

# Arboricultural Consultancy for Lloyds Bank

**Note:** This report is intended for use between the client, Environmental Services and any parties detailed within the report. It is based on the understanding at the time of visiting the property that Engineers are satisfied that damage is attributable to clay shrinkage subsidence exacerbated by vegetation.

## 1. Case Details

Insured		Address	4 Witley Lodge Close, Cheltenham , GL51 3LW		
Client	Subsidence Management Services	Contact	Brad Jenkins	Claim No.	IFS-LBG-SUB-22-0102485
ES Ref	SA-250762	Consultant	Simon Nash	Contact No.	
Report Date	27/10/2022				

**Scope of Report:** To survey the property and determine significant vegetation contributing to subsidence damage, make recommendation for remedial action and assess initial mitigation and recovery prospects. The survey does not make an assessment for decay or hazard evaluation.

## 2. Property and Damage Description

The insured structure is a 2 storey detached house. It has been extended with a conservatory addition to the rear. The property occupies a level site with no adverse topographical features.

We understand that the current damage relates to the rear conservatory, where cracking indicates downwards movement.

## 3. Technical Reports

No technical investigations are available at the time of reporting, therefore assumptions outlined in Note above apply: recommendations may be subject to change following evaluation of any investigations that may be forthcoming.

## 4. Action Plan

Mitigation	
Insured involved?	Yes
Local Authority involved?	No
Other third party Mitigation involved?	Yes
Recovery	
Is there a potential recovery action?	Yes

Treeworks	
Local Authority	Cheltenham Borough Council
TPO / Conservation Area / Planning Protection Searches	Awaiting Searches from LA
Additional Comments	
Awaiting Further Instructions.	
A potential recovery action has been identified.	
Engineers should consider focusing investigations to strengthen factual evidence for disclosure to third party tree owners.	

# Arboricultural Consultancy for Lloyds Bank

## 5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that Subsidence Management Services have concluded, on a preliminary basis, that the current damage is due to differential foundation movement exacerbated by moisture abstraction from vegetation growing proximate to the property's foundations.

We have therefore been instructed to assess the potential for vegetation to be influencing soil moisture levels beneath the foundations of the property and, if deemed appropriate provide management proposals which will return long-term stability and allow effective repairs to be undertaken.

The potential drying influence of the vegetation on site, has been considered based on an assessment of overall size, species profile and the proximity of vegetation relative to the advised area of damage.

Based on our observations on site, it is our opinion that the footings of the subject property are within the normally accepted influencing distance of vegetation on site, thereby indicating the potential for the advised damage to be the result of clay shrinkage subsidence exacerbated by the moisture abstracting influence of vegetation.

With due regards to species profile, size and proximity, T2 (Ash), T4 (Ash) and T5 (Oak) are considered the dominant features proximate to the focal area(s) of movement and accordingly, where vegetation is confirmed as being causal, we have identified them as the primary cause of the current subsidence damage.

The size and proximity of the above vegetation is consistent with the advised location(s) of damage and it is our opinion, on balance of probability, that roots from the above vegetation will be in proximity to the footings of the insured property.

Note: additional minor vegetation has been noted on site and, depending on trial-pit location may be identified within future site investigations; however, unless specifically identified within this report, these plants are not deemed material to the current claim nor pose a significant future risk.

Given the above and considering the suspected mechanism of movement, in order to mitigate the current damage thereby allowing soils beneath the property to recover to a position such that an effective engineering repair solution can be implemented, we recommend a program of vegetation management as detailed by this report.

Please refer to Section 6 for management prescriptions.

Preliminary recommendations contained within this report are prescribed on the basis that site investigations confirm vegetation to be causal; management advice is designed to offer the most reliable arboricultural solution likely to restore long-term stability and also facilitate liaison with third-party owners and/or Local Authorities where necessary.

Consequently, we have advocated the complete removal of T2 (Ash), T4 (Ash) and T5 (Oak) as it will offer the most certain arboricultural solution likely to restore long-term stability.

Replacement planting is considered appropriate with regards mitigating the impact of the works suggested; however, species selection should be appropriate for the chosen site and consideration must be given to the ultimate size of the replacement species and any future management requirements.

We recommend the role of vegetation and the efficacy of management recommendations be qualified by means of monitoring.

Please note that the footing of the insured property fall within the anticipated rooting distance of additional vegetation which we believe presents a foreseeable risk of future damage and accordingly we have made recommendations in respect of this.

The extent / impact of vegetation management required to restore and maintain long-term stability at this property is acknowledged. However, we consider the impact on the wider public amenity from the proposed tree works is mitigated by the presence of further trees and the scope for replacement planting.

# Arboricultural Consultancy for Lloyds Bank

Is vegetation likely to be a contributory factor in the current damage?	Yes
Is vegetation management likely to contribute to the future stability of the property?	Yes
Is replacement planting considered appropriate?	See above
Would DNA profiling be of assistance in this case?	Yes

## 6.0 Recommendations

### 6.1 Current Claim Requirements

These recommendations may be subject to review following additional site investigations.

Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
T2	Ash	3	17	10.1	A - Third Party	Remove	Remove close to ground level; do not treat stump due to translocation risk. Where such a risk exists, we advise that any emergent regrowth is removed annually.
T4	Ash	3	17	10.2	A - Third Party	Remove	Remove close to ground level; do not treat stump due to translocation risk. Where such a risk exists, we advise that any emergent regrowth is removed annually.
T5	Oak	3	11	12.7	A - Third Party	Remove	Remove close to ground level; do not treat stump due to translocation risk. Where such a risk exists, we advise that any emergent regrowth is removed annually.

**Age Cat:** 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property

\* Estimated

# Arboricultural Consultancy for Lloyds Bank

## 6.2 Future Risk Recommendations

These recommendations may be subject to review following additional site investigations.

Tree No.	Species	Age Cat	Approx. Height (m)	Distance to Building (m) *	Ownership	Action	Requirement
H1	Laurel (Cherry)	1	3.3	4.1	A - Third Party	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
S1	Lilac	1	3.5	3.1	C - Insured	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
SG1	Mixed species shrubs	1	1.5	5	C - Insured	No action	No works.
SG2	Mixed species shrubs	1	1	14.1	C - Insured	No action	No works.
SG3	Mixed species shrubs	1	3	6.6	C - Insured	No action	No works.
T1	Ash	3	16	14.5	A - Third Party	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.
T3	Oak	3	17	18	A - Third Party	Action to avoid future risk	Maintain at, or below current dimensions by way of regular pruning.
T6	Ash	3	16	14	A - Third Party	Action to avoid future risk	Maintain at, or below current dimensions by way of regular pruning.
T7	Damson	2	10.2	12.3	A - Third Party	No action	No works.
TG1	Mixed Species Group: containing ash, sycamore, willow	3	17	15.1	A - Third Party	Action to avoid future risk	Maintain at broadly current dimensions by way of regular pruning.

