

Arboricultural Consultancy for Lloyds Bank





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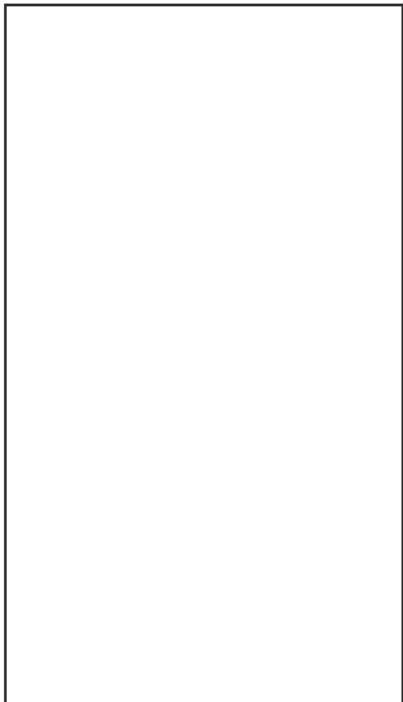
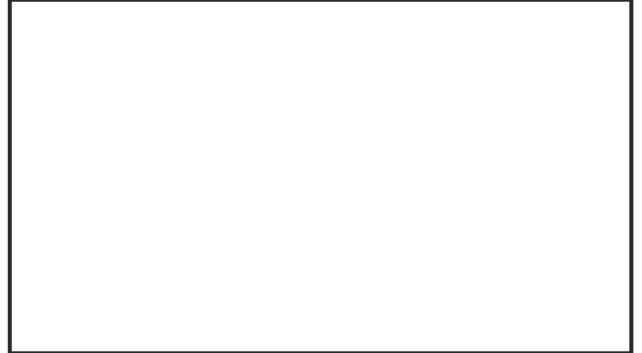
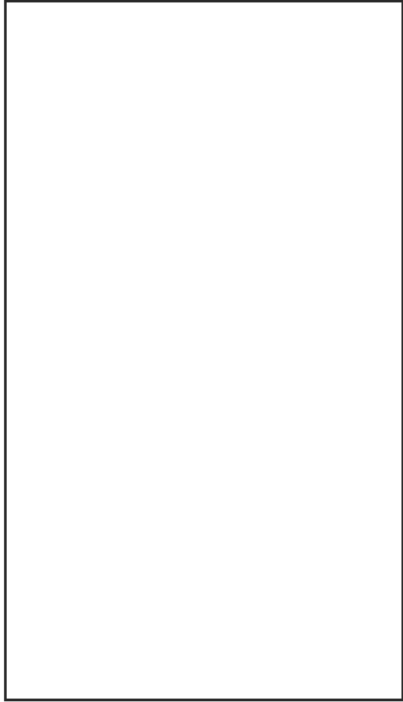




