

APPENDIX J – SURFACE WATER DRAINAGE DRAWING



APPENDIX K – SURFACE WATER HYDRAULIC CALCULATIONS

Project:	Date: 23/02/2026			
	Designed by: BradleyAllen	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Detention Basin

Type : Pond

Dimensions

Exceedance Level (m)	52.975
Depth (m)	1.300
Base Level (m)	51.675
Freeboard (mm)	300
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	4.541
Total Volume (m³)	1784.514

Depth (m)	Area (m²)	Volume (m³)
0.000	1455.80	0.000
1.300	2363.80	2459.016

Advanced

Perimeter	Circular
Length (m)	106.469
Friction Scheme	Manning's n
n	0.2

Project:	Date: 23/02/2026		
	Designed by: BradleyAllen	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		





MUGA Subbase

Type : Porous Paving

Dimensions

Exceedance Level (m)	54.670
Depth (m)	0.565
Base Level (m)	54.105
Paving Layer Depth (mm)	265
Membrane Percolation (m/hr)	10000.0
Porosity (%)	30
Length (m)	33.954
Long. Slope (1:X)	10000.00
Width (m)	15.542
Total Volume (m³)	47.495

Advanced

Conductivity (m/hr)	10000.0
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Tennis Dome Subbase

Type : Porous Paving

Dimensions

Exceedance Level (m)	54.570
Depth (m)	0.531
Base Level (m)	54.039
Paving Layer Depth (mm)	231
Membrane Percolation (m/hr)	10000.0
Porosity (%)	30
Length (m)	62.310
Long. Slope (1:X)	10000.00
Width (m)	30.221
Total Volume (m³)	169.475

Advanced

Conductivity (m/hr)	10000.0
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Padel Subbase

Type : Porous Paving

Dimensions

Exceedance Level (m)	54.670
Depth (m)	0.550
Base Level (m)	54.120
Paving Layer Depth (mm)	250
Membrane Percolation (m/hr)	10000.0
Porosity (%)	30
Length (m)	42.348
Long. Slope (1:X)	10000.00
Width (m)	19.770
Total Volume (m³)	75.351

Advanced

Conductivity (m/hr)	10000.0
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Project:	Date: 23/02/2026			
	Designed by: BradleyAllen	Checked by:	Approved By:	
Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address:			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S1	54.670 53.920	Diameter / Length: 1.200					Manhole
E:390470.916	0.750						
N:171130.950			{a} S1.000	Pipe	53.920	Diam/Width:150	Not Applicable
S2	54.670 53.819	Diameter / Length: 1.200	{1} S1.000	Pipe	53.819	Diam/Width:150	Manhole
E:390471.062	0.851						
N:171146.159			{a} S1.001	Pipe	53.819	Diam/Width:150	Not Applicable
S3	54.670 53.793	Diameter / Length: 1.200	{1} S1.001	Pipe	53.793	Diam/Width:150	Manhole
E:390472.794	0.877						
N:171149.526			{a} S1.002	Pipe	53.793	Diam/Width:150	Not Applicable
S4	54.670 53.731	Diameter / Length: 1.200	{1} S1.002	Pipe	53.731	Diam/Width:150	Manhole
E:390474.948	0.939						
N:171158.616			{a} S1.003	Pipe	53.731	Diam/Width:150	Not Applicable
S5	54.670 53.700	Diameter / Length: 1.200	{1} S1.003	Pipe	53.700	Diam/Width:150	Manhole
E:390476.911	0.970						
N:171162.841			{a} S1.004	Pipe	53.700	Diam/Width:150	Not Applicable

Project:	Date: 23/02/2026			
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Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S6	54.914 53.599	Diameter / Length: 1.200	{1} S1.004	Pipe	53.674	Diam/Width:150	Manhole
E:390480.336 N:171164.436	1.315		{a} S1.005	Pipe	53.599	Diam/Width:225	Not Applicable
S7	54.590 53.493	Diameter / Length: 1.200	{1} S1.005	Pipe	53.493	Diam/Width:225	Manhole
E:390491.566 N:171185.522	1.097		{a} S1.006	Pipe	53.493	Diam/Width:225	Not Applicable
S8	54.321 53.351	Diameter / Length: 1.200	{1} S1.006	Pipe	53.426	Diam/Width:225	Manhole
E:390498.665 N:171198.850	0.970		{a} S1.007	Pipe	53.351	Diam/Width:300	Not Applicable
S9	54.337 53.306	Diameter / Length: 1.200	{1} S1.007	Pipe	53.306	Diam/Width:300	Manhole
E:390510.693 N:171192.408	1.031		{a} S1.008	Pipe	53.306	Diam/Width:300	Not Applicable
S10	54.151 53.176	Diameter / Length: 1.350	{1} S1.008	Pipe	53.251	Diam/Width:300	Manhole
E:390517.326 N:171204.794	0.975		{a} S1.009	Pipe	53.176	Diam/Width:375	Not Applicable