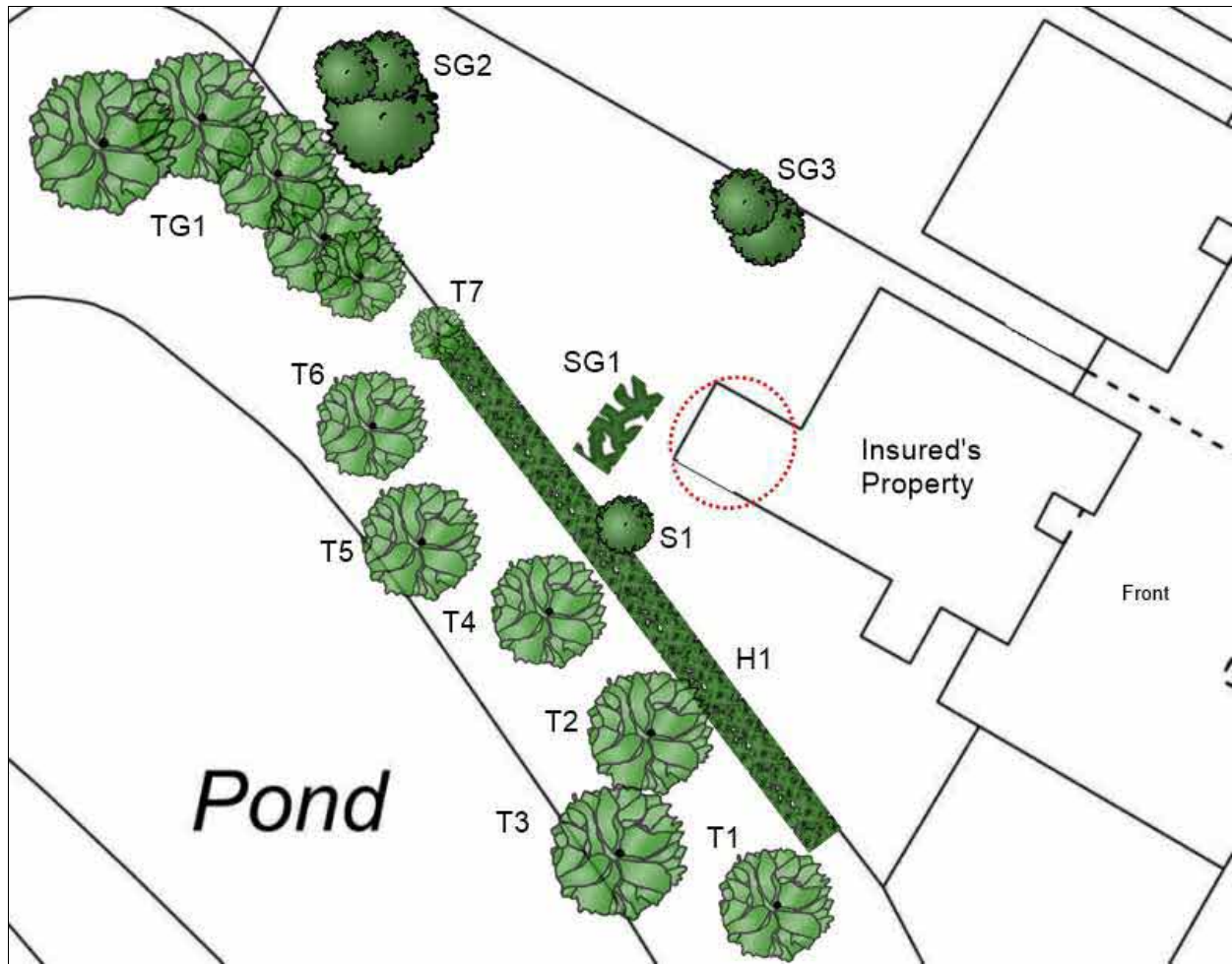
**Age Cat:** 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property

\* Estimated

Third party property addresses should be treated as indicative only, should precise detail be required then Environmental Services can undertake Land Registry Searches

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## 7. Site Plan



Please note that this plan is not to scale. OS Licence No. 100043218



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## 8. Photographs



Insured Garden - Back



T3 - Oak



T4 - Ash



T5 - Oak



T6 - Ash



T7 - Damson



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TG1 - Mixed species group



General Site



General Site



General Site



General Site



S1 - Lilac



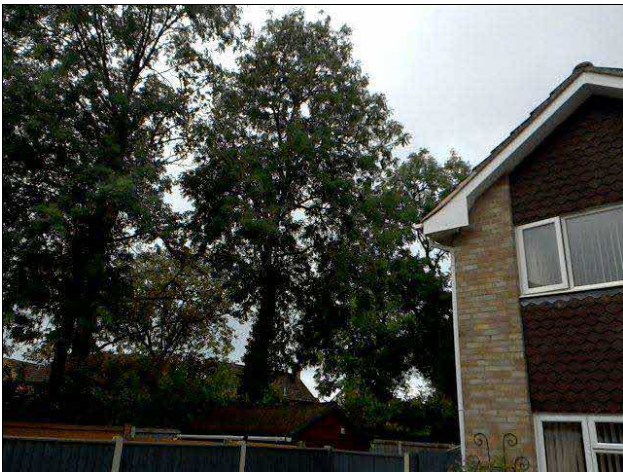
# Arboricultural Consultancy for Lloyds Bank



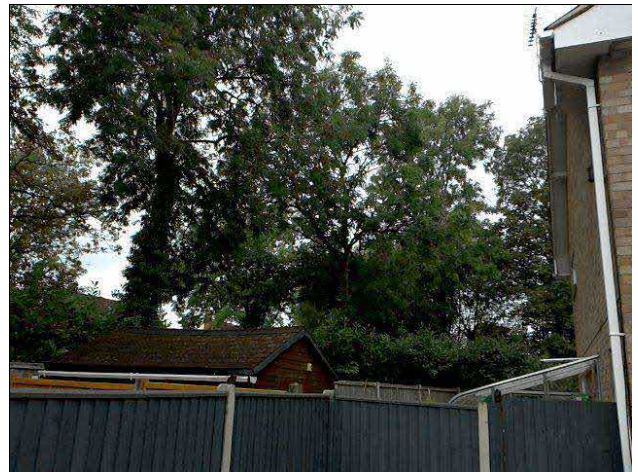
Front



T1 - Ash



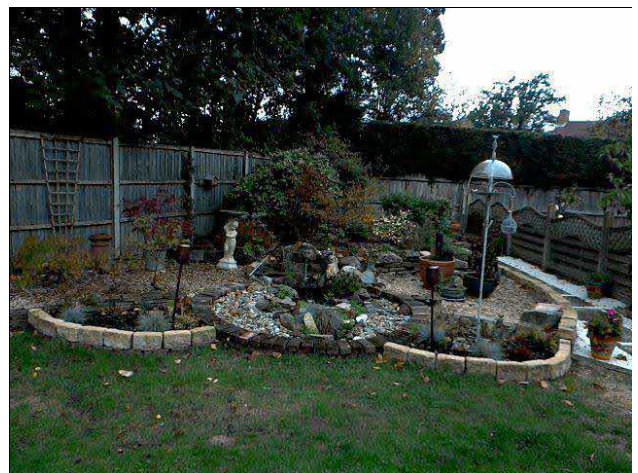
T2 - Ash



General Site



SG1 - Mixed species shrubs



SG2 - Mixed species shrubs



# Arboricultural Consultancy for Lloyds Bank



SG3 - Mixed species shrubs



H1 - Laurel (Cherry)



H1 - Laurel (Cherry)



T1 - Ash

# Arboricultural Consultancy for Lloyds Bank

Date: 27/10/2022

Property: 4 Witley Lodge Close, Cheltenham , GL51 3LW

## 9. Tree Works Reserve - Does not include recommendations for future risk.

Insured Property Tree Works	£0.00
Third Party Tree Works	
Provisional Sum	£0.00

- The above prices are based on works being performed as separate operations.
- The above is a reserve estimate only.
- Ownerships are assumed to be correct and as per Section 6.
- A fixed charge is made for Tree Preservation Order/Conservation Area searches unless charged by the Local Authority in which case it is cost plus 25%.
- Should tree works be prevented due to statutory protection then we will automatically proceed to seek consent for the works and Appeal to the Secretary of State if appropriate.
- All prices will be subject to V.A.T., which will be charged at the rate applying when the invoice is raised.
- Trees are removed as near as possible to ground level, stump and associated roots are not removed or included in the price.
- Where chemical application is made to stumps it cannot always be guaranteed that this will prevent future regrowth. Should this occur we would be pleased to provide advice to the insured on the best course of action available to them at that time. Where there is a risk to other trees of the same species due to root fusion, chemical control may not be appropriate.

## 10. Limitations

This report is an appraisal of vegetation influence on the property and is made on the understanding that that engineers suspect or have confirmed that vegetation is contributing to clay shrinkage subsidence, which is impacting upon the building. Recommendations for remedial tree works and future management are made to meet the primary objective of assisting in the restoration of stability to the property. In achieving this, it should be appreciated that recommendations may in some cases be contrary to best Arboricultural practice for tree pruning/management and is a necessary compromise between competing objectives.

Following tree surgery we recommended that the building be monitored to establish the effectiveness of the works in restoring stability.

The influence of trees on soils and building is dynamic and vegetation in close proximity to vulnerable structure should be inspected annually.

