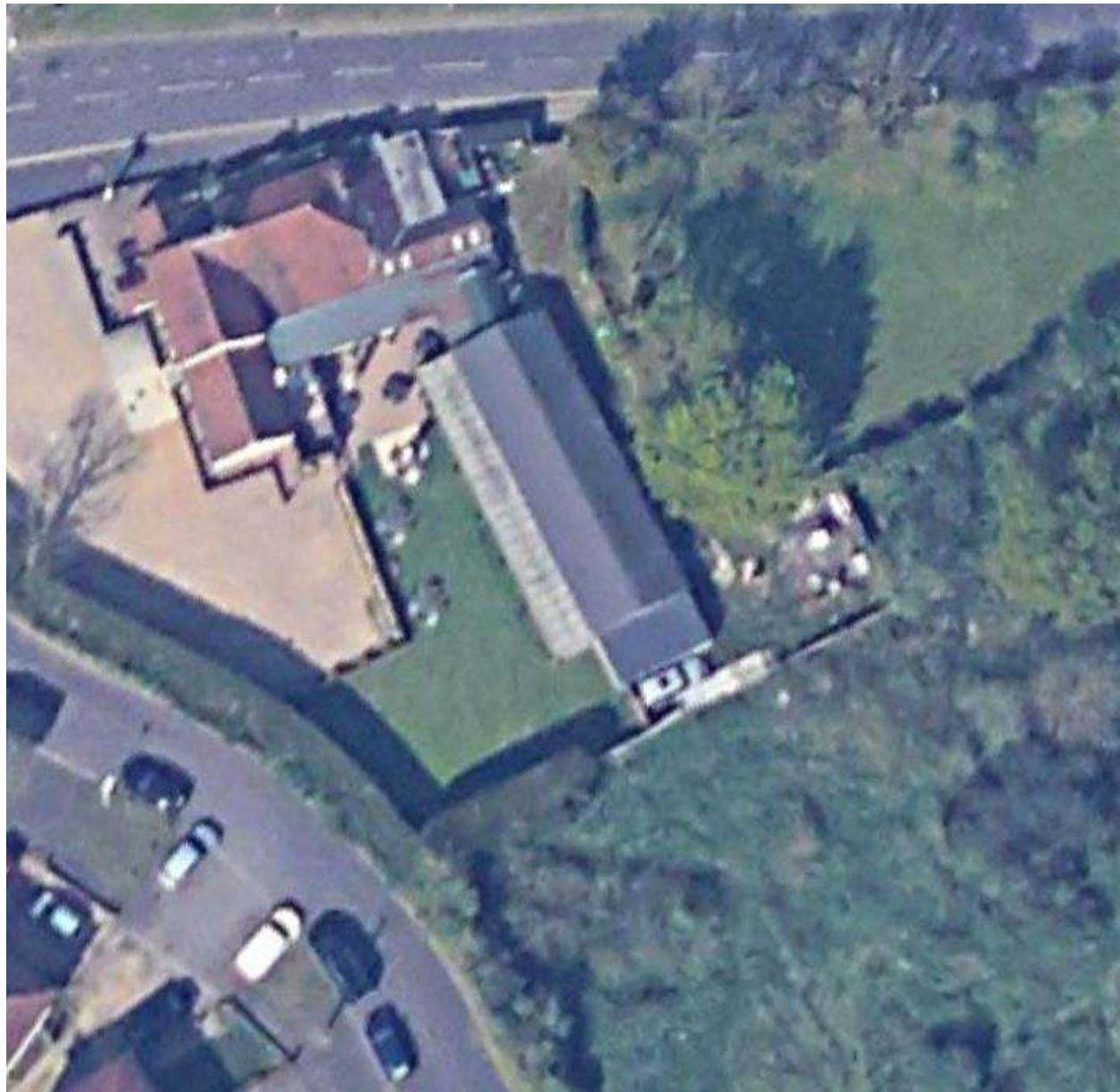


Soakaway Testing

Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge



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Contract No./Report Type: 25-045/ SA
Produced for White House Design

AG Geo-Consultants Ltd

Report Title
Soakaway Testing

Project	Project No./Report Type
Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge	25-045/SA

Client Name
White House Design

Issue Date/Version	Status	Comments, Description of Amendments
18 th June 2025	Final	-