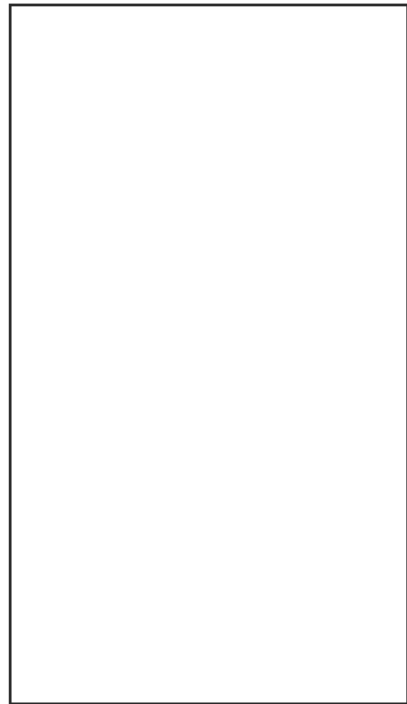
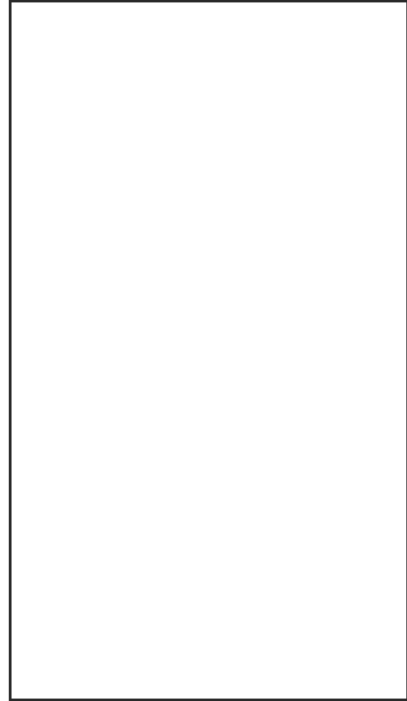
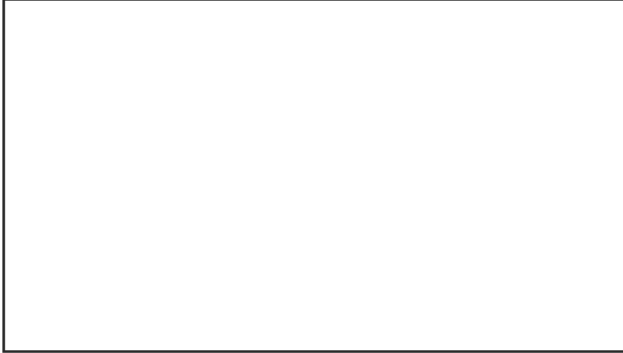
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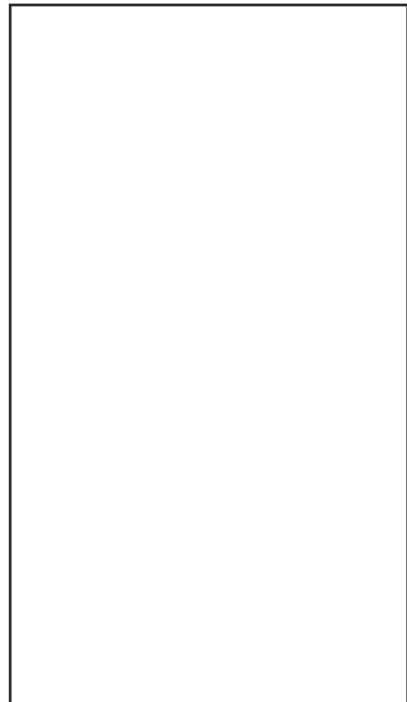
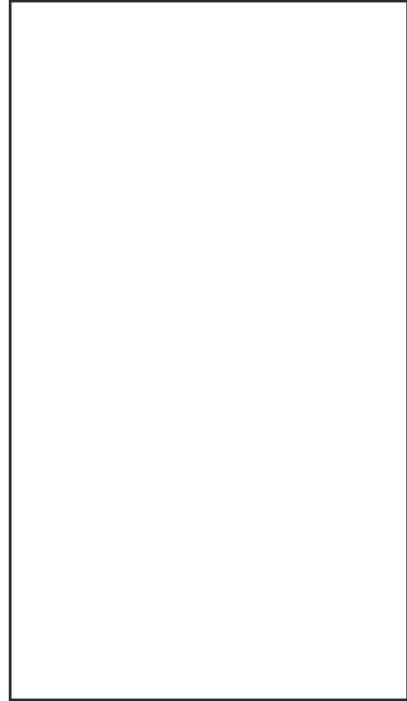
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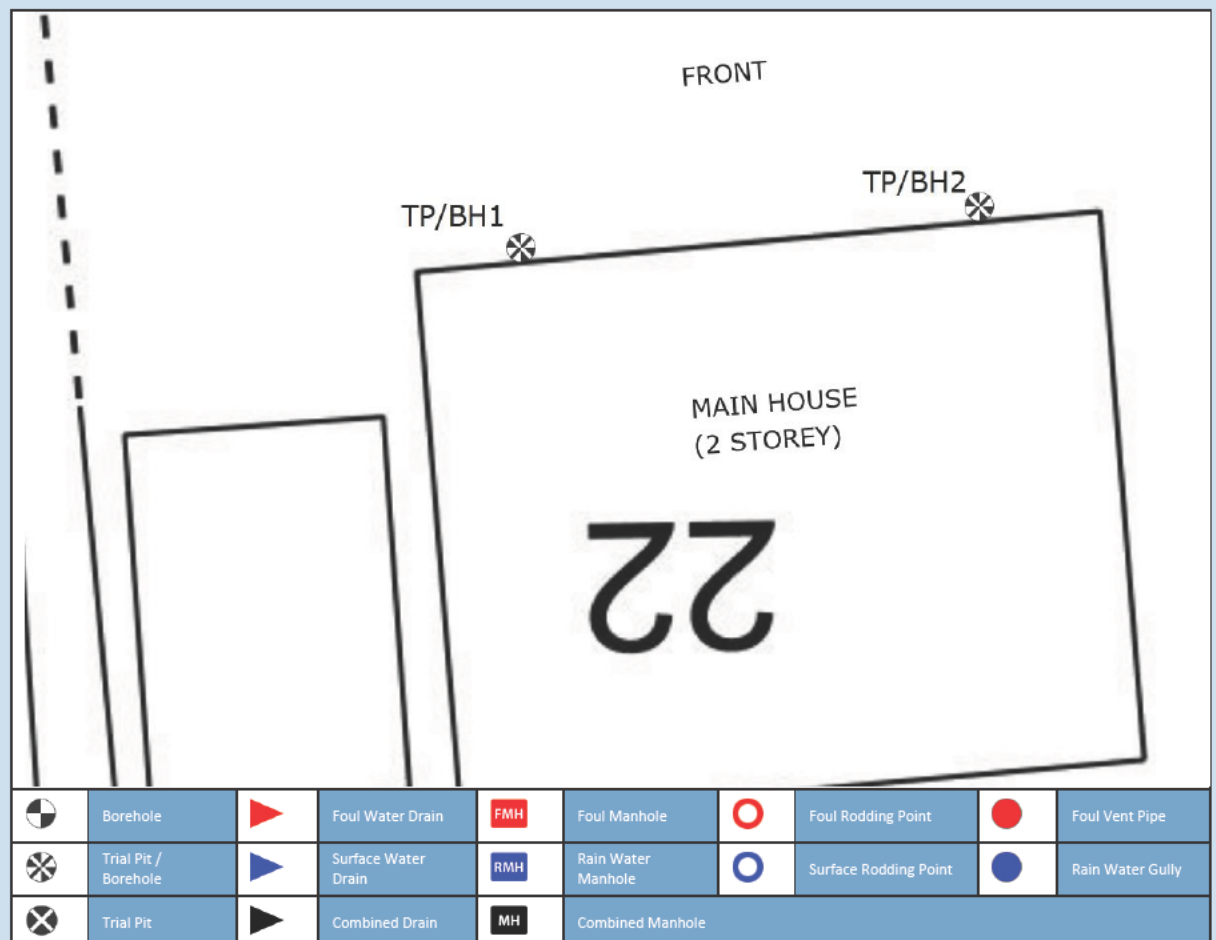
GEOTECHNICAL

