



- NOTES**
- Co-ordination:** Read this drawing in conjunction with all relevant Architect's, Engineer's and specialist's drawings and specifications
 - Scale:** Do not scale from this drawing, use written dimensions only. All dimensions are in millimetres and levels in metres. To check the drawing has been printed at the intended scale this bar should be 50mm long at A1 or 25mm long at A3.
 - Health & Safety:** All specific drawing notes are to be read in conjunction with the Project Health & Safety Issues: Construction Stage document.
 - General Notes:** Refer to drawing 32302-0001.

DRAINAGE LEGEND	
Development Extents	---
Major Contour (0.5m)	---
Minor Contour (0.1m)	---
Proposed external levels	× 42.00
Proposed gradients	1:40
Proposed retaining wall	---

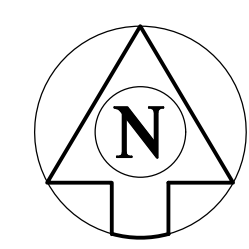
P01	12.12.25	AS	AS	Issued for Information
Rev.	Date	Dm.	Eng.	Amendment

LAND AT HIGH BAR LANE THAKEHAM, WEST SUSSEX

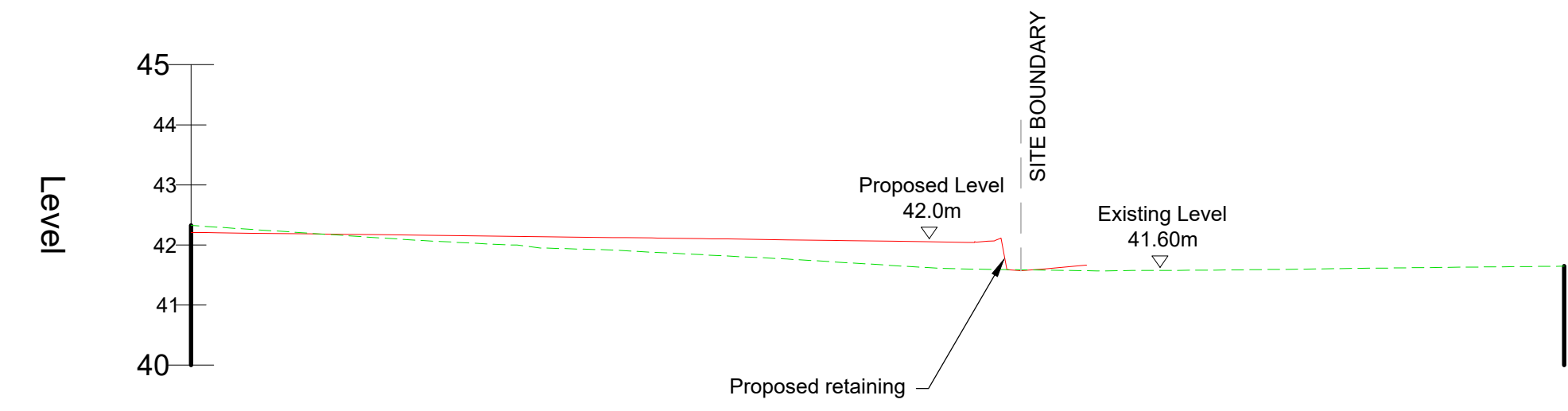
PROPOSED LEVELS

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

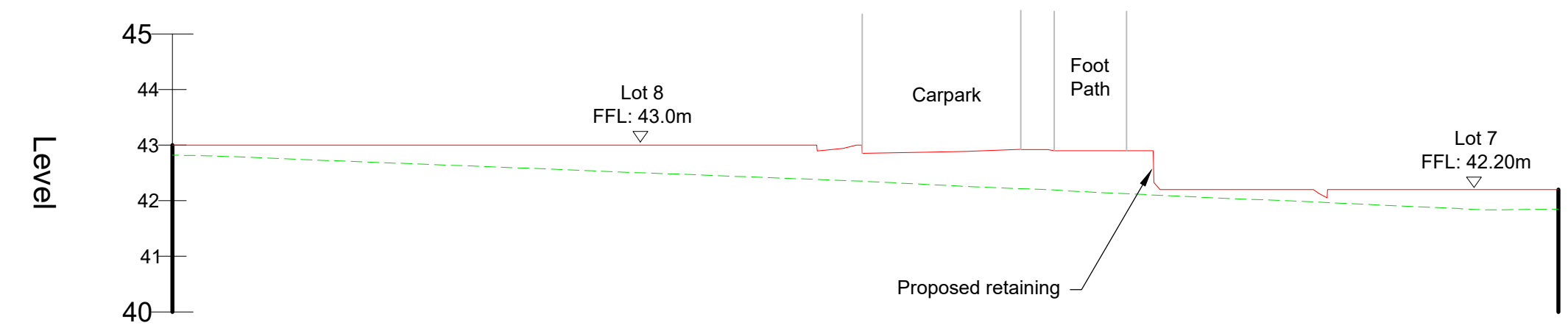
Drawn	AS	Eng.	AS
Scales	1:200 at A1	1:400 at A3	
Drawing No.	30005 / 7000	Rev.	P01



