



Hinckley District Hospital CDC

STR18242 – Drainage Calculations

23rd February 2024

Waterman Structures Limited

5th Floor, One Cornwall Street, Birmingham, B3 2DX
www.watermangroup.com



Client Name: NHS Property Services
Document Reference: 18242-WSL-XX-XX-RP-S-0001
Project Number: STR18242

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date	Prepared by	Checked by	Approved by
A01	22.02.24	Adam Frost	Matthew Hancox	Matthew Hancox

Comments

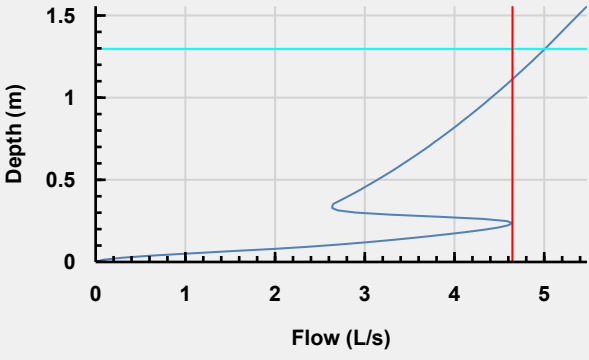
Comments

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
SW01	Inlet	Catchment Area	(None)	No Restriction
SW02	Inlet	1.000	(None)	No Restriction
SW04	Inlet	1.002	(None)	No Restriction
	Inlet (1)	Catchment Area (4)	(None)	No Restriction
SW06	Inlet	Catchment Area (2)	(None)	No Restriction
SW07	Inlet	2.000	(None)	No Restriction
	Inlet (1)	Catchment Area (3)	(None)	No Restriction
SW08	Inlet	2.001	(None)	No Restriction
	Inlet (1)	Catchment Area (5)	(None)	No Restriction
SW09	Inlet (2)	2.002	(None)	No Restriction
		1.004		
SW05	Inlet	1.003	(None)	No Restriction
		Catchment Area (6)		
		Catchment Area (7)		
SW10 WITH HB	Inlet (3)	1.006	(None)	No Restriction
SW11	Inlet	1.007	(None)	No Restriction
EX MH	Inlet	1.009	(None)	No Restriction
SW12	Inlet	1.008	(None)	No Restriction
SW03	Inlet	1.001	(None)	No Restriction
		Catchment Area (1)		

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SW01	Outlet	1.000	Free Discharge
SW02	Outlet	1.001	Free Discharge
SW04	Outlet	1.003	Free Discharge
SW06	Outlet	2.000	Free Discharge
SW07	Outlet	2.001	Free Discharge
SW08	Outlet	2.002	Free Discharge
SW09	Outlet	1.005	Free Discharge
SW05	Outlet	1.004	Free Discharge
	Outlet	1.007	Hydro-Brake®
SW10 WITH HB	Invert Level (m)	118.777	
	Design Depth (m)	1.297	
	Design Flow (L/s)	5.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☐	
	Unit Reference	CHE-0096-5000-1297-5000	
			
SW11	Outlet	1.008	Free Discharge
SW12	Outlet	1.009	Free Discharge
SW03	Outlet	1.002	Free Discharge

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Stormwater Controls Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



TANK

Type : Cellular Storage

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	1.005
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	1.006
Outlet Type	Free Discharge

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Connections Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

Name	Length (m)	Connection Type	Slope (1:X)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
2.000	23.510	Pipe	89.734		0.6	225	122.000	119.550
2.001	13.139	Pipe	89.996		0.6	300	122.000	119.288
2.002	14.348	Pipe	89.119		0.6	300	122.000	119.142
1.007	17.327	Pipe	154.708		0.6	375	120.350	118.777
1.000	19.612	Pipe	154.422		0.6	225	120.450	119.550
1.003	24.208	Pipe	154.192		0.6	375	120.200	119.242
1.004	16.025	Pipe	154.084		0.6	375	120.200	119.085
1.006	9.814	Pipe	155.778		0.6	375	122.000	118.840
1.005	6.310	Pipe	44.755		0.6	375	120.400	118.981
1.008	33.505	Pipe	154.402		0.6	375	120.000	118.665
1.009	5.038	Pipe	86.859		0.6	375	120.000	118.448
1.001	10.757	Pipe	153.669		0.6	225	120.450	119.423
1.002	17.156	Pipe	154.559		0.6	300	120.200	119.353