**The statutory tree protection status as notified by the Local Authority was correct at the time of reporting. It should be noted however that this may be subject to change and we therefore advise that further checks with the Local Authority MUST be carried out prior to implementation of any tree works. Failure to do so can result in fines in excess of £20,000.**

Our flagging of a possible recovery action is based on a broad approach that assume all third parties with vegetation contributing to the current claim have the potential for a recovery action (including domestic third parties). This way opportunities do not “fall through the net”; it is understood that domestic third parties with no prior knowledge may be difficult to recover against but that decision will be fully determined by the client.

**A legal Duty of Care requires that all works specified in this report should be performed by qualified, arboricultural contractors who have been competency tested to determine their suitability for such works in line with Health & Safety Executive Guidelines. Additionally all works should be carried out according to British Standard 3998:2010 “Tree Work. Recommendations”.**



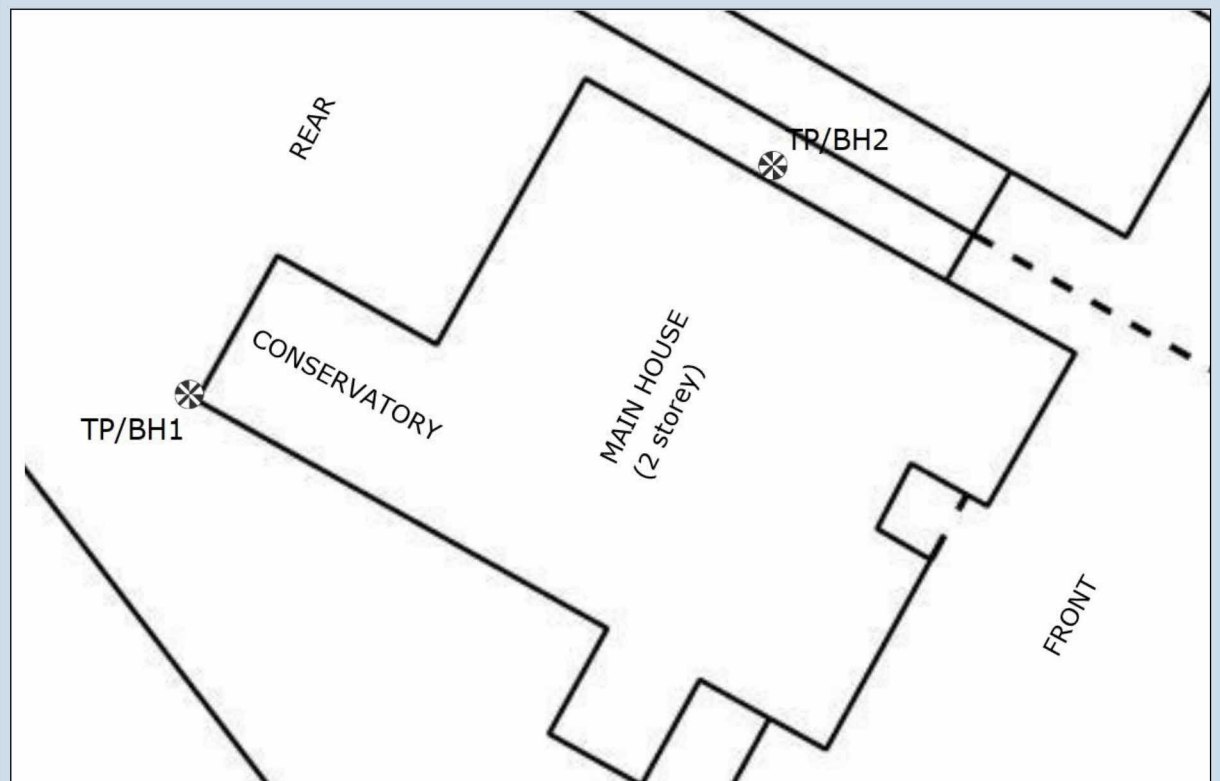
# GEOTECHNICAL

## for Subsidence Management Services

### 4 Witley Lodge Close, Cheltenham, GL51 3LW

Client: Subsidence Management Services  
Client Contact: Brad Jenkins  
Client Ref: IFS-LBG-SUB-22-0102485  
Policy Holder: [REDACTED]  
Report Date: 2 November 2022  
Our Ref: C66053G30000

#### Site Plan

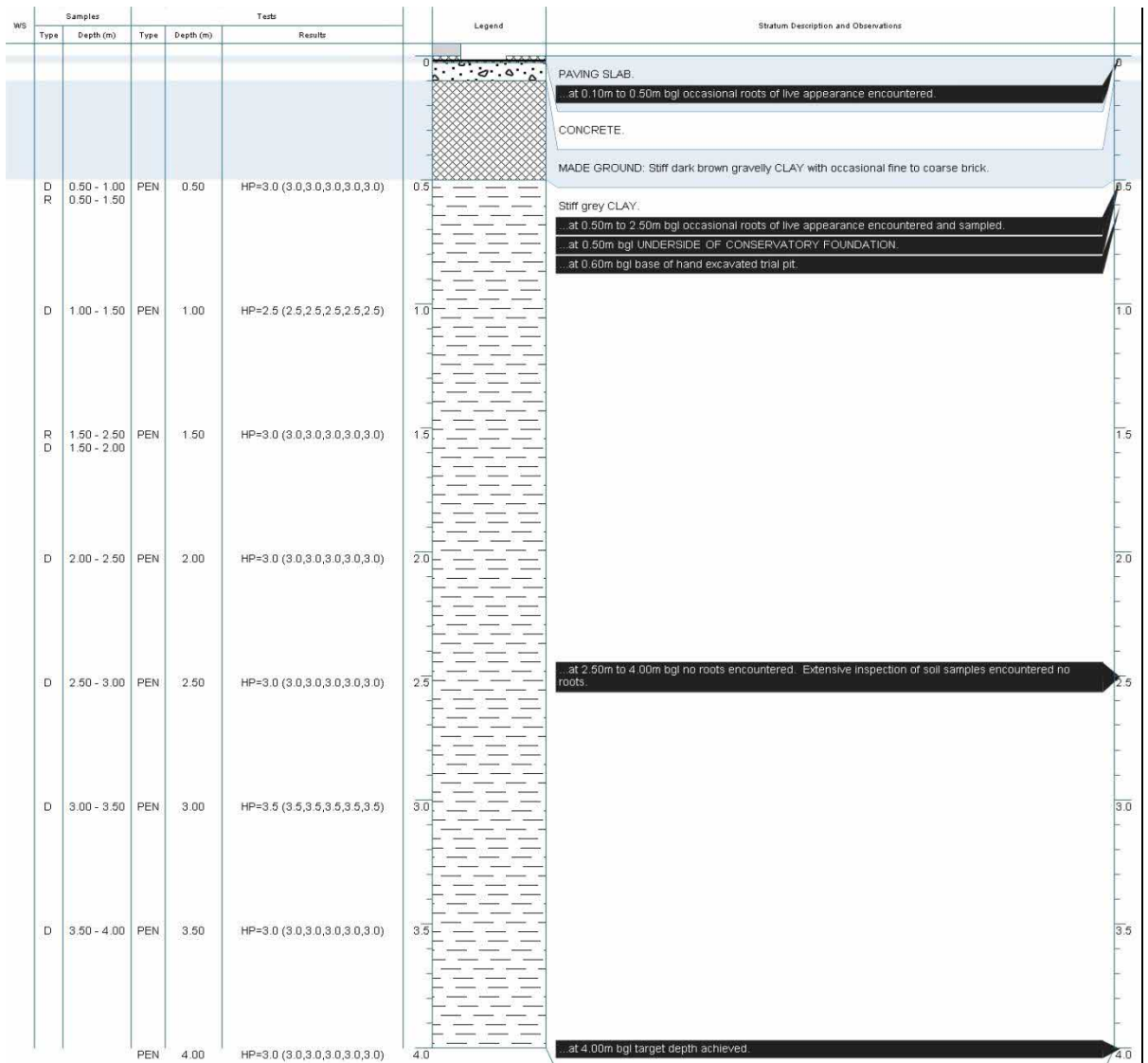
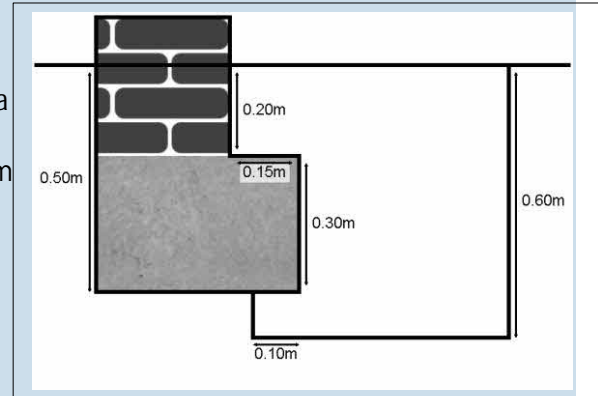


	Borehole		Foul Water Drain		Foul Manhole		Foul Rodding Point		Foul Vent Pipe
	Trial Pit / Borehole		Surface Water Drain		Rain Water Manhole		Surface Rodding Point		Rain Water Gully
	Trial Pit		Combined Drain		Combined Manhole				

## TP/BH1 Foundation Detail and Borehole Log

### Foundation Detail

Conservatory foundation comprised of brick wall to 200mm bgl, bearing on concrete to 500mm bgl, with a total projection of 150mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 300mm back from the face of the foundation.