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Appendices

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Soakaway Testing

Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge

Executive Summary

Client	White House Design														
Site and Location	Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge Approximate postcode = UB8 3LH														
Proposed Development	Detached house.														
Client Brief	<i>Suds drainage infiltration testing</i>														
History of Site & Surroundings	<p>History not checked. Currently</p> <p>On Site Conditions</p> <p>½ (west) pub beer garden and ½ (east) storage and waste ground area.</p> <p>In the Surroundings</p> <p>Small farm, country park, residential areas.</p>														
Ground Conditions	<p><u>BGS Mapping Suggests:</u></p> <ul style="list-style-type: none">• Drift Deposits: Boyne Hill Gravel Member - Sand and gravel.• Solid Geology: London Clay Formation - Clay, silt and sand.• The nearest relevant BGS boreholes (on the same geology) suggest:<ul style="list-style-type: none">- 0m-6.5m: very dense SAND & GRAVEL, over- >6.5m: stiff grey and brown CLAY <p><u>Our Investigation Found:</u></p> <table border="1"><thead><tr><th rowspan="2">Strata</th><th colspan="2">Depth Encountered (mBGL)</th><th rowspan="2">Description & Comments</th></tr><tr><th>Top</th><th>Bottom</th></tr></thead><tbody><tr><td>MG: sand & gravel</td><td>0</td><td>1.0, 1.6</td><td>Slightly silty occasionally slightly clayey</td></tr><tr><td>SAND & GRAVEL</td><td>1.0, 1.6</td><td>>3</td><td>Slightly silty. Gravel is flint.</td></tr></tbody></table> <ul style="list-style-type: none">• Anthropogenic components of the made ground comprised concrete and brick, plus rare fragments of plastic, tarmac and wood. There was a pocket of ash in TP2.• There were no visual or olfactory indications of contamination noted in the soils during the site works	Strata	Depth Encountered (mBGL)		Description & Comments	Top	Bottom	MG: sand & gravel	0	1.0, 1.6	Slightly silty occasionally slightly clayey	SAND & GRAVEL	1.0, 1.6	>3	Slightly silty. Gravel is flint.
Strata	Depth Encountered (mBGL)		Description & Comments												
	Top	Bottom													
MG: sand & gravel	0	1.0, 1.6	Slightly silty occasionally slightly clayey												
SAND & GRAVEL	1.0, 1.6	>3	Slightly silty. Gravel is flint.												
Hydrogeology & Hydrology	<ul style="list-style-type: none">• Aquifers, Source Protection Zones (SPZ), Abstractions: Not currently checked as unlikely to be significantly affected by the current site.• Groundwater (GW): Expected to lie at 0.5m depth. We found no water in our 3m deep pits.														
Excavations & Drainage	<p>Excavations</p> <ul style="list-style-type: none">• Should be possible to >3m depth with conventional earthmoving plant.• All of our trial pits remained stable and open during the short time of their formation. There were some collapses during filling of the pits with water, and during the soakage tests.• It is unlikely that shallow excavations (<3m) will encounter significant groundwater. <p>Drainage</p> <ul style="list-style-type: none">• The slightly silty SAND & GRAVEL gave an infiltration rate of at least 1.25×10^{-5}m/s.														

This is only a summary and should not be read in isolation from the main text.

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Soakaway Testing
Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge

1 Introduction

1.1 Introduction and Brief

AG Geo-Consultants Ltd (AGGC) were commissioned by and on behalf of White House Design (the Client) to undertake soakaway testing at a site known as Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge, UB8 3LH (the "Site", see plan in Appendix A).

The client's brief was to:

- *Undertake soakaway testing on site.*

1.2 Proposed Development

The proposed development (see location plan in Appendix A) comprises a detached house.

1.3 Scope of Works

The client accepted AGGC's proposed detailed scope of work for soakaway testing

The client declined intrusive investigation to check any environmental/contamination and geotechnical risks on site.

The objectives of the work were to determine the sub-surface conditions in respect of soakage potential.

1.4 Limitations

Until all invoices associated with the production of this report have been paid in full, then it remains the property of AGGC and not the client, and AGGC do not grant legal reliance upon it to satisfy (or remove) planning permission conditions, or to be used for engineering design, etc.

This report is provided for the benefit only of the party to whom it is addressed and their advisors. No other developer or party may use it without our express written permission (i.e. reassignment). We do not accept responsibility to any other third party for the whole or any part of the contents and we exercise no duty of care in relation to this report to any third party.

Where intrusive investigations have been completed, information, comments and opinions given in this report are based on the ground conditions encountered during the site work and on the results of laboratory and field tests performed during the investigation. However, subsoils are inherently variable and hidden from view such that no investigation can be exhaustive to the extent that all soil conditions are revealed. Conditions may therefore be present beneath the site that were not apparent in the data reviewed as part of this assessment. In particular, it should be noted that groundwater levels vary due to seasonal and other effects, and may at times differ to those measured during the investigation.