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Lock	Flow Restriction (L/s)	Velocity (m/s)
2.000	122.000	119.288	All		
2.001	122.000	119.142	All		
2.002	120.400	118.981	All		
1.007	120.000	118.665	All	5.0	
1.000	120.450	119.423	All		
1.003	120.200	119.085	All		
1.004	120.400	118.981	All		
1.006	120.350	118.777	All		
1.005	121.500	118.840	All		
1.008	120.000	118.448	All		
1.009	120.070	118.390	All		
1.001	120.200	119.353	All		
1.002	120.200	119.242	All		

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Manhole Schedule Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

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
SW01	120.450 119.550	Diameter / Length: 1.200					Manhole - Access Required
E:442927.129 N:293684.786	0.900						
			{a} 1.000	Pipe	119.550	Diam/Width:225	Not Applicable
SW02	120.450 119.423	Diameter / Length: 1.200	{1} 1.000	Pipe	119.423	Diam/Width:225	Manhole - Access Required
E:442908.029 N:293680.338	1.027						
			{a} 1.001	Pipe	119.423	Diam/Width:225	Not Applicable
SW04	120.200 119.242	Diameter / Length: 1.350	{1} 1.002	Pipe	119.242	Diam/Width:300	Manhole - Access Required
E:442897.791 N:293704.496	0.958						
			{a} 1.003	Pipe	119.242	Diam/Width:375	Not Applicable
SW06	122.000 119.550	Diameter / Length: 1.200					Manhole - Access Required
E:442932.994 N:293699.767	2.450						
			{a} 2.000	Pipe	119.550	Diam/Width:225	Not Applicable
SW07	122.000 119.288	Diameter / Length: 1.200	{1} 2.000	Pipe	119.288	Diam/Width:225	Manhole - Access Required
E:442929.944 N:293723.079	2.712						
			{a} 2.001	Pipe	119.288	Diam/Width:300	Not Applicable

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
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Report Details: Type: Manhole Schedule Storm Phase: Phase		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

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
SW08	122.000 119.142	Diameter / Length: 1.200	{1} 2.001	Pipe	119.142	Diam/Width:300	Manhole - Access Required
E:442928.440 N:293736.132	2.858						
			{a} 2.002	Pipe	119.142	Diam/Width:300	Not Applicable
SW09	120.400 118.981	Diameter / Length: 1.350	{1} 2.002	Pipe	118.981	Diam/Width:300	Manhole - Access Required
E:442914.144 N:293734.918	1.419		{2} 1.004	Pipe	118.981	Diam/Width:375	
			{a} 1.005	Pipe	118.981	Diam/Width:375	Not Applicable
SW05	120.200 119.085	Diameter / Length: 1.350	{1} 1.003	Pipe	119.085	Diam/Width:375	Manhole - Access Required
E:442899.395 N:293728.651	1.115						
			{a} 1.004	Pipe	119.085	Diam/Width:375	Not Applicable
SW10 WITH HB	120.350 118.777	Diameter / Length: 1.500	{1} 1.006	Pipe	118.777	Diam/Width:375	Manhole
E:442902.935 N:293736.447	1.573						
			{a} 1.007	Pipe	118.777	Diam/Width:375	Not Applicable
SW11	120.000 118.665	Diameter / Length: 1.350	{1} 1.007	Pipe	118.665	Diam/Width:375	Manhole - Access Required
E:442888.423 N:293726.978	1.335						
			{a} 1.008	Pipe	118.665	Diam/Width:375	Not Applicable

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Manhole Schedule Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

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
EX MH	120.070 118.390	Diameter / Length: 1.350	{1} 1.009	Pipe	118.390	Diam/Width:375	Manhole - Access Required - Sealed
E:442892.264 N:293688.834	1.680						
							Not Applicable
SW12	120.000 118.448	Diameter / Length: 1.350	{1} 1.008	Pipe	118.448	Diam/Width:375	Manhole - Access Required
E:442893.102 N:293693.801	1.552						
			{a} 1.009	Pipe	118.448	Diam/Width:375	Not Applicable
SW03	120.200 119.353	Diameter / Length: 1.200	{1} 1.001	Pipe	119.353	Diam/Width:225	Manhole - Access Required
E:442899.986 N:293687.481	0.847						
		{a} 1.002	Pipe	119.353	Diam/Width:300	Not Applicable	