Project:	Date: 23/02/2026			
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Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S11	54.651 53.063	Diameter / Length: 1.350	{1} S1.009	Pipe	53.063	Diam/Width:375	Manhole
E:390554.815 N:171184.717	1.588		{a} S1.010	Pipe	53.063	Diam/Width:375	Not Applicable
S12	54.583 52.892	Diameter / Length: 1.500	{1} S1.010	Pipe	53.042	Diam/Width:375	Manhole
E:390559.156 N:171177.993	1.691		{2} S2.005	Pipe	53.167	Diam/Width:450	
			{a} S1.011	Pipe	52.892	Diam/Width:525	Not Applicable
S31	54.592 52.235	Diameter / Length: 1.500	{1} S8.004	Pipe	52.460	Diam/Width:450	Manhole
E:390584.790 N:171170.891	2.357		{2} S10.001	Pipe	53.720	Diam/Width:150	
			{3} S1.011	Pipe	52.839	Diam/Width:525	
			{a} S1.012	Pipe	52.235	Diam/Width:675	Not Applicable
S39	54.533 53.783	Diameter / Length: 1.200	{1} S10.000	Pipe	53.783	Diam/Width:150	Manhole
E:390576.402 N:171175.384	0.750		{a} S10.001	Pipe	53.783	Diam/Width:150	Not Applicable

Project:	Date: 23/02/2026			
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Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S34	54.600 53.025	Diameter / Length: 1.350					Manhole
E:390552.422	1.575						
N:171052.600			{a} S9.000	Pipe	53.025	Diam/Width:375	Not Applicable
S33	54.600 52.732	Diameter / Length: 1.350	{1} S8.000	Pipe	53.102	Diam/Width:225	Manhole
E:390585.390	1.868		{2} S9.001	Pipe	52.732	Diam/Width:375	
N:171114.156			{a} S8.001	Pipe	52.732	Diam/Width:375	Not Applicable
S36	54.500 52.572	Diameter / Length: 1.350	{1} S8.001	Pipe	52.647	Diam/Width:375	Manhole
E:390557.185	1.928						
N:171129.261			{a} S8.002	Pipe	52.572	Diam/Width:450	Not Applicable
S37	54.500 52.494	Diameter / Length: 1.350	{1} S8.002	Pipe	52.494	Diam/Width:450	Manhole
E:390573.726	2.006						
N:171160.147			{a} S8.003	Pipe	52.494	Diam/Width:450	Not Applicable
S38	54.516 52.482	Diameter / Length: 1.350	{1} S8.003	Pipe	52.482	Diam/Width:450	Manhole
E:390577.491	2.034						
N:171163.803			{a} S8.004	Pipe	52.482	Diam/Width:450	Not Applicable

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Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S24	54.881 54.131	Diameter / Length: 1.200					Manhole
E:390525.018	0.750						
N:171090.710			{a} S6.000	Pipe	54.131	Diam/Width:150	Not Applicable
S25	54.670 54.020	Diameter / Length: 1.200	{1} S6.000	Pipe	54.095	Diam/Width:150	Manhole
E:390522.412	0.650						
N:171095.505			{a} S6.001	Pipe	54.020	Diam/Width:225	Not Applicable
S26	54.670 53.909	Diameter / Length: 1.200	{1} S6.001	Pipe	53.984	Diam/Width:225	Manhole
E:390526.262	0.761						
N:171102.693			{a} S6.002	Pipe	53.909	Diam/Width:300	Not Applicable
S27	54.670 53.833	Diameter / Length: 1.200	{1} S6.002	Pipe	53.833	Diam/Width:300	Manhole
E:390537.084	0.837						
N:171122.899			{a} S6.003	Pipe	53.833	Diam/Width:300	Not Applicable
S28	54.670 53.786	Diameter / Length: 1.200	{1} S6.003	Pipe	53.786	Diam/Width:300	Manhole
E:390525.796	0.884						
N:171131.439			{a} S6.004	Pipe	53.786	Diam/Width:300	Not Applicable

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Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S23	54.609 53.390	Diameter / Length: 1.350	{1} S2.003	Pipe	53.390	Diam/Width:375	Manhole
E:390528.753 N:171137.116	1.219		{2} S6.004	Pipe	53.765	Diam/Width:300	
			{a} S2.004	Pipe	53.390	Diam/Width:375	Not Applicable
S29	54.583 53.289	Diameter / Length: 1.350	{1} S2.004	Pipe	53.364	Diam/Width:375	Manhole
E:390536.207 N:171135.142	1.294		{2} S7.001	Pipe	53.778	Diam/Width:150	
			{a} S2.005	Pipe	53.289	Diam/Width:450	Not Applicable
S30	54.597 53.847	Diameter / Length: 1.200	{1} S7.000	Pipe	53.847	Diam/Width:150	Manhole
E:390541.179 N:171126.003	0.750						
			{a} S7.001	Pipe	53.847	Diam/Width:150	Not Applicable
S19	54.670 53.845	Diameter / Length: 1.200	{1} S4.000	Pipe	53.845	Diam/Width:225	Manhole
E:390505.635 N:171106.455	0.825						
			{a} S4.001	Pipe	53.845	Diam/Width:150	Not Applicable
S20	55.100 54.350	Diameter / Length: 1.200					Manhole
E:390493.012 N:171111.160	0.750						
			{a} S5.000	Pipe	54.350	Diam/Width:150	Not Applicable

Project:	Date: 23/02/2026			
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Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address:			

