

22.09.2025

896.05.02

4th January 2023

1 of 2



Mr Tom Woodcock
Lidl GB Ltd
Axeltree Way
Wednesbury
WS10 9QY

Dear Tom,

RE: Hucknall Town Football Club – Additional Soakaways and Groundwater Monitoring

INTRODUCTION

Remada Ltd was commissioned by Lidl (hereafter ‘the Client’) to undertake additional soakaways and groundwater monitoring at Hucknall Town Football Club, Watnall Road, NG15 6EY.

SCOPE OF WORK

The scope of work comprised the following:

- 1 No. day of trial pitting and soakaway testing to BRE365 within three trial pits excavated to 1.6m bgl.
- Drilling of 3 No. rotary open boreholes to 5m bgl to allow installation of groundwater monitoring wells to 5m bgl.
- 1 No return visit to monitoring groundwater levels.
- Letter report providing logs and results of testing/monitoring.

GROUND CONDITIONS

Remada attended site on 19th December 2022 to undertake the scope of works as described above, the exploratory hole locations are shown on **Figure 1**. A total of three trial pits were excavated and three boreholes were bored at the site.

In general, the ground conditions comprised the following:

- Tarmac hardstanding overlying made ground to a depth of 0.35m bgl was encountered in SA101 only. Made ground comprised white and yellowish brown gravels of limestone and soft gravelly clay with gravels of brick, sandstone and limestone,
- A silty sandy TOPSOIL was encountered in SA102 and SA103 between ground level and 0.3m bgl.
- Beneath the made ground and TOPSOIL weathered limestone bedrock was encountered as either a firm sandy gravelly CLAY or slightly clayey gravelly SAND with low to medium cobble content to a maximum depth of 1.0m bgl (SA101). Gravels and cobbles comprised limestone.
- Beneath the weathered limestone a weak to medium strong thinly to medium bedded LIMESTONE was encountered to a depth of at least 5m bgl which was recovered as sandy GRAVEL and COBBLES.

Groundwater was not encountered during excavation of the trial pits or during drilling of the boreholes at the site. The maximum depth of the rotary open boreholes was 5m bgl. The **Exploratory Hole Logs** are appended to this letter report.

Specialist in Land Condition (SILC)

National Quality Mark Scheme

Due Diligence

Audit

Desk Study

Intrusive Ground Investigation

Human Health Risk Assessment

Water Resource Risk Assessment

Mining Risk Assessment

Preliminary Foundation Design Recommendations

Remediation Strategies & Method Statements

Pre-acquisition Advice

Abnormal Cost Assessment

Materials Management Plans & Declarations

UST Decommissioning

Soil Bio-remediation

Soil Stabilisation

In-situ Groundwater Remediation

EA Remediation Permit

Verification & Completion Reports

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SOAKAWAY TESTING

A total of seven soakaway tests were undertaken at the site within three trial pits the results of which are summarised below. The results are also appended to this letter report.

Location	Basal Depth at beginning of test (m bgl)	Test	Infiltration Rate (m/s)
SA101	1.6	1	2.04x10 ⁻⁵
	1.53 (due to silting)	2	1.72x10 ⁻⁵
SA102	1.6	1	4.36x10 ⁻⁵
	1.55 (due to silting)	2	3.97x10 ⁻⁵
	1.52 (due to silting)	3	4.73x10 ⁻⁵
SA103	1.6	1	1.65x10 ⁻⁵
	1.56 (due to silting)	2	1.52x10 ⁻⁵

GROUNDWATER MONITORING

Groundwater monitoring wells were installed in BH101 to BH103 at the locations shown on **Figure 1** with the wells extending to between 4m bgl and 5m bgl.

Groundwater monitoring comprised a single visit which was undertaken on 3rd January 2023, see a summary below.

Borehole	Date	Elevation (m AOD)	Base of installation (m AOD)	Groundwater depth (m bgl)	Groundwater depth (m AOD)
BH101	03/01/23	94.6	89.80	4.75	89.85
BH102		95.4	90.55	NGW	NGW
BH103		95.2	90.25	4.72	90.48

Notes: NGW – no ground water detected.

Yours sincerely,



Joshua Jones
Senior Geoenvironmental Consultant
Remada Ltd
0333 123 5222 | 07704 663 585
josh.jones@remada.co.uk

Enclosures

- Study Limitations
- Figure 1 – Site Location and Exploratory Hole Plan
- Exploratory Hole Logs
- Soakaway Test Results

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STUDY LIMITATIONS

IMPORTANT. This section should be read before reliance is placed on any of the information, opinions, advice, recommendations or conclusions contained in this report.

