

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	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)	17.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	0.600
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
S1A	0.120	5.00	13.100	450	1.100
S2A	0.065	5.00	13.100	450	1.620
S2B			12.350	450	1.300
S3A	0.120	5.00	13.100	450	1.100
S4A	0.064	5.00	13.100	450	1.960
S5A	0.046	5.00	12.350	1500	1.640
S1	0.040	5.00	11.200	450	0.900
S2	0.006	5.00	11.200	450	1.240
S3B	0.046	5.00	11.250	450	0.650
S3	0.040	5.00	11.200	450	0.800
S4	0.006	5.00	11.200	450	1.480
S4B			11.100		1.586
S4C			10.950		1.469
S5			10.500	1500	1.050
Headwall			10.400		0.980

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	S1A	S2A	50.000	0.600	12.000	11.480	0.520	96.2	300	5.52	50.0
1.001	S2A	S2B	43.000	0.600	11.480	11.050	0.430	100.0	300	5.98	50.0
1.002	S2B	S5A	34.000	0.600	11.050	10.710	0.340	100.0	300	6.34	50.0
2.000	S3A	S4A	50.000	0.600	12.000	11.140	0.860	58.1	300	5.40	50.0
2.001	S4A	S5A	43.000	0.600	11.140	10.710	0.430	100.0	300	5.86	50.0
1.003	S5A	S1	31.600	0.600	10.710	10.300	0.410	77.1	300	6.63	50.0
1.004	S1	S2	34.000	0.600	10.300	9.960	0.340	100.0	300	6.99	50.0
1.005	S2	S4	24.000	0.600	9.960	9.720	0.240	100.0	300	7.24	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.603	113.3	16.3	0.800	1.320	0.120	0.0	76	1.149
1.001	1.572	111.1	25.1	1.320	1.000	0.185	0.0	96	1.277
1.002	1.572	111.1	25.1	1.000	1.340	0.185	0.0	96	1.277
2.000	2.066	146.0	16.3	0.800	1.660	0.120	0.0	67	1.377
2.001	1.572	111.1	24.9	1.660	1.340	0.184	0.0	96	1.277
1.003	1.792	126.7	56.2	1.340	0.600	0.415	0.0	140	1.740
1.004	1.572	111.1	61.7	0.600	0.940	0.455	0.0	160	1.611
1.005	1.572	111.1	62.5	0.940	1.180	0.461	0.0	161	1.616

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)
3.000	S3B	S3	13.000	0.600	10.600	10.400	0.200	65.0	225	5.13	50.0
3.001	S3	S4	36.200	0.600	10.400	9.795	0.605	59.8	225	5.49	50.0
1.006	S4	S4B	3.100	0.600	9.720	9.514	0.206	15.0	300	7.26	50.0
1.007	S4B	S4C	10.000	0.600	9.514	9.481	0.033	300.0	13500	7.32	50.0
1.008	S4C	S5	3.100	0.600	9.481	9.450	0.031	100.0	300	7.36	50.0
1.009	S5	Headwall	3.000	0.600	9.450	9.420	0.030	100.0	300	7.39	49.9












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)
3.000	1.624	64.6	6.2	0.425	0.575	0.046	0.0	47	1.036
3.001	1.694	67.3	11.7	0.575	1.180	0.086	0.0	63	1.274
1.006	4.073	287.9	74.9	1.180	1.286	0.553	0.0	104	3.442
1.007	2.481	26799.5	74.9	0.786	0.669	0.553	0.0	17	0.334
1.008	1.572	111.1	74.9	1.169	0.750	0.553	0.0	181	1.683
1.009	1.572	111.1	74.8	0.750	0.680	0.553	0.0	181	1.683