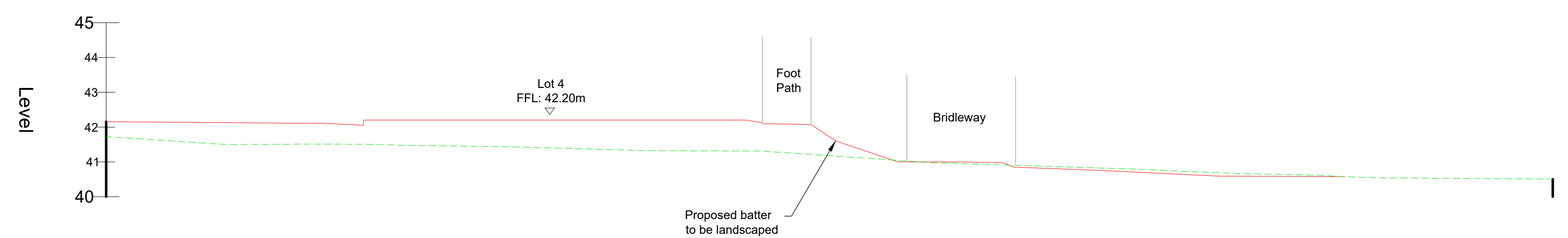
SECTION A-A - LONGSECTION



SECTION B-B - LONGSECTION



SECTION C-C - LONGSECTION



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 - General Notes:** Refer to drawing 32302-0001.

P01	12.12.25	AS	AS	Issued for Information
Rev.	Date	Drm.	Eng.	Amendment

**LAND AT HIGH BAR LANE
THAKEHAM, WEST SUSSEX**

CROSS SECTIONS

Status
FOR INFORMATION
NOT FOR CONSTRUCTION

Drawn	AS	Eng.	AS
Scales	1:200 at A1	1:400 at A3	
Drawing No.	Rev.		
30005 / 7001	P01		

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	0.75
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	45	Minimum Backdrop Height (m)	0.800
CV	1.000	Preferred Cover Depth (m)	1.000
Time of Entry (mins)	4.00	Include Intermediate Ground	✓
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)	Width (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.043	4.00	42.300	1200		507597.000	117091.000	0.900
S2	0.077	4.00	42.700	1200		507565.000	117095.000	1.510
S3	0.092	4.00	43.700	1500		507540.000	117093.000	0.600
S4	0.129	4.00	43.500	1200		507548.000	117094.000	0.800
S5	0.000	4.00	43.250	1200		507551.000	117092.000	2.203
S6	0.023	4.00	43.200	1350		507519.000	117064.000	2.443
S7	0.021	4.00	42.600	1200		507522.000	117051.000	0.600
S8	0.014	4.00	42.850	1200		507512.000	117053.000	0.850
S9	0.000	4.00	42.900	1200		507516.000	117053.000	2.260
S10	0.021	4.00	42.000	1200		507517.000	117036.000	0.600
S11	0.021	4.00	41.600	5000		507506.000	117024.000	0.800
S12	0.021	4.00	41.000	1200		507521.000	117014.000	0.800
S13	0.021	4.00	41.100	1200		507513.000	117006.000	0.900
S14	0.000	4.00	41.100	1200		507517.000	117007.000	1.950
Detention Basin	0.006	4.00	40.650	11000	11000	507526.000	117009.000	1.550
S15	0.044	4.00	42.600	1200		507556.000	117058.000	0.800
S16	0.037	4.00	40.900	1200		507580.000	117055.000	0.600
S17	0.000	4.00	40.700	1200		507557.000	117020.000	0.680
S18	0.000	4.00	40.650	3000		507542.000	117010.000	1.600
Outfall	0.000	4.00	40.300	1200		507546.000	117005.000	1.300

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	S1	S2	32.249	0.600	41.400	41.190	0.210	153.6	375	4.37	50.0
1.001	S2	S5	14.318	0.600	41.190	41.047	0.143	100.0	375	4.50	50.0
2.000	S3	S4	8.062	0.600	43.100	42.700	0.400	20.2	100	4.08	50.0
2.001	S4	S5	3.606	0.600	42.900	41.047	1.853	1.9	100	4.09	50.0
1.002	S5	S6	42.521	0.600	41.047	40.764	0.283	150.0	375	4.98	50.0
3.000	S7	S9	6.325	0.600	42.000	40.640	1.360	4.7	100	4.03	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	1.459	161.2	11.3	0.525	1.135	0.043	0.0	66	0.850
1.001	1.812	200.1	31.4	1.135	1.828	0.120	0.0	100	1.334
2.000	1.728	13.6	24.1	0.500	0.700	0.092	0.0	100	1.774
2.001	5.589	43.9	57.9	0.500	2.103	0.221	0.0	100	5.739
1.002	1.477	163.1	89.3	1.828	2.061	0.341	0.0	198	1.509
3.000	3.611	28.4	5.5	0.500	2.160	0.021	0.0	30	2.810

