300	Circular
									0	1.006	47.225	300	Circular

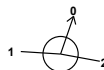
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
8	563414.893	169620.766	44.799	1.492	1200	Manhole	Adoptable		0	2.000	43.307	300	Circular
9	563410.784	169606.161	46.041	2.796	1200	Manhole	Adoptable		1	2.000	43.245	300	Circular
									0	2.001	43.245	300	Circular
10	563401.841	169595.629	47.278	4.090	1200	Manhole	Adoptable		1	2.001	43.188	300	Circular
									0	2.002	43.188	300	Circular
11	563417.013	169566.738	47.864	1.425	1200	Manhole	Adoptable		0	3.000	46.439	225	Circular
12	563373.430	169565.358	49.791	1.329	1200	Manhole	Adoptable		0	4.000	48.462	225	Circular
13	563382.551	169580.514	48.586	1.425	1200	Manhole	Adoptable		1	4.000	47.161	225	Circular
									0	4.001	47.161	225	Circular
14	563383.194	169589.018	48.240	5.283	1350	Manhole	Adoptable		1	4.001	46.815	225	Circular
									2	3.000	46.200	225	Circular
									3	2.002	43.107	300	Circular
									0	2.003	42.957	450	Circular
15	563361.989	169592.130	48.401	5.497	1350	Manhole	Adoptable		1	2.003	42.904	450	Circular
									0	2.004	42.904	450	Circular
16	563330.558	169610.448	48.512	6.233	1500	Manhole	Adoptable		1	2.004	42.504	450	Circular
									2	1.006	47.012	300	Circular
									0	1.007	42.279	675	Circular
17	563299.228	169618.387	48.197	6.218	1500	Manhole	Adoptable		1	1.007	41.979	675	Circular
									0	1.008	41.979	675	Circular
18	563300.866	169631.560	47.663	5.817	1500	Manhole	Adoptable		1	1.008	41.846	675	Circular
									0	1.009	41.846	675	Circular
19	563341.201	169637.417	46.817	1.762	1200	Manhole	Adoptable		0	5.000	45.055	150	Circular
20	563316.853	169654.965	46.147	4.584	1500	Manhole	Adoptable		1	5.000	44.757	150	Circular
									2	1.009	41.563	675	Circular
									0	1.010	41.563	675	Circular
21	563284.002	169681.186	44.401	2.901	1500	Manhole	Adoptable		1	1.010	41.500	675	Circular
									0	1.011	41.500	675	Circular
22	563263.942	169683.885	43.470	2.000		Junction			1	6.010	41.717	450	Circular
									2	1.011	41.470	675	Circular