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Inflow Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	SW01		Time of Concentration	0.029	95	0	95	0.027
Catchment Area (1)	SW03		Time of Concentration	0.045	95	0	95	0.043
Catchment Area (2)	SW06		Time of Concentration	0.075	95	0	95	0.071
Catchment Area (3)	SW07		Time of Concentration	0.046	95	0	95	0.043
Catchment Area (4)	SW04		Time of Concentration	0.019	95	0	95	0.018
Catchment Area (5)	SW08		Time of Concentration	0.062	95	0	95	0.059
Catchment Area (6)	SW05		Time of Concentration	0.045	95	0	95	0.042
Catchment Area (7)	SW05		Time of Concentration	0.015	95	0	95	0.015
TOTAL		0.0		0.336				0.319

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design	Date: 01/06/2023		
	Designed by: RB	Checked by: SS	Approved By: SS
Report Details: Type: Network Design Report Storm Phase: Phase Flow Path: Path 1.000	Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX		



Name	Time Of Travel (mins)	Rainfall Intensity (mm/hr)	Total Area (ha)	Total Impermeable Area (ha)	Proportional Depth (mm)	Proportional Velocity (m/s)	Full Bore Velocity (m/s)	Capacity (L/s)
1.000	5.31	158.537	0.029	0.027	81	0.904	1.050	41.7368
1.001	5.48	156.667	0.029	0.027	81	0.905	1.052	41.8402
1.002	5.71	154.265	0.074	0.070	118	1.133	1.262	89.2213
1.003	5.99	151.451	0.093	0.088	120	1.183	1.457	160.8895
1.004	6.17	149.660	0.153	0.145	156	1.347	1.457	160.9464
Branch: 2.000								
2.000	5.28	158.846	0.075	0.071	120	1.419	1.381	54.9056
2.001	5.42	157.384	0.121	0.115	135	1.586	1.658	117.1999
2.002	5.56	155.833	0.183	0.174	172	1.753	1.666	117.7798
1.005	6.21	149.288	0.336	0.319	172	2.616	2.715	299.8391
1.006	6.32	148.218	0.336	0.319	256	1.605	1.449	160.0611
1.007	6.52	146.381	0.336	0.319	255	1.609	1.454	160.6189
1.008	6.90	142.992	0.336	0.319	255	1.611	1.456	160.7789
1.009	6.95	142.623	0.336	0.319	210	2.029	1.945	214.8287

Name	Flow (L/s)
1.000	11.7156
1.001	11.7156
1.002	29.1810
1.003	36.0886
1.004	58.7751
Branch: 2.000	
2.000	30.7380
2.001	48.9389
2.002	73.3266
1.005	128.8756
1.006	128.8756
1.007	128.8756
1.008	128.8756
1.009	128.8756

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Network Design Criteria Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

Flow Options

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

Rain 1

Type: FSR

Return Period (years)	100.0
Region	England And Wales
M5-60 (mm)	19.8
Ratio R	0.400

Pipe Options

Lock Slope Options	None
Design Level	Level Inverts
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
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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The expression contains object 'SynchroniseManholeInvertLevelsTitle' that is
not defined in the current context.



Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Outfall Details Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
EX MH	Free Discharge		

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Title: Rainfall Analysis Criteria		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			

Runoff Type	Dynamic
Output Interval (mins)	1
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	150
Perform No Discharge Analysis	☐