for Subsidence Management Services

22 Princess Anne Road, Horsham, RH12 3HR

Client: Subsidence Management Services
Client Contact: Richard Bryant
Client Ref: IFS-LBG-SUB-22-0101892
Policy Holder: Mrs Diana Clarke
Report Date: 13 October 2022
Our Ref: C65878G29896

Site Plan



Foundation Detail

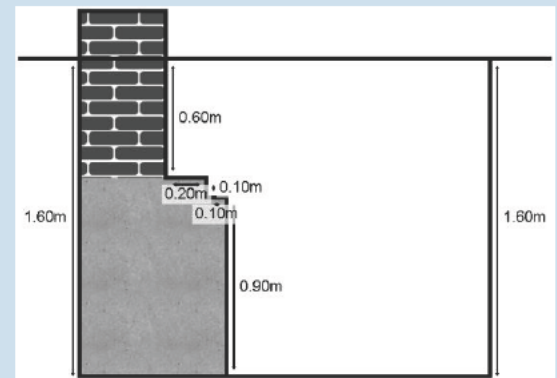
The diagram shows a cross-section of a wall. The wall consists of a brickwork section on top of a concrete base. The brickwork section is 0.90m high and 0.60m wide. The concrete base is 0.30m high and 0.30m wide. The total height of the wall is 1.00m. The concrete base is 0.10m thick.

SubsNetuk

TP/BH2 Foundation Detail and Borehole Log

Foundation Detail

House foundation was partially exposed and comprised of brick wall to 600mm bgl, bearing on stepped concrete to a depth of at least 1600mm bgl, with a total projection of 300mm from the elevation.



WS	Samples		Tests		Legend	Stratum Description and Observations
	Type	Depth (m)	Type	Depth (m)		
						</

Site Observations

GENERAL:

Site Investigation works (TP/BH 1) undertaken on 29 September 2022 during dry weather (i.e. no rain).