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
23	563286.299	169521.476	53.379	1.514	1200	Manhole	Adoptable		0	6.000	51.865	225 Circular
24	563282.672	169535.021	52.874	1.425	1200	Manhole	Adoptable		1	6.000	51.449	225 Circular
25	563252.699	169535.950	53.166	1.894	1200	Manhole	Adoptable		1	6.001	51.449	225 Circular
26	563229.059	169547.910	53.095	1.424	1200	Manhole	Adoptable		0	6.002	51.272	225 Circular
27	563245.176	169548.868	52.686	1.513	1200	Manhole	Adoptable		1	7.000	51.298	100 Circular
28	563250.016	169560.316	52.174	1.965	1200	Manhole	Adoptable		2	6.002	51.173	225 Circular
29	563253.524	169579.232	50.798	1.425	1200	Manhole	Adoptable		0	6.003	51.173	225 Circular
30	563270.709	169618.376	48.245	1.340	1200	Manhole	Adoptable		1	6.003	50.209	225 Circular
31	563255.003	169617.897	47.987	1.722	1200	Manhole	Adoptable		0	6.004	50.209	225 Circular
32	563202.022	169566.162	50.653	1.508	1200	Manhole	Adoptable		1	6.005	49.373	225 Circular
33	563191.353	169576.244	48.808	1.776	1200	Manhole	Adoptable		0	6.005	49.373	225 Circular
34	563182.683	169589.595	47.235	1.604	1200	Manhole	Adoptable		1	8.000	46.905	225 Circular
35	563179.996	169614.027	45.664	1.425	1200	Manhole	Adoptable		0	8.000	46.340	225 Circular
36	563187.531	169624.945	45.140	1.500	1200	Manhole	Adoptable		2	6.005	46.340	225 Circular
37	563205.585	169625.481	45.405	1.839	1200	Manhole	Adoptable		0	6.006	46.265	300 Circular
38	563179.996	169614.027	45.664	1.425	1200	Manhole	Adoptable		1	9.000	49.145	225 Circular
39	563191.353	169576.244	48.808	1.776	1200	Manhole	Adoptable		0	9.000	47.032	225 Circular
40	563182.683	169589.595	47.235	1.604	1200	Manhole	Adoptable		0	9.001	47.032	225 Circular
41	563179.996	169614.027	45.664	1.425	1200	Manhole	Adoptable		1	9.001	45.631	225 Circular
42	563187.531	169624.945	45.140	1.500	1200	Manhole	Adoptable		0	9.002	45.631	225 Circular
43	563205.585	169625.481	45.405	1.839	1200	Manhole	Adoptable		1	9.002	44.239	225 Circular
44	563179.996	169614.027	45.664	1.425	1200	Manhole	Adoptable		0	9.003	44.239	225 Circular
45	563187.531	169624.945	45.140	1.500	1200	Manhole	Adoptable		1	9.003	43.715	225 Circular
46	563205.585	169625.481	45.405	1.839	1200	Manhole	Adoptable		0	9.004	43.640	300 Circular
47	563179.996	169614.027	45.664	1.425	1200	Manhole	Adoptable		1	9.004	43.566	300 Circular
48	563187.531	169624.945	45.140	1.500	1200	Manhole	Adoptable		0	9.005	43.566	300 Circular

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
38	563217.841	169624.709	45.939	2.574	1350	Manhole	Adoptable		1	9.005	43.515	300	Circular
									2	6.006	44.439	300	Circular
									0	6.007	43.365	450	Circular
39	563223.298	169640.539	44.802	1.813	1350	Manhole	Adoptable		1	6.007	42.989	450	Circular
									0	6.008	42.989	450	Circular
40	563248.643	169661.669	44.173	1.849	1350	Manhole	Adoptable		1	6.008	42.324	450	Circular
									0	6.009	42.324	450	Circular
41	563243.249	169668.177	43.503	1.722	1350	Manhole	Adoptable		1	6.009	41.781	450	Circular
									0	6.010	41.781	450	Circular

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	0.950	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.950	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 %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0	100	45	0	0
30	0	0	0				

Node 22 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.20520	Safety Factor	2.0	Invert Level (m)	41.470
Side Inf Coefficient (m/hr)	0.20520	Porosity	1.00	Time to half empty (mins)	497

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	525.0	525.0	1.600	1206.1	1225.4	2.000	1558.0	1225.5