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	50.000	96.2	300	Circular	13.100	12.000	0.800	13.100	11.480	1.320
1.001	43.000	100.0	300	Circular	13.100	11.480	1.320	12.350	11.050	1.000
1.002	34.000	100.0	300	Circular	12.350	11.050	1.000	12.350	10.710	1.340
2.000	50.000	58.1	300	Circular	13.100	12.000	0.800	13.100	11.140	1.660
2.001	43.000	100.0	300	Circular	13.100	11.140	1.660	12.350	10.710	1.340
1.003	31.600	77.1	300	Circular	12.350	10.710	1.340	11.200	10.300	0.600
1.004	34.000	100.0	300	Circular	11.200	10.300	0.600	11.200	9.960	0.940
1.005	24.000	100.0	300	Circular	11.200	9.960	0.940	11.200	9.720	1.180
3.000	13.000	65.0	225	Circular	11.250	10.600	0.425	11.200	10.400	0.575
3.001	36.200	59.8	225	Circular	11.200	10.400	0.575	11.200	9.795	1.180
1.006	3.100	15.0	300	Circular	11.200	9.720	1.180	11.100	9.514	1.286
1.007	10.000	300.0	13500	Geocellular	11.100	9.514	0.786	10.950	9.481	0.669
1.008	3.100	100.0	300	Circular	10.950	9.481	1.169	10.500	9.450	0.750
1.009	3.000	100.0	300	Circular	10.500	9.450	0.750	10.400	9.420	0.680

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1A	450	Manhole	Private	S2A	450	Manhole	Private
1.001	S2A	450	Manhole	Private	S2B	450	Manhole	Private
1.002	S2B	450	Manhole	Private	S5A	1500	Manhole	Private
2.000	S3A	450	Manhole	Private	S4A	450	Manhole	Private
2.001	S4A	450	Manhole	Private	S5A	1500	Manhole	Private
1.003	S5A	1500	Manhole	Private	S1	450	Manhole	Private
1.004	S1	450	Manhole	Private	S2	450	Manhole	Private
1.005	S2	450	Manhole	Private	S4	450	Manhole	Private
3.000	S3B	450	Manhole	Private	S3	450	Manhole	Private
3.001	S3	450	Manhole	Private	S4	450	Manhole	Private
1.006	S4	450	Manhole	Private	S4B		Junction	
1.007	S4B		Junction		S4C		Junction	
1.008	S4C		Junction		S5	1500	Manhole	Private
1.009	S5	1500	Manhole	Private	Headwall		Junction	

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S1A	13.100	1.100	450					
					0	1.000	12.000	300
S2A	13.100	1.620	450					
					1	1.000	11.480	300
					0	1.001	11.480	300
S2B	12.350	1.300	450					
					1	1.001	11.050	300
					0	1.002	11.050	300
S3A	13.100	1.100	450					
					0	2.000	12.000	300
S4A	13.100	1.960	450					
					1	2.000	11.140	300
					0	2.001	11.140	300
S5A	12.350	1.640	1500					
					1	2.001	10.710	300
					2	1.002	10.710	300
					0	1.003	10.710	300
S1	11.200	0.900	450					
					1	1.003	10.300	300
					0	1.004	10.300	300
S2	11.200	1.240	450					
					1	1.004	9.960	300
					0	1.005	9.960	300
S3B	11.250	0.650	450					
					0	3.000	10.600	225
S3	11.200	0.800	450					
					1	3.000	10.400	225
					0	3.001	10.400	225
S4	11.200	1.480	450					
					1	3.001	9.795	225
					2	1.005	9.720	300
					0	1.006	9.720	300
S4B	11.100	1.586		°				
					1	1.006	9.514	300
					0	1.007	9.514	13500
S4C	10.950	1.469		°				
					1	1.007	9.481	13500
					0	1.008	9.481	300

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S5	10.500	1.050	1500	1	1.008	9.450	300
				0	1.009	9.450	300
Headwall	10.400	0.980		1	1.009	9.420	300

Simulation Settings

Rainfall Methodology	FSR	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m³/ha)	20.0
M5-60 (mm)	17.000	Check Discharge Rate(s)	✓
Ratio-R	0.400	1 year (l/s)	1.7
Summer CV	0.750	30 year (l/s)	3.9
Winter CV	0.840	100 year (l/s)	5.0
Analysis Speed	Normal	Check Discharge Volume	✓
Skip Steady State	x	100 year 360 minute (m³)	126

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	0	0	0
100	40	0	0

Pre-development Discharge Rate

Site Makeup	Brownfield	Growth Factor 1 year	0.85
Brownfield Method	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)	0.635	Betterment (%)	0
SAAR (mm)	660	QBar	2.0
Soil Index	3	Q 1 year (l/s)	1.7
SPR	0.40	Q 30 year (l/s)	3.9
Region	4	Q 100 year (l/s)	5.0

