

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	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	0.300	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)
IC1	0.021	5.00	122.842	450	1091.637	958.333	1.842
1	0.065	5.00	122.364	1200	1089.908	962.135	1.864
2			120.384	1200	1083.240	977.467	2.059
7	0.034	5.00	119.900	1200	1079.597	979.179	1.980
IC9	0.006	5.00	119.950	450	1069.540	961.443	1.300
IC10	0.005	5.00	120.000	450	1071.914	968.459	1.475
IC11	0.005	5.00	120.000	450	1074.721	976.758	1.623
8			120.280	1200	1078.250	975.465	2.750
Tank1			120.200		1074.822	967.787	2.770
9			119.000	1800	1069.814	953.264	2.200
101	0.025	5.00	117.250	1200	1056.000	947.000	1.750
100			117.250	1800	1054.585	949.395	1.950
10			116.700	1200	1052.681	951.645	1.600
5			116.550	1200	1050.175	961.718	1.550
IC8	0.010	5.00	117.100	450	1053.089	962.103	1.300
Tank2			116.700		1051.884	967.123	1.730
IC7	0.015	5.00	116.810	450	1053.257	968.539	1.350
4	0.011	5.00	116.650	1200	1052.454	970.727	1.685
6	0.011	5.00	116.520	1800	1053.237	977.957	1.657
Existing			115.950		1045.732	978.690	1.138

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	IC1	1	4.177	0.600	121.000	120.550	0.450	9.3	100	5.03	47.2
1.001	1	2	16.719	0.600	120.500	118.400	2.100	8.0	150	5.10	46.9
1.002	2	7	4.025	0.600	118.325	117.920	0.405	9.9	225	5.12	46.9
1.003	7	8	3.951	0.600	117.920	117.530	0.390	10.1	225	5.14	46.8
4.000	IC9	IC10	7.407	0.600	118.650	118.525	0.125	59.3	100	5.12	46.9
4.001	IC10	IC11	8.761	0.600	118.525	118.377	0.148	59.2	100	5.27	46.4

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	2.552	20.0	2.7	1.742	1.714	0.021	0.0	25	1.772
1.001	3.593	63.5	10.9	1.714	1.834	0.086	0.0	42	2.695
1.002	4.174	166.0	10.9	1.834	1.755	0.086	0.0	39	2.395
1.003	4.135	164.4	15.2	1.755	2.525	0.120	0.0	46	2.615
4.000	1.002	7.9	0.8	1.200	1.375	0.006	0.0	21	0.625
4.001	1.003	7.9	1.4	1.375	1.523	0.011	0.0	29	0.756

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)
4.002	IC11	8	3.758	0.600	118.377	118.313	0.064	58.7	100	5.33	46.1
1.004	8	Tank1	8.408	0.600	117.530	117.430	0.100	84.1	225	5.43	45.8
1.005	Tank1	9	15.362	0.600	117.430	116.800	0.630	24.4	225	5.53	45.5
1.006	9	10	17.209	0.600	116.800	115.175	1.625	10.6	150	5.62	45.2
10.000	101	100	2.782	0.600	115.500	115.300	0.200	13.9	150	5.02	47.3
10.001	100	10	2.947	0.600	115.300	115.175	0.125	23.6	150	5.04	47.2
1.007	10	5	10.380	0.600	115.100	115.000	0.100	103.8	225	5.75	44.7
1.008	5	Tank2	5.669	0.600	115.000	114.975	0.025	226.7	225	5.86	44.4
5.000	IC8	Tank2	5.163	0.600	115.800	115.100	0.700	7.4	100	5.03	47.2
1.009	Tank2	4	3.649	0.600	114.970	114.965	0.005	729.8	225	5.99	44.0
6.000	IC7	4	2.331	0.600	115.460	115.040	0.420	5.5	150	5.01	47.3
1.010	4	6	7.272	0.600	114.965	114.863	0.102	71.3	225	6.07	43.7
1.011	6	Existing	7.541	0.600	114.863	114.812	0.051	147.9	150	6.22	43.3