Name	Cover Level (m) Invert Level (m)		Connection Details				Type
Coordinates (m)	Depth (m)	Manhole Size (m)	Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S17	54.670 53.845	Diameter / Length: 1.200					Manhole
E:390477.935	0.825						
N:171121.263							
			{a} S3.000	Pipe	53.845	Diam/Width:225	Not Applicable
S18	54.670 53.708	Diameter / Length: 1.200	{1} S3.000	Pipe	53.708	Diam/Width:225	Manhole
E:390497.472	0.962		{2} S4.001	Pipe	53.783	Diam/Width:150	
N:171110.827			{3} S5.000	Pipe	54.320	Diam/Width:150	
			{a} S3.001	Pipe	53.708	Diam/Width:225	Not Applicable
S21	54.670 53.643	Diameter / Length: 1.200	{1} S3.001	Pipe	53.643	Diam/Width:225	Manhole
E:390504.318	1.027						
N:171123.751			{a} S3.002	Pipe	53.643	Diam/Width:225	Not Applicable
S22	54.670 53.622	Diameter / Length: 1.200	{1} S3.002	Pipe	53.622	Diam/Width:225	Manhole
E:390500.264	1.048						
N:171125.996			{a} S3.003	Pipe	53.622	Diam/Width:225	Not Applicable

Project:		Date: 23/02/2026			
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Report Details: Type: Manhole Schedule Storm Phase: Phase		Company Address:			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S16	54.670 53.456	Diameter / Length: 1.350	{1} S2.002	Pipe	53.606	Diam/Width:225	Manhole
E:390511.272 N:171146.590	1.214		{2} S3.003	Pipe	53.518	Diam/Width:225	
			{a} S2.003	Pipe	53.456	Diam/Width:375	Not Applicable
S13	54.670 53.845	Diameter / Length: 1.200					Manhole
E:390478.441 N:171124.138	0.825		{a} S2.000	Pipe	53.845	Diam/Width:225	Not Applicable
S14	54.670 53.729	Diameter / Length: 1.200	{1} S2.000	Pipe	53.729	Diam/Width:225	Manhole
E:390490.743 N:171147.108	0.941		{a} S2.001	Pipe	53.729	Diam/Width:225	Not Applicable
S15	54.670 53.688	Diameter / Length: 1.200	{1} S2.001	Pipe	53.688	Diam/Width:225	Manhole
E:390495.104 N:171155.249	0.982		{a} S2.002	Pipe	53.688	Diam/Width:225	Not Applicable
S32	54.598 53.173	Diameter / Length: 1.200					Manhole
E:390592.835 N:171128.197	1.425		{a} S8.000	Pipe	53.173	Diam/Width:225	Not Applicable

Project:	Date: 23/02/2026			
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Report Details: Type: Manhole Schedule Storm Phase: Phase	Company Address:			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S41	53.418 51.325	Diameter / Length: 1.200	{1} S1.014	Pipe	51.325	Diam/Width:150	Manhole
E:390689.846	2.093						
N:171180.360							Not Applicable
S40	52.700 51.357	Diameter / Length: 1.200	{1} S1.013	Pipe	51.357	Diam/Width:150	Manhole
E:390661.991	1.343						
N:171194.473			{a} S1.014	Pipe	51.357	Diam/Width:150	Not Applicable
S35	54.600 52.951	Diameter / Length: 1.200	{1} S9.000	Pipe	52.951	Diam/Width:375	Manhole
E:390563.672	1.649						
N:171073.605			{a} S9.001	Pipe	52.951	Diam/Width:375	Not Applicable

Project:	Date: 23/02/2026			
	Designed by: BradleyAllen	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Network Design Criteria Storm Phase: Phase				

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Backdrop (m)	0.000
Max. Backdrop (m)	1.000
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☒
Reduce Channel Depths	☐

Manhole Options

Apply Offset	☐
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Project:	Date: 23/02/2026			
	Designed by: BradleyAllen	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company Address:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH	Type: FEH
Site Location	GB 391300 171400 ST 91300 71400
Rainfall Version	2013
Data Type	Catchment
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	25.000

Storm Durations

Duration (mins)	Run Time (mins)
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760