Pre-development Discharge Volume

Site Makeup	Brownfield	Return Period (years)	100
Brownfield Method	Greenfield	Climate Change (%)	0
Greenfield Method	FSR/FEH	Storm Duration (mins)	360
Positively Drained Area (ha)	0.635	Betterment (%)	0
Soil Index	3	PR	0.365
SPR	0.40	Runoff Volume (m³)	126
CWI	99.259		

Node S5 Online Head/Flow Control

Flap Valve x | Replaces Downstream Link ✓ | Invert Level (m) 9.450

Head **Flow**
(m) **(l/s)**
1.500 5.000

Node S5A Online Head/Flow Control

Flap Valve x Replaces Downstream Link ✓ Invert Level (m) 10.710

Head **Flow**
(m) **(l/s)**
0.900 60.000

Node S5A Depth/Area Storage Structure

Base Inf Coefficient (m/hr) 0.00000 Safety Factor 2.0 Invert Level (m) 10.800
Side Inf Coefficient (m/hr) 0.00000 Porosity 0.95 Time to half empty (mins) 21

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	95.0	0.0	0.800	95.0	0.0	0.801	0.0	0.0

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 15 minute summer	92.521	26.180	30 year 120 minute winter	39.827	15.842
1 year 15 minute winter	64.927	26.180	30 year 180 minute summer	45.598	11.734
1 year 30 minute summer	60.022	16.984	30 year 180 minute winter	29.640	11.734
1 year 30 minute winter	42.121	16.984	30 year 240 minute summer	35.759	9.450
1 year 60 minute summer	40.398	10.676	30 year 240 minute winter	23.758	9.450
1 year 60 minute winter	26.839	10.676	30 year 360 minute summer	26.939	6.932
1 year 120 minute summer	24.980	6.602	30 year 360 minute winter	17.511	6.932
1 year 120 minute winter	16.596	6.602	30 year 480 minute summer	20.981	5.545
1 year 180 minute summer	19.271	4.959	30 year 480 minute winter	13.940	5.545
1 year 180 minute winter	12.527	4.959	30 year 600 minute summer	17.039	4.661
1 year 240 minute summer	15.301	4.043	30 year 600 minute winter	11.642	4.661
1 year 240 minute winter	10.165	4.043	30 year 720 minute summer	15.093	4.045
1 year 360 minute summer	11.775	3.030	30 year 720 minute winter	10.143	4.045
1 year 360 minute winter	7.654	3.030	30 year 960 minute summer	12.278	3.233
1 year 480 minute summer	9.342	2.469	30 year 960 minute winter	8.133	3.233
1 year 480 minute winter	6.207	2.469	30 year 1440 minute summer	8.788	2.355
1 year 600 minute summer	7.682	2.101	30 year 1440 minute winter	5.906	2.355
1 year 600 minute winter	5.249	2.101	100 year +40% CC 15 minute summer	408.473	115.584
1 year 720 minute summer	6.859	1.838	100 year +40% CC 15 minute winter	286.647	115.584
1 year 720 minute winter	4.609	1.838	100 year +40% CC 30 minute summer	268.775	76.054
1 year 960 minute summer	5.653	1.489	100 year +40% CC 30 minute winter	188.614	76.054
1 year 960 minute winter	3.745	1.489	100 year +40% CC 60 minute summer	180.954	47.821
1 year 1440 minute summer	4.127	1.106	100 year +40% CC 60 minute winter	120.222	47.821
1 year 1440 minute winter	2.773	1.106	100 year +40% CC 120 minute summer	110.370	29.168
30 year 15 minute summer	226.195	64.005	100 year +40% CC 120 minute winter	73.327	29.168
30 year 15 minute winter	158.733	64.005	100 year +40% CC 180 minute summer	83.953	21.604
30 year 30 minute summer	147.452	41.724	100 year +40% CC 180 minute winter	54.572	21.604
30 year 30 minute winter	103.475	41.724	100 year +40% CC 240 minute summer	65.765	17.380
30 year 60 minute summer	98.615	26.061	100 year +40% CC 240 minute winter	43.693	17.380
30 year 60 minute winter	65.517	26.061	100 year +40% CC 360 minute summer	49.370	12.705
30 year 120 minute summer	59.946	15.842	100 year +40% CC 360 minute winter	32.092	12.705

