

Design Settings

Rainfall Methodology	FEH-13	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Adoptable Manhole Type

Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)
374	1200	749	1500
499	1350	900	1800

>900 Link+900 mm

Max Depth (m)	Diameter (mm)	Max Depth (m)	Diameter (mm)
1.500	1050	99.999	1200

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
19	0.104	5.00	24.324	1200	530933.255	120693.048	1.425
20	0.060	5.00	24.053	1200	530951.356	120719.073	1.444
21	0.236	5.00	22.771	1200	530990.890	120688.837	2.171
22	0.056	5.00	22.293	1200	530957.232	120651.027	2.030
27	0.097	5.00	23.420	1200	530911.321	120664.966	1.471
28	0.087	5.00	22.906	1200	530888.946	120630.704	1.354
29	0.109	5.00	22.840	1200	530893.721	120638.157	1.526
MH09-407	0.990	5.00	23.500	1500	530820.497	120561.372	1.575
30	0.025	5.00	23.456	1350	530844.887	120540.590	3.306
31	0.062	5.00	23.237	1350	530854.763	120549.037	3.152
35	0.000	5.00	23.400	1500	530853.403	120538.343	3.100
32	0.133	5.00	23.316	1350	530871.564	120592.614	3.593
33	0.075	5.00	22.253	1500	530911.332	120577.119	2.672
36	0.000		21.200	1500	530927.662	120612.777	1.931
34	0.000		21.999	1350	530920.480	120602.601	2.508
23	0.033	5.00	21.371	1500	530930.249	120616.565	2.087
24	0.000	5.00	19.710	1350	530943.750	120603.276	0.910
HW4	0.000		19.750	1350	530967.408	120608.394	1.426
HW5	0.000	5.00	19.850	1500	530996.485	120642.536	1.530
25	0.000		19.850	1500	531001.089	120647.446	1.575
26	0.000		19.920	1500	531006.059	120643.417	1.688
HW6	0.000		20.000	1500	531004.663	120627.592	1.878

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	19	20	31.701	0.600	22.899	22.609	0.290	109.3	225	5.42	50.0
1.001	20	21	49.771	0.600	22.609	20.600	2.009	24.8	225	5.74	50.0
1.002	21	22	50.621	0.600	20.600	20.263	0.337	150.0	225	6.53	48.2
1.003	22	23	43.769	0.600	20.263	19.509	0.754	58.0	225	6.95	46.7
2.000	27	29	32.070	0.600	21.949	21.389	0.560	57.3	225	5.31	50.0
3.000	28	29	8.851	0.600	21.552	21.314	0.238	37.2	300	5.06	50.0
2.001	29	23	42.432	0.600	21.314	19.434	1.880	22.6	300	5.52	50.0
4.000	MH09-407	30	32.043	0.600	21.925	20.300	1.625	19.7	150	5.23	50.0
4.001	30	31	12.996	0.600	20.150	20.085	0.065	200.0	300	5.43	50.0
5.000	35	31	10.780	0.600	20.300	20.160	0.140	77.0	225	5.12	50.0
4.002	31	32	46.704	0.600	20.085	19.873	0.212	220.0	300	6.17	49.4
4.003	32	33	42.680	0.600	19.723	19.581	0.142	300.0	450	6.78	47.3
4.004	33	34	27.074	0.600	19.581	19.491	0.090	300.0	450	7.16	46.1
4.005	34	36	12.455	0.600	19.491	19.269	0.222	56.1	450	7.24	45.9
1.004	23	36	4.587	0.600	19.284	19.269	0.015	300.0	450	7.02	46.5
1.005	36	24	18.684	0.600	19.269	18.800	0.469	39.8	225	7.39	45.4
1.006	24	HW4	24.205	0.600	18.800	18.350	0.450	53.8	225	7.61	44.8
1.007	HW5	25	6.731	0.600	18.320	18.275	0.045	150.0	225	5.11	50.0
1.008	25	26	6.398	0.600	18.275	18.232	0.043	150.0	225	5.21	50.0
1.009	26	HW6	15.886	0.600	18.232	18.122	0.110	144.4	225	5.45	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)
1.000	1.250	49.7	14.1	1.200	1.219	0.104	0.0
1.001	2.639	104.9	22.2	1.219	1.946	0.164	0.0
1.002	1.065	42.3	52.2	1.946	1.805	0.400	0.0
1.003	1.720	68.4	57.7	1.805	1.637	0.456	0.0
2.000	1.731	68.8	13.1	1.246	1.226	0.097	0.0
3.000	2.586	182.8	11.8	1.054	1.226	0.087	0.0
2.001	3.323	234.9	39.7	1.226	1.637	0.293	0.0
4.000	2.278	40.3	134.2	1.425	3.006	0.990	0.0
4.001	1.108	78.3	137.6	3.006	2.852	1.015	0.0
5.000	1.491	59.3	0.0	2.875	2.852	0.000	0.0
4.002	1.056	74.6	144.2	2.852	3.143	1.077	0.0
4.003	1.168	185.8	155.2	3.143	2.222	1.210	0.0
4.004	1.168	185.8	160.5	2.222	2.058	1.285	0.0
4.005	2.718	432.3	159.7	2.058	1.481	1.285	0.0
1.004	1.168	185.8	98.6	1.637	1.481	0.782	0.0
1.005	2.078	82.6	254.5	1.706	0.685	2.067	0.0
1.006	1.787	71.0	250.8	0.685	1.175	2.067	0.0
1.007	1.065	42.3	0.0	1.305	1.350	0.000	0.0
1.008	1.065	42.3	0.0	1.350	1.463	0.000	0.0
1.009	1.086	43.2	0.0	1.463	1.653	0.000	0.0