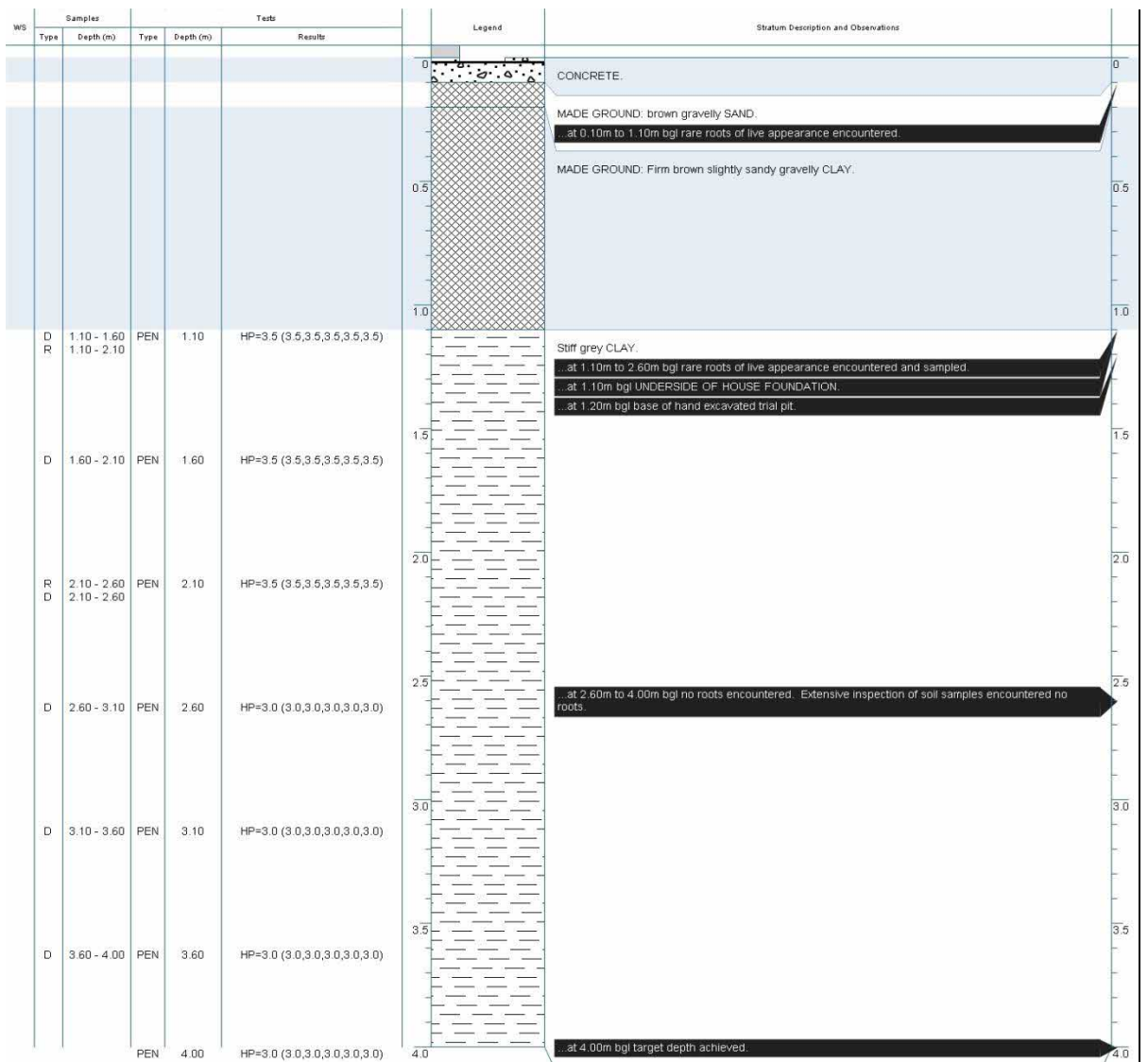
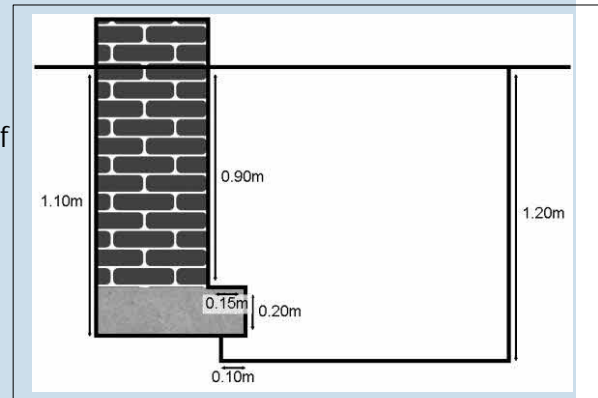
— End of borehole at 4.00m —  
Trial pit excavated to 0.60m bgl. Borehole completed by hand held percussive window sampler. Roots encountered to 2.50m bgl. Groundwater strikes not encountered.



## TP/BH2 Foundation Detail and Borehole Log

### Foundation Detail

House foundation comprised of brick wall to 900mm bgl, bearing on concrete to 1100mm bgl, with a total projection of 150mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 300mm back from the face of the foundation.



— End of borehole at 4.00m —  
Trial pit excavated to 1.20m bgl. Borehole completed by hand held percussive window sampler. Roots encountered to 2.60m bgl. Groundwater strikes not encountered.

## Site Observations

### GENERAL:

Site Investigation works (TP/BH 1 and TP/BH 2) undertaken on 11 October 2022 during dry weather (i.e. no rain).

### HEALTH AND SAFETY:

Negative signal obtained in Power and Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH 1 and TP/BH 2).

### FOUNDATIONS:

Conservatory foundation was exposed and the underside of foundation (USF) recorded to be 0.50m bgl (TP/BH 1).

House foundation was exposed and the underside of foundation (USF) recorded to be 1.10m bgl (TP/BH 2).

### ROOTS:

Roots encountered to 2.50m and 2.60m bgl (TP/BH 1 and TP/BH 2).

### IN SITU TESTING:

Hand Penetrometer (PEN) undertaken at 0.50m and 1.10m bgl (TP/BH 1 and TP/BH 2) within the hand excavated trial pit and thereafter in the window sampler at maximum 0.50m intervals.

### WATER STRIKES:

No water strikes (NWS) encountered (TP/BH 1 and TP/BH 2).

The groundwater observations do not necessarily indicate equilibrium conditions. It should be appreciated that groundwater levels are subject to both seasonal and weather induced variations. Other effects such as construction activities may also change groundwater levels.