This assessment has been based to some extent on data acquired from Third Parties. This data has been accepted as correct and has not been subjected to any additional validation.

Unless specifically noted to the contrary, it should be assumed that this report has not been submitted to any other regulatory authorities for approval. Redevelopment sites in particular

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may have planning conditions attached in respect of contaminated land assessment. Apart from the usual generic contaminated land planning conditions, **there can occasionally be site-specific contamination and geotechnical conditions**. Where we are made aware of such conditions in advance of scoping the works, we can tailor the report to the regulatory authority requirements. Where we are not made aware of any such requirements there can be no certainty that our investigation will meet any or all of the regulatory authority requirements.

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2 Phase 1 Desk Study

2.1 Introduction

The following research has been undertaken in order to aid accurate design of the site works.

2.2 Desk Study

Table 2.1: Desk Study

Planning conditions	There are no (contaminated land) planning conditions for this site yet, but the NPPF reminds developers (Cl 184) that they are responsible for providing developments that are free of significant risks (both contamination and geotechnical). Furthermore, there are ground assessment requirements within Building Regulations . Potential risks to groundworkers should also be considered.
Current Use of Site and Surroundings	On Site Conditions ½ (west) pub beer garden and ½ (east) storage and waste ground area. In the Surroundings Small farm, country park, residential areas.
Historical Land Uses	Not checked
Aerial Photographs	Show nothing extra of significance.
Anticipated Ground Conditions	BGS Mapping Suggests: <ul style="list-style-type: none">• Fault Lines: None lie significantly close enough to the site.• Made ground (MG): None >1m thickness.• Drift Deposits: Boyne Hill Gravel Member - Sand and gravel.• Solid Geology: London Clay Formation - Clay, silt and sand.• The nearest relevant BGS boreholes (on the same geology) suggest:<ul style="list-style-type: none">- 0m-6.5m: very dense SAND & GRAVEL, over- >6.5m: stiff grey and brown CLAY
Hydrology and Hydrogeology	Watercourses, Aquifers, Source Protection Zones (SPZ), Abstractions: Not checked as unlikely to be significantly affected by the current site. Groundwater (GW): expected to lie at 0.5m depth.
Landfills?	There is a licensed landfill ~95m S of the site.
Potential Ground Risks for Drainage	<ul style="list-style-type: none">• Possible shallow groundwater• Possible unstable excavations

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Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge

3 Phase 2 Site Investigation

3.1 General

Soakaway testing was carried out on 10th June 2025 and employed trial pits. The holes are summarised as follows:

Table 3.1: Exploratory Hole Details

Exploratory Hole ID	Technique	Hole Depth (mBGL)	Comments & Reasons for Holes
TP1	Mechanical	3m	Soak tests
TP2	Excavator	3m	

We were not permitted to form trial pits in the pub beer garden (the western ½ of the development site).

The client advised that in the east of the site (~2m from the proposed new footings) there was a pond many years ago which is ~0.6m deep and infilled.

A plan showing the exploratory hole locations is presented as Appendix B. Final hole locations are measured or estimated and were not surveyed.

3.2 Trial Pitting

2no. trial pits were excavated using a midi excavator. The trial pits were logged by an onsite engineer.

On completion the pits were backfilled with excavated spoil and compacted.

Detailed log sheets for the trial pits are included in Appendix C.

3.3 In-Situ Testing

Soakaway tests were undertaken in the following pits in general accordance with recommended practice given in BRE Digest 365. The results are contained in Appendix D.

Table 3.2: Soakaway Tests

Pit Reference	Comments
TP1	3no. fillings were achieved
TP2	3no. fillings were achieved

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Soakaway Testing

Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge

4 Ground Conditions

4.1 General

The following table provides a summary of the strata encountered in the exploratory holes and the depth to the base of each stratum. MG = man-made ground.

Table 4.1: Typical Strata

Strata	Depth Encountered (mBGL)		Description & Comments
	Top	Bottom	
MG: sand & gravel	0	1.0, 1.6	Slightly silty occasionally slightly clayey
SAND & GRAVEL	1.0, 1.6	>3	Slightly silty. Gravel is flint.

Anthropogenic components of the made ground comprised concrete and brick, plus rare fragments of plastic, tarmac and wood. There was a pocket of ash in TP2.