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	31.701	109.3	225	Circular_Default Sewer Type	24.324	22.899	1.200	24.053	22.609	1.219
1.001	49.771	24.8	225	Circular_Default Sewer Type	24.053	22.609	1.219	22.771	20.600	1.946
1.002	50.621	150.0	225	Circular_Default Sewer Type	22.771	20.600	1.946	22.293	20.263	1.805
1.003	43.769	58.0	225	Circular_Default Sewer Type	22.293	20.263	1.805	21.371	19.509	1.637
2.000	32.070	57.3	225	Circular_Default Sewer Type	23.420	21.949	1.246	22.840	21.389	1.226
3.000	8.851	37.2	300	Circular_Default Sewer Type	22.906	21.552	1.054	22.840	21.314	1.226
2.001	42.432	22.6	300	Circular_Default Sewer Type	22.840	21.314	1.226	21.371	19.434	1.637
4.000	32.043	19.7	150	Circular_Default Sewer Type	23.500	21.925	1.425	23.456	20.300	3.006
4.001	12.996	200.0	300	Circular_Default Sewer Type	23.456	20.150	3.006	23.237	20.085	2.852
5.000	10.780	77.0	225	Circular_Default Sewer Type	23.400	20.300	2.875	23.237	20.160	2.852
4.002	46.704	220.0	300	Circular_Default Sewer Type	23.237	20.085	2.852	23.316	19.873	3.143
4.003	42.680	300.0	450	Circular_Default Sewer Type	23.316	19.723	3.143	22.253	19.581	2.222
4.004	27.074	300.0	450	Circular_Default Sewer Type	22.253	19.581	2.222	21.999	19.491	2.058
4.005	12.455	56.1	450	Circular_Default Sewer Type	21.999	19.491	2.058	21.200	19.269	1.481
1.004	4.587	300.0	450	Circular_Default Sewer Type	21.371	19.284	1.637	21.200	19.269	1.481
1.005	18.684	39.8	225	Circular_Default Sewer Type	21.200	19.269	1.706	19.710	18.800	0.685
1.006	24.205	53.8	225	Circular_Default Sewer Type	19.710	18.800	0.685	19.750	18.350	1.175
1.007	6.731	150.0	225	Circular_Default Sewer Type	19.850	18.320	1.305	19.850	18.275	1.350
1.008	6.398	150.0	225	Circular_Default Sewer Type	19.850	18.275	1.350	19.920	18.122	1.463
1.009	15.886	144.4	225	Circular_Default Sewer Type	19.920	18.232	1.463	20.000	18.122	1.653