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	51.816	0.041	8.3	0.0851	0.0000	OK
15 minute summer	2	10	50.384	0.066	19.7	0.1631	0.0000	OK
15 minute summer	3	10	49.492	0.086	23.6	0.1401	0.0000	OK
15 minute summer	4	11	49.094	0.057	23.3	0.0647	0.0000	OK
15 minute summer	5	11	48.502	0.076	29.9	0.1427	0.0000	OK
15 minute summer	6	11	47.776	0.077	30.1	0.0873	0.0000	OK
15 minute summer	7	11	47.318	0.093	30.2	0.1048	0.0000	OK
15 minute summer	8	10	43.380	0.073	8.7	0.1626	0.0000	OK
15 minute summer	9	11	43.318	0.073	8.6	0.0825	0.0000	OK
15 minute summer	10	11	43.260	0.072	8.5	0.0814	0.0000	OK
15 minute summer	11	11	46.505	0.066	7.6	0.1408	0.0000	OK
15 minute summer	12	10	48.502	0.040	9.7	0.0985	0.0000	OK
15 minute summer	13	10	47.209	0.048	9.6	0.0546	0.0000	OK
15 minute summer	14	11	43.080	0.123	25.2	0.1757	0.0000	OK
15 minute summer	15	11	43.008	0.104	38.4	0.1978	0.0000	OK
15 minute summer	16	11	42.407	0.128	72.9	0.2443	0.0000	OK
15 minute summer	17	11	42.189	0.210	152.5	0.8971	0.0000	OK
15 minute summer	18	11	42.043	0.197	158.7	0.3877	0.0000	OK
15 minute summer	19	11	45.114	0.059	5.7	0.1014	0.0000	OK
15 minute summer	20	11	41.892	0.329	174.8	0.7193	0.0000	OK
15 minute summer	21	12	41.784	0.284	171.9	0.5024	0.0000	OK
240 minute summer	22	168	41.766	0.296	86.8	174.2279	0.0000	OK
15 minute summer	23	10	51.904	0.039	6.0	0.0732	0.0000	OK
15 minute summer	24	10	51.535	0.086	12.1	0.1679	0.0000	OK
15 minute summer	25	11	51.359	0.087	11.9	0.0985	0.0000	OK
15 minute summer	26	10	51.713	0.042	3.3	0.0660	0.0000	OK
15 minute summer	27	11	51.222	0.049	15.2	0.0554	0.0000	OK
15 minute summer	28	11	50.285	0.076	23.5	0.1485	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	2	8.2	1.668	0.071	0.1395
15 minute summer	2	1.001	3	19.5	1.397	0.106	0.4700
15 minute summer	3	1.002	4	23.3	1.816	0.151	0.2499
15 minute summer	4	1.003	5	23.4	2.025	0.078	0.0970
15 minute summer	5	1.004	6	30.1	2.127	0.131	0.2414
15 minute summer	6	1.005	7	30.2	1.843	0.137	0.1994
15 minute summer	7	1.006	16	30.2	1.764	0.169	0.1424
15 minute summer	8	2.000	9	8.6	0.650	0.121	0.2000
15 minute summer	9	2.001	10	8.5	0.662	0.120	0.1808
15 minute summer	10	2.002	14	8.4	0.672	0.119	0.2487
15 minute summer	11	3.000	14	7.4	0.766	0.185	0.3892
15 minute summer	12	4.000	13	9.6	1.766	0.068	0.0966
15 minute summer	13	4.001	14	9.5	1.591	0.091	0.0511
15 minute summer	14	2.003	15	25.2	0.806	0.158	0.6725
15 minute summer	15	2.004	16	38.1	1.410	0.112	0.9827
15 minute summer	16	1.007	17	72.4	1.080	0.080	2.2823
15 minute summer	17	1.008	18	152.8	1.689	0.163	1.2013
15 minute summer	18	1.009	20	159.5	1.240	0.170	3.6739
15 minute summer	19	5.000	20	5.5	0.880	0.312	0.1884
15 minute summer	20	1.010	21	171.9	1.108	0.477	6.5631
15 minute summer	21	1.011	22	177.3	2.458	0.495	1.7078
240 minute summer	22	Infiltration		18.1			
15 minute summer	23	6.000	24	5.9	0.659	0.066	0.1305
15 minute summer	24	6.001	25	11.9	0.853	0.299	0.4210
15 minute summer	25	6.002	27	12.0	1.187	0.285	0.1535
15 minute summer	26	7.000	27	3.2	1.056	0.352	0.0497
15 minute summer	27	6.003	28	15.2	1.698	0.105	0.1127
15 minute summer	28	6.004	29	23.6	2.290	0.217	0.1988