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)
4.000	S8	S9	4.000	0.600	42.000	40.640	1.360	2.9	100	4.01	50.0
1.003	S6	S9	11.402	0.600	40.757	40.640	0.117	97.5	375	5.08	50.0
5.000	S10	S14	29.000	0.600	41.400	40.700	0.700	41.4	100	4.40	50.0
6.000	S11	S14	20.248	0.600	40.800	40.598	0.202	100.0	100	4.44	50.0
7.000	S12	S14	8.500	0.600	40.200	40.000	0.200	42.5	150	4.09	50.0
8.000	S13	S14	2.900	0.600	40.200	40.000	0.200	14.5	150	4.02	50.0
1.004	S9	S14	46.011	0.600	40.640	39.150	1.490	30.9	375	5.32	50.0
1.005	S14	Detention Basin	9.220	0.600	39.150	39.100	0.050	184.4	225	5.48	50.0
9.000	S15	S16	24.187	0.600	41.800	40.300	1.500	16.1	225	4.12	50.0
9.001	S16	S17	41.881	0.600	40.300	40.020	0.280	149.6	375	4.60	50.0
9.002	S17	Detention Basin	16.000	0.600	40.020	39.913	0.107	150.0	225	4.85	50.0
1.006	Detention Basin	S18	4.600	0.600	39.100	39.050	0.050	92.0	100	5.57	50.0
1.007	S18	Outfall	4.300	0.600	39.050	39.000	0.050	86.0	100	5.66	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)
4.000	4.543	35.7	3.7	0.750	2.160	0.014	0.0	21	2.915
1.003	1.835	202.7	95.4	2.068	1.885	0.364	0.0	181	1.807
5.000	1.201	9.4	5.5	0.500	0.300	0.021	0.0	55	1.249
6.000	0.769	6.0	5.5	0.700	0.402	0.021	0.0	75	0.871
7.000	1.548	27.3	5.5	0.650	0.950	0.021	0.0	45	1.212
8.000	2.659	47.0	5.5	0.750	0.950	0.021	0.0	34	1.779
1.004	3.270	361.2	104.5	1.885	1.575	0.399	0.0	137	2.843
1.005	0.959	38.1	126.6	1.725	1.325	0.483	0.0	225	0.977
9.000	3.274	130.2	11.5	0.575	0.375	0.044	0.0	45	2.047
9.001	1.479	163.3	21.2	0.225	0.305	0.081	0.0	90	1.030
9.002	1.065	42.3	21.2	0.455	0.512	0.081	0.0	113	1.067
1.006	0.802	6.3	149.3	1.450	1.500	0.570	0.0	100	0.824
1.007	0.830	6.5	149.3	1.500	1.200	0.570	0.0	100	0.852

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	1.000	Additional Storage (m³/ha)	20.0		

Storm Durations

15	60	180	360	600	960	2160
30	120	240	480	720	1440	2880

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
30	45	0	0
100	0	0	0
100	45	0	0

Node S18 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	39.050	Product Number	CTL-SHE-0042-1000-1500-1000
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.0	Min Node Diameter (mm)	1200

Node S17 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	40.020	Product Number	CTL-SHE-0054-1000-0500-1000
Design Depth (m)	0.500	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.0	Min Node Diameter (mm)	1200

Node S14 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	39.150	Product Number	CTL-SHE-0067-2000-1000-2000
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.0	Min Node Diameter (mm)	1200

Node Outfall Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	39.000	Product Number	CTL-SHE-0043-1000-1400-1000
Design Depth (m)	1.400	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.0	Min Node Diameter (mm)	1200

Node S4 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	42.700	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	22	Depth (m)	
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	36.000		

Node S3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	43.100	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	41	Depth (m)	
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	35.000		

Node S2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	41.190	Slope (1:X)	600.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	24.000		

Node S7 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	42.000	Slope (1:X)	450.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	7.000	Inf Depth (m)	
Porosity	0.30	Length (m)	11.000		

Node S8 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	42.000	Slope (1:X)	45.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	1.000
Safety Factor	2.0	Width (m)	1.000	Inf Depth (m)	
Porosity	0.30	Length (m)	15.000		

Node S10 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	41.400	Slope (1:X)	450.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	8.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S11 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	40.800	Slope (1:X)	22.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	
Safety Factor	2.0	Width (m)	1.000	Inf Depth (m)	
Porosity	0.30	Length (m)	25.000		

Node S12 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	40.200	Slope (1:X)	450.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	
Safety Factor	2.0	Width (m)	8.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S13 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	40.200	Slope (1:X)	20.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	
Safety Factor	2.0	Width (m)	1.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S14 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)	0.00000	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)
0.000	350.0	0.0	1.500	350.0	0.0

Node S17 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	40.120
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)
0.000	100.0	0.0	0.600	160.0	0.0