Site Investigation works (TP/BH 2) undertaken on 29 September 2022 during dry weather (i.e. no rain).

HEALTH AND SAFETY:

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH1).

Negative signal obtained in Power, Radio and Genny mode on the Cable Avoidance Tool (CAT) (TP/BH2).

FOUNDATIONS:

House foundation was exposed and the underside of foundation (USF) recorded to be 0.9m bgl (TP/BH 1).

House foundation was not able to be exposed (TP/BH 2). The House foundation was not exposed due to the foundation depth exceeding our equipments capabilities.

BOREHOLE:

Mackintosh Probe (MP) refusal at 1.6m bgl due to stiffness within the sandstone (TP/BH 1).

Borehole terminated. No further works undertaken.

ROOTS:

Roots encountered to 1.6m bgl (TP/BH 1).

Roots encountered to 2.6m bgl (TP/BH 2).

IN SITU TESTING:

Hand Penetrometer (PEN) undertaken at 0.9m bgl (TP/BH 1) within the window sampler and thereafter in the window sampler at maximum 0.5m intervals.

Hand Penetrometer (PEN) undertaken at 1.6m bgl (TP/BH 2) within the window sampler and thereafter in the window sampler at maximum 0.5m intervals.

WATER STRIKES:

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

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

SOIL ANALYSIS

for Subsidence Management Services

22 Princess Anne Road, Horsham, RH12 3HR

Client: Subsidence Management Services
Claim Number: 102428344
Policy Holder: Mrs Diana Clarke
Report Date: 04/11/2022
Our Ref: L23683

Compiled By:

Name	Position	Signature
Saira Dougan	Laboratory Technician	

Checked By:

Name	Position	Signature
Bob Walker	Laboratory Manager	

Date samples received: 13-Oct-22
Water Content Test Date: 25-Oct-22
Atterberg Limits Test Date: 02-Nov-22
Suction Test Date: 04-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 Filter Paper Suction Test is undertaken in accordance with the BRE paper IP4/93 (corrected) 'A Method of Determining the State of Desiccation in Clay Soils'

Unless otherwise stated the moisture content of the filter paper was determined after 7 days contact with the sample and the test was prepared from a remoulded disturbed sample.

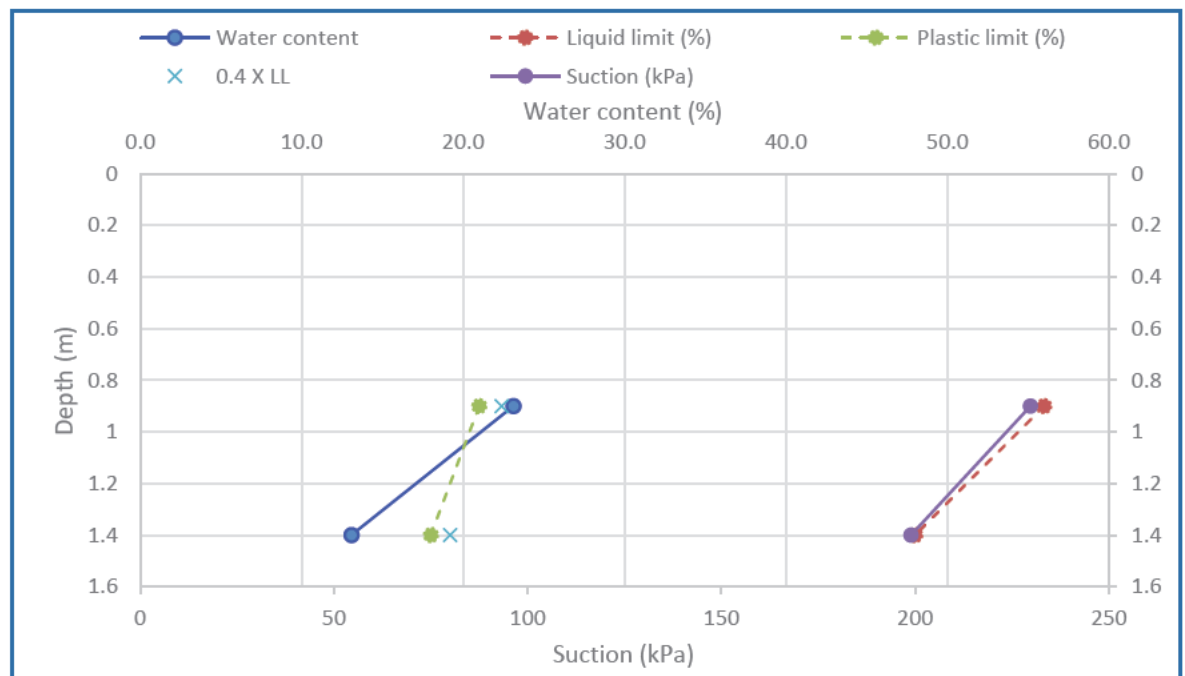
The Filter Paper Suction Tests are conducted in a controlled environment within a temperature range of 18°C and 22°C