1. This report has been prepared by Remada, Ltd with all reasonable skill, care and diligence within the terms of the Appointment and with the resources and manpower agreed with (the 'Client'). Remada does not accept responsibility for any matters outside the agreed scope.

2. This report has been prepared for the sole benefit of the Client unless agreed otherwise in writing.

3. Unless stated otherwise, no consultations with authorities or funders or other interested third parties have been carried out. Remada is unable to give categorical assurance that the findings will be accepted by these third parties as such bodies may have published, more stringent objectives. Further work may be required by these parties.

4. All work carried out in preparing this report has used, and is based on, Remada' professional knowledge and understanding of current relevant legislation. Changes in legislation or regulatory guidance may cause the opinion or advice contained in this report to become inappropriate or incorrect. In giving opinions and advice pending changes in legislation, of which Remada is aware, have been considered. Following delivery of the report Remada has no obligation to advise the Client or any other party of such changes or their repercussions.

5. This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report.

6. Whilst this report and the opinions made are to the best of Remada' belief, Remada cannot guarantee the accuracy or completeness of any information provided by third parties.

7. This report has been prepared based on the information reasonably available during the project programme. All information relevant to the scope may not have received.

8. This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of changes in the condition of the site since the time of the investigation.

9. The content of this report represents the professional opinion of experienced environmental consultants. Remada does not provide specialist legal or other professional advice. The advice of other professionals may be required.

10. Where intrusive investigation techniques have been employed they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature of sampling, no investigation technique is capable of identifying all conditions present in all areas. In some cases the investigation is further limited by site operations, underground obstructions and above ground structures. Unless otherwise stated, areas beyond the boundary of the site have not been investigated.

11. If below ground intrusive investigations have been conducted as part of the scope, service tracing for safe location of exploratory holes has been carried out. The location of underground services shown on any drawing in this report has been determined by visual observations and electromagnetic techniques. No guarantee can be given that all services have been identified. Additional services, structures or other below ground obstructions, not indicated on the drawing, may be present on site.

12. Unless otherwise stated the report provides no comment on the nature of building materials, operational integrity of the facility or on any regulatory compliance issues.

13. Unless otherwise stated, samples from the site (soil, groundwater, building fabric or other samples) have NOT been analysed or assessed for waste classification purposes.

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Condition (SILC)*

*National Quality Mark
Scheme*

Due Diligence

Audit

Desk Study

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Investigation*

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*Water Resource Risk
Assessment*

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*Preliminary Foundation
Design Recommendations*

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FIGURES

Figure 1 – Site Location and Exploratory Hole Plan

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Legend
2021 Ground Investigation

-  WS1 Window Sample (inc' gas monitoring)
-  WS1 Window Sample
-  CBR1 CBR Test
-  SA1 Soakaway Test

2022 Ground Investigation

-  SA101 Soakaway Test
-  BH101 Borehole

Notes

Project Title
Hucknall Town Football Club

Drawing Title
Figure 1 - Site Location and Exploratory Hole Plan

Client
Lidl Great Britain Ltd 

Scale NTS	Drawn JJ	Size A3
Date 20.12.22	Job No. 896.05	Drawing / Rev No. 01



EXPLORATORY HOLE LOGS

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Trial Pit Log

Project Name: Hucknall Town Football Club		Client: Lidl Great Britain LTD		Date: 19/12/2022	
Location: Watnall Road, Hucknall		Contractor:		Co-ords: E452674.00 N348222.00	
Project No. : 896		Crew Name:		Equipment:	
Location Number SA101	Location Type TP	Level 94.60m AoD	Logged By JJ	Scale 1:10	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
Well					0.07	94.60		MADE GROUND: Black tarmac.
					0.12	94.53		MADE GROUND: White and cream slightly clayey sandy angular fine to coarse gravel of limestone.
					0.24	94.48		MADE GROUND: Yellowish brown sandy angular fine to coarse gravel of limestone.
					0.35	94.36		MADE GROUND: Soft brown gravelly clay with occasional rootlets. Gravel is angular to subrounded fine to coarse of brick, sandstone and limestone.
								Firm orangish brown sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of limestone.
					0.70	94.25		Brown slightly clayey slightly gravelly fine to medium SAND with many cobbles. Cobbles are angular to subangular of limestone. Gravel is angular to subangular fine to coarse of limestone.
					1.00	93.90		Weak to medium strong yellowish brown thinly to medium bedded LIMESTONE. Recovered as sandy angular to subangular GRAVEL and COBBLES.
						<i>Breaker used to advance trial pit beyond 1.3m bgl.</i>		
			1.60	93.60		End of Borehole at 1.600m		

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks
 1. No groundwater encountered.
 2. CAT scanned prior to excavation.