# SOIL ANALYSIS

## for Subsidence Management Services

### 4 Witley Lodge Close, Cheltenham, GL51 3LW

Client: Subsidence Management Services  
Claim Number: 700015991  
Policy Holder: XXXXXXXXXX  
Report Date: 08/11/2022  
Our Ref: L23715

Compiled By:

Name	Position	Signature
Saira Dougan	Laboratory Technician	<span style="background-color: black; color: black;">XXXXXXXXXX</span>
Name	Position	Signature
Bob Walker	Laboratory Manager	<span style="background-color: black; color: black;">XXXXXXXXXX</span>

Checked By:

Date samples received: 17-Oct-22  
Water Content Test Date: 28-Oct-22  
Atterberg Limits Test Date: 01-Nov-22  
  
Oedometer Test Date: 06-Nov-22



9265

### Notes relating to soils testing

Unless otherwise stated, all soil testing was undertaken by Environmental Services at unit 10H Maybrook Business Park, B76 1AL for SubsNetUK of Unit 4 Linnet Court, Cawledge Business Park, Alnwick, NE66 2GD

Soil samples have been prepared in accordance with BS1377:Part 1: 2016 Section 7

Descriptions of soil samples within the laboratory have been undertaken generally in accordance with BS5930:2015. Descriptions of soil samples fall outside of the scope of UKAS accreditation and may have been shortened to remove tertiary components for ease of reference.

The graphical representation of 40% of the LL and the numerical representation of the modified plasticity index (mod. PI) fall outside of the scope of UKAS accreditation.

Following the issue of this soil analysis report, samples will be retained for at least 28 days should additional testing, or referencing, be required. It should be noted that any tests undertaken on soils retained subsequent to the issue of this report may not give an accurate indication of the in-situ conditions of the sample.

This Soil Analysis Report may not be reproduced, in part or in full, without written approval of the laboratory.

The results contained herein relate only to items tested and no others. Additionally as the laboratory is not responsible for the sampling process it takes no responsibility for the condition of the samples and all samples are tested "as received".

Where samples of the same test type are not tested on the same day, or the testing spans multiple days, the test date states the day of the final test or the test date of the final sample.

All information above the laboratory reference on the cover page of this report are as provided by the customer and the laboratory is not responsible for any errors or omissions therein.

Water Content Tests are undertaken in accordance with ISO 17892:Part 1:2014

The Liquid Limit test is undertaken in accordance with BS1377:Part 2:1990 Section 4.4 using an 80g cone with a 30° tip. Sieve percentages reported in blue denote that the sample has been sieved otherwise it has been prepared from its natural state. Sieve percentage reported in BOLD denote that the sample has been oven-dried prior to testing.

Unless otherwise specified herein, the one-point cone penetrometer method has been used with increasing water content. Atterberg results depicted in green have not been tested and are duplicates of the preceding sample, included for reference only.

The Plastic Limit test and the determination of the Plasticity Index is undertaken in accordance with BS1377:Part 2:1990. Where a plastic limit has been denoted with an asterisk (\*) then it has been derived from the liquid limit and has not been tested.

The Oedometer swell/strain test method is based upon BS1377:Part 5:1990 Section 4.4 'Determination of swelling and collapse characteristics' and unless otherwise stated is undertaken on a remoulded, disturbed, sample.

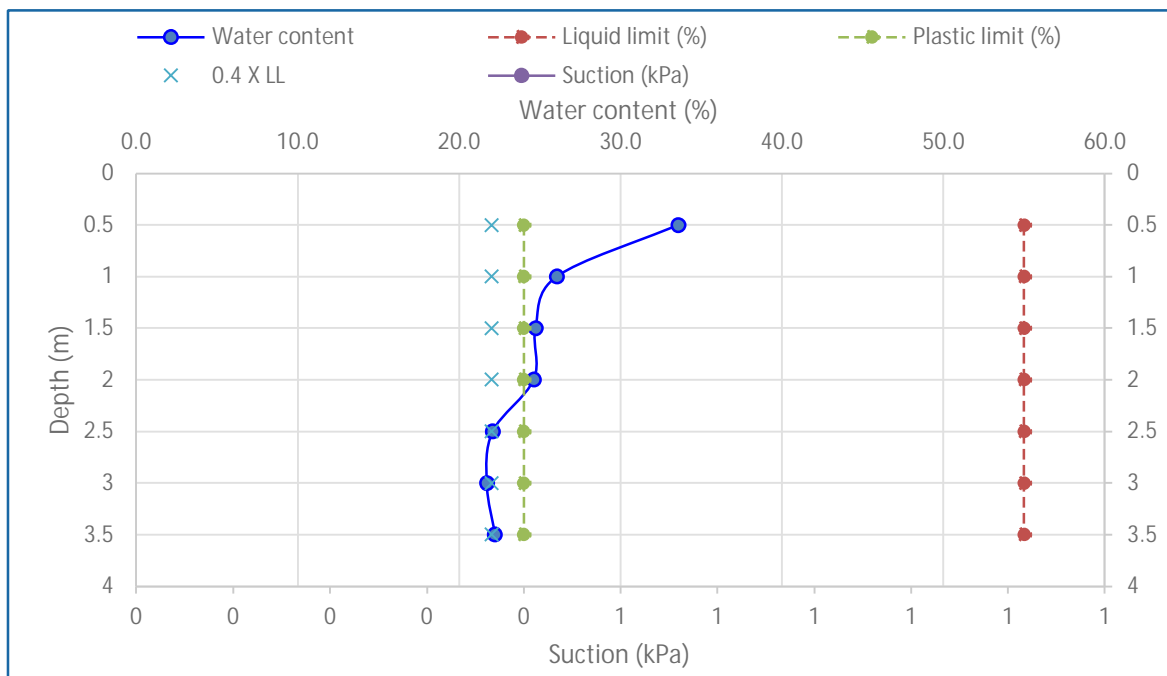
The Oedometer Swell/Strain Test is undertaken in a controlled environment within a temperature range of 16°C and 24°C

If you would like to provide feedback on this report or any laboratory services or performance, please complete the form below. All appropriate feedback will be used in the continual improvement of laboratory services.

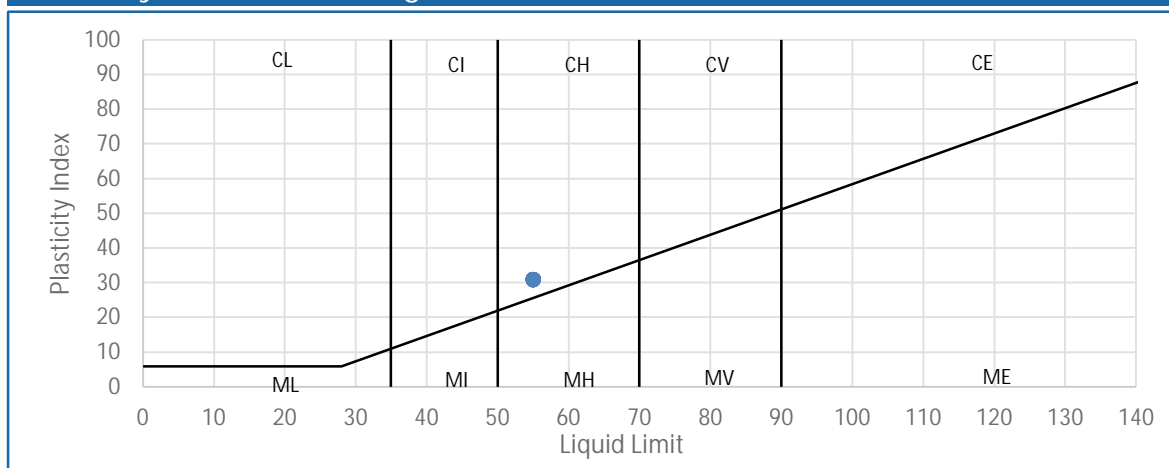
[Laboratory feedback form](#)

### Samples from BH1

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
1	0.5	33.6	55	24	31	99	31		Firm grey-brown/grey/dark grey mottled silty CLAY with rare gravel and organic material. Gravel is fine and medium.
2	1	26.0	55	24	31	99	31		Firm grey-brown/grey/dark grey mottled silty CLAY with rare gravel and gypsum. Gravel is fine and medium.
3	1.5	24.7	55	24	31	99	31		Firm grey/dark grey mottled silty CLAY
4	2	24.6	55	24	31	99	31		Firm grey/dark grey mottled silty CLAY
5	2.5	22.1	55	24	31	99	31		Firm grey/dark grey mottled silty CLAY
6	3	21.7	55	24	31	99	31		Firm dark grey silty CLAY
7	3.5	22.2	55	24	31	99	31		Firm dark grey silty CLAY