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)
4.002	1.007	7.9	2.0	1.523	1.867	0.016	0.0	34	0.835
1.004	1.427	56.7	16.9	2.525	2.545	0.136	0.0	84	1.248
1.005	2.660	105.8	16.8	2.545	1.975	0.136	0.0	60	1.956
1.006	3.113	55.0	16.6	2.050	1.375	0.136	0.0	57	2.735
10.000	2.715	48.0	3.2	1.600	1.800	0.025	0.0	26	1.543
10.001	2.082	36.8	3.2	1.800	1.375	0.025	0.0	30	1.276
1.007	1.283	51.0	19.5	1.375	1.325	0.161	0.0	96	1.198
1.008	0.864	34.4	19.4	1.325	1.500	0.161	0.0	121	0.889
5.000	2.864	22.5	1.3	1.200	1.500	0.010	0.0	16	1.533
1.009	0.476	18.9	20.4	1.505	1.460	0.171	0.0	225	0.485
6.000	4.306	76.1	1.9	1.200	1.460	0.015	0.0	17	1.852
1.010	1.550	61.6	23.3	1.460	1.432	0.197	0.0	96	1.448
1.011	0.824	14.6	24.4	1.507	0.988	0.208	0.0	150	0.839

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	4.177	9.3	100	Circular_Default Sewer Type	122.842	121.000	1.742	122.364	120.550	1.714
1.001	16.719	8.0	150	Circular_Default Sewer Type	122.364	120.500	1.714	120.384	118.400	1.834
1.002	4.025	9.9	225	Circular_Default Sewer Type	120.384	118.325	1.834	119.900	117.920	1.755
1.003	3.951	10.1	225	Circular_Default Sewer Type	119.900	117.920	1.755	120.280	117.530	2.525
4.000	7.407	59.3	100	Circular_Default Sewer Type	119.950	118.650	1.200	120.000	118.525	1.375
4.001	8.761	59.2	100	Circular_Default Sewer Type	120.000	118.525	1.375	120.000	118.377	1.523
4.002	3.758	58.7	100	Circular_Default Sewer Type	120.000	118.377	1.523	120.280	118.313	1.867

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	IC1	450	Manhole	Adoptable	1	1200	Manhole	Adoptable
1.001	1	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable
1.002	2	1200	Manhole	Adoptable	7	1200	Manhole	Adoptable
1.003	7	1200	Manhole	Adoptable	8	1200	Manhole	Adoptable
4.000	IC9	450	Manhole	Adoptable	IC10	450	Manhole	Adoptable
4.001	IC10	450	Manhole	Adoptable	IC11	450	Manhole	Adoptable
4.002	IC11	450	Manhole	Adoptable	8	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)
1.004	8.408	84.1	225	Circular_Default Sewer Type	120.280	117.530	2.525	120.200	117.430	2.545
1.005	15.362	24.4	225	Circular_Default Sewer Type	120.200	117.430	2.545	119.000	116.800	1.975
1.006	17.209	10.6	150	Circular_Default Sewer Type	119.000	116.800	2.050	116.700	115.175	1.375
10.000	2.782	13.9	150	Circular_Default Sewer Type	117.250	115.500	1.600	117.250	115.300	1.800
10.001	2.947	23.6	150	Circular_Default Sewer Type	117.250	115.300	1.800	116.700	115.175	1.375
1.007	10.380	103.8	225	Circular_Default Sewer Type	116.700	115.100	1.375	116.550	115.000	1.325
1.008	5.669	226.7	225	Circular_Default Sewer Type	116.550	115.000	1.325	116.700	114.975	1.500
5.000	5.163	7.4	100	Circular_Default Sewer Type	117.100	115.800	1.200	116.700	115.100	1.500
1.009	3.649	729.8	225	Circular_Default Sewer Type	116.700	114.970	1.505	116.650	114.965	1.460
6.000	2.331	5.5	150	Circular_Default Sewer Type	116.810	115.460	1.200	116.650	115.040	1.460
1.010	7.272	71.3	225	Circular_Default Sewer Type	116.650	114.965	1.460	116.520	114.863	1.432
1.011	7.541	147.9	150	Circular_Default Sewer Type	116.520	114.863	1.507	115.950	114.812	0.988