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	114.861	32.502	30 year 960 minute summer	16.486	4.341
2 year 15 minute winter	80.604	32.502	30 year 960 minute winter	10.921	4.341
2 year 30 minute summer	75.683	21.416	30 year 1440 minute summer	11.877	3.183
2 year 30 minute winter	53.111	21.416	30 year 1440 minute winter	7.982	3.183
2 year 60 minute summer	51.114	13.508	30 year 2160 minute summer	8.475	2.342
2 year 60 minute winter	33.959	13.508	30 year 2160 minute winter	5.840	2.342
2 year 120 minute summer	35.185	9.298	30 year 2880 minute summer	7.061	1.892
2 year 120 minute winter	23.376	9.298	30 year 2880 minute winter	4.746	1.892
2 year 180 minute summer	28.430	7.316	30 year +45% CC 15 minute summer	423.225	119.758
2 year 180 minute winter	18.480	7.316	30 year +45% CC 15 minute winter	297.000	119.758
2 year 240 minute summer	23.174	6.124	30 year +45% CC 30 minute summer	281.675	79.704
2 year 240 minute winter	15.396	6.124	30 year +45% CC 30 minute winter	197.667	79.704
2 year 360 minute summer	18.336	4.718	30 year +45% CC 60 minute summer	191.454	50.596
2 year 360 minute winter	11.919	4.718	30 year +45% CC 60 minute winter	127.197	50.596
2 year 480 minute summer	14.732	3.893	30 year +45% CC 120 minute summer	114.629	30.293
2 year 480 minute winter	9.788	3.893	30 year +45% CC 120 minute winter	76.157	30.293
2 year 600 minute summer	12.220	3.342	30 year +45% CC 180 minute summer	86.983	22.384
2 year 600 minute winter	8.349	3.342	30 year +45% CC 180 minute winter	56.541	22.384
2 year 720 minute summer	10.987	2.945	30 year +45% CC 240 minute summer	68.255	18.038
2 year 720 minute winter	7.384	2.945	30 year +45% CC 240 minute winter	45.347	18.038
2 year 960 minute summer	9.127	2.403	30 year +45% CC 360 minute summer	51.607	13.280
2 year 960 minute winter	6.046	2.403	30 year +45% CC 360 minute winter	33.546	13.280
2 year 1440 minute summer	6.698	1.795	30 year +45% CC 480 minute summer	40.403	10.677
2 year 1440 minute winter	4.501	1.795	30 year +45% CC 480 minute winter	26.843	10.677
2 year 2160 minute summer	4.859	1.343	30 year +45% CC 600 minute summer	32.943	9.011
2 year 2160 minute winter	3.348	1.343	30 year +45% CC 600 minute winter	22.509	9.011
2 year 2880 minute summer	4.099	1.098	30 year +45% CC 720 minute summer	29.260	7.842
2 year 2880 minute winter	2.754	1.098	30 year +45% CC 720 minute winter	19.664	7.842
30 year 15 minute summer	291.879	82.592	30 year +45% CC 960 minute summer	23.905	6.295
30 year 15 minute winter	204.827	82.592	30 year +45% CC 960 minute winter	15.835	6.295
30 year 30 minute summer	194.259	54.969	30 year +45% CC 1440 minute summer	17.222	4.616
30 year 30 minute winter	136.322	54.969	30 year +45% CC 1440 minute winter	11.574	4.616
30 year 60 minute summer	132.037	34.893	30 year +45% CC 2160 minute summer	12.289	3.396
30 year 60 minute winter	87.722	34.893	30 year +45% CC 2160 minute winter	8.468	3.396
30 year 120 minute summer	79.055	20.892	30 year +45% CC 2880 minute summer	10.239	2.744
30 year 120 minute winter	52.522	20.892	30 year +45% CC 2880 minute winter	6.881	2.744
30 year 180 minute summer	59.988	15.437	100 year 15 minute summer	370.961	104.969
30 year 180 minute winter	38.994	15.437	100 year 15 minute winter	260.324	104.969
30 year 240 minute summer	47.072	12.440	100 year 30 minute summer	248.386	70.285
30 year 240 minute winter	31.274	12.440	100 year 30 minute winter	174.306	70.285
30 year 360 minute summer	35.591	9.159	100 year 60 minute summer	169.617	44.825
30 year 360 minute winter	23.135	9.159	100 year 60 minute winter	112.689	44.825
30 year 480 minute summer	27.864	7.364	100 year 120 minute summer	99.398	26.268
30 year 480 minute winter	18.512	7.364	100 year 120 minute winter	66.038	26.268
30 year 600 minute summer	22.719	6.214	100 year 180 minute summer	74.708	19.225
30 year 600 minute winter	15.523	6.214	100 year 180 minute winter	48.562	19.225
30 year 720 minute summer	20.179	5.408	100 year 240 minute summer	58.318	15.412
30 year 720 minute winter	13.562	5.408	100 year 240 minute winter	38.745	15.412