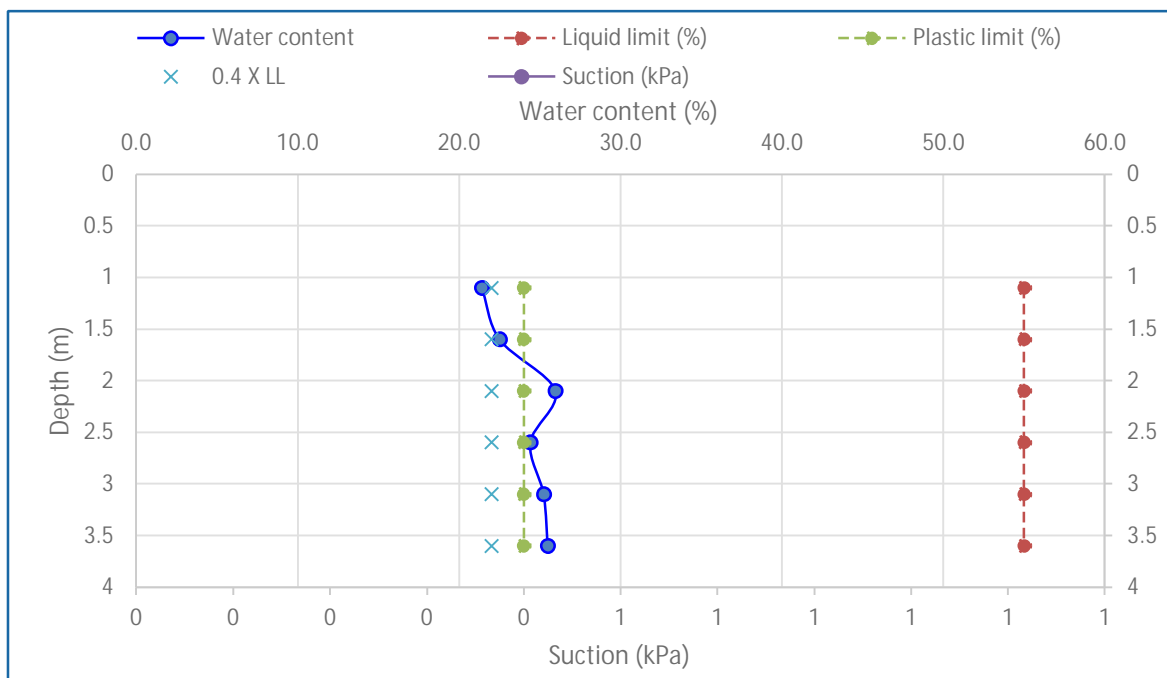
### Plasticity Chart for Casagrande Classification



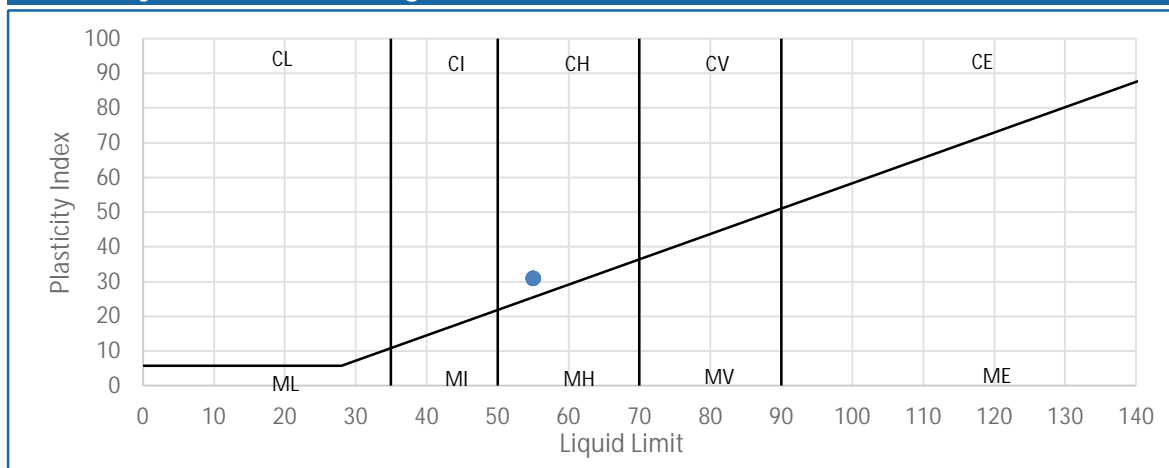


### Samples from BH2

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
8	1.1	21.4	55	24	31	99	31		Firm grey-brown/grey/dark grey mottled silty CLAY with rare gravel. Gravel is fine
9	1.6	22.5	55	24	31	99	31		Firm grey-brown/grey/dark grey mottled silty CLAY
10	2.1	26.0	55	24	31	99	31		Firm grey/dark grey mottled silty CLAY
11	2.6	24.4	55	24	31	99	31		Firm dark grey mottled silty CLAY
12	3.1	25.2	55	24	31	99	31		Firm dark grey mottled silty CLAY
13	3.6	25.5	55	24	31	99	31		Firm dark grey mottled silty CLAY



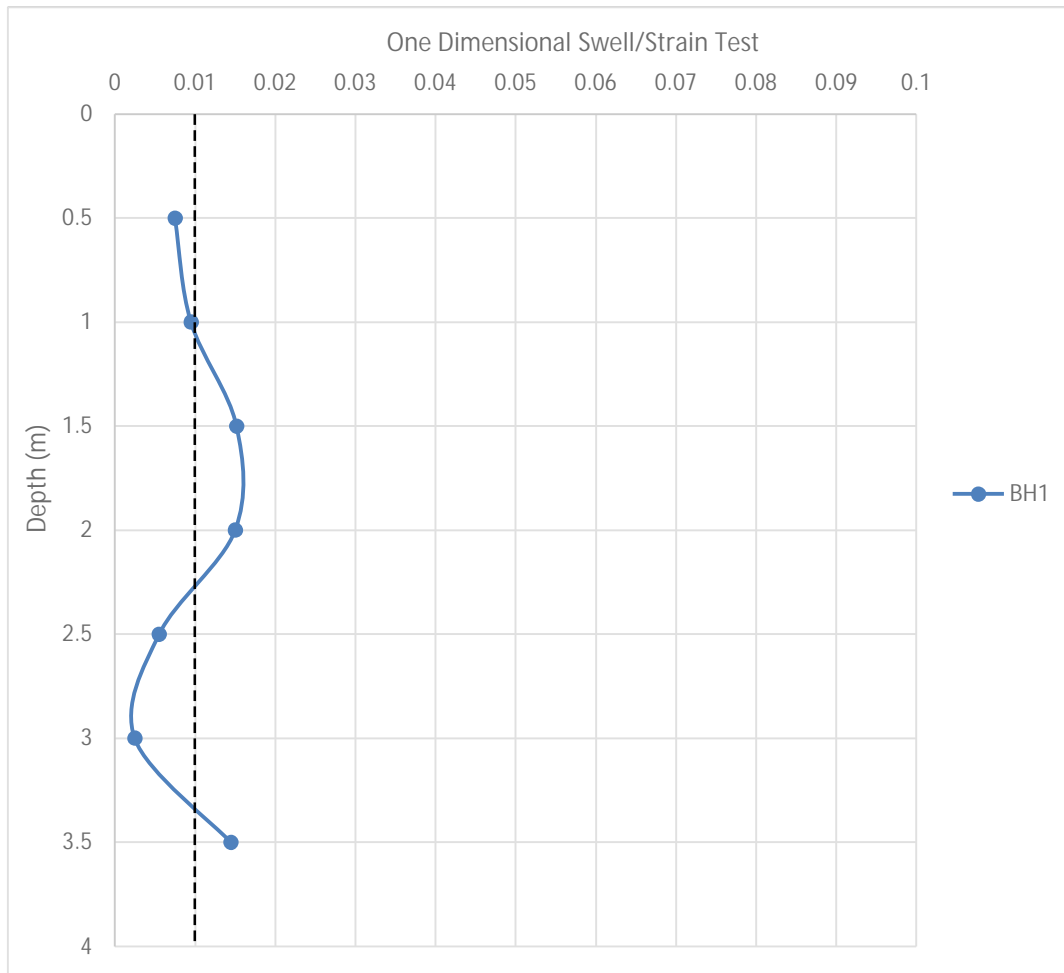
### Plasticity Chart for Casagrande Classification