Project:	Date: 23/02/2026		
	Designed by: BradleyAllen	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.92 0	53.956	0.036	1.8	0.041	0.000	1.8	2.212	OK
S2	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.81 9	53.856	0.038	1.8	0.043	0.000	1.8	2.210	OK
S3	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.79 3	53.829	0.036	1.8	0.041	0.000	1.8	2.208	OK
S4	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.73 1	53.776	0.045	2.5	0.051	0.000	2.5	3.051	OK
S5	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.70 0	53.744	0.044	2.5	0.050	0.000	2.5	3.048	OK
S6	FEH: 2 years: +0 %: 60 mins: Summer	54.91 4	53.59 9	53.672	0.073	7.7	0.083	0.000	7.7	9.547	OK
S7	FEH: 2 years: +0 %: 60 mins: Summer	54.59 0	53.49 3	53.575	0.082	9.1	0.093	0.000	9.0	11.259	OK
S8	FEH: 2 years: +0 %: 60 mins: Summer	54.32 1	53.35 1	53.435	0.084	9.8	0.095	0.000	9.8	12.207	OK
S9	FEH: 2 years: +0 %: 60 mins: Summer	54.33 7	53.30 6	53.385	0.080	9.8	0.090	0.000	9.8	12.199	OK
S10	FEH: 2 years: +0 %: 60 mins: Summer	54.15 1	53.17 6	53.297	0.121	21.8	0.173	0.000	21.8	27.145	OK
S11	FEH: 2 years: +0 %: 60 mins: Summer	54.65 1	53.06 3	53.184	0.121	21.8	0.173	0.000	21.7	27.116	OK
S12	FEH: 2 years: +0 %: 60 mins: Summer	54.58 3	52.89 2	53.078	0.186	56.6	0.329	0.000	56.5	73.420	OK
S31	FEH: 2 years: +0 %: 60 mins: Summer	54.59 2	52.23 5	52.407	0.172	133.8	0.304	0.000	133.9	171.775	OK
S39	FEH: 2 years: +0 %: 960 mins: Winter	54.53 3	53.78 3	54.110	0.327	0.4	0.370	0.000	0.4	40.427	Surcharged
S34	FEH: 2 years: +0 %: 60 mins: Summer	54.60 0	53.02 5	53.119	0.094	14.3	0.134	0.000	14.3	17.869	OK
S33	FEH: 2 years: +0 %: 60 mins: Summer	54.60 0	52.73 2	52.883	0.151	32.7	0.216	0.000	32.7	40.848	OK
S36	FEH: 2 years: +0 %: 60 mins: Summer	54.50 0	52.57 2	52.755	0.183	45.9	0.262	0.000	45.9	57.307	OK
S37	FEH: 2 years: +0 %: 60 mins: Summer	54.50 0	52.49 4	52.695	0.201	51.8	0.287	0.000	51.7	64.653	OK
S38	FEH: 2 years: +0 %: 60 mins: Summer	54.51 6	52.48 2	52.666	0.183	51.7	0.262	0.000	51.7	64.639	OK
S24	FEH: 2 years: +0 %: 60 mins: Summer	54.88 1	54.13 1	54.186	0.055	3.7	0.063	0.000	3.7	4.632	OK
S25	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	54.02 0	54.095	0.075	7.3	0.085	0.000	7.3	9.144	OK
S26	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.90 9	53.995	0.086	10.9	0.098	0.000	10.9	13.546	OK
S27	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.83 3	53.927	0.095	12.2	0.107	0.000	12.2	15.250	OK
S28	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.78 6	53.880	0.094	12.2	0.106	0.000	12.2	15.242	OK
S23	FEH: 2 years: +0 %: 60 mins: Summer	54.60 9	53.39 0	53.540	0.151	34.5	0.215	0.000	34.5	44.684	OK
S29	FEH: 2 years: +0 %: 60 mins: Summer	54.58 3	53.28 9	53.436	0.147	35.0	0.210	0.000	34.9	46.431	OK
S30	FEH: 2 years: +0 %: 480 mins: Winter	54.59 7	53.84 7	54.150	0.303	0.4	0.342	0.000	0.3	12.040	Surcharged
S19	FEH: 2 years: +0 %: 600 mins: Winter	54.67 0	53.84 5	54.169	0.324	0.5	0.367	0.000	0.4	20.040	Surcharged
S20	FEH: 2 years: +0 %: 60 mins: Summer	55.10 0	54.35 0	54.407	0.057	3.9	0.064	0.000	3.9	4.842	OK
S17	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.84 5	53.862	0.017	0.5	0.019	0.000	0.5	0.629	OK

Project:		Date: 23/02/2026				
		Designed by: BradleyAllen	Checked by:	Approved By:		
Report Details: Type: Junctions Summary Storm Phase: Phase		Company Address:				

S18	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.70 8	53.775	0.067	6.2	0.076	0.000	6.2	9.504	OK
S21	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.64 3	53.718	0.075	6.2	0.085	0.000	6.2	9.469	OK
S22	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.62 2	53.703	0.081	8.9	0.091	0.000	8.9	12.807	OK
S16	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.45 6	53.576	0.120	21.9	0.172	0.000	21.9	29.001	OK
S13	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.84 5	53.882	0.037	2.1	0.042	0.000	2.1	2.602	OK
S14	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.72 9	53.776	0.047	3.3	0.054	0.000	3.3	4.079	OK
S15	FEH: 2 years: +0 %: 60 mins: Summer	54.67 0	53.68 8	53.765	0.077	8.1	0.087	0.000	8.1	10.111	OK
S32	FEH: 2 years: +0 %: 60 mins: Summer	54.59 8	53.17 3	53.251	0.078	8.3	0.089	0.000	8.3	10.392	OK
S41	FEH: 2 years: +0 %: 2880 mins: Summer	53.41 8	51.32 5	51.433	0.108	5.0	0.000	0.000	5.0	806.635	OK
S40	FEH: 2 years: +0 %: 1440 mins: Winter	52.70 0	51.35 7	51.981	0.624	5.1	0.706	0.000	5.0	533.603	Surcharged
S35	FEH: 2 years: +0 %: 60 mins: Summer	54.60 0	52.95 1	53.057	0.106	24.4	0.120	0.000	24.4	30.498	OK