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	29	11	49.435	0.062	23.6	0.0702	0.0000	OK
15 minute summer	30	10	46.944	0.039	6.2	0.0776	0.0000	OK
15 minute summer	31	11	46.336	0.071	29.5	0.0808	0.0000	OK
15 minute summer	32	10	49.181	0.036	11.0	0.0889	0.0000	OK
15 minute summer	33	10	47.073	0.041	10.9	0.0458	0.0000	OK
15 minute summer	34	10	45.676	0.045	10.9	0.0506	0.0000	OK
15 minute summer	35	11	44.290	0.051	10.8	0.0575	0.0000	OK
15 minute summer	36	11	43.740	0.100	15.5	0.1727	0.0000	OK
15 minute summer	37	11	43.667	0.100	15.5	0.1137	0.0000	OK
15 minute summer	38	11	43.471	0.106	54.9	0.2318	0.0000	OK
15 minute summer	39	11	43.114	0.125	66.1	0.3285	0.0000	OK
15 minute summer	40	11	42.410	0.085	66.0	0.1220	0.0000	OK
15 minute summer	41	11	41.978	0.198	65.9	0.2829	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	29	6.005	31	23.6	2.689	0.161	0.3391
15 minute summer	30	8.000	31	6.1	1.368	0.062	0.0703
15 minute summer	31	6.006	38	29.5	2.337	0.120	0.4768
15 minute summer	32	9.000	33	10.9	2.463	0.055	0.0653
15 minute summer	33	9.001	34	10.9	2.089	0.070	0.0829
15 minute summer	34	9.002	35	10.8	1.767	0.087	0.1505
15 minute summer	35	9.003	36	10.8	1.657	0.104	0.0865
15 minute summer	36	9.004	37	15.5	0.759	0.219	0.3716
15 minute summer	37	9.005	38	15.5	0.785	0.218	0.2426
15 minute summer	38	6.007	39	54.9	1.713	0.113	0.5375
15 minute summer	39	6.008	40	66.0	2.354	0.144	0.9337
15 minute summer	40	6.009	41	65.9	1.546	0.080	0.3713
15 minute summer	41	6.010	22	65.3	1.056	0.410	1.6116

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	51.857	0.082	31.2	0.1699	0.0000	OK
15 minute summer	2	10	50.449	0.131	74.1	0.3260	0.0000	OK
15 minute summer	3	10	49.590	0.185	89.1	0.3006	0.0000	OK
15 minute summer	4	10	49.159	0.122	88.2	0.1383	0.0000	OK
15 minute summer	5	10	48.588	0.162	113.4	0.3052	0.0000	OK
15 minute summer	6	10	47.871	0.172	112.9	0.1948	0.0000	OK
15 minute summer	7	11	47.439	0.214	113.1	0.2426	0.0000	OK
15 minute summer	8	10	43.464	0.157	32.8	0.3473	0.0000	OK
15 minute summer	9	11	43.399	0.154	32.4	0.1746	0.0000	OK
15 minute summer	10	11	43.338	0.150	32.0	0.1696	0.0000	OK
15 minute summer	11	11	46.582	0.143	28.7	0.3044	0.0000	OK
15 minute summer	12	10	48.539	0.077	36.4	0.1919	0.0000	OK
15 minute summer	13	10	47.263	0.102	36.2	0.1156	0.0000	OK
15 minute summer	14	11	43.215	0.258	95.5	0.3686	0.0000	OK
15 minute summer	15	11	43.123	0.219	145.4	0.4163	0.0000	OK
15 minute summer	16	11	42.624	0.345	277.6	0.6594	0.0000	OK
15 minute summer	17	11	42.615	0.636	578.6	2.7208	0.0000	OK
15 minute summer	18	11	42.519	0.673	584.4	1.3241	0.0000	OK
15 minute summer	19	11	45.275	0.220	21.4	0.3815	0.0000	SURCHARGED
480 minute summer	20	304	42.381	0.818	144.2	1.7885	0.0000	SURCHARGED
480 minute summer	21	296	42.368	0.868	103.8	1.5345	0.0000	SURCHARGED
240 minute winter	22	228	42.356	0.886	157.0	631.9315	0.0000	OK
15 minute summer	23	10	51.942	0.077	22.7	0.1432	0.0000	OK
15 minute summer	24	11	51.702	0.253	46.1	0.4924	0.0000	SURCHARGED
15 minute summer	25	11	51.465	0.193	44.7	0.2188	0.0000	OK
15 minute summer	26	12	51.974	0.303	12.5	0.4749	0.0000	SURCHARGED
15 minute summer	27	11	51.269	0.096	55.6	0.1084	0.0000	OK
15 minute summer	28	11	50.384	0.175	86.9	0.3417	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	1	1.000	2	30.9	2.415	0.268	0.3640
15 minute summer	2	1.001	3	73.7	1.964	0.401	1.2587
15 minute summer	3	1.002	4	88.2	2.438	0.572	0.6967
15 minute summer	4	1.003	5	87.9	2.689	0.291	0.2742
15 minute summer	5	1.004	6	112.9	2.804	0.490	0.6889
15 minute summer	6	1.005	7	113.1	2.358	0.514	0.5818
15 minute summer	7	1.006	16	113.7	2.370	0.637	0.3974
15 minute summer	8	2.000	9	32.4	0.879	0.458	0.5590
15 minute summer	9	2.001	10	32.0	0.900	0.450	0.4955
15 minute summer	10	2.002	14	32.3	0.968	0.457	0.6610
15 minute summer	11	3.000	14	28.0	1.077	0.704	1.0542
15 minute summer	12	4.000	13	36.2	2.456	0.255	0.2616
15 minute summer	13	4.001	14	36.0	2.222	0.342	0.1382
15 minute summer	14	2.003	15	95.9	1.125	0.601	1.8275
15 minute summer	15	2.004	16	146.5	2.006	0.432	2.6574
15 minute summer	16	1.007	17	270.7	1.261	0.300	8.5995
15 minute summer	17	1.008	18	562.0	1.886	0.599	4.6821
15 minute summer	18	1.009	20	581.2	1.628	0.620	10.1133
15 minute summer	19	5.000	20	19.9	1.145	1.127	0.5060
15 minute summer	20	1.010	21	630.3	1.795	1.749	14.2939
15 minute summer	21	1.011	22	705.3	3.257	1.969	6.2045
240 minute winter	22	Infiltration		25.7			
15 minute summer	23	6.000	24	22.6	0.859	0.251	0.3622
15 minute summer	24	6.001	25	44.7	1.129	1.122	1.1412
15 minute summer	25	6.002	27	44.7	1.659	1.062	0.3920
15 minute summer	26	7.000	27	10.9	1.388	1.177	0.1250
15 minute summer	27	6.003	28	55.5	2.328	0.381	0.3058
15 minute summer	28	6.004	29	87.0	3.038	0.799	0.5471