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.004	8	1200	Manhole	Adoptable	Tank1		Junction	
1.005	Tank1		Junction		9	1800	Manhole	Adoptable
1.006	9	1800	Manhole	Adoptable	10	1200	Manhole	Adoptable
10.000	101	1200	Manhole	Adoptable	100	1800	Manhole	Adoptable
10.001	100	1800	Manhole	Adoptable	10	1200	Manhole	Adoptable
1.007	10	1200	Manhole	Adoptable	5	1200	Manhole	Adoptable
1.008	5	1200	Manhole	Adoptable	Tank2		Junction	
5.000	IC8	450	Manhole	Adoptable	Tank2		Junction	
1.009	Tank2		Junction		4	1200	Manhole	Adoptable
6.000	IC7	450	Manhole	Adoptable	4	1200	Manhole	Adoptable
1.010	4	1200	Manhole	Adoptable	6	1800	Manhole	Adoptable
1.011	6	1800	Manhole	Adoptable	Existing		Junction	

Node 9 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	116.800	Product Number	CTL-SHE-0070-3000-2100-3000
Design Depth (m)	2.100	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	3.0	Min Node Diameter (mm)	1200

Node 100 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	115.300	Product Number	CTL-SHE-0081-3000-1100-3000
Design Depth (m)	1.100	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	3.0	Min Node Diameter (mm)	1200

Node 6 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	114.863	Product Number	CTL-SHE-0082-3500-1500-3500
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	3.5	Min Node Diameter (mm)	1200

Node Tank1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	117.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	308

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	1.000	60.0	0.0	1.001	0.0	0.0

Node 101 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	115.500
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	20.0	0.0	1.000	20.0	0.0	1.001	0.0	0.0

Node Tank2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	114.970
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	10.0	0.0	1.200	10.0	0.0	1.201	0.0	0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 96.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	IC1	10	121.030	0.030	3.5	0.0117	0.0000	OK
15 minute winter	1	10	120.550	0.050	14.3	0.0912	0.0000	OK
15 minute winter	2	10	118.373	0.048	14.2	0.0540	0.0000	OK
15 minute winter	7	10	117.974	0.054	19.7	0.0795	0.0000	OK
15 minute winter	IC9	10	118.674	0.024	1.0	0.0060	0.0000	OK
15 minute winter	IC10	11	118.557	0.032	1.8	0.0073	0.0000	OK
15 minute winter	IC11	11	118.420	0.043	2.5	0.0094	0.0000	OK
15 minute winter	8	10	117.630	0.100	22.1	0.1135	0.0000	OK
120 minute winter	Tank1	92	117.610	0.180	9.7	10.2528	0.0000	OK
120 minute winter	9	96	117.611	0.811	6.0	2.0645	0.0000	SURCHARGED
15 minute winter	101	11	115.528	0.028	4.1	0.5723	0.0000	OK
15 minute winter	100	14	115.454	0.154	3.6	0.3918	0.0000	SURCHARGED
120 minute winter	10	94	115.334	0.234	3.4	0.2651	0.0000	SURCHARGED
120 minute winter	5	94	115.334	0.334	3.2	0.3778	0.0000	SURCHARGED
15 minute winter	IC8	10	115.819	0.019	1.7	0.0059	0.0000	OK
120 minute winter	Tank2	94	115.334	0.364	3.4	3.4570	0.0000	SURCHARGED
15 minute winter	IC7	10	115.480	0.020	2.5	0.0076	0.0000	OK
120 minute winter	4	94	115.334	0.369	3.5	0.4654	0.0000	SURCHARGED
120 minute winter	6	94	115.333	0.470	3.6	1.2592	0.0000	SURCHARGED
15 minute summer	Existing	1	114.812	0.000	3.1	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	IC1	1.000	1	3.5	1.829	0.174	0.0079	
15 minute winter	1	1.001	2	14.2	2.834	0.223	0.0836	
15 minute winter	2	1.002	7	14.1	2.106	0.085	0.0270	
15 minute winter	7	1.003	8	19.6	1.633	0.119	0.0482	
15 minute winter	IC9	4.000	IC10	1.0	0.546	0.124	0.0133	
15 minute winter	IC10	4.001	IC11	1.7	0.661	0.222	0.0234	
15 minute winter	IC11	4.002	8	2.6	0.852	0.324	0.0113	
15 minute winter	8	1.004	Tank1	22.0	1.923	0.388	0.1094	
15 minute summer	Tank1	1.005	9	17.2	0.909	0.162	0.4209	
15 minute summer	9	Hydro-Brake®	10	2.1				
15 minute winter	101	10.000	100	3.6	0.937	0.076	0.0273	
15 minute winter	100	Hydro-Brake®	10	2.7				
15 minute winter	10	1.007	5	4.6	0.662	0.090	0.2135	
15 minute winter	5	1.008	Tank2	5.0	0.489	0.147	0.1911	
15 minute winter	IC8	5.000	Tank2	1.7	1.662	0.075	0.0143	
15 minute winter	Tank2	1.009	4	3.4	0.544	0.179	0.1352	
15 minute winter	IC7	6.000	4	2.5	1.886	0.033	0.0186	
15 minute winter	4	1.010	6	4.9	0.510	0.079	0.2808	
30 minute winter	6	Hydro-Brake®	Existing	3.1				21.5