Project:	Date: 23/02/2026		
	Designed by: BradleyAllen	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.92 0	53.977	0.057	4.1	0.064	0.000	4.1	5.142	OK
S2	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.81 9	53.879	0.060	4.1	0.068	0.000	4.1	5.139	OK
S3	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.79 3	53.850	0.057	4.1	0.065	0.000	4.1	5.136	OK
S4	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.73 1	53.804	0.073	5.7	0.083	0.000	5.7	7.115	OK
S5	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.70 0	53.771	0.071	5.7	0.080	0.000	5.7	7.112	OK
S6	FEH: 30 years: +0 %: 60 mins: Summer	54.91 4	53.59 9	53.720	0.121	17.7	0.136	0.000	17.7	22.183	OK
S7	FEH: 30 years: +0 %: 60 mins: Summer	54.59 0	53.49 3	53.628	0.135	20.9	0.152	0.000	20.9	26.163	OK
S8	FEH: 30 years: +0 %: 60 mins: Summer	54.32 1	53.35 1	53.485	0.134	22.7	0.152	0.000	22.7	28.370	OK
S9	FEH: 30 years: +0 %: 60 mins: Summer	54.33 7	53.30 6	53.433	0.128	22.7	0.144	0.000	22.7	28.395	OK
S10	FEH: 30 years: +0 %: 60 mins: Summer	54.15 1	53.17 6	53.372	0.196	50.3	0.281	0.000	50.3	62.951	OK
S11	FEH: 30 years: +0 %: 60 mins: Summer	54.65 1	53.06 3	53.253	0.190	50.3	0.272	0.000	50.3	62.915	OK
S12	FEH: 30 years: +0 %: 60 mins: Summer	54.58 3	52.89 2	53.186	0.294	130.8	0.520	0.000	130.7	166.426	OK
S31	FEH: 30 years: +0 %: 60 mins: Summer	54.59 2	52.23 5	52.510	0.275	309.1	0.485	0.000	309.0	391.675	OK
S39	FEH: 30 years: +0 %: 960 mins: Winter	54.53 3	53.78 3	54.190	0.407	0.5	0.461	0.000	0.5	46.830	Surcharged
S34	FEH: 30 years: +0 %: 60 mins: Summer	54.60 0	53.02 5	53.177	0.152	33.1	0.218	0.000	33.1	41.347	OK
S33	FEH: 30 years: +0 %: 60 mins: Summer	54.60 0	52.73 2	52.992	0.260	75.7	0.372	0.000	75.7	94.488	OK
S36	FEH: 30 years: +0 %: 60 mins: Summer	54.50 0	52.57 2	52.890	0.318	106.1	0.455	0.000	106.1	132.609	OK
S37	FEH: 30 years: +0 %: 60 mins: Summer	54.50 0	52.49 4	52.820	0.325	119.7	0.466	0.000	119.7	149.645	OK
S38	FEH: 30 years: +0 %: 60 mins: Summer	54.51 6	52.48 2	52.774	0.292	119.7	0.417	0.000	119.6	149.639	OK
S24	FEH: 30 years: +0 %: 60 mins: Summer	54.88 1	54.13 1	54.222	0.091	8.6	0.103	0.000	8.6	10.732	OK

Project:	Date: 23/02/2026		
	Designed by: BradleyAllen	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase		Company Address:	



S25	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	54.02 0	54.140	0.120	16.9	0.136	0.000	16.9	21.162	OK
S26	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.90 9	54.050	0.141	25.1	0.160	0.000	25.1	31.356	OK
S27	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.83 3	53.987	0.154	28.2	0.174	0.000	28.2	35.297	OK
S28	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.78 6	53.934	0.148	28.2	0.168	0.000	28.2	35.288	OK
S23	FEH: 30 years: +0 %: 60 mins: Summer	54.60 9	53.39 0	53.632	0.242	79.7	0.346	0.000	79.7	101.289	OK
S29	FEH: 30 years: +0 %: 60 mins: Summer	54.58 3	53.28 9	53.523	0.234	80.5	0.334	0.000	80.5	103.644	OK
S30	FEH: 30 years: +0 %: 480 mins: Winter	54.59 7	53.84 7	54.213	0.366	0.4	0.414	0.000	0.4	17.263	Surcharged
S19	FEH: 30 years: +0 %: 600 mins: Winter	54.67 0	53.84 5	54.237	0.392	0.5	0.444	0.000	0.5	27.859	Surcharged
S20	FEH: 30 years: +0 %: 60 mins: Summer	55.10 0	54.35 0	54.444	0.094	9.0	0.107	0.000	9.0	11.206	OK
S17	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.84 5	53.870	0.025	1.2	0.029	0.000	1.2	1.463	OK
S18	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.70 8	53.818	0.110	14.2	0.124	0.000	14.2	19.638	OK
S21	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.64 3	53.772	0.129	14.2	0.146	0.000	14.2	19.599	OK
S22	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.62 2	53.755	0.133	20.5	0.151	0.000	20.5	27.391	OK
S16	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.45 6	53.667	0.211	50.5	0.302	0.000	50.5	64.906	OK
S13	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.84 5	53.901	0.056	4.8	0.063	0.000	4.8	6.024	OK
S14	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.72 9	53.822	0.093	7.6	0.105	0.000	7.6	9.443	OK
S15	FEH: 30 years: +0 %: 60 mins: Summer	54.67 0	53.68 8	53.813	0.125	18.8	0.141	0.000	18.7	23.401	OK
S32	FEH: 30 years: +0 %: 60 mins: Summer	54.59 8	53.17 3	53.300	0.127	19.3	0.144	0.000	19.3	24.068	OK
S41	FEH: 30 years: +0 %: 2160 mins: Summer	53.41 8	51.32 5	51.433	0.108	5.0	0.000	0.000	5.0	939.647	OK
S40	FEH: 30 years: +0 %: 1440 mins: Winter	52.70 0	51.35 7	52.258	0.901	5.0	1.020	0.000	5.0	661.004	Surcharged
S35	FEH: 30 years: +0 %: 60 mins: Summer	54.60 0	52.95 1	53.117	0.166	56.5	0.188	0.000	56.5	70.558	OK