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.

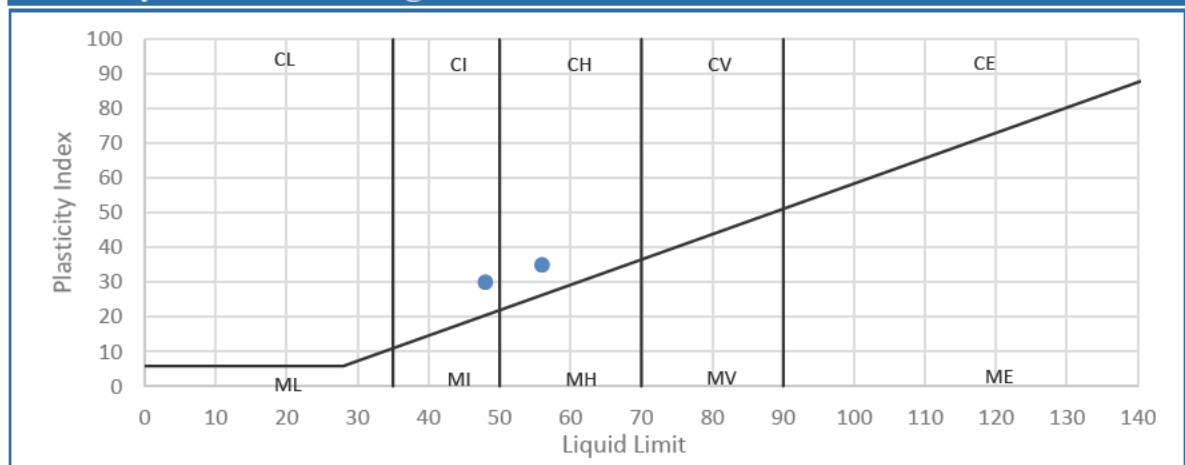
[Laboratory feedback form](#)

Samples from BH1

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
1	0.9	23.1	56	21	35	88	31	230	Firm dark brown/grey silty CLAY with rare gravel and sand. Gravel is fine
2	1.4	13.1	48	18	30	86	26	199	Friable olive-brown/grey slightly sandy silty CLAY with rare gravel. Gravel is fine and medium.