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year 360 minute summer	43.887	11.294	100 year +45% CC 120 minute summer	144.127	38.089
100 year 360 minute winter	28.528	11.294	100 year +45% CC 120 minute winter	95.755	38.089
100 year 480 minute summer	34.285	9.060	100 year +45% CC 180 minute summer	108.327	27.876
100 year 480 minute winter	22.778	9.060	100 year +45% CC 180 minute winter	70.415	27.876
100 year 600 minute summer	27.930	7.639	100 year +45% CC 240 minute summer	84.562	22.347
100 year 600 minute winter	19.083	7.639	100 year +45% CC 240 minute winter	56.181	22.347
100 year 720 minute summer	24.802	6.647	100 year +45% CC 360 minute summer	63.636	16.376
100 year 720 minute winter	16.669	6.647	100 year +45% CC 360 minute winter	41.365	16.376
100 year 960 minute summer	20.284	5.341	100 year +45% CC 480 minute summer	49.713	13.138
100 year 960 minute winter	13.436	5.341	100 year +45% CC 480 minute winter	33.028	13.138
100 year 1440 minute summer	14.650	3.926	100 year +45% CC 600 minute summer	40.498	11.077
100 year 1440 minute winter	9.846	3.926	100 year +45% CC 600 minute winter	27.671	11.077
100 year 2160 minute summer	10.458	2.890	100 year +45% CC 720 minute summer	35.964	9.639
100 year 2160 minute winter	7.206	2.890	100 year +45% CC 720 minute winter	24.170	9.639
100 year 2880 minute summer	8.691	2.329	100 year +45% CC 960 minute summer	29.411	7.745
100 year 2880 minute winter	5.841	2.329	100 year +45% CC 960 minute winter	19.483	7.745
100 year +45% CC 15 minute summer	537.894	152.205	100 year +45% CC 1440 minute summer	21.242	5.693
100 year +45% CC 15 minute winter	377.470	152.205	100 year +45% CC 1440 minute winter	14.276	5.693
100 year +45% CC 30 minute summer	360.160	101.913	100 year +45% CC 2160 minute summer	15.165	4.191
100 year +45% CC 30 minute winter	252.744	101.913	100 year +45% CC 2160 minute winter	10.449	4.191
100 year +45% CC 60 minute summer	245.944	64.996	100 year +45% CC 2880 minute summer	12.602	3.377
100 year +45% CC 60 minute winter	163.400	64.996	100 year +45% CC 2880 minute winter	8.469	3.377

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.70%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	41.459	0.059	9.0	0.1240	0.0000	OK
15 minute summer	S2	11	41.276	0.086	25.1	2.5597	0.0000	OK
30 minute summer	S3	20	43.168	0.068	16.9	3.7828	0.0000	OK
60 minute summer	S4	35	42.947	0.247	23.6	12.4700	0.0000	OK
30 minute summer	S5	20	41.169	0.122	37.4	0.1385	0.0000	OK
30 minute summer	S6	21	40.877	0.120	38.0	0.1941	0.0000	OK
15 minute summer	S7	11	42.025	0.025	4.4	0.3415	0.0000	OK
15 minute summer	S8	10	42.019	0.019	2.9	0.0322	0.0000	OK
30 minute summer	S9	20	40.737	0.097	41.8	0.1097	0.0000	OK
15 minute summer	S10	12	41.437	0.037	4.4	0.6939	0.0000	OK
30 minute summer	S11	20	40.845	0.045	3.8	0.9201	0.0000	OK
15 minute summer	S12	11	40.235	0.035	4.4	0.6378	0.0000	OK
15 minute summer	S13	10	40.234	0.034	4.4	0.0615	0.0000	OK
2880 minute winter	S14	2700	39.572	0.422	3.9	140.8867	0.0000	SURCHARGED
2880 minute winter	Detention Basin	2580	39.538	0.438	1.7	53.0800	0.0000	SURCHARGED
15 minute summer	S15	10	41.840	0.040	9.2	0.0902	0.0000	OK
15 minute summer	S16	10	40.380	0.080	16.9	0.1888	0.0000	OK
240 minute summer	S17	168	40.203	0.183	5.2	8.4448	0.0000	OK
2880 minute winter	S18	2580	39.538	0.488	0.9	3.4480	0.0000	SURCHARGED
120 minute summer	Outfall	360	39.115	0.115	1.3	0.1305	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	9.0	0.679	0.056	0.4713	
15 minute summer	S2	1.001	S5	20.9	1.067	0.104	0.2809	
30 minute summer	S3	2.000	S4	8.2	1.117	0.605	0.0543	
60 minute summer	S4	2.001	S5	20.8	3.159	0.474	0.0206	
30 minute summer	S5	1.002	S6	36.3	1.191	0.223	1.2976	
30 minute summer	S6	1.003	S9	38.4	1.460	0.189	0.3005	
15 minute summer	S7	3.000	S9	3.9	0.866	0.137	0.0280	
15 minute summer	S8	4.000	S9	2.9	1.290	0.081	0.0165	
30 minute summer	S9	1.004	S14	42.7	2.886	0.118	0.7433	
15 minute summer	S10	5.000	S14	2.7	1.033	0.289	0.0765	
30 minute summer	S11	6.000	S14	2.4	0.722	0.404	0.0684	
15 minute summer	S12	7.000	S14	3.1	1.000	0.112	0.0261	
15 minute summer	S13	8.000	S14	4.4	1.559	0.094	0.0082	
2880 minute winter	S14	Hydro-Brake®	Detention Basin	1.1				
2880 minute winter	Detention Basin	1.006	S18	0.9	0.213	0.140	0.0360	
15 minute summer	S15	9.000	S16	9.2	1.110	0.071	0.2108	
15 minute summer	S16	9.001	S17	16.7	0.712	0.102	1.0343	
240 minute summer	S17	Hydro-Brake®	Detention Basin	1.0				
2880 minute winter	S18	1.007	Outfall	0.9	0.222	0.131	0.0285	
120 minute summer	Outfall	Hydro-Brake®		0.7				11.5