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	19	1200	Manhole	Adoptable	20	1200	Manhole	Adoptable
1.001	20	1200	Manhole	Adoptable	21	1200	Manhole	Adoptable
1.002	21	1200	Manhole	Adoptable	22	1200	Manhole	Adoptable
1.003	22	1200	Manhole	Adoptable	23	1500	Manhole	Adoptable
2.000	27	1200	Manhole	Adoptable	29	1200	Manhole	Adoptable
3.000	28	1200	Manhole	Adoptable	29	1200	Manhole	Adoptable
2.001	29	1200	Manhole	Adoptable	23	1500	Manhole	Adoptable
4.000	MH09-407	1500	Manhole	Adoptable	30	1350	Manhole	Adoptable
4.001	30	1350	Manhole	Adoptable	31	1350	Manhole	Adoptable
5.000	35	1500	Manhole	Adoptable	31	1350	Manhole	Adoptable
4.002	31	1350	Manhole	Adoptable	32	1350	Manhole	Adoptable
4.003	32	1350	Manhole	Adoptable	33	1500	Manhole	Adoptable
4.004	33	1500	Manhole	Adoptable	34	1350	Manhole	Adoptable
4.005	34	1350	Manhole	Adoptable	36	1500	Manhole	Adoptable
1.004	23	1500	Manhole	Adoptable	36	1500	Manhole	Adoptable
1.005	36	1500	Manhole	Adoptable	24	1350	Manhole	Adoptable
1.006	24	1350	Manhole	Adoptable	HW4	1350	Manhole	Adoptable
1.007	HW5	1500	Manhole	Adoptable	25	1500	Manhole	Adoptable
1.008	25	1500	Manhole	Adoptable	26	1500	Manhole	Adoptable
1.009	26	1500	Manhole	Adoptable	HW6	1500	Manhole	Adoptable

Simulation Settings

Rainfall Methodology	FEH-13	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	✓	Check Discharge Rate(s)	✓
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	✓
Winter CV	0.840	Additional Storage (m³/ha)	20.0	100 year 360 minute (m³)	

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 %)
1	0	0	0
100	40	3	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)		Betterment (%)	0
SAAR (mm)		QBar	
Soil Index	1	Q 1 year (l/s)	
SPR	0.10	Q 30 year (l/s)	
Region	1	Q 100 year (l/s)	
Growth Factor 1 year	0.85		

Pre-development Discharge Volume

Site Makeup	Greenfield	Return Period (years)	100
Greenfield Method	FSR/FEH	Climate Change (%)	0
Positively Drained Area (ha)		Storm Duration (mins)	360
Soil Index	1	Betterment (%)	0
SPR	0.10	PR	
CWI		Runoff Volume (m³)	

Node MH09-407 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	21.925	Product Number	CTL-SHE-0121-7800-1600-7800
Design Depth (m)	1.600	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	7.8	Min Node Diameter (mm)	1500

Node 33 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	19.581	Product Number	CTL-SHE-0124-9000-2000-9000
Design Depth (m)	2.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	9.0	Min Node Diameter (mm)	1500

Node 36 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	19.269	Product Number	CTL-SHE-0154-1330-1800-1330
Design Depth (m)	1.800	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	13.3	Min Node Diameter (mm)	1500

Node MH09-407 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	21.925
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	870.0	0.0	1.200	870.0	0.0	1.201	0.0	0.0

Node HW5 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	41.800
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	18.320	Main Channel Slope (1:X)	9999.0
Safety Factor	2.0	Time to half empty (mins)	3420	Main Channel n	0.001

Inlets HW4

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	85.4	0.0	1.350	547.0	0.0

Node 21 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	20.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	108

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	300.0	0.0	0.750	300.0	0.0	0.751	0.0	0.0

Node 22 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	20.263
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	75.0	0.0	0.750	75.0	0.0	0.751	0.0	0.0