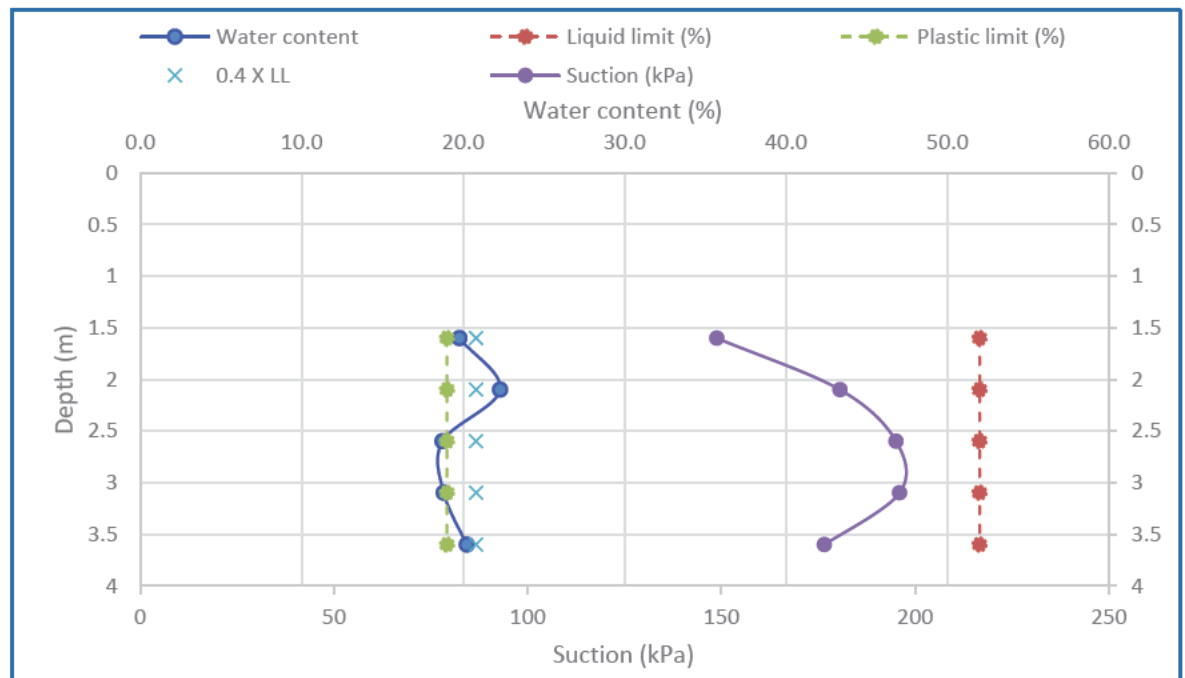


Plasticity Chart for Casagrande Classification

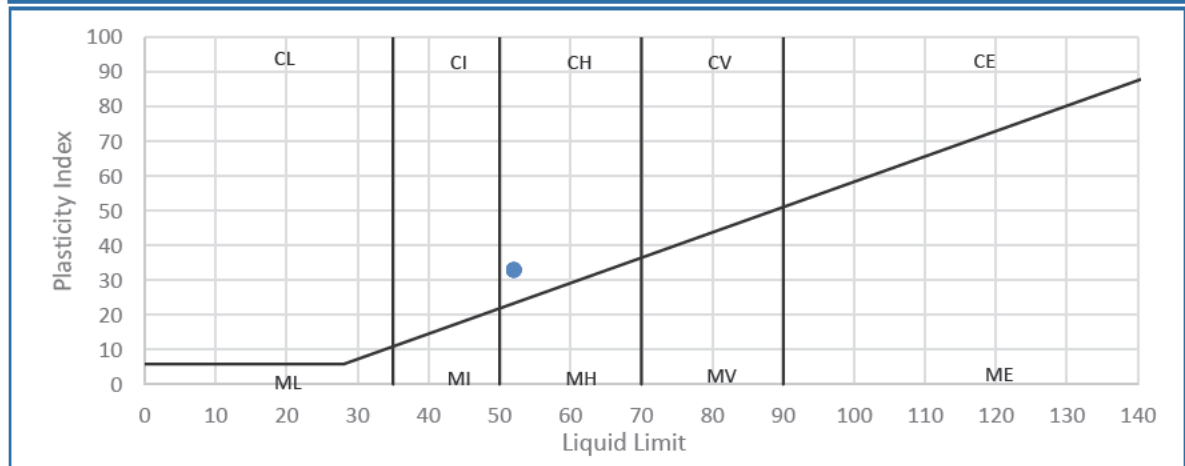


Samples from BH2

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
3	1.6	19.8	52	19	33	68	22	149	Firm olive-brown/grey silty CLAY with rare gravel and sand. Gravel is fine and medium.
4	2.1	22.3	52	19	33	68	22	181	Firm olive-brown/grey silty CLAY with rare gravel and sand. Gravel is fine and medium.
5	2.6	18.7	52	19	33	68	22	195	Firm olive-brown/grey silty CLAY with rare gravel and sand. Gravel is fine and medium.
6	3.1	18.8	52	19	33	68	22	196	Firm olive-brown/grey silty CLAY with rare gravel and sand. Gravel is fine and medium.
7	3.6	20.2	52	19	33	68	22	177	Firm olive-brown/grey silty CLAY with rare gravel and sand. Gravel is fine



Plasticity Chart for Casagrande Classification



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					

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

22 Princess Anne Road, Horsham, RH12 3HR

Client: Subsidence Management Services
Client Contact: Richard Bryant
Claim Number: 102428344
Client Reference: IFS-LBG-SUB-22-0101892
Policy Holder: Mrs Diana Clarke
Report Date: 4 October 2022
Our Ref: R46421



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

Sub Sample	Species Identified		Root Diameter	Starch
TP/BH1:				
0.9-1.6m	<i>Quercus</i> spp.	1	1 mm	Moderate
0.9-1.6m	<i>Fuchsia</i> spp.		<1 mm	Abundant
0.9-1.6m	<i>Hedera</i> or <i>Fatsia</i> spp.		1 mm	Low
TP/BH2:				
1.6-2.6m	<i>Quercus</i> spp.	2	1 mm	Abundant

Comments:

- 1 - Plus 1 other also identified as *Quercus* spp.
- 2 - Plus 1 other also identified as *Quercus* spp.