Trial Pit Log

Project Name: Hucknall Town Football Club		Client: Lidl Great Britain LTD		Date: 19/12/2022	
Location: Watnall Road, Hucknall		Contractor:		Co-ords: E452598.00 N348214.00	
Project No. : 896		Crew Name:		Equipment:	
Location Number SA102	Location Type TP	Level 95.40m AoD	Logged By JJ	Scale 1:10	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	95.40		TOPSOIL: Grass over brown silty sand with many rootlets.
					0.85	95.10		Pinkish brown slightly clayey gravelly SAND with low cobble content. Gravel is angular to subangular fine to coarse of limestone. Cobbles are subangular of limestone.
					1.60	94.55		Weak yellowish brown thinly to medium bedded LIMESTONE. Recovered as sandy GRAVEL and COBBLES. <i>Breaker used to advance pit beyond 1.4m bgl.</i> End of Borehole at 1.600m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks
 1. No groundwater encountered.
 2. CAT scanned prior to excavation.



Trial Pit Log

Project Name: Hucknall Town Football Club		Client: Lidl Great Britain LTD		Date: 19/12/2022	
Location: Watnall Road, Hucknall		Contractor:		Co-ords: E452631.00 N348199.00	
Project No. : 896		Crew Name:		Equipment:	
Location Number SA103	Location Type TP	Level 95.20m AoD	Logged By JJ	Scale 1:10	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
[Pattern]					0.30	95.20	[Pattern]	TOPSOIL: Grass over dark brown silty sand with many rootlets.
					0.80	94.90	[Pattern]	Firm pinkish brown sandy very gravelly CLAY. Gravel is angular to subangular fine to coarse of limestone.
					1.60	94.40	[Pattern]	Weak yellowish brown thinly to medium bedded Limestone. Recovered as sandy GRAVEL and COBBLES.
							<i>Breaker used to advance pit beyond 1.4m bgl.</i>	1
							End of Borehole at 1.600m	2

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

1. No groundwater encountered.
2. CAT scanned prior to excavation.



Percussion Drilling Log

Project Name: Hucknall Town Football Club		Client: Lidl Great Britain LTD		Date: 19/12/2022	
Location: Watnall Road, Hucknall		Contractor:		Co-ords: E452676.00 N348226.00	
Project No. : 896		Crew Name:		Drilling Equipment:	
Borehole Number BH101	Hole Type RO	Level 94.60m AoD	Logged By JJ	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
█	█				1.00	93.60		Yellowish brown SAND (drillers description).	
								Yellowish brown LIMESTONE (drillers description).	1
								2	
								3	
								4	
				5.00	89.60		End of Borehole at 5.000m	5	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

- No groundwater encountered.
- CAT scanned prior to excavation.
- Installed with 1m plain pipe and 4m slotted pipe.



Percussion Drilling Log

Project Name: Hucknall Town Football Club		Client: Lidl Great Britain LTD		Date: 19/12/2022	
Location: Watnall Road, Hucknall		Contractor:		Co-ords: E452598.00 N348216.00	
Project No. : 896		Crew Name:		Drilling Equipment:	
Borehole Number BH102	Hole Type RO	Level 95.40m AoD	Logged By JJ	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
█	█				1.00	94.40		Yellowish brown SAND (drillers description).	
								Yellowish brown LIMESTONE (drillers description).	1
									2
									3
						5.00	90.40		End of Borehole at 5.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

- No groundwater encountered.
- CAT scanned prior to excavation.
- Installed with 1m plain pipe and 4m slotted pipe.



Percussion Drilling Log

Project Name: Hucknall Town Football Club		Client: Lidl Great Britain LTD		Date: 19/12/2022	
Location: Watnall Road, Hucknall		Contractor:		Co-ords: E452633.00 N348201.00	
Project No. : 896		Crew Name:		Drilling Equipment:	
Borehole Number BH103	Hole Type RO	Level 95.20m AoD	Logged By JJ	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
█	█				1.00	94.20		Yellowish brown SAND (drillers description).	
								Yellowish brown LIMESTONE (drillers description).	1
								2	
								3	
								4	
				5.00	90.20		End of Borehole at 5.000m	5	

Hole Diameter		Casing Diameter		Chiselling			Inclination and Orientation				
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

- No groundwater encountered.
- CAT scanned prior to excavation.
- Installed with 1m plain pipe and 4m slotted pipe.