Node 23 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	19.284
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	123.0	0.0	1.500	123.0	0.0	1.501	0.0	0.0

Node 33 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	19.581
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	198.0	0.0	1.500	198.0	0.0	1.501	0.0	0.0

Node 35 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	20.300
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	195.5	0.0	1.200	195.5	0.0	1.201	0.0	0.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	19	10	22.967	0.068	9.6	0.1752	0.0000	OK
15 minute winter	20	10	22.675	0.066	14.9	0.1289	0.0000	OK
120 minute winter	21	80	20.674	0.074	14.9	21.2080	0.0000	OK
120 minute winter	22	82	20.322	0.059	10.5	4.3368	0.0000	OK
15 minute winter	27	10	22.004	0.055	9.0	0.1347	0.0000	OK
15 minute winter	28	10	21.594	0.042	8.0	0.1025	0.0000	OK
15 minute winter	29	10	21.383	0.069	26.7	0.1759	0.0000	OK
480 minute winter	MH09-407	336	22.069	0.144	17.0	121.0767	0.0000	OK
480 minute winter	30	336	20.210	0.060	6.4	0.0952	0.0000	OK
15 minute winter	31	11	20.151	0.066	8.3	0.1213	0.0000	OK
15 minute summer	35	1	20.300	0.000	0.0	0.0000	0.0000	OK
15 minute winter	32	10	19.833	0.110	19.5	0.2381	0.0000	OK
480 minute winter	33	392	19.795	0.214	9.9	40.7258	0.0000	OK
360 minute winter	36	264	19.653	0.384	13.1	0.6787	0.0000	SURCHARGED
360 minute winter	34	264	19.653	0.162	7.4	0.2318	0.0000	OK
360 minute winter	23	264	19.653	0.369	14.4	43.9045	0.0000	OK
360 minute winter	24	256	18.867	0.067	13.1	0.0958	0.0000	OK
360 minute winter	HW4	280	18.416	0.092	13.1	0.1313	0.0000	OK
360 minute winter	HW5	280	18.416	0.096	13.0	0.1691	0.0000	OK
360 minute winter	25	280	18.369	0.094	13.0	0.1666	0.0000	OK
360 minute winter	26	280	18.321	0.089	13.0	0.1569	0.0000	OK
360 minute winter	HW6	280	18.206	0.084	13.0	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	19	1.000	20	9.4	0.965	0.189	0.3114	
15 minute winter	20	1.001	21	15.0	2.597	0.143	0.3199	
120 minute winter	21	1.002	22	9.2	0.939	0.217	0.4963	
120 minute winter	22	1.003	23	10.2	1.236	0.150	0.3624	
15 minute winter	27	2.000	29	8.7	1.181	0.126	0.2364	
15 minute winter	28	3.000	29	7.9	0.888	0.043	0.0805	
15 minute winter	29	2.001	23	26.2	2.198	0.112	0.5063	
480 minute winter	MH09-407	Hydro-Brake®	30	6.2				
480 minute winter	30	4.001	31	6.4	0.632	0.082	0.1341	
15 minute winter	31	4.002	32	7.9	0.692	0.106	0.5330	
15 minute summer	35	5.000	31	0.0	0.000	0.000	0.0000	
15 minute winter	32	4.003	33	20.0	1.302	0.108	0.7315	
480 minute winter	33	Hydro-Brake®	34	7.4				
360 minute winter	36	Hydro-Brake®	24	13.1				
960 minute winter	34	4.005	36	14.6	0.291	0.034	0.8779	
960 minute winter	23	1.004	36	15.7	0.172	0.085	0.5095	
360 minute winter	24	1.006	HW4	13.1	1.344	0.184	0.2362	
360 minute winter	HW4	Flow through pond	HW5	13.0	0.057	0.000	9.5064	
360 minute winter	HW5	1.007	25	13.0	0.820	0.308	0.1071	
360 minute winter	25	1.008	26	13.0	0.861	0.308	0.0969	
360 minute winter	26	1.009	HW6	13.0	0.930	0.302	0.2230	281.5