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	29	11	49.503	0.130	87.0	0.1471	0.0000	OK
15 minute summer	30	10	46.983	0.078	23.5	0.1565	0.0000	OK
15 minute summer	31	11	46.412	0.147	109.5	0.1663	0.0000	OK
15 minute summer	32	10	49.216	0.071	41.3	0.1762	0.0000	OK
15 minute summer	33	10	47.114	0.081	41.1	0.0920	0.0000	OK
15 minute summer	34	10	45.722	0.090	41.0	0.1021	0.0000	OK
15 minute summer	35	10	44.338	0.099	40.8	0.1125	0.0000	OK
15 minute summer	36	11	43.872	0.232	58.7	0.4008	0.0000	OK
15 minute summer	37	11	43.788	0.222	58.2	0.2509	0.0000	OK
15 minute summer	38	11	43.600	0.235	205.7	0.5130	0.0000	OK
15 minute summer	39	11	43.248	0.258	248.0	0.6803	0.0000	OK
15 minute summer	40	11	42.547	0.223	248.2	0.3185	0.0000	OK
240 minute winter	41	228	42.356	0.575	45.5	0.8226	0.0000	SURCHARGED

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	29	6.005	31	86.9	3.763	0.593	0.8936
15 minute summer	30	8.000	31	23.3	1.973	0.235	0.1856
15 minute summer	31	6.006	38	109.5	3.304	0.446	1.2521
15 minute summer	32	9.000	33	41.1	3.485	0.207	0.1734
15 minute summer	33	9.001	34	41.0	2.950	0.264	0.2213
15 minute summer	34	9.002	35	40.8	2.565	0.328	0.3907
15 minute summer	35	9.003	36	40.5	1.877	0.390	0.3075
15 minute summer	36	9.004	37	58.2	1.025	0.822	1.0315
15 minute summer	37	9.005	38	58.7	1.144	0.824	0.6293
15 minute summer	38	6.007	39	205.9	2.316	0.424	1.4880
15 minute summer	39	6.008	40	248.2	2.882	0.540	2.8420
15 minute summer	40	6.009	41	247.9	1.918	0.301	0.9999
15 minute summer	41	6.010	22	249.6	1.626	1.565	3.7842