4.2 Groundwater

Groundwater observations were as follows:

Table 4.2: Groundwater Observations

Exploratory Hole	Depth to Groundwater (mBGL)		Standing Depths Post-site works
	During site works		
TP1	All holes were dry to their bases at these depths, for the short few hours during their formation:	3.0	-
TP2		3.0	-

4.3 Excavations

Excavations to $>=3$ m depth should be suitable with conventional earthmoving plant, although pneumatic tools are likely to be required to break out existing foundations and masonry obstructions.

It is unlikely that shallow excavations (<3m) will encounter significant groundwater. If they do, then it may not be possible to keep excavations dry by pumping from a conveniently located sump to a nearby sewer.

If this is required, a temporary discharge licence will be required from the water authority.

If the pumping rate is too high and precautions are not taken, then pumping could suck in fines from the surrounding ground and cause settlements.

All of our trial pits remained stable and open during the short time of their formation. There were some collapses during filling of the pits with water, and during the soakage tests. Temporary excavations in the sand & gravel are therefore not expected to stand unsupported in the short term, either vertically, or with steep cut gradients, and therefore may require shoring or to be battered back to a safe angle of repose. The presence of groundwater will increase excavation side instability. Excavations below approximately 1m depth will require sheeting and shoring for

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Soakaway Testing
Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge

personnel to enter safely. The stability of all excavations could deteriorate on wetting either from groundwater or surface water. Excavations could therefore be protected from rain and surface water runoff.

4.4 Contamination Indications

There were no visual or olfactory indications of contamination noted in the soils during the site works.

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Soakaway Testing
Land to Rear of The Hut Pub, Old Orchard Cl, Uxbridge

5 Soakage Findings

Soakaway infiltration was undertaken in 2no. trial pits. The results are contained in Appendix D and are summarised as follows:

Table 5.1: Soakaway Results

Trial Pit	Test Depth range (mbegl)	Corresponding Stratum	Soil Infiltration Rate (m/s)
TP1	1.5-2.45 (~1.0m head)	Slightly silty SAND & GRAVEL	1.25E-05
TP2	1.55-2.5 (~1.0m head)	Slightly silty SAND & GRAVEL	1.91E-05

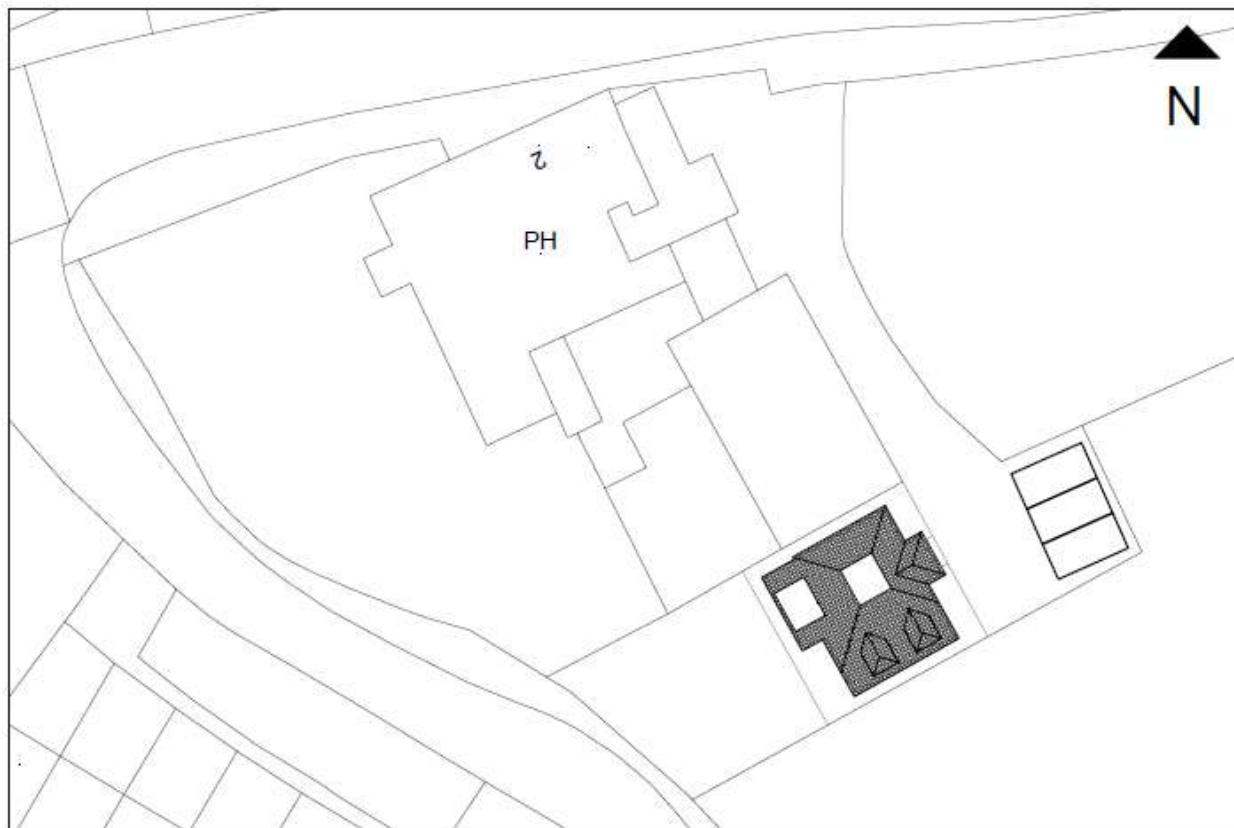
These values (factored in accordance CIRIA 156 (1996) Infiltration Drainage – Manual of Good Practice) may be used for design of soakaways in accordance with BRE Digest 365