Rainfall

Rain 1	Type: FSR
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Region	England And Wales
M5-60 (mm)	19.8
Ratio R	0.400
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
5.0	0.000
10.0	0.000
30.0	0.000
100.0	40.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
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Rain 1: 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
SW01	Rain 1: 2 years: +0 %: 15 mins: Winter	120.45 0	119.55 0	119.603	0.053	4.9	0.060	0.000	4.8	2.273	OK
SW02	Rain 1: 2 years: +0 %: 15 mins: Winter	120.45 0	119.42 3	119.474	0.051	4.8	0.058	0.000	4.8	2.264	OK
SW04	Rain 1: 2 years: +0 %: 15 mins: Winter	120.20 0	119.24 2	119.320	0.078	15.4	0.111	0.000	15.4	7.307	OK
SW06	Rain 1: 2 years: +0 %: 15 mins: Winter	122.00 0	119.55 0	119.625	0.075	12.9	0.085	0.000	12.7	5.949	OK
SW07	Rain 1: 2 years: +0 %: 15 mins: Winter	122.00 0	119.28 8	119.379	0.091	20.5	0.103	0.000	20.2	9.554	OK
SW08	Rain 1: 2 years: +0 %: 15 mins: Winter	122.00 0	119.14 2	119.256	0.114	30.9	0.128	0.000	30.5	14.462	OK
SW09	Rain 1: 2 years: +0 %: 15 mins: Winter	120.40 0	118.98 1	119.106	0.125	55.6	0.180	0.000	55.8	26.482	OK
SW05	Rain 1: 2 years: +0 %: 15 mins: Winter	120.20 0	119.08 5	119.194	0.109	25.2	0.156	0.000	25.3	12.039	OK
SW10 WITH HB	Rain 1: 2 years: +0 %: 120 mins: Winter	120.35 0	118.77 7	119.074	0.297	4.8	0.525	0.000	4.6	45.411	OK
SW11	Rain 1: 2 years: +0 %: 180 mins: Winter	120.00 0	118.66 5	118.709	0.044	4.6	0.064	0.000	4.6	56.844	OK
EX MH	Rain 1: 2 years: +0 %: 180 mins: Winter	120.07 0	118.39 0	118.428	0.038	4.6	0.000	0.000	4.6	56.808	OK
SW12	Rain 1: 2 years: +0 %: 180 mins: Winter	120.00 0	118.44 8	118.488	0.040	4.6	0.057	0.000	4.6	56.808	OK
SW03	Rain 1: 2 years: +0 %: 15 mins: Winter	120.20 0	119.35 3	119.431	0.078	12.4	0.088	0.000	12.2	5.810	OK

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Rain 1: 5 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
SW01	Rain 1: 5 years: +0 %: 15 mins: Winter	120.45 0	119.55 0	119.611	0.061	6.3	0.069	0.000	6.2	2.927	OK
SW02	Rain 1: 5 years: +0 %: 15 mins: Winter	120.45 0	119.42 3	119.481	0.058	6.2	0.066	0.000	6.2	2.918	OK
SW04	Rain 1: 5 years: +0 %: 15 mins: Winter	120.20 0	119.24 2	119.331	0.089	19.9	0.127	0.000	19.9	9.409	OK
SW06	Rain 1: 5 years: +0 %: 15 mins: Winter	122.00 0	119.55 0	119.637	0.087	16.6	0.098	0.000	16.4	7.664	OK
SW07	Rain 1: 5 years: +0 %: 15 mins: Winter	122.00 0	119.28 8	119.395	0.107	26.5	0.121	0.000	26.1	12.308	OK
SW08	Rain 1: 5 years: +0 %: 15 mins: Winter	122.00 0	119.14 2	119.275	0.133	39.8	0.150	0.000	39.3	18.636	OK
SW09	Rain 1: 5 years: +0 %: 120 mins: Winter	120.40 0	118.98 1	119.175	0.194	22.8	0.277	0.000	22.9	65.615	OK
SW05	Rain 1: 5 years: +0 %: 15 mins: Winter	120.20 0	119.08 5	119.211	0.126	32.6	0.180	0.000	32.7	15.524	OK
SW10 WITH HB	Rain 1: 5 years: +0 %: 120 mins: Winter	120.35 0	118.77 7	119.175	0.398	5.0	0.703	0.000	4.6	40.898	Surcharged
SW11	Rain 1: 5 years: +0 %: 480 mins: Winter	120.00 0	118.66 5	118.709	0.044	4.6	0.064	0.000	4.6	92.848	OK
EX MH	Rain 1: 5 years: +0 %: 480 mins: Winter	120.07 0	118.39 0	118.428	0.038	4.6	0.000	0.000	4.6	92.845	OK
SW12	Rain 1: 5 years: +0 %: 480 mins: Winter	120.00 0	118.44 8	118.488	0.040	4.6	0.057	0.000	4.6	92.845	OK
SW03	Rain 1: 5 years: +0 %: 15 mins: Winter	120.20 0	119.35 3	119.443	0.090	15.9	0.101	0.000	15.7	7.481	OK