Project:	Date: 23/02/2026		
	Designed by: BradleyAllen	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		





FEH: 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
S1	FEH: 100 years: +25 %: 60 mins: Summer	54.670	53.920	53.996	0.076	6.8	0.086	0.000	6.8	8.472	OK
S2	FEH: 100 years: +25 %: 60 mins: Summer	54.670	53.819	53.901	0.083	6.8	0.093	0.000	6.8	8.469	OK
S3	FEH: 100 years: +25 %: 60 mins: Summer	54.670	53.793	53.872	0.079	6.8	0.089	0.000	6.8	8.466	OK
S4	FEH: 100 years: +25 %: 60 mins: Summer	54.670	53.731	53.837	0.106	9.4	0.120	0.000	9.4	11.734	OK
S5	FEH: 100 years: +25 %: 60 mins: Summer	54.670	53.700	53.806	0.106	9.4	0.120	0.000	9.4	11.735	OK
S6	FEH: 100 years: +25 %: 60 mins: Summer	54.914	53.599	53.778	0.179	29.3	0.202	0.000	29.3	36.564	OK
S7	FEH: 100 years: +25 %: 60 mins: Summer	54.590	53.493	53.686	0.193	34.5	0.219	0.000	34.5	43.130	OK
S8	FEH: 100 years: +25 %: 60 mins: Summer	54.321	53.351	53.542	0.191	37.4	0.215	0.000	37.4	46.765	OK
S9	FEH: 100 years: +25 %: 60 mins: Summer	54.337	53.306	53.495	0.189	37.4	0.214	0.000	37.4	46.805	OK
S10	FEH: 100 years: +25 %: 60 mins: Summer	54.151	53.176	53.456	0.280	83.0	0.400	0.000	82.9	103.780	OK
S11	FEH: 100 years: +25 %: 60 mins: Summer	54.651	53.063	53.339	0.277	82.9	0.396	0.000	82.7	103.692	OK
S12	FEH: 100 years: +25 %: 60 mins: Summer	54.583	52.892	53.287	0.395	213.2	0.697	0.000	212.9	272.434	OK
S31	FEH: 100 years: +25 %: 1440 mins: Winter	54.592	52.235	52.642	0.407	51.7	0.718	0.000	51.7	1925.846	OK
S39	FEH: 100 years: +25 %: 1440 mins: Winter	54.533	53.783	54.314	0.531	0.5	0.601	0.000	0.5	80.745	Flood Risk
S34	FEH: 100 years: +25 %: 60 mins: Summer	54.600	53.025	53.359	0.334	54.6	0.478	0.000	54.2	68.188	OK
S33	FEH: 100 years: +25 %: 60 mins: Summer	54.600	52.732	53.224	0.492	124.0	0.704	0.000	123.6	155.962	Surcharged
S36	FEH: 100 years: +25 %: 60 mins: Summer	54.500	52.572	53.077	0.505	173.8	0.722	0.000	173.6	218.869	Surcharged
S37	FEH: 100 years: +25 %: 60 mins: Summer	54.500	52.494	52.947	0.453	196.1	0.648	0.000	195.9	246.986	Surcharged
S38	FEH: 100 years: +25 %: 60 mins: Summer	54.516	52.482	52.879	0.397	195.9	0.568	0.000	195.7	246.981	OK
S24	FEH: 100 years: +25 %: 60 mins: Summer	54.881	54.131	54.264	0.133	14.2	0.151	0.000	14.2	17.697	OK

Project:	Date: 23/02/2026		
	Designed by: BradleyAllen	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		