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC 480 minute summer	38.291	10.119	100 year +40% CC 720 minute winter	18.406	7.340
100 year +40% CC 480 minute winter	25.439	10.119	100 year +40% CC 960 minute summer	22.191	5.844
100 year +40% CC 600 minute summer	30.992	8.477	100 year +40% CC 960 minute winter	14.700	5.844
100 year +40% CC 600 minute winter	21.176	8.477	100 year +40% CC 1440 minute summer	15.789	4.232
100 year +40% CC 720 minute summer	27.387	7.340	100 year +40% CC 1440 minute winter	10.611	4.232

Results for 1 year Critical Storm Duration. Lowest mass balance: 43.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	S1A	10	12.071	0.071	14.3	0.1650	0.0000	OK
15 minute winter	S2A	11	11.571	0.091	21.7	0.0874	0.0000	OK
15 minute winter	S2B	11	11.138	0.088	21.5	0.0140	0.0000	OK
15 minute winter	S3A	10	12.062	0.062	14.3	0.1459	0.0000	OK
15 minute winter	S4A	11	11.228	0.088	21.6	0.0714	0.0000	OK
30 minute winter	S5A	25	10.931	0.221	37.2	12.3685	0.0000	OK
30 minute winter	S1	22	10.378	0.078	16.2	0.0818	0.0000	OK
30 minute winter	S2	23	10.043	0.083	16.5	0.0212	0.0000	OK
15 minute winter	S3B	10	10.644	0.044	5.5	0.0692	0.0000	OK
15 minute winter	S3	11	10.459	0.059	10.2	0.0687	0.0000	OK
720 minute winter	S4	540	9.961	0.241	19.0	0.0579	0.0000	OK
720 minute winter	S4B	540	9.961	0.447	11.9	0.0000	0.0000	OK
720 minute winter	S4C	540	9.961	0.480	12.4	0.0000	0.0000	SURCHARGED
720 minute winter	S5	525	9.961	0.511	1.8	0.9026	0.0000	SURCHARGED
15 minute summer	Headwall	1	9.420	0.000	0.8	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	S1A	1.000	S2A	14.0	0.920	0.123	0.7609	
15 minute winter	S2A	1.001	S2B	21.5	1.221	0.193	0.7575	
15 minute winter	S2B	1.002	S5A	21.3	0.823	0.192	1.0978	
15 minute winter	S3A	2.000	S4A	14.0	1.027	0.096	0.6900	
15 minute winter	S4A	2.001	S5A	21.2	0.876	0.191	1.3601	
30 minute winter	S5A	Head/Flow	S1	14.7				
30 minute winter	S1	1.004	S2	16.2	1.069	0.146	0.5152	
30 minute winter	S2	1.005	S4	16.4	1.339	0.148	0.3114	
15 minute winter	S3B	3.000	S3	5.4	0.795	0.084	0.0895	
15 minute winter	S3	3.001	S4	10.0	1.212	0.148	0.2978	
720 minute winter	S4	1.006	S4B	-13.2	1.814	-0.046	0.2032	
720 minute winter	S4B	1.007	S4C	12.4	0.009	0.000	62.5416	
720 minute winter	S4C	1.008	S5	1.8	0.234	0.016	0.2183	
720 minute winter	S5	Head/Flow	Headwall	1.7				61.3