SOAKAWAY TEST RESULTS

*Specialist in Land
Condition (SILC)*

*National Quality Mark
Scheme*

Due Diligence

Audit

Desk Study

*Intrusive Ground
Investigation*

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Soakaway Test Report



Client: Lidl
Job Name: Hucknall
Job No.: 896

Test Date: 19/12/2022

Soil Description: 0-0.3m topsoil,
 0.35-0.8m weathered limestone, 0.8-1.6m limestone.

Trial Pit No.: SA103
Test No.: 2
Coordinates: -

Weather Conditions: Overcast and rainy

Time	Elapsed Time (min)	Depth to water from ground level	
		(m)	(mm)
13:10	0	1.090	1090
13:11	1	1.095	1095
13:12	2	1.100	1100
13:13	3	1.105	1105
13:14	4	1.110	1110
13:15	5	1.115	1115
13:20	10	1.135	1135
13:25	15	1.145	1145
13:40	30	1.180	1180
13:55	45	1.210	1210
14:10	60	1.230	1230
14:40	90	1.290	1290
15:10	120	1.350	1350
15:40	150	1.400	1400
16:10	180	1.450	1450
16:20	190	1.460	1460

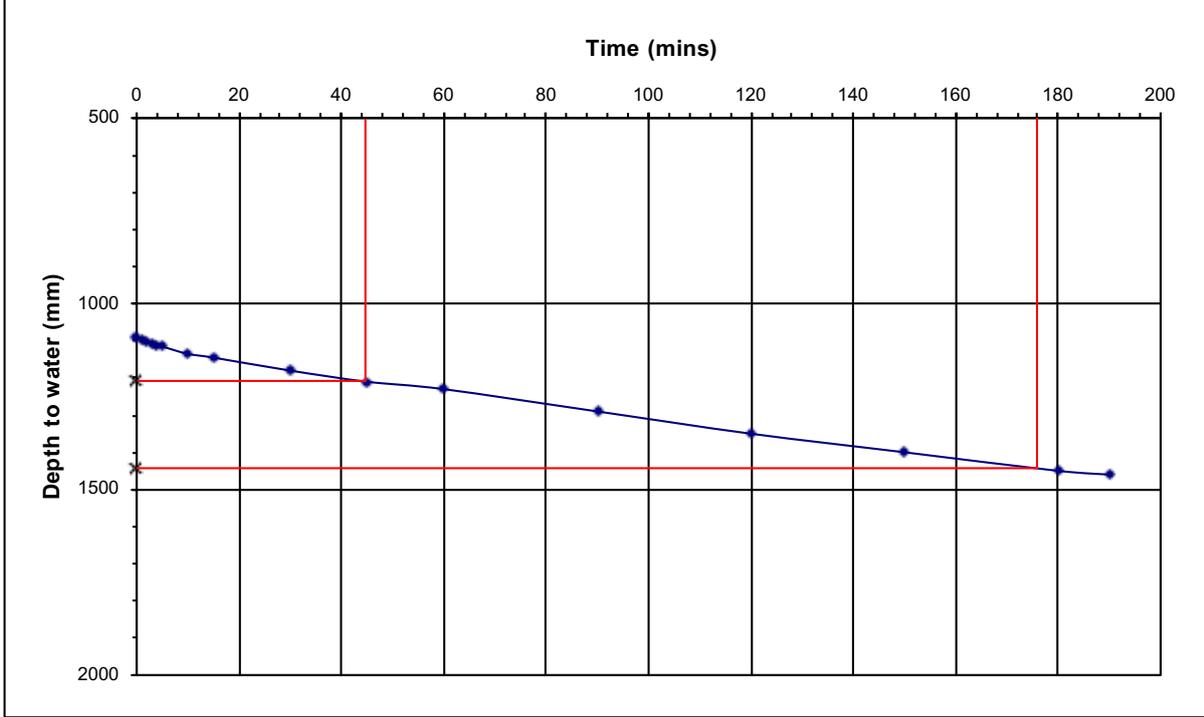
Soakaway Dimensions		(m)	(mm)
Length	=	2.10	2100
Width	=	0.65	650
Depth	=	1.56	1560

Effective depth (empty)		m	mm
25%	=	1.44	1442.5
50%	=	1.33	1325.0
75%	=	1.21	1207.5

Depth at start of test (mm)	=	1090
Depth at end of test (mm)	=	1460

Base area of pit	=	1.365
a_{p50} - 50% internal surface area inc. base	=	2.658
V_{p75-25} - Volume 75 - 25%	=	0.321

t_{p75} (min) = (Read from graph)	44
t_{p25} (min) = (Read from graph)	176
t_p values extrapolated from graph data =	132
t_p value (seconds) =	7920



Soil infiltration rate, f , (m/s) = **1.52E-05** **(normal test)**

Notes:

Logged By	JJ	Checked by	GSJ
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