S25	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	54.02 0	54.184	0.164	27.9	0.186	0.000	27.9	34.895	OK
S26	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.90 9	54.109	0.200	41.4	0.226	0.000	41.4	51.713	OK
S27	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.83 3	54.046	0.213	46.6	0.241	0.000	46.6	58.228	OK
S28	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.78 6	53.984	0.198	46.6	0.224	0.000	46.6	58.218	OK
S23	FEH: 100 years: +25 %: 60 mins: Summer	54.60 9	53.39 0	53.721	0.331	129.9	0.474	0.000	129.7	165.926	OK
S29	FEH: 100 years: +25 %: 60 mins: Summer	54.58 3	53.28 9	53.605	0.316	130.9	0.453	0.000	130.5	168.875	OK
S30	FEH: 100 years: +25 %: 720 mins: Winter	54.59 7	53.84 7	54.312	0.465	0.4	0.526	0.000	0.4	29.622	Flood Risk
S19	FEH: 100 years: +25 %: 720 mins: Winter	54.67 0	53.84 5	54.343	0.498	0.5	0.563	0.000	0.5	38.495	Surcharged
S20	FEH: 100 years: +25 %: 60 mins: Summer	55.10 0	54.35 0	54.489	0.139	14.8	0.157	0.000	14.8	18.495	OK
S17	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.84 5	53.923	0.078	1.9	0.088	0.000	1.8	2.423	OK
S18	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.70 8	53.923	0.215	22.7	0.243	0.000	22.3	31.103	OK
S21	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.64 3	53.888	0.245	22.3	0.278	0.000	22.1	31.061	Surcharged
S22	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.62 2	53.872	0.250	32.5	0.283	0.000	32.4	43.968	Surcharged
S16	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.45 6	53.767	0.311	81.9	0.445	0.000	81.7	105.862	OK
S13	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.84 5	53.917	0.072	8.0	0.082	0.000	8.0	9.937	OK
S14	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.72 9	53.878	0.149	12.5	0.168	0.000	12.4	15.585	OK
S15	FEH: 100 years: +25 %: 60 mins: Summer	54.67 0	53.68 8	53.869	0.181	30.9	0.204	0.000	30.8	38.582	OK
S32	FEH: 100 years: +25 %: 60 mins: Summer	54.59 8	53.17 3	53.353	0.180	31.8	0.204	0.000	31.8	39.703	OK
S41	FEH: 100 years: +25 %: 1440 mins: Winter	53.41 8	51.32 5	51.440	0.114	5.3	0.000	0.000	5.3	782.487	OK
S40	FEH: 100 years: +25 %: 1440 mins: Winter	52.70 0	51.35 7	52.629	1.273	5.3	1.440	0.000	5.3	782.712	Flood Risk
S35	FEH: 100 years: +25 %: 60 mins: Summer	54.60 0	52.95 1	53.336	0.386	92.8	0.436	0.000	92.2	116.401	Surcharged

Project:	Date: 23/02/2026		
	Designed by: BradleyAllen	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residant Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
MUGA Subbase	FEH: 2 years: +0 %: 480 mins: Winter	54.159	54.150	0.051	0.045	1.2	7.661	0.000	0.000	0.4	12.060	83.869	OK
Tennis Dome Subbase	FEH: 2 years: +0 %: 960 mins: Winter	54.117	54.110	0.072	0.071	2.5	40.718	0.000	0.000	0.4	40.774	75.974	OK
Padel Subbase	FEH: 2 years: +0 %: 600 mins: Winter	54.180	54.169	0.056	0.049	1.6	13.500	0.000	0.000	0.5	20.066	82.084	OK
Detention Basin	FEH: 2 years: +0 %: 1440 mins: Winter	51.988	51.988	0.313	0.313	20.4	485.932	0.000	0.000	5.1	534.281	72.770	OK

Project:	Date: 23/02/2026		
	Designed by:	Checked by:	Approved By:
	BradleyAllen		
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:	





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residant Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
MUGA Subbase	FEH: 30 years: +0 %: 480 mins: Winter	54.218	54.213	0.109	0.108	2.2	17.221	0.000	0.000	0.4	17.629	63.741	OK
Tennis Dome Subbase	FEH: 30 years: +0 %: 960 mins: Winter	54.195	54.190	0.149	0.151	4.7	85.077	0.000	0.000	0.5	47.271	49.800	OK
Padel Subbase	FEH: 30 years: +0 %: 600 mins: Winter	54.243	54.237	0.118	0.117	3.0	29.716	0.000	0.000	0.5	28.359	60.563	OK
Detention Basin	FEH: 30 years: +0 %: 1440 mins: Winter	52.267	52.267	0.592	0.592	35.9	974.159	0.000	0.000	5.0	661.998	45.410	OK

Project:	Date: 23/02/2026		
	Designed by: BradleyAllen	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		