Results for 30 year Critical Storm Duration. Lowest mass balance: 43.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	S1A	10	12.112	0.112	34.9	0.2623	0.0000	OK
15 minute winter	S2A	10	11.630	0.150	53.2	0.1443	0.0000	OK
30 minute winter	S2B	25	11.199	0.149	41.4	0.0236	0.0000	OK
15 minute winter	S3A	10	12.098	0.098	34.9	0.2301	0.0000	OK
15 minute winter	S4A	10	11.282	0.142	53.0	0.1155	0.0000	OK
30 minute winter	S5A	25	11.197	0.487	92.4	36.9774	0.0000	SURCHARGED
30 minute winter	S1	22	10.421	0.121	36.1	0.1266	0.0000	OK
180 minute winter	S2	136	10.304	0.344	24.3	0.0880	0.0000	SURCHARGED
15 minute winter	S3B	10	10.671	0.071	13.4	0.1120	0.0000	OK
15 minute winter	S3	10	10.496	0.096	24.9	0.1115	0.0000	OK
120 minute winter	S4	108	10.298	0.578	36.4	0.1388	0.0000	SURCHARGED
600 minute winter	S4B	360	10.299	0.785	48.6	0.0000	0.0000	OK
180 minute winter	S4C	136	10.308	0.827	51.6	0.0000	0.0000	SURCHARGED
240 minute winter	S5	184	10.310	0.860	14.6	1.5198	0.0000	FLOOD RISK
15 minute summer	Headwall	1	9.420	0.000	1.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	S1A	1.000	S2A	34.3	1.161	0.303	1.4801	
15 minute winter	S2A	1.001	S2B	52.4	1.537	0.472	1.4697	
30 minute winter	S2B	1.002	S5A	41.0	0.788	0.369	1.7883	
15 minute winter	S3A	2.000	S4A	34.4	1.305	0.236	1.3233	
15 minute winter	S4A	2.001	S5A	51.7	1.129	0.465	2.2210	
30 minute winter	S5A	Head/Flow	S1	32.4				
30 minute winter	S1	1.004	S2	36.1	1.327	0.325	0.9278	
180 minute winter	S2	1.005	S4	24.3	1.335	0.219	1.6901	
15 minute winter	S3B	3.000	S3	13.3	0.989	0.206	0.1751	
15 minute winter	S3	3.001	S4	24.3	1.541	0.360	0.6424	
120 minute winter	S4	1.006	S4B	65.8	3.224	0.229	0.2183	
600 minute winter	S4B	1.007	S4C	40.4	0.013	0.002	106.9536	
180 minute winter	S4C	1.008	S5	10.8	0.375	0.097	0.2183	
240 minute winter	S5	Head/Flow	Headwall	2.9				56.6

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 43.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	S1A	10	12.160	0.160	63.1	0.3736	0.0000	OK
15 minute winter	S2A	12	11.724	0.244	96.4	0.2344	0.0000	OK
30 minute winter	S2B	23	11.590	0.540	75.0	0.0858	0.0000	SURCHARGED
15 minute winter	S3A	10	12.136	0.136	63.1	0.3173	0.0000	OK
30 minute winter	S4A	22	11.585	0.445	75.1	0.3616	0.0000	SURCHARGED
30 minute winter	S5A	25	11.557	0.847	153.1	70.3081	0.0000	SURCHARGED
30 minute winter	S1	23	10.469	0.169	62.8	0.1772	0.0000	OK
60 minute winter	S2	49	10.391	0.431	63.0	0.1102	0.0000	SURCHARGED
15 minute winter	S3B	10	10.702	0.102	24.2	0.1610	0.0000	OK
15 minute winter	S3	10	10.539	0.139	45.0	0.1609	0.0000	OK
60 minute winter	S4	48	10.317	0.597	82.1	0.1432	0.0000	SURCHARGED
60 minute winter	S4B	52	10.306	0.792	1150.8	0.0000	0.0000	OK
240 minute winter	S4C	144	10.312	0.831	65.7	0.0000	0.0000	SURCHARGED
240 minute summer	S5	132	10.352	0.902	17.0	1.5932	0.0000	FLOOD RISK
15 minute summer	Headwall	1	9.420	0.000	2.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	S1A	1.000	S2A	62.2	1.302	0.549	2.3876	
15 minute winter	S2A	1.001	S2B	93.7	1.690	0.844	2.8317	
30 minute winter	S2B	1.002	S5A	72.3	1.027	0.651	2.3943	
15 minute winter	S3A	2.000	S4A	62.4	1.475	0.427	2.5120	
30 minute winter	S4A	2.001	S5A	67.1	1.076	0.604	3.0280	
30 minute winter	S5A	Head/Flow	S1	56.4				
30 minute winter	S1	1.004	S2	62.9	1.563	0.566	1.7473	
60 minute winter	S2	1.005	S4	59.6	1.442	0.536	1.6901	
15 minute winter	S3B	3.000	S3	24.0	1.109	0.372	0.2811	
15 minute winter	S3	3.001	S4	44.0	1.773	0.653	0.9011	
60 minute winter	S4	1.006	S4B	77.8	3.790	0.270	0.2183	
60 minute winter	S4B	1.007	S4C	-1088.2	-0.107	-0.041	106.9625	
240 minute winter	S4C	1.008	S5	14.9	0.345	0.134	0.2183	
240 minute summer	S5	Head/Flow	Headwall	3.0				60.0