### Summary of Oedometer Testing for BH1

Lab Ref	Depth (m)	Strain	Heave (mm)	Remarks
1	0.5	0.0075	0	
2	1	0.0095	0	
3	1.5	0.0152	3.8	
4	2	0.015	3.8	
5	2.5	0.0055	0	
6	3	0.0025	0	
7	3.5	0.0145	3.6	

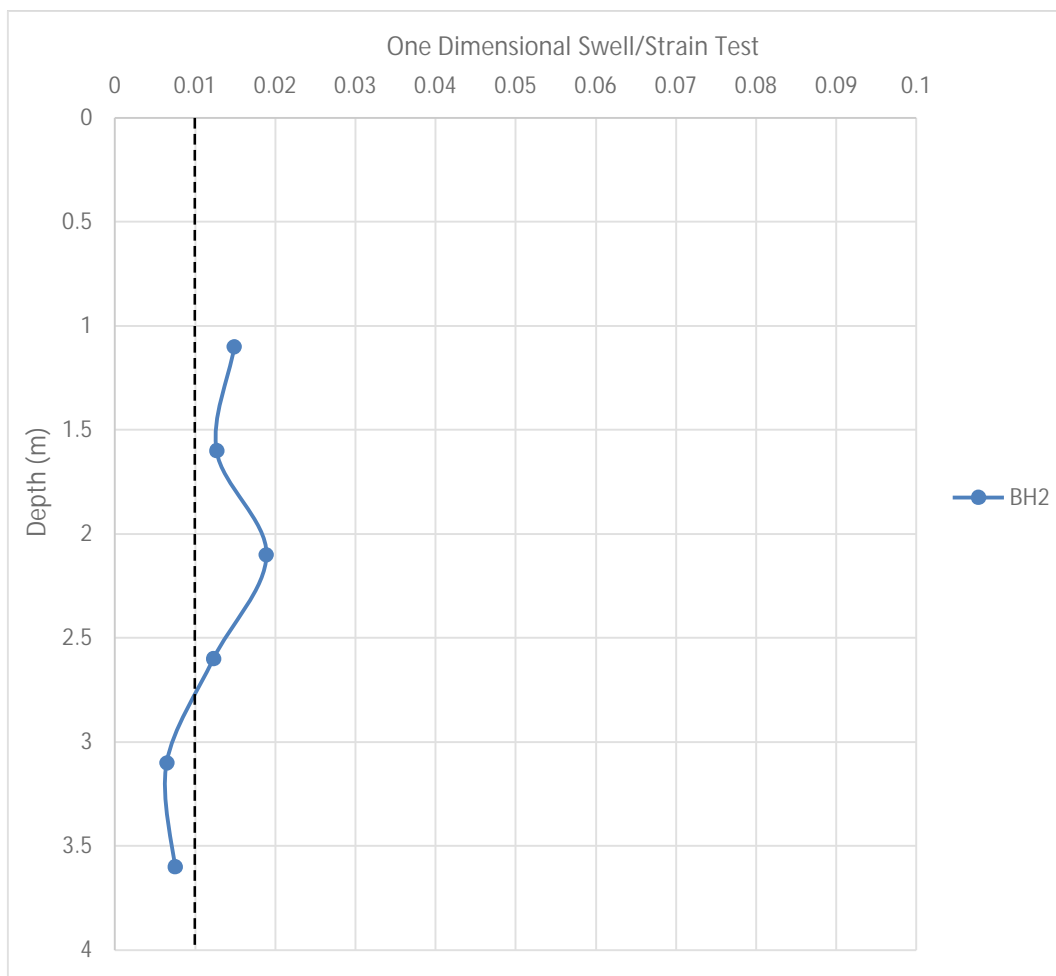
BH 1 estimate of heave	11mm
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Summary of Oedometer Testing for BH2

Lab Ref	Depth (m)	Strain	Heave (mm)	Remarks
8	1.1	0.0149	8.2	
9	1.6	0.0127	3.2	
10	2.1	0.0189	4.7	
11	2.6	0.0123	3.1	
12	3.1	0.0065	0	
13	3.6	0.0075	0	

BH 2 estimate of heave	19mm
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Deviating Samples



The table below details any samples deviating from laboratory procedure or deviating in condition to an extent whereby the validity of results may be affected. A test denoted "I" is likely to have had testing abandoned but where a test result has been provided a non-standard procedure may have been used, details of which will be provided upon request.

LAB REF	CONDITION	WC	ATT	SUC	OED
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					

**Key**

- D Delay in sample receipt
- C Contaminated sample
- B Sample not bagged correctly
- S Sample too sandy (unsuitable for testing)
- G Sample too gravelly (unsuitable for testing)
- V Sample too soft (unsuitable for preparation)
- L Sample too silty
- I Insufficient sample
- O Too much organic content (unsuitable for testing)
- N Non-standard procedure used
- H Sample depth too shallow
- X Testing result too similar to above sample

**References**

The following provides a brief interpretation of the test results by comparison of the results to published classifications. The Atterberg Limit test may be used to classify the plasticity of soils; the plasticity classes defined in BS5930:2015 "Code of Practice for Site Investigations" are as follows.

- CL (ML) CLAY and CLAY/SILT of Low plasticity
- CI (MI) CLAY and CLAY/SILT of Intermediate plasticity
- CH (MH) CLAY and CLAY/SILT of High plasticity
- CV (MV) CLAY and CLAY/SILT of Very High plasticity
- CE (ME) CLAY and CLAY/SILT of Extremely High plasticity
- O The letter O is added to prefixes to symbolise a significant proportion of organic matter.
- NP Non-plastic

The Plasticity Index (PI) Result obtained from the Atterberg Limit tests may also be used to classify the potential for volume change of fine soils, in accordance with the National House Building Council's standards - Chapter 4.2 (2003) "Building Near Trees", as summarised below.

- Modified PI < 10 Non Classified.
- Modified PI = 10 to <20 Low volume change potential.
- Modified PI = 20 to <40 Medium volume change potential.
- Modified PI = 40 or greater High volume change potential.

The 2003 edition of Chapter 4.2 also permits use of the Plasticity Index without modification. The classifications for this are grouped by soil type (soils with similar visual soils description and using unmodified Plasticity Indices).

# ROOT IDENTIFICATION

## for Subsidence Management Services

### 4 Witley Lodge Close, Cheltenham, GL51 3LW

Client: Subsidence Management Services  
Client Contact: Brad Jenkins  
Claim Number: 700015991  
Client Reference: IFS-LBG-SUB-22-0102485  
Policy Holder: XXXXXXXXXX  
Report Date: 19 October 2022  
Our Ref: R46650



Intec  
Parc Menai, Bangor,  
Gwynedd, North Wales  
LL57 4FG  
Tel: 01248 672652

Sub Sample	Species Identified	Root Diameter	Starch	
<b>TP/BH1:</b>				
0.5-1.5m	<i>Fraxinus</i> spp.	1	1.5 mm	Low
0.5-1.5m	broadleaved species, too decayed for positive identification		4 mm	Absent
1.5-2.5m	<i>Fraxinus</i> spp.	2	1.5 mm	Absent
<b>TP/BH2:</b>				
1.1-2.1m	broadleaved species, too decayed for positive identification	3	1 mm	Absent
2.1-2.6m	broadleaved species, too decayed for positive identification	4	2 mm	Absent

#### Comments:

- 1 - Plus 2 decayed roots, probably the same.
- 2 - Plus 2 others also identified as *Fraxinus* spp. All in a state of decay.
- 3 - Plus 3 others the same.
- 4 - Plus 2 others the same.

*Fraxinus* spp. include common ash.

**Signed:** R J Shaw

Unless we are otherwise instructed in writing, the above sample material will normally be disposed of 6 years after the date of this report.