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		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 10 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
SW01	Rain 1: 10 years: +0 %: 15 mins: Winter	120.45 0	119.55 0	119.616	0.066	7.4	0.074	0.000	7.3	3.400	OK
SW02	Rain 1: 10 years: +0 %: 15 mins: Winter	120.45 0	119.42 3	119.487	0.064	7.3	0.072	0.000	7.2	3.390	OK
SW04	Rain 1: 10 years: +0 %: 15 mins: Winter	120.20 0	119.24 2	119.338	0.096	23.1	0.137	0.000	23.1	10.934	OK
SW06	Rain 1: 10 years: +0 %: 15 mins: Winter	122.00 0	119.55 0	119.645	0.095	19.3	0.107	0.000	19.1	8.901	OK
SW07	Rain 1: 10 years: +0 %: 15 mins: Winter	122.00 0	119.28 8	119.405	0.117	30.8	0.133	0.000	30.3	14.300	OK
SW08	Rain 1: 10 years: +0 %: 15 mins: Winter	122.00 0	119.14 2	119.288	0.146	46.2	0.165	0.000	45.7	21.656	OK
SW09	Rain 1: 10 years: +0 %: 120 mins: Winter	120.40 0	118.98 1	119.242	0.261	26.8	0.373	0.000	26.6	75.976	OK
SW05	Rain 1: 10 years: +0 %: 120 mins: Winter	120.20 0	119.08 5	119.242	0.157	12.2	0.224	0.000	12.3	34.857	OK
SW10 WITH HB	Rain 1: 10 years: +0 %: 120 mins: Winter	120.35 0	118.77 7	119.242	0.465	5.2	0.821	0.000	4.6	36.722	Surcharged
SW11	Rain 1: 10 years: +0 %: 720 mins: Summer	120.00 0	118.66 5	118.709	0.044	4.6	0.064	0.000	4.6	105.846	OK
EX MH	Rain 1: 10 years: +0 %: 720 mins: Summer	120.07 0	118.39 0	118.428	0.038	4.6	0.000	0.000	4.6	105.844	OK
SW12	Rain 1: 10 years: +0 %: 720 mins: Summer	120.00 0	118.44 8	118.488	0.040	4.6	0.057	0.000	4.6	105.844	OK
SW03	Rain 1: 10 years: +0 %: 15 mins: Winter	120.20 0	119.35 3	119.450	0.097	18.5	0.110	0.000	18.2	8.692	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design	Date: 01/06/2023			
	Designed by: RB	Checked by: SS	Approved By: SS	
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 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
SW01	Rain 1: 30 years: +0 %: 15 mins: Winter	120.45 0	119.55 0	119.625	0.075	9.3	0.084	0.000	9.2	4.312	OK
SW02	Rain 1: 30 years: +0 %: 15 mins: Winter	120.45 0	119.42 3	119.498	0.075	9.2	0.084	0.000	9.1	4.301	OK
SW04	Rain 1: 30 years: +0 %: 180 mins: Winter	120.20 0	119.24 2	119.370	0.128	7.0	0.183	0.000	7.0	30.170	OK
SW06	Rain 1: 30 years: +0 %: 15 mins: Winter	122.00 0	119.55 0	119.660	0.110	24.4	0.124	0.000	24.2	11.288	OK
SW07	Rain 1: 30 years: +0 %: 15 mins: Winter	122.00 0	119.28 8	119.425	0.137	39.0	0.154	0.000	38.5	18.133	OK
SW08	Rain 1: 30 years: +0 %: 180 mins: Winter	122.00 0	119.14 2	119.370	0.228	13.9	0.258	0.000	13.9	59.416	OK
SW09	Rain 1: 30 years: +0 %: 180 mins: Winter	120.40 0	118.98 1	119.370	0.389	25.4	0.557	0.000	24.6	107.345	Surcharged
SW05	Rain 1: 30 years: +0 %: 180 mins: Winter	120.20 0	119.08 5	119.370	0.285	11.6	0.408	0.000	11.6	49.161	OK
SW10 WITH HB	Rain 1: 30 years: +0 %: 180 mins: Winter	120.35 0	118.77 7	119.370	0.593	5.1	1.048	0.000	4.6	60.629	Surcharged
SW11	Rain 1: 30 years: +0 %: 960 mins: Winter	120.00 0	118.66 5	118.709	0.044	4.6	0.064	0.000	4.6	158.785	OK
EX MH	Rain 1: 30 years: +0 %: 960 mins: Winter	120.07 0	118.39 0	118.428	0.038	4.6	0.000	0.000	4.6	158.783	OK
SW12	Rain 1: 30 years: +0 %: 960 mins: Winter	120.00 0	118.44 8	118.488	0.040	4.6	0.057	0.000	4.6	158.783	OK
SW03	Rain 1: 30 years: +0 %: 15 mins: Winter	120.20 0	119.35 3	119.464	0.111	23.5	0.126	0.000	23.1	11.026	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 100 years: Increase Rainfall (%): +40: 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
SW01	Rain 1: 100 years: +40 %: 240 mins: Winter	120.45 0	119.55 0	120.175	0.625	3.2	0.707	0.000	3.2	18.415	Surcharged
SW02	Rain 1: 100 years: +40 %: 240 mins: Winter	120.45 0	119.42 3	120.175	0.752	3.2	0.850	0.000	3.2	18.398	Surcharged
SW04	Rain 1: 100 years: +40 %: 240 mins: Winter	120.20 0	119.24 2	120.175	0.933	10.2	1.335	0.000	9.4	56.712	Flood Risk
SW06	Rain 1: 100 years: +40 %: 240 mins: Winter	122.00 0	119.55 0	120.175	0.625	8.4	0.707	0.000	8.4	47.889	Surcharged
SW07	Rain 1: 100 years: +40 %: 240 mins: Winter	122.00 0	119.28 8	120.175	0.887	13.5	1.003	0.000	12.9	75.940	Surcharged
SW08	Rain 1: 100 years: +40 %: 240 mins: Winter	122.00 0	119.14 2	120.175	1.033	19.6	1.168	0.000	18.7	114.003	Surcharged
SW09	Rain 1: 100 years: +40 %: 240 mins: Winter	120.40 0	118.98 1	120.175	1.194	32.3	1.708	0.000	31.8	203.100	Surcharged
SW05	Rain 1: 100 years: +40 %: 240 mins: Winter	120.20 0	119.08 5	120.175	1.090	15.5	1.559	0.000	13.8	91.984	Flood Risk
SW10 WITH HB	Rain 1: 100 years: +40 %: 240 mins: Winter	120.35 0	118.77 7	120.175	1.398	5.3	2.469	0.000	5.1	109.389	Surcharged
SW11	Rain 1: 100 years: +40 %: 240 mins: Winter	120.00 0	118.66 5	118.712	0.047	5.1	0.067	0.000	5.1	109.120	OK
EX MH	Rain 1: 100 years: +40 %: 240 mins: Winter	120.07 0	118.39 0	118.430	0.040	5.1	0.000	0.000	5.1	108.963	OK
SW12	Rain 1: 100 years: +40 %: 240 mins: Winter	120.00 0	118.44 8	118.490	0.042	5.1	0.060	0.000	5.1	108.963	OK
SW03	Rain 1: 100 years: +40 %: 240 mins: Winter	120.20 0	119.35 3	120.175	0.822	8.2	0.930	0.000	8.1	46.409	Flood Risk