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.50%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	41.494	0.094	22.8	0.1962	0.0000	OK
15 minute summer	S2	11	41.344	0.154	63.6	5.1742	0.0000	OK
30 minute summer	S3	24	43.268	0.168	43.3	14.7328	0.0000	SURCHARGED
30 minute summer	S4	21	43.093	0.393	68.9	21.0172	0.0000	SURCHARGED
15 minute summer	S5	11	41.256	0.209	90.9	0.2369	0.0000	OK
15 minute summer	S6	11	40.969	0.212	100.9	0.3438	0.0000	OK
15 minute summer	S7	10	42.042	0.042	11.1	0.7465	0.0000	OK
15 minute summer	S8	10	42.031	0.031	7.4	0.0539	0.0000	OK
15 minute summer	S9	11	40.815	0.175	117.7	0.1975	0.0000	OK
15 minute summer	S10	11	41.471	0.071	11.1	1.5487	0.0000	OK
30 minute summer	S11	20	40.896	0.096	9.9	1.9772	0.0000	OK
15 minute summer	S12	11	40.264	0.064	11.1	1.3582	0.0000	OK
15 minute summer	S13	10	40.258	0.058	11.1	0.1091	0.0000	OK
2880 minute winter	S14	2820	40.018	0.868	6.5	289.4481	0.0000	SURCHARGED
2880 minute winter	Detention Basin	2820	39.981	0.881	2.5	106.7174	0.0000	SURCHARGED
15 minute summer	S15	10	41.864	0.064	23.3	0.1432	0.0000	OK
15 minute summer	S16	10	40.434	0.134	42.9	0.3156	0.0000	OK
180 minute winter	S17	176	40.355	0.335	8.7	25.3588	0.0000	SURCHARGED
2880 minute winter	S18	2820	39.981	0.931	0.8	6.5792	0.0000	SURCHARGED
2880 minute winter	Outfall	2880	39.472	0.472	1.3	0.5343	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	22.8	0.811	0.141	1.0124	
15 minute summer	S2	1.001	S5	56.3	1.147	0.282	0.7591	
30 minute summer	S3	2.000	S4	10.4	1.337	0.769	0.0631	
30 minute summer	S4	2.001	S5	37.4	4.778	0.851	0.0282	
15 minute summer	S5	1.002	S6	90.8	1.477	0.557	2.6569	
15 minute summer	S6	1.003	S9	101.4	1.861	0.500	0.6530	
15 minute summer	S7	3.000	S9	10.2	1.608	0.361	0.0345	
15 minute summer	S8	4.000	S9	7.4	1.690	0.207	0.0197	
15 minute summer	S9	1.004	S14	120.6	3.845	0.334	1.8615	
15 minute summer	S10	5.000	S14	7.6	1.319	0.810	0.1685	
30 minute summer	S11	6.000	S14	6.2	0.865	1.033	0.1467	
15 minute summer	S12	7.000	S14	9.0	1.327	0.329	0.0577	
15 minute summer	S13	8.000	S14	11.1	1.944	0.236	0.0166	
2880 minute winter	S14	Hydro-Brake®	Detention Basin	1.4				
2880 minute winter	Detention Basin	1.006	S18	0.8	0.242	0.121	0.0360	
15 minute summer	S15	9.000	S16	23.3	1.397	0.179	0.4094	
15 minute summer	S16	9.001	S17	43.1	1.097	0.264	1.8054	
180 minute winter	S17	Hydro-Brake®	Detention Basin	1.0				
2880 minute winter	S18	1.007	Outfall	1.3	0.283	0.204	0.0336	
2880 minute winter	Outfall	Hydro-Brake®		0.7				101.1

Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	41.513	0.113	33.0	0.2368	0.0000	OK
15 minute summer	S2	11	41.389	0.199	92.2	6.8882	0.0000	OK
60 minute summer	S3	44	43.368	0.268	45.7	25.7179	0.0000	SURCHARGED
30 minute summer	S4	21	43.258	0.558	95.0	30.6080	0.0000	FLOOD RISK
15 minute summer	S5	11	41.299	0.252	118.1	0.2845	0.0000	OK
15 minute summer	S6	11	41.010	0.253	133.3	0.4095	0.0000	OK
15 minute summer	S7	10	42.052	0.052	16.1	1.0015	0.0000	OK
15 minute summer	S8	10	42.037	0.037	10.8	0.0674	0.0000	OK
15 minute summer	S9	10	40.845	0.205	157.4	0.2318	0.0000	OK
15 minute summer	S10	12	41.500	0.100	16.1	2.3127	0.0000	SURCHARGED
30 minute summer	S11	20	40.955	0.155	14.3	3.2095	0.0000	SURCHARGED
2880 minute summer	S12	2880	40.442	0.242	0.6	5.9047	0.0000	SURCHARGED
2880 minute summer	S13	2880	40.442	0.242	0.6	0.5816	0.0000	SURCHARGED
2880 minute summer	S14	2880	40.442	1.292	13.8	431.1368	0.0000	SURCHARGED
2880 minute summer	Detention Basin	2940	40.393	1.293	3.1	156.5614	0.0000	FLOOD RISK
15 minute summer	S15	10	41.878	0.078	33.8	0.1737	0.0000	OK
240 minute winter	S16	236	40.480	0.180	10.2	0.4244	0.0000	OK
240 minute winter	S17	236	40.480	0.460	10.2	40.8725	0.0000	FLOOD RISK
2880 minute summer	S18	2940	40.392	1.342	1.1	9.4875	0.0000	FLOOD RISK
2880 minute summer	Outfall	3000	39.671	0.671	1.1	0.7594	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	33.0	0.847	0.205	1.3887	
15 minute summer	S2	1.001	S5	82.8	1.196	0.414	0.9886	
60 minute summer	S3	2.000	S4	11.7	1.498	0.864	0.0631	
30 minute summer	S4	2.001	S5	36.9	4.717	0.841	0.0282	
15 minute summer	S5	1.002	S6	118.7	1.555	0.728	3.2977	
15 minute summer	S6	1.003	S9	133.8	2.015	0.660	0.7926	
15 minute summer	S7	3.000	S9	15.1	2.227	0.533	0.0377	
15 minute summer	S8	4.000	S9	10.8	1.747	0.303	0.0210	
15 minute summer	S9	1.004	S14	160.2	4.023	0.443	2.6747	
15 minute summer	S10	5.000	S14	9.8	1.324	1.039	0.2236	
30 minute summer	S11	6.000	S14	7.0	0.895	1.151	0.1507	
2880 minute summer	S12	7.000	S14	0.6	0.625	0.022	0.1496	
2880 minute summer	S13	8.000	S14	0.6	0.898	0.013	0.0511	
2880 minute summer	S14	Hydro-Brake®	Detention Basin	2.0				
2880 minute summer	Detention Basin	1.006	S18	1.1	0.265	0.182	0.0360	
15 minute summer	S15	9.000	S16	33.8	1.548	0.260	0.5270	
240 minute winter	S16	9.001	S17	10.2	0.413	0.062	3.4004	
240 minute winter	S17	Hydro-Brake®	Detention Basin	1.0				
2880 minute summer	S18	1.007	Outfall	1.1	0.248	0.164	0.0336	
2880 minute summer	Outfall	Hydro-Brake®		0.7				113.6

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.43%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	41.506	0.106	29.0	0.2216	0.0000	OK
15 minute summer	S2	11	41.372	0.182	80.9	6.2247	0.0000	OK
60 minute summer	S3	43	43.327	0.227	40.5	21.2731	0.0000	SURCHARGED
30 minute summer	S4	21	43.195	0.495	85.1	26.9309	0.0000	SURCHARGED
15 minute summer	S5	11	41.282	0.235	107.4	0.2655	0.0000	OK
15 minute summer	S6	11	40.994	0.237	120.5	0.3837	0.0000	OK
15 minute summer	S7	10	42.048	0.048	14.1	0.9025	0.0000	OK
15 minute summer	S8	10	42.035	0.035	9.4	0.0620	0.0000	OK
15 minute summer	S9	10	40.836	0.196	141.6	0.2220	0.0000	OK
15 minute summer	S10	11	41.486	0.086	14.1	1.9394	0.0000	OK
30 minute summer	S11	20	40.931	0.131	12.6	2.7139	0.0000	SURCHARGED
15 minute summer	S12	11	40.275	0.075	14.1	1.6347	0.0000	OK
15 minute summer	S13	10	40.268	0.068	14.1	0.1286	0.0000	OK
2880 minute winter	S14	2760	40.254	1.104	7.6	368.3954	0.0000	SURCHARGED
2880 minute winter	Detention Basin	2880	40.209	1.109	2.7	134.2887	0.0000	SURCHARGED
15 minute summer	S15	10	41.873	0.073	29.6	0.1621	0.0000	OK
15 minute summer	S16	10	40.453	0.153	54.5	0.3626	0.0000	OK
240 minute winter	S17	236	40.422	0.402	8.7	33.5270	0.0000	FLOOD RISK
2880 minute winter	S18	2880	40.208	1.158	0.8	8.1880	0.0000	SURCHARGED
2880 minute winter	Outfall	2940	39.582	0.582	1.3	0.6587	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	29.0	0.835	0.180	1.2427	
15 minute summer	S2	1.001	S5	72.3	1.202	0.361	0.8991	
60 minute summer	S3	2.000	S4	11.2	1.436	0.828	0.0631	
30 minute summer	S4	2.001	S5	36.7	4.707	0.836	0.0282	
15 minute summer	S5	1.002	S6	107.7	1.526	0.660	3.0484	
15 minute summer	S6	1.003	S9	120.9	1.958	0.596	0.7418	
15 minute summer	S7	3.000	S9	13.2	1.988	0.465	0.0364	
15 minute summer	S8	4.000	S9	9.4	1.618	0.263	0.0205	
15 minute summer	S9	1.004	S14	144.0	4.030	0.399	2.4230	
15 minute summer	S10	5.000	S14	9.5	1.347	1.012	0.2141	
30 minute summer	S11	6.000	S14	6.7	0.863	1.104	0.1496	
15 minute summer	S12	7.000	S14	11.7	1.414	0.428	0.0704	
15 minute summer	S13	8.000	S14	14.1	2.048	0.300	0.0200	
2880 minute winter	S14	Hydro-Brake®	Detention Basin	1.6				
2880 minute winter	Detention Basin	1.006	S18	0.8	0.196	0.130	0.0360	
15 minute summer	S15	9.000	S16	29.6	1.491	0.227	0.4826	
15 minute summer	S16	9.001	S17	54.7	1.196	0.335	2.1341	
240 minute winter	S17	Hydro-Brake®	Detention Basin	1.0				
2880 minute winter	S18	1.007	Outfall	1.3	0.282	0.201	0.0336	
2880 minute winter	Outfall	Hydro-Brake®		0.7				107.7