Results for 30 year Critical Storm Duration. Lowest mass balance: 96.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	IC1	10	121.043	0.043	6.6	0.0168	0.0000	OK
15 minute winter	1	10	120.572	0.072	27.0	0.1309	0.0000	OK
15 minute winter	2	10	118.393	0.068	26.8	0.0769	0.0000	OK
15 minute winter	7	10	118.001	0.081	37.4	0.1193	0.0000	OK
15 minute winter	IC9	10	118.683	0.033	1.9	0.0084	0.0000	OK
15 minute winter	IC10	10	118.572	0.047	3.5	0.0107	0.0000	OK
15 minute winter	IC11	10	118.442	0.065	5.0	0.0143	0.0000	OK
120 minute winter	8	116	117.901	0.371	15.6	0.4200	0.0000	SURCHARGED
120 minute winter	Tank1	116	117.901	0.471	14.9	26.8534	0.0000	SURCHARGED
120 minute winter	9	116	117.901	1.101	6.7	2.8015	0.0000	SURCHARGED
180 minute winter	101	184	115.747	0.247	2.1	5.0453	0.0000	SURCHARGED
180 minute winter	100	184	115.747	0.447	2.1	1.1379	0.0000	SURCHARGED
180 minute winter	10	172	115.746	0.646	3.7	0.7308	0.0000	SURCHARGED
180 minute winter	5	172	115.746	0.746	3.2	0.8436	0.0000	SURCHARGED
15 minute winter	IC8	10	115.826	0.026	3.1	0.0080	0.0000	OK
180 minute winter	Tank2	172	115.746	0.776	3.7	7.3694	0.0000	SURCHARGED
180 minute winter	IC7	172	115.746	0.286	1.3	0.1088	0.0000	SURCHARGED
180 minute winter	4	172	115.746	0.781	3.3	0.9851	0.0000	SURCHARGED
180 minute winter	6	172	115.745	0.882	3.8	2.3619	0.0000	SURCHARGED
15 minute summer	Existing	1	114.812	0.000	3.1	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	IC1	1.000	1	6.6	2.142	0.327	0.0128	
15 minute winter	1	1.001	2	26.8	3.337	0.422	0.1342	
15 minute winter	2	1.002	7	26.7	2.332	0.161	0.0462	
15 minute winter	7	1.003	8	37.3	1.870	0.227	0.0791	
15 minute winter	IC9	4.000	IC10	1.9	0.638	0.239	0.0219	
15 minute winter	IC10	4.001	IC11	3.4	0.762	0.435	0.0393	
15 minute winter	IC11	4.002	8	4.9	0.991	0.625	0.0187	
15 minute winter	8	1.004	Tank1	41.8	2.127	0.737	0.2850	
15 minute summer	Tank1	1.005	9	24.8	0.980	0.234	0.6066	
120 minute winter	9	Hydro-Brake®	10	2.2				
15 minute summer	101	10.000	100	8.7	0.961	0.182	0.0328	
15 minute winter	100	Hydro-Brake®	10	3.0				
15 minute summer	10	1.007	5	5.8	0.658	0.114	0.4128	
15 minute summer	5	1.008	Tank2	5.5	0.489	0.159	0.2255	
15 minute winter	IC8	5.000	Tank2	3.2	1.947	0.141	0.0237	
15 minute winter	Tank2	1.009	4	-5.5	0.544	-0.290	0.1451	
15 minute winter	IC7	6.000	4	4.7	2.087	0.062	0.0225	
15 minute summer	4	1.010	6	4.7	0.509	0.076	0.2892	
15 minute summer	6	Hydro-Brake®	Existing	3.1				26.6