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 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. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
TANK	Rain 1: 2 years: +0 %: 120 mins: Winter	119.074	119.074	0.234	0.234	18.5	32.031	0.000	0.000	4.8	45.730	77.391	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 5 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. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
TANK	Rain 1: 5 years: +0 %: 120 mins: Winter	119.175	119.175	0.335	0.335	22.9	45.787	0.000	0.000	5.0	41.668	67.682	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 10 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. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
TANK	Rain 1: 10 years: +0 %: 120 mins: Winter	119.242	119.242	0.402	0.402	26.6	54.939	0.000	0.000	5.2	37.842	61.222	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 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. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
TANK	Rain 1: 30 years: +0 %: 180 mins: Winter	119.370	119.370	0.530	0.530	24.6	72.500	0.000	0.000	5.1	61.887	48.827	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 100 years: Increase Rainfall (%): +40: 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. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
TANK	Rain 1: 100 years: +40 %: 240 mins: Winter	120.175	120.175	1.335	1.335	31.8	139.884	0.000	0.000	5.3	111.572	1.265	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023		
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: RB	Checked by: SS	
		Approved By: SS		
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX		



Rain 1: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.000	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW06	SW07	122.000	119.625	0.083	5.949	1.0	0.23	12.7	OK
2.001	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW07	SW08	122.000	119.379	0.103	9.554	1.0	0.17	20.2	OK
2.002	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW08	SW09	122.000	119.256	0.119	14.462	1.2	0.26	30.5	OK
1.007	Rain 1: 2 years: +0 %: 180 mins: Winter	Pipe	SW10 WITH HB	SW11	120.350	119.066	0.044	56.891	0.6	0.03	4.6	OK
1.000	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW01	SW02	120.450	119.603	0.052	2.273	0.7	0.12	4.8	OK
1.003	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW04	SW05	120.200	119.320	0.093	7.307	0.7	0.1	15.4	OK
1.004	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW05	SW09	120.200	119.194	0.117	12.039	0.9	0.16	25.3	OK
1.006	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	TANK	SW10 WITH HB	122.000	119.008	0.199	5.615	0.4	0.03	5.5	OK
1.005	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW09	TANK	120.400	119.106	0.121	26.482	2.7	0.19	55.8	OK
1.008	Rain 1: 2 years: +0 %: 180 mins: Winter	Pipe	SW11	SW12	120.000	118.709	0.042	56.844	0.7	0.03	4.6	OK
1.009	Rain 1: 2 years: +0 %: 180 mins: Winter	Pipe	SW12	EX MH	120.000	118.488	0.039	56.808	0.8	0.02	4.6	OK
1.001	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW02	SW03	120.450	119.474	0.064	2.264	0.5	0.11	4.8	OK
1.002	Rain 1: 2 years: +0 %: 15 mins: Winter	Pipe	SW03	SW04	120.200	119.431	0.078	5.810	0.8	0.14	12.2	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 5 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.000	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW06	SW07	122.000	119.637	0.097	7.664	1.0	0.3	16.4	OK
2.001	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW07	SW08	122.000	119.395	0.120	12.308	1.0	0.22	26.1	OK
2.002	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW08	SW09	122.000	119.275	0.139	18.636	1.2	0.33	39.3	OK
1.007	Rain 1: 5 years: +0 %: 480 mins: Winter	Pipe	SW10 WITH HB	SW11	120.350	119.061	0.044	92.852	0.6	0.03	4.6	OK
1.000	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW01	SW02	120.450	119.611	0.059	2.927	0.7	0.15	6.2	OK
1.003	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW04	SW05	120.200	119.331	0.107	9.409	0.8	0.12	19.9	OK