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.28%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	41.529	0.129	42.0	0.2685	0.0000	OK
15 minute summer	S2	11	41.427	0.237	117.2	8.3248	0.0000	OK
60 minute summer	S3	48	43.478	0.378	58.7	37.8216	0.0000	FLOOD RISK
30 minute summer	S4	22	43.410	0.710	118.3	39.5019	0.0000	FLOOD RISK
15 minute summer	S5	11	41.338	0.291	141.3	0.3295	0.0000	OK
15 minute summer	S6	11	41.045	0.288	160.6	0.4663	0.0000	OK
15 minute summer	S7	10	42.061	0.061	20.5	1.2308	0.0000	OK
15 minute summer	S8	10	42.043	0.043	13.7	0.0783	0.0000	OK
15 minute summer	S9	10	40.863	0.223	191.5	0.2521	0.0000	OK
30 minute summer	S10	20	41.543	0.143	18.3	3.4034	0.0000	SURCHARGED
30 minute summer	S11	21	41.014	0.214	18.3	4.4934	0.0000	SURCHARGED
2880 minute winter	S12	2820	40.709	0.509	0.6	12.7033	0.0000	FLOOD RISK
2880 minute winter	S13	2820	40.709	0.509	0.5	1.6136	0.0000	SURCHARGED
2880 minute winter	S14	2820	40.709	1.559	11.3	519.9996	0.0000	SURCHARGED
2880 minute winter	Detention Basin	2940	40.645	1.545	3.1	187.0697	0.0000	FLOOD RISK
15 minute summer	S15	10	41.889	0.089	43.0	0.1976	0.0000	OK
2880 minute winter	S16	3120	40.631	0.331	1.9	0.7814	0.0000	OK
2880 minute winter	S17	3120	40.631	0.611	1.9	61.6224	0.0000	FLOOD RISK
2880 minute winter	S18	2940	40.644	1.594	0.8	11.2678	0.0000	FLOOD RISK
2880 minute winter	Outfall	3000	39.792	0.792	1.0	0.8959	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	42.0	0.883	0.260	1.6979	
15 minute summer	S2	1.001	S5	105.3	1.269	0.526	1.1833	
60 minute summer	S3	2.000	S4	13.0	1.655	0.955	0.0631	
30 minute summer	S4	2.001	S5	38.2	4.882	0.870	0.0282	
15 minute summer	S5	1.002	S6	142.0	1.611	0.871	3.8361	
15 minute summer	S6	1.003	S9	161.3	2.110	0.796	0.8953	
15 minute summer	S7	3.000	S9	18.9	2.645	0.665	0.0406	
15 minute summer	S8	4.000	S9	13.7	2.139	0.384	0.0220	
15 minute summer	S9	1.004	S14	194.2	4.126	0.538	2.9489	
30 minute summer	S10	5.000	S14	9.6	1.325	1.021	0.2236	
30 minute summer	S11	6.000	S14	7.6	0.977	1.264	0.1530	
2880 minute winter	S12	7.000	S14	0.5	0.592	0.018	0.1496	
2880 minute winter	S13	8.000	S14	0.5	0.850	0.011	0.0511	
2880 minute winter	S14	Hydro-Brake®	Detention Basin	2.0				
2880 minute winter	Detention Basin	1.006	S18	0.8	0.195	0.133	0.0360	
15 minute summer	S15	9.000	S16	43.0	1.659	0.330	0.6129	
2880 minute winter	S16	9.001	S17	1.9	0.135	0.012	4.4643	
2880 minute winter	S17	Hydro-Brake®	Detention Basin	1.0				
2880 minute winter	S18	1.007	Outfall	1.0	0.243	0.152	0.0336	
2880 minute winter	Outfall	Hydro-Brake®		0.8				117.2