Results for 100 year +40% CC +3% A Critical Storm Duration. Lowest mass balance: 99.55%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	19	11	23.400	0.501	71.0	1.3198	0.0000	SURCHARGED
15 minute winter	20	10	22.809	0.200	106.8	0.3971	0.0000	OK
180 minute winter	21	168	21.115	0.515	65.3	148.6245	0.0000	SURCHARGED
120 minute winter	22	88	21.115	0.852	58.1	54.9211	0.0000	SURCHARGED
15 minute winter	27	10	22.137	0.188	66.2	0.4682	0.0000	OK
15 minute winter	28	10	21.693	0.141	59.4	0.3460	0.0000	OK
15 minute winter	29	10	21.540	0.226	197.8	0.5876	0.0000	OK
720 minute winter	MH09-407	690	22.792	0.867	56.3	729.6216	0.0000	SURCHARGED
2880 minute winter	30	2760	21.310	1.160	8.3	1.8413	0.0000	SURCHARGED
2880 minute winter	31	2760	21.309	1.224	9.5	2.2490	0.0000	SURCHARGED
2880 minute winter	35	2760	21.309	1.009	7.1	189.2296	0.0000	SURCHARGED
2880 minute winter	32	2760	21.306	1.583	11.1	3.4740	0.0000	SURCHARGED
2880 minute winter	33	2760	21.306	1.725	12.3	286.2893	0.0000	SURCHARGED
120 minute winter	36	112	21.077	1.808	23.6	3.1951	0.0000	FLOOD RISK
120 minute winter	34	112	21.077	1.586	9.5	2.2696	0.0000	SURCHARGED
120 minute winter	23	112	21.078	1.794	112.8	179.0880	0.0000	FLOOD RISK
180 minute winter	24	136	18.868	0.068	13.3	0.0969	0.0000	OK
8640 minute winter	HW4	4140	18.417	0.093	13.3	0.1328	0.0000	OK
8640 minute winter	HW5	4140	18.417	0.097	13.3	0.1709	0.0000	OK
10080 minute winter	25	7020	18.370	0.095	13.3	0.1684	0.0000	OK
10080 minute winter	26	7020	18.322	0.090	13.3	0.1585	0.0000	OK
10080 minute winter	HW6	7020	18.207	0.085	13.3	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	19	1.000	20	68.2	1.718	1.373	1.2214	
15 minute winter	20	1.001	21	108.1	3.261	1.030	1.9150	
15 minute winter	21	1.002	22	50.5	1.370	1.194	2.0133	
30 minute summer	22	1.003	23	55.2	1.552	0.807	1.7407	
15 minute winter	27	2.000	29	64.5	1.912	0.937	1.0873	
15 minute winter	28	3.000	29	58.9	1.385	0.322	0.3957	
15 minute winter	29	2.001	23	197.1	3.522	0.839	2.5758	
30 minute winter	MH09-407	Hydro-Brake®	30	7.8				
15 minute winter	30	4.001	31	23.5	0.684	0.300	0.8197	
15 minute winter	31	4.002	32	63.0	1.209	0.844	3.2697	
240 minute winter	35	5.000	31	-31.6	-1.001	-0.532	0.4287	
15 minute winter	32	4.003	33	147.5	1.829	0.794	6.7624	
2880 minute winter	33	Hydro-Brake®	34	8.6				
120 minute winter	36	Hydro-Brake®	24	13.3				
7200 minute winter	34	4.005	36	17.8	0.260	0.041	1.9734	
60 minute winter	23	1.004	36	30.3	0.392	0.163	0.7268	
120 minute winter	24	1.006	HW4	13.3	1.353	0.187	0.2401	
15 minute winter	HW4	Flow through pond	HW5	20.2	0.309	0.000	9.4451	
8640 minute winter	HW5	1.007	25	13.3	0.823	0.314	0.1087	
10080 minute winter	25	1.008	26	13.3	0.865	0.314	0.0983	
10080 minute winter	26	1.009	HW6	13.3	0.934	0.308	0.2259	4154.1