1.004	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW05	SW09	120.200	119.211	0.136	15.524	0.9	0.2	32.7	OK
1.006	Rain 1: 5 years: +0 %: 15 mins: Summer	Pipe	TANK	SW10 WITH HB	122.000	119.033	0.224	6.116	0.4	0.04	6.7	OK
1.005	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW09	TANK	120.400	119.127	0.152	33.888	2.8	0.24	71.6	OK
1.008	Rain 1: 5 years: +0 %: 480 mins: Winter	Pipe	SW11	SW12	120.000	118.709	0.042	92.848	0.7	0.03	4.6	OK
1.009	Rain 1: 5 years: +0 %: 480 mins: Winter	Pipe	SW12	EX MH	120.000	118.488	0.039	92.845	0.8	0.02	4.6	OK
1.001	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW02	SW03	120.450	119.481	0.074	2.918	0.5	0.15	6.2	OK
1.002	Rain 1: 5 years: +0 %: 15 mins: Winter	Pipe	SW03	SW04	120.200	119.443	0.089	7.481	0.9	0.18	15.7	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 10 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.000	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW06	SW07	122.000	119.645	0.106	8.901	1.0	0.35	19.1	OK
2.001	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW07	SW08	122.000	119.405	0.132	14.300	1.0	0.26	30.3	OK
2.002	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW08	SW09	122.000	119.288	0.153	21.656	1.3	0.39	45.7	OK
1.007	Rain 1: 10 years: +0 %: 600 mins: Winter	Pipe	SW10 WITH HB	SW11	120.350	119.094	0.044	113.553	0.6	0.03	4.6	OK
1.000	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW01	SW02	120.450	119.616	0.064	3.400	0.8	0.17	7.3	OK
1.003	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW04	SW05	120.200	119.338	0.117	10.934	0.8	0.14	23.1	OK
1.004	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW05	SW09	120.200	119.223	0.150	18.046	0.9	0.24	37.9	OK
1.006	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	TANK	SW10 WITH HB	122.000	119.095	0.286	6.214	0.5	0.04	6.0	OK
1.005	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW09	TANK	120.400	119.142	0.184	39.163	2.8	0.28	83.0	OK
1.008	Rain 1: 10 years: +0 %: 720 mins: Summer	Pipe	SW11	SW12	120.000	118.709	0.042	105.846	0.7	0.03	4.6	OK
1.009	Rain 1: 10 years: +0 %: 720 mins: Summer	Pipe	SW12	EX MH	120.000	118.488	0.039	105.844	0.8	0.02	4.6	OK
1.001	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW02	SW03	120.450	119.487	0.080	3.390	0.6	0.17	7.2	OK
1.002	Rain 1: 10 years: +0 %: 15 mins: Winter	Pipe	SW03	SW04	120.200	119.450	0.096	8.692	0.9	0.2	18.2	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.000	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW06	SW07	122.000	119.660	0.123	11.288	1.1	0.44	24.2	OK
2.001	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW07	SW08	122.000	119.425	0.154	18.133	1.1	0.33	38.5	OK
2.002	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW08	SW09	122.000	119.313	0.181	27.422	1.3	0.49	58.0	OK
1.007	Rain 1: 30 years: +0 %: 960 mins: Summer	Pipe	SW10 WITH HB	SW11	120.350	119.167	0.044	141.712	0.6	0.03	4.6	Surcharged
1.000	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW01	SW02	120.450	119.625	0.074	4.312	0.8	0.22	9.2	OK
1.003	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW04	SW05	120.200	119.351	0.135	13.891	0.8	0.18	29.3	OK
1.004	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW05	SW09	120.200	119.245	0.175	22.493	1.0	0.3	48.1	OK
1.006	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	TANK	SW10 WITH HB	122.000	119.167	0.359	5.201	0.5	0.04	7.0	OK
1.005	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW09	TANK	120.400	119.173	0.257	48.794	2.9	0.35	104.6	OK
1.008	Rain 1: 30 years: +0 %: 960 mins: Winter	Pipe	SW11	SW12	120.000	118.709	0.042	158.785	0.7	0.03	4.6	OK
1.009	Rain 1: 30 years: +0 %: 960 mins: Winter	Pipe	SW12	EX MH	120.000	118.488	0.039	158.783	0.8	0.02	4.6	OK
1.001	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW02	SW03	120.450	119.498	0.093	4.301	0.6	0.22	9.1	OK
1.002	Rain 1: 30 years: +0 %: 15 mins: Winter	Pipe	SW03	SW04	120.200	119.464	0.110	11.026	1.0	0.26	23.1	OK