Appendices

- A. Proposed Development Plan
- B. Exploratory Hole Locations
- C. Exploratory Hole Logs
- D. In-situ Test Results: Soakaways

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Appendix A



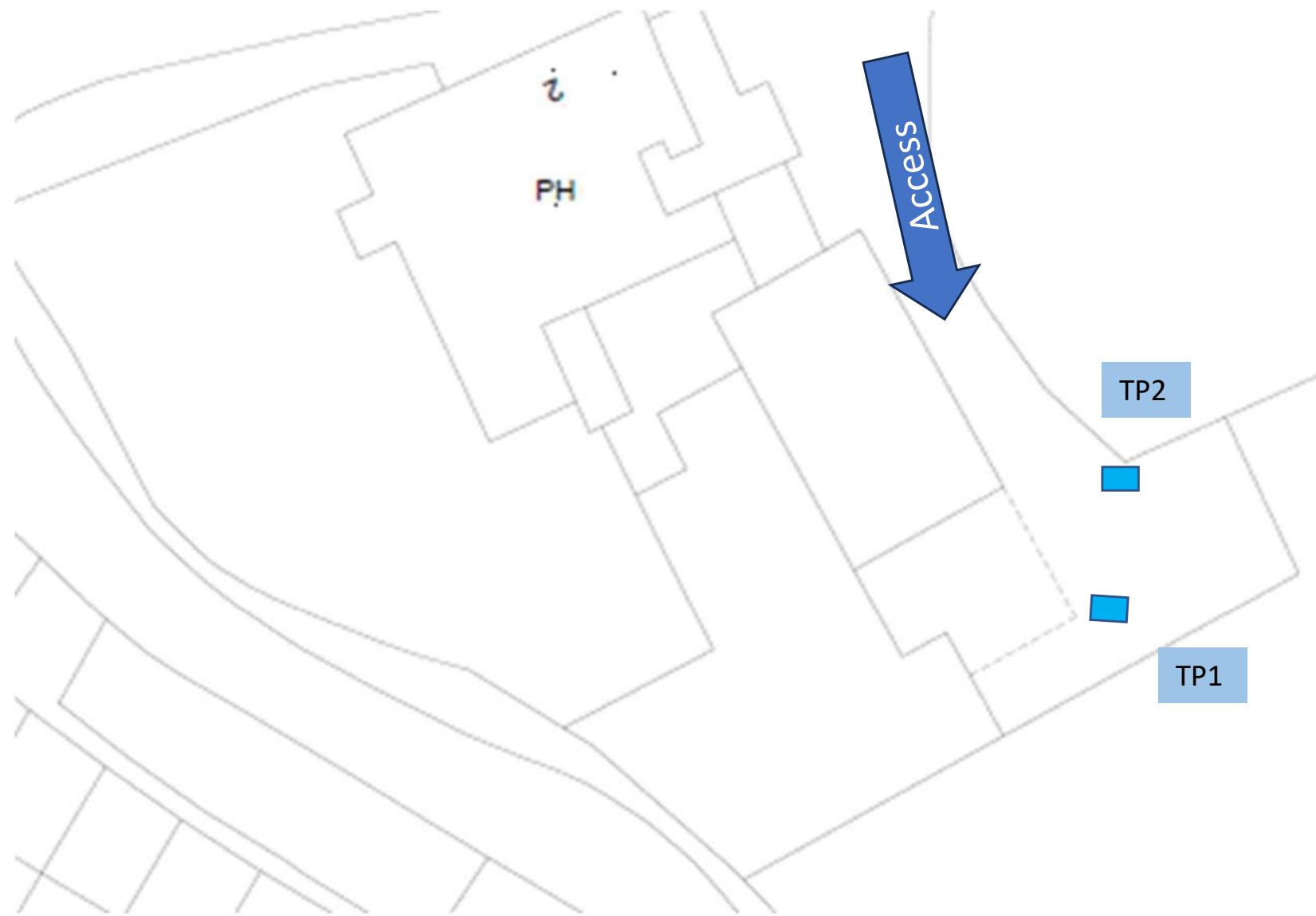
PROPOSED SITE PLAN

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Appendix B

Exploratory Hole

Location Plan



Version Date

0	28/05/25
1	08/06/25
2	12/06/25

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Appendix C

Key to Exploratory Hole Symbols and Abbreviations

SAMPLE TYPES

B	Bulk disturbed sample	ES	Environmental soil sample	U	Undisturbed sample
C	Core sample	EW	Environmental water sample	UT	Undisturbed thin wall sample
CBR-D	Disturbed sample from CBR test area	G	Gas sample	W	Water sample
CBR-U	Undisturbed sample from CBR test area	L	Liner sample		
D	Small disturbed sample	SPT	SPT split spoon sample		

IN-SITU TESTING

SPTs	Standard Penetration Test (using a split spoon sampler)
SPTc	Standard Penetration Test (using a solid 60 degree cone)
N	Recorded SPT 'N' Value *
-/-	Blows/Penetration (mm) after seating blows totalling 150 mm
MX	Mexi Probe Test (records CBR as %)
HV	Hand Shear Vane Test (undrained shear strength quoted in kPa)
HP	Hand Penetrometer Test (kg/m ³)