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 96.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	IC1	10	121.064	0.064	11.9	0.0246	0.0000	OK
15 minute winter	1	10	120.607	0.107	48.8	0.1953	0.0000	OK
240 minute winter	2	224	118.800	0.475	11.0	0.5372	0.0000	SURCHARGED
240 minute winter	7	224	118.800	0.880	15.4	1.2969	0.0000	SURCHARGED
240 minute winter	IC9	224	118.800	0.150	0.8	0.0376	0.0000	SURCHARGED
240 minute winter	IC10	224	118.800	0.275	1.4	0.0624	0.0000	SURCHARGED
240 minute winter	IC11	224	118.800	0.423	2.0	0.0934	0.0000	SURCHARGED
240 minute winter	8	224	118.800	1.270	17.2	1.4360	0.0000	SURCHARGED
240 minute winter	Tank1	224	118.799	1.369	17.0	57.0285	0.0000	SURCHARGED
240 minute winter	9	224	118.799	1.999	4.2	5.0868	0.0000	FLOOD RISK
360 minute winter	101	352	116.368	0.868	3.3	17.7145	0.0000	SURCHARGED
360 minute winter	100	352	116.368	1.068	1.6	2.7171	0.0000	SURCHARGED
360 minute winter	10	336	116.362	1.262	3.2	1.4270	0.0000	SURCHARGED
360 minute winter	5	336	116.361	1.361	3.2	1.5394	0.0000	FLOOD RISK
360 minute winter	IC8	336	116.361	0.561	1.0	0.1756	0.0000	SURCHARGED
360 minute winter	Tank2	336	116.361	1.391	3.3	11.4048	0.0000	SURCHARGED
360 minute winter	IC7	336	116.361	0.901	1.4	0.3432	0.0000	SURCHARGED
360 minute winter	4	336	116.361	1.396	3.4	1.7614	0.0000	FLOOD RISK
360 minute winter	6	336	116.360	1.497	3.6	4.0086	0.0000	FLOOD RISK
15 minute summer	Existing	1	114.812	0.000	3.1	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	IC1	1.000	1	11.9	2.411	0.592	0.0206	
15 minute winter	1	1.001	2	48.4	3.778	0.762	0.2141	
15 minute winter	2	1.002	7	48.3	2.432	0.291	0.0924	
15 minute winter	7	1.003	8	66.5	1.976	0.404	0.1388	
15 minute winter	IC9	4.000	IC10	3.4	0.700	0.427	0.0364	
15 minute winter	IC10	4.001	IC11	6.0	0.827	0.758	0.0625	
15 minute winter	IC11	4.002	8	8.6	1.105	1.093	0.0288	
15 minute winter	8	1.004	Tank1	72.6	2.286	1.281	0.3344	
15 minute winter	Tank1	1.005	9	28.6	1.114	0.271	0.6110	
240 minute winter	9	Hydro-Brake®	10	2.9				
30 minute summer	101	10.000	100	9.2	0.948	0.192	0.0490	
15 minute winter	100	Hydro-Brake®	10	3.0				
15 minute summer	10	1.007	5	4.9	0.721	0.096	0.4128	
15 minute winter	5	1.008	Tank2	-5.6	0.367	-0.163	0.2255	
15 minute winter	IC8	5.000	Tank2	5.7	2.161	0.253	0.0263	
15 minute winter	Tank2	1.009	4	-12.2	-0.334	-0.645	0.1451	
15 minute winter	IC7	6.000	4	8.5	2.241	0.111	0.0410	
30 minute winter	4	1.010	6	4.6	0.509	0.074	0.2892	
360 minute winter	6	Hydro-Brake®	Existing	3.5				109.5