Project: WIE19849 Hinckley Daycare Phase 1 Proposed Surface Water Drainage Design		Date: 01/06/2023			
Report Details: Type: Connections Summary Storm Phase: Phase		Designed by: RB	Checked by: SS		Approved By: SS
		Company Address: Waterman Infrastructure & Environment Ltd 5th Floor One Cornwall Street Birmingham, B3 2DX			



Rain 1: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
2.000	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW06	SW07	122.000	119.717	0.194	20.514	1.2	0.8	44.0	OK
2.001	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW07	SW08	122.000	119.519	0.279	32.419	1.1	0.59	69.5	OK
2.002	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW08	SW09	122.000	119.469	0.300	48.125	1.5	0.88	103.7	Surcharged
1.007	Rain 1: 100 years: +40 %: 240 mins: Winter	Pipe	SW10 WITH HB	SW11	120.350	120.175	0.047	109.330	0.6	0.03	5.1	Surcharged
1.000	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW01	SW02	120.450	119.656	0.110	7.832	0.9	0.4	16.7	OK
1.003	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW04	SW05	120.200	119.415	0.251	23.962	0.9	0.33	53.3	OK
1.004	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW05	SW09	120.200	119.414	0.375	37.875	1.0	0.53	84.8	OK
1.006	Rain 1: 100 years: +40 %: 15 mins: Summer	Pipe	TANK	SW10 WITH HB	122.000	119.358	0.375	6.171	0.5	0.06	9.0	Surcharged
1.005	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW09	TANK	120.400	119.415	0.375	83.548	3.1	0.61	184.3	Surcharged
1.008	Rain 1: 100 years: +40 %: 240 mins: Winter	Pipe	SW11	SW12	120.000	118.712	0.044	109.120	0.7	0.03	5.1	OK
1.009	Rain 1: 100 years: +40 %: 240 mins: Winter	Pipe	SW12	EX MH	120.000	118.490	0.041	108.963	0.8	0.02	5.1	OK
1.001	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW02	SW03	120.450	119.538	0.137	7.821	0.7	0.4	16.6	OK
1.002	Rain 1: 100 years: +40 %: 15 mins: Winter	Pipe	SW03	SW04	120.200	119.513	0.158	19.887	1.1	0.47	42.1	OK

Disclaimer

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We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

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We are Waterman, where every project matters

We deliver progressive, sustainability-driven environmental and engineering consultancy services across every sector. We think differently, and we're harnessing our collective expertise to deliver greener, healthier and well-connected communities, networks and built environments.

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