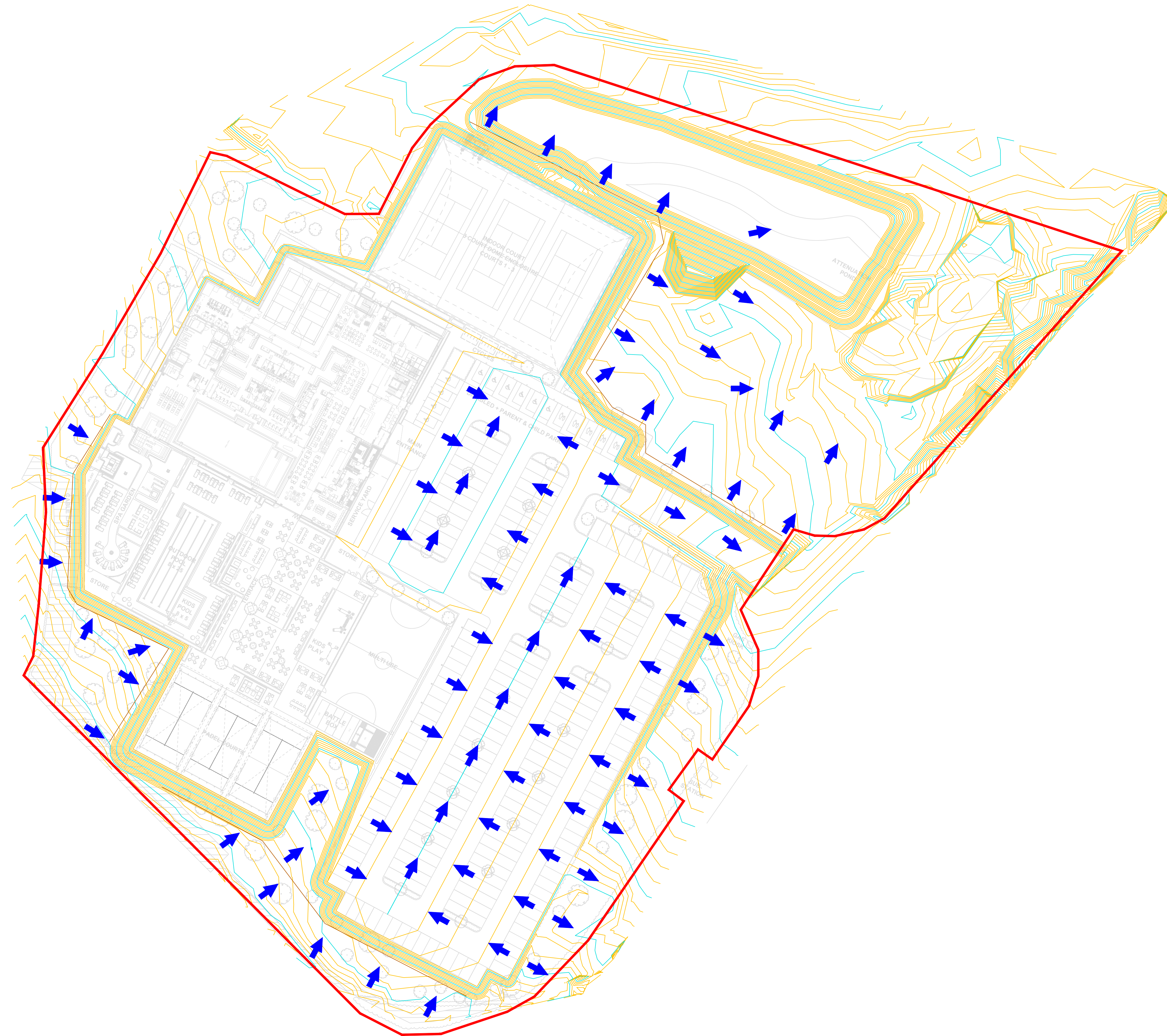




FEH: 100 years: Increase Rainfall (%): +25: Critical Storm Per Item: Rank By:
Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residant Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
MUGA Subbase	FEH: 100 years: +25 %: 720 mins: Winter	54.315	54.312	0.207	0.207	2.7	32.725	0.000	0.000	0.4	30.057	31.098	OK
Tennis Dome Subbase	FEH: 100 years: +25 %: 1440 mins: Winter	54.317	54.314	0.272	0.275	5.6	154.471	0.000	0.000	0.5	81.292	8.853	OK
Padel Subbase	FEH: 100 years: +25 %: 720 mins: Winter	54.346	54.343	0.222	0.223	4.3	55.897	0.000	0.000	0.5	39.100	25.818	OK
Detention Basin	FEH: 100 years: +25 %: 1440 mins: Winter	52.642	52.642	0.967	0.967	58.7	1713.471	0.000	0.000	5.3	784.147	3.981	OK

APPENDIX L – OVERLAND FLOW



- Notes
- DO NOT SCALE FROM THIS DRAWING
 - ALL LEVELS STATED ARE IN METERS ABOVE ORDINANCE DATUM U.N.O

- LEGEND
- MAJOR CONTOUR (0.5m INTERVALS)
 - MINOR CONTOUR (0.1m INTERVALS)
 - SITE REDLINE BOUNDARY
 - PROPOSED OVERLAND FLOW ROUTE

P01	26.02.2026	BA	FIRST ISSUE	JW	RH
Rev	Date	Drawn	Description	Chk'd	App'd

Status PRELIMINARY

Client
David Lloyd
— CLUBS —

Contractor

Structural Engineer
Willis Hazell
ENGINEERS

Project Title
DAVID LLOYD, CHIPPENHAM

Drawing Title
OVERLAND FLOW ROUTES

Suitability Status
S2 - Suitable for Information

WHE Project Number 1101	Scale @ A1 1:500	Rev P01
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Drawing Number
DLCHP-WHE-XX-XX-DR-C-0002

APPENDIX M – FOUL DRAINAGE STRATEGY DRAWING

APPENDIX N – FOUL CALCULATIONS

Clubs	Members	Pro-rata factor	Daily Usage		Flow Rate	
			Max	Mean	Max	Mean
All clubs max			89000	60000	3.000	1.800
All clubs mean			79977	52147	2.360	1.583
Shawfair	6000		79000	57500	3.000	1.800
Rugby	6000		89000	60000	2.000	1.600
Kings Hill	6000		89000	59000	2.700	1.800
Colchester	6000		<i>limited data</i>			
Aberdeen	6000		72500	47000	2.200	1.400
Rouken Glen	6000		79500	48000	2.400	1.500
Newbury	5800	1.034	70862	41379	1.862	1.400