## Drainage Investigation Report

For Subsidence Management Services

**Client** [REDACTED]

**Risk Address:** 4 Witley Lodge Close, Cheltenham, GL51 3LW

**Visit Date:** 26th September 2022

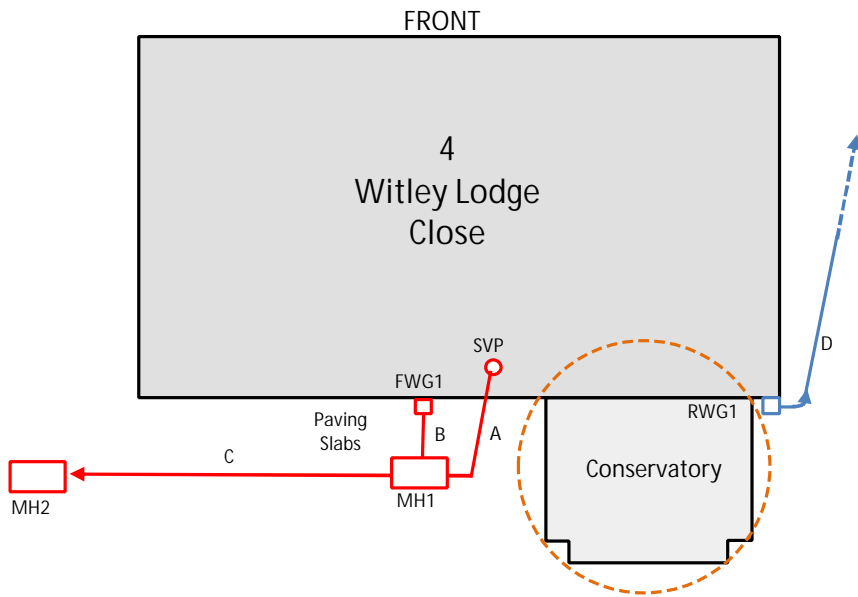
**Client Reference:** IFS-LBG-SUB-22-0102485

**Our Reference:** C66053 D23209

**Report Date:** 4th October 2022

**Report Content:** Front Page  
Site Plan  
CCTV Coding  
Drain Overview  
Photographs





**Key**

	Tree		Building		Combined Drains		Unsurveyed Drains
	Shrubs		Water Supply		Foul Drains		Unsurveyed Drains
	Bushes		Launch Pit		Storm Drains		Excavation
	Boundary		Stop Valve		WC		Excavation
			Soak-Away		Exploratory Hole		Area of Concern
					Bore Hole		

Notes:

Address: 4 Witley Lodge Close, Cheltenham, GL51 3LW

RUN	Start From :	MH1	Finish at :	SVP	Pipe Ø:	100mm
A	Invert Level (m):	0.4	Invert Level (m):	N/a	Material:	Pitch Fibre
FOUL	Condition grade:	A	Direction:	Upstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Not Tested				
0.00	SN	Start Node from MH1				
0.00	WL	Water Level 0%				
0.20	LL	Line of drain deviates left °				
0.30	D	Deformed Pipe (Squashed)				
1.60	FN	Finish Node at SVP				

RUN	Start From :	MH1	Finish at :	FWG1	Pipe Ø:	100mm
B	Invert Level (m):	0.4	Invert Level (m):	N/a	Material:	Clay
FOUL	Condition grade:	A	Direction:	Upstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Pass				
0.00	SN	Start Node from MH1				
0.00	WL	Water Level 0%				
0.30	FN	finish Node at FWG1				

RUN	Start From :	MH1	Finish at :	MH2	Pipe Ø:	100mm
C	Invert Level (m):	0.4	Invert Level (m):	N/a	Material:	Pitch Fibre
FOUL	Condition grade:	A	Direction:	Downstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Pass				
0.00	SN	Start Node from MH1				
0.00	WL	Water Level 0%				
3.00	FN	finish Node at MH2				

RUN	Start From :	RWG1	Finish at :	Downstream Node	Pipe Ø:	100mm
D	Invert Level (m):	N/a	Invert Level (m):	N/a	Material:	Pitch Fibre
STORM	Condition grade:	A	Direction:	Downstream	Responsibility:	Home Owner
Distance	Code	Hydraulic Test - Not Tested				
0.00	SN	Start Node from RWG1				
0.00	WL	Water Level 0%				
6.00	FN	Finish Node - Beyond Area of Concern				


Following the receipt of your instruction, we attended site to carry out a CCTV survey.

The CCTV survey was undertaken in general accordance with the Manual of Sewer Classification and the WRc Drain Repair Book.

The following presents a summary of the findings with recommendations to repair and/ or return the drains to a serviceable state, where necessary.

Drain Run A: MH1 Upstream to SVP

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Not Tested

CCTV Survey Result: No structural damage

Recommended Repair:

No repairs have been recommended as the drain line was found to be free from defects.

Drain Run B: MH1 Upstream to FWG1

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Pass

CCTV Survey Result: No structural damage

Recommended Repair:

No repairs have been recommended as the drain line was found to be free from defects.

Drain Run C: MH1 Downstream to MH2

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Pass

CCTV Survey Result: No structural damage

Recommended Repair:

No repairs have been recommended as the drain line was found to be free from defects.

Drain Run D: RWG1 (Access point) to Downstream Node Point

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Not Tested

CCTV Survey Result: No structural damage - See notes

Recommended Works:

Access the pipework at a suitable point out of the area of concern

Carry out hydraulic testing upstream to RWG1 and report on findings

#### NOTES

We noted there is damp around RWG1. The gully is recessed below ground but no hydraulic testing was done as part of our initial investigations. We will re-attend to carry out testing and confirm if the pipework is leaking or watertight.

	Result	Notes
Water Main Test	PASS	

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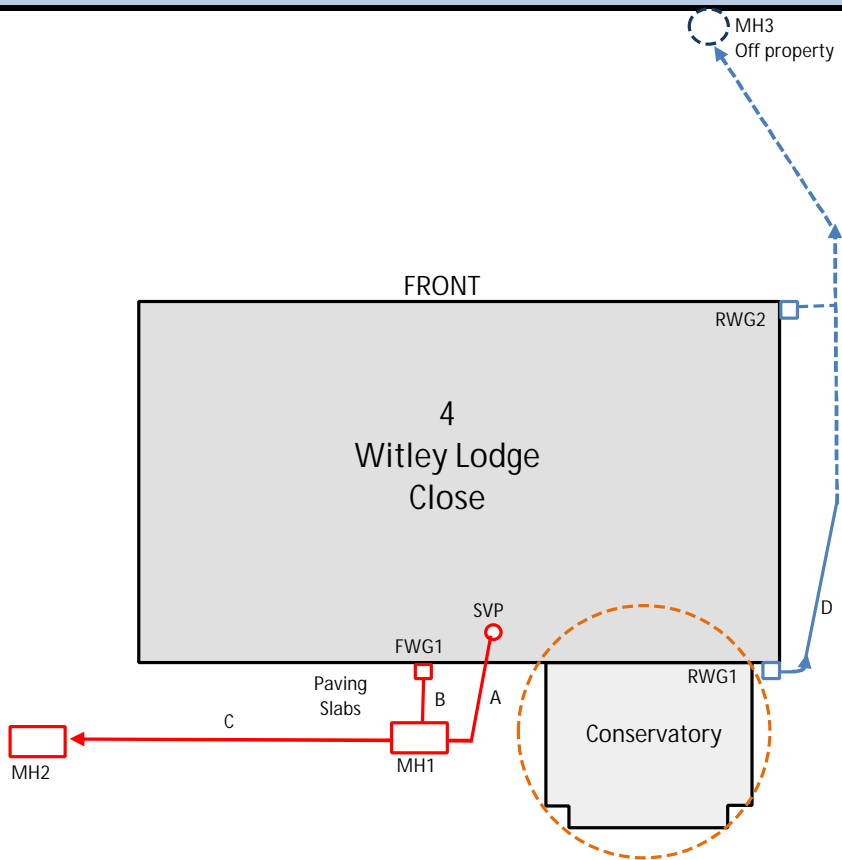




Following your instruction we attended site on 7th October 2022 to carry out the recommended further investigation works.

Run D

We have tested the pipework from RWG1 downstream for over 10m and confirmed this is watertight  
We Dye tested the pipework and found this flows into a manhole in the road approxc 30m from the property



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	Boundary		Stop Valve		WC		
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