()	Denotes residual test value
PID	Photo Ionisation Detector (ppm) *
Kf/Kr	Permeability Test (f = falling head, r = rising head quoted in ms ⁻¹)
HPD	High Pressure Dilatometer Test (pressure meter)
PKR	Packer / Lugeon Permeability Test
CBR	California Bearing Ratio Test

ROTARY CORE DETAILS

TCR	Total Core Recovery, %
SCR	Solid Core Recovery, %
RQD	Rock Quality Designation (% of intact core >100 mm)
FI	Fracture Spacing (average fracture spacing; in mm, over indicated length of core) **
NI	Non-Intact Core
AZCL	Assumed Zone of Core Loss

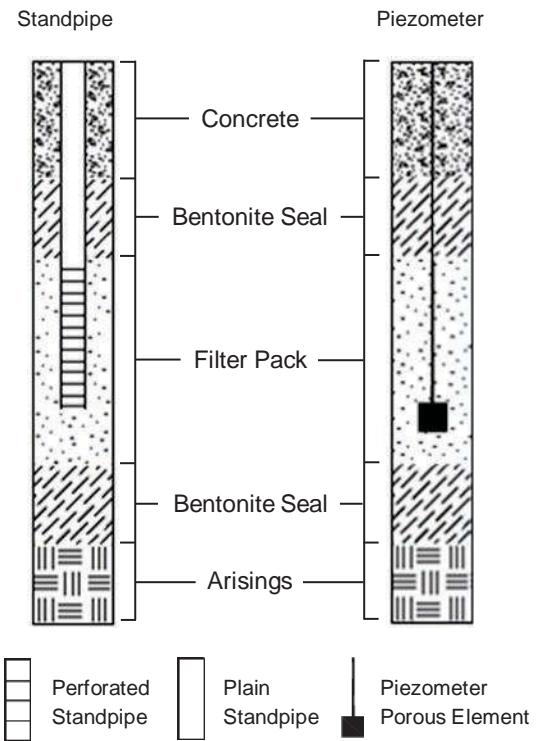
GROUNDWATER



Groundwater strike

Standing water level after 20 minutes; 1st, 2nd etc (number denotes level order)

INSTALLATION & BACKFILL DETAILS



STRATUM BOUNDARIES

— Unit boundary

	Made Ground		Silt		Peat		Limestone
	Concrete		Sand		Void		Chalk
	Bituminous Bound Materials		Gravel		Mudstone		Coal
	Topsoil		Cobbles		Siltstone		Metamorphic Rock
	Clay		Boulders		Sandstone		Fine Grained Igneous Rock

* Where a single value is quoted this is the uncorrected 'N' value for a full 300 mm test drive following a seating drive of 150mm. Where the full test drive penetration is not achieved the number of blows is quoted for the penetration below the test total of 300mm, e.g.: 50/75.