Quercus spp. are oaks (both deciduous and evergreen).

Fuchsia spp. are common flowering shrubs.

Hedera spp. include ivy; *Fatsia* spp. are shrubs closely related to ivy.

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 Mrs Diana Clarke,

Risk Address: 22 Princess Anne Road, Horsham, RH12 3HR

Visit Date: 30th September 2022

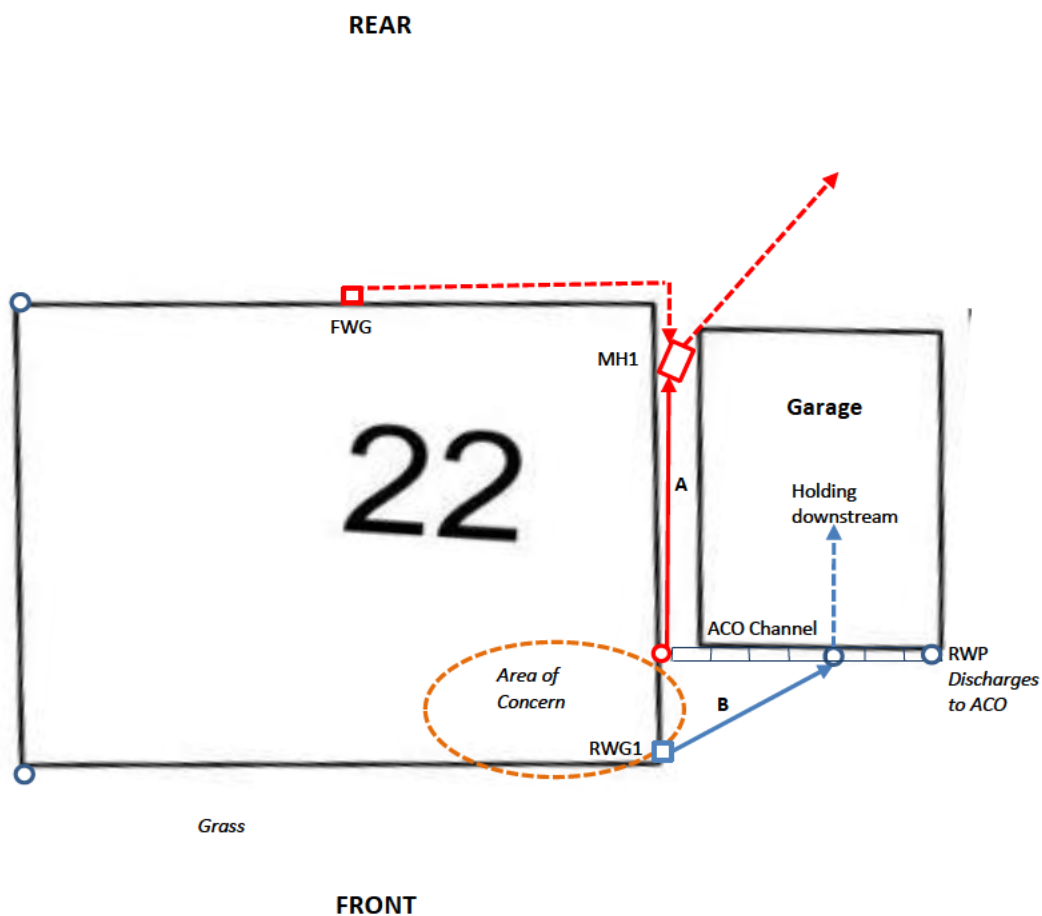
Client Reference: IFS-LBG-SUB-22-0101892

Our Reference: C65878 D23162

Report Date: 4th October 2022

Report Content:

- Front Page
- Site Plan
- CCTV Coding
- Drain Overview
- Photographs
- Quote



Key

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

Notes:

Address:

22 Princess Anne Road, Horsham, RH12 3HR

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.