** The minimum, average and maximum are shown e.g. 5/45/125.

THAMESIDE GROUNDWORKS	TP Log
Site: The Hut Pub, Uxbridge	Job No. 24-045
Client:	Date: 10/06/2025
Engineer: AG Geo	Hole No: TP1

Comments:	W3W //fame.others.cities
	No visible signs of contamination or obvious sources of contamination nearby.
	Site area generally littered with assorted building debris, equipment etc.
Groundwater:	None
Pitwall Stability:	Stable during excavation. Some collapses during soakage fill/test
Dimensions:	1.3 x 0.35 x 3.0 (reduced to 2.4m during soakage)
Backfill:	Arising

THAMESIDE GROUNDWORKS	TP Log
Site: The Hut Pub, Uxbridge	Job No. 24-045
Client:	Date: 10/06/2025
Engineer: AG Geo	Hole No: TP2

Comments:	W3W //moss.books.activism
	No visible signs of contamination or obvious sources of contamination nearby.
	Site area generally littered with assorted building debris, equipment etc.
Groundwater:	None
Pitwall Stability:	Stable during excavation. Some collapses during soakage fill/test
Dimensions:	1.4 x 0.35 x 3.0 (reduced to 2.5m during soakage)
Backfill:	Arising

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Appendix D

Site: The Hut Pub, Uxbridge

Job Number

Client:

Sheet:

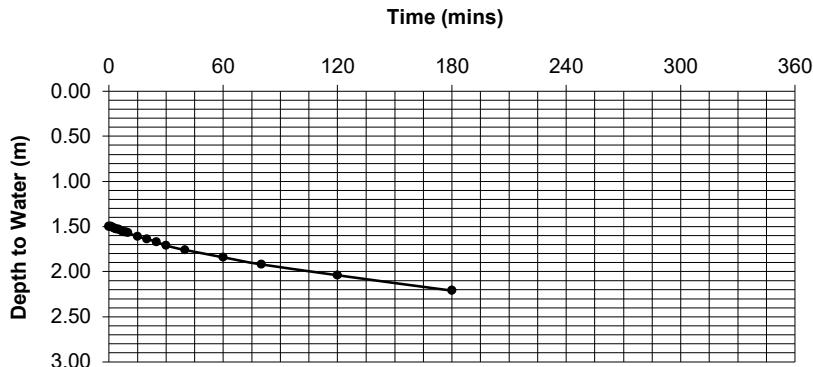
Engineer: AG Geo

1 / 1

Soakaway Test

Hole No: TP1

TEST NO: 3
DATE: 10/06/25



Length of pit:	L =	1.30	m
Width of pit:	W =	0.35	m
Depth of pit	D =	2.45	m
base area of pit:	A =	0.46	m^2

100% effective depth	D100 =	1.50	m
75% effective depth	D75 =	1.74	m
50% effective depth	D50 =	1.98	m
25% effective depth	D25 =	2.21	m

time to D75 T75 = 2280 sec
time to D25 T25 = 10800 sec

$$\text{time from D75 to D25} \quad t_{p75-25} = \quad 8520 \quad \text{sec}$$

$$(T25 - T75)$$

$$\text{volume between D75 \& D25} \quad V_{p75-25} = \quad 0.22 \quad m^3$$

$$(A \times (D25 - D75))$$

$$\text{surface area to D50 inc. base} \quad a_{p50} = 2.02 \quad m^2$$

$$((2x(D-D50)x(W+L)) + A)$$

SOIL INFILTRATION RATE

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

$$f = 1.25E-05 \text{ m/sec}$$

Test Strata: GRAVEL AND SAND
(see Trial Pit)

Remarks: Pitwall stability good during excavation but some collapses during fill

Fitwall stability good during excavation but some
Terminated after 1 hour due to time constraints

Blue Text = extrapolated results

Site: The Hut Pub, Uxbridge

Job Number

Client:

Sheet:

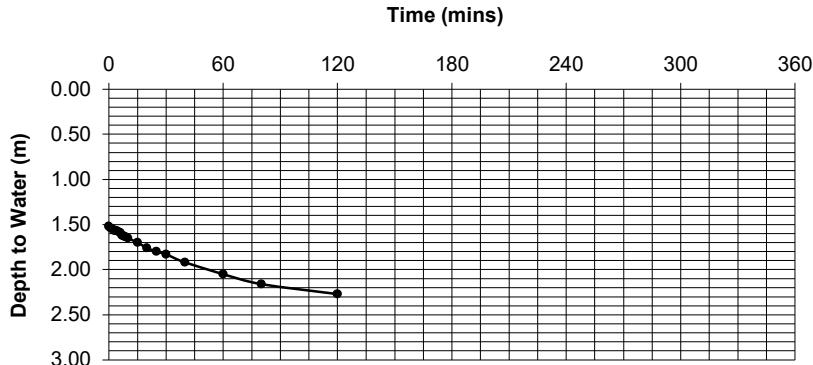
Engineer: AG Geo

1 / 1

Soakaway Test

Hole No: TP2

TEST NO: 2
DATE: 10/06/25



Length of pit:	L =	1.40	m
Width of pit:	W =	0.35	m
Depth of pit	D =	2.50	m
base area of pit:	A =	0.49	m^2

100% effective depth	D100 =	1.52	m
75% effective depth	D75 =	1.77	m
50% effective depth	D50 =	2.01	m
25% effective depth	D25 =	2.26	m

time to D75 T75 = 1260 sec
time to D25 T25 = 6960 sec

$$\text{time from D75 to D25} \quad t_{p75-25} = \quad 5700 \quad \text{sec}$$

$$(T25 - T75)$$

$$\text{volume between D75 \& D25} \quad V_{p75-25} = \quad 0.24 \quad m^3$$

$$(A \times (D25 - D75))$$

$$\text{surface area to D50 inc. base} \quad a_{p50} = 2.21 \quad m^2$$

$$((2x(D-D50)x(W+L)) + A)$$

SOIL INFILTRATION RATE

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

$$f = 1.91E-05 \text{ m/sec}$$

Test Strata: GRAVEL AND SAND
(see Trial Pit)

Remarks: Pitwall stability good during excavation but some collapses during fill

Site: The Hut Pub, Uxbridge

Job Number

Client:

Sheet:

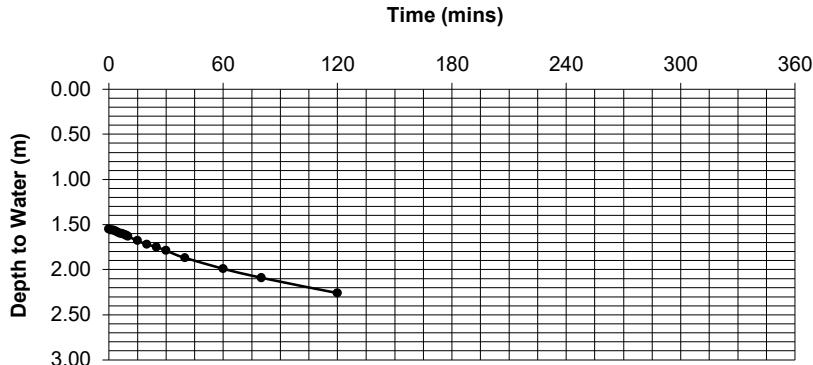
Engineer: AG Geo

1 / 1

Soakaway Test

Hole No: TP2

TEST NO: 3
DATE: 10/06/25



Length of pit:	L =	1.40	m
Width of pit:	W =	0.35	m
Depth of pit	D =	2.50	m
base area of pit:	A =	0.49	m^2

100% effective depth	D100 =	1.55	m
75% effective depth	D75 =	1.79	m
50% effective depth	D50 =	2.03	m
25% effective depth	D25 =	2.26	m

time to D75 T75 = 1800 sec
time to D25 T25 = 7200 sec

$$\text{time from D75 to D25} \quad t_{p75-25} = \quad 5400 \quad \text{sec}$$

$$(T25 - T75)$$

$$\text{volume between D75 \& D25} \quad V_{p75-25} = \quad 0.23 \quad m^3$$

$$(A \times (D25 - D75))$$

$$\text{surface area to D50 inc. base} \quad a_{p50} = 2.15 \quad \text{m}^2$$

$$((2x(D-D50)x(W+L)) + A)$$

SOIL INFILTRATION RATE

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

$$f = 2.00E-05 \text{ m/sec}$$

Test Strata: GRAVEL AND SAND
(see Trial Pit)

Remarks: Pitwall stability good during excavation but some collapses during fill

Fitwall stability good during excavation but some loss of support. Terminated at 80 minutes due to time constraints.

Blue Text = extrapolated results