All runs were cleaned by high pressure water jetting prior to the CCTV survey.

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 U/S TO SVP

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Not Tested, No access

CCTV Survey Result: Structural damage

Recommended Repair:

To excavate and replace existing Rest bend at base of SVP including 1m of adjacent pipework

To prepare the drain line and insert 6m of structural liner to cover defects downstream to MH1

Bed new pipe, compact, back fill and reinstate concrete

Drain Run B: RWG1 D/S TO ACO OULET

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Not Tested

CCTV Survey Result: No structural damage. Drain affected with high water level. Drain is holding downstream from aco. HPWJ was attempted but stopped at 4m and drain was holding after jetting.

Recommended Repair:

Trace and excavate 4m downstream from ACO outlet (inside garage?)

Further HWPJ to clear drain required

To carry out a CCTV survey and report findings

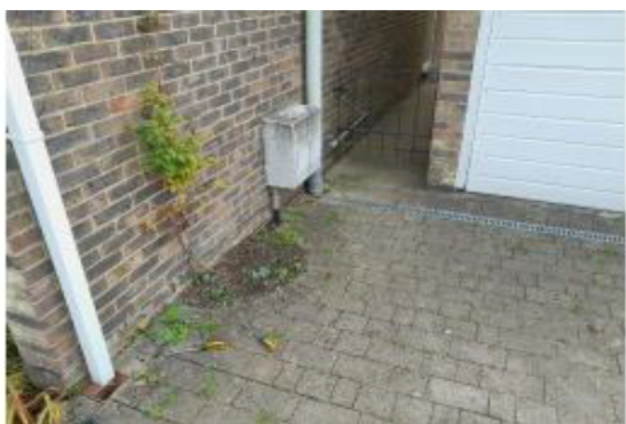
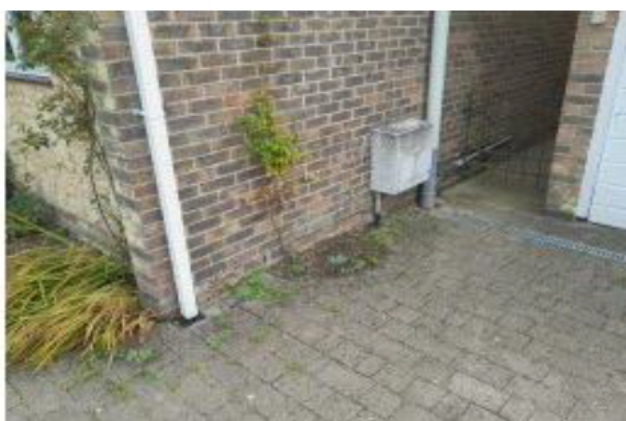
Bed new pipe, compact, back fill and reinsate concrete ground

ACO: It is recommended to cement in a section of the ACO near the SVP (see pics)

Water Main Test	Result	Acoustic Test
	PASS	No noise could be heard which indicates that there is no leak

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Address:	22 Princess Anne Road, Horsham, RH12 3HR
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Address:

22 Princess Anne Road, Horsham, RH12 3HR



Address:

22 Princess Anne Road, Horsham, RH12 3HR



Address:

RUN / LOCATION: RUN A

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
UK0650	Rest-bend. Remove existing and replace with new 110mm DMCu Bed, surround & backfill to 1000mm.	nr	████	1.00	████
UK1120155	32/40mm waste pipes. Remove existing and replace with new 110mm DMCu.	m	████	1.00	████
UK1120165	32/40mm waste pipes. Shoes / bends.	nr	████	2.00	████
UK0605	Excavate & remove isolated length. Replace in new 110mm DMCu Bed, surround & backfill to 1000mm.	nr	████	1.00	████
UK0880	Short Radius Bend. Remove existing item and replace with new 110mm DMCu.	nr	████	2.00	████
UK1050	Removal, disposal and reinstatement of concrete path. Road to drainage 100mm thick.	m2	████	1.00	████
UK0025	Protection Temporary works to floors, 1000 gauge.	m2	████	2.00	████
UK8120300	Hardcore Filling to excavations over 250 mm average thick.	m	████	1.00	████
UK2050005	Disposal by hand excavated contaminated/saturated material off site.	m3	████	1.00	████
UK1135	Drain Lining - Initial Set-Up Fee (0-3.0m)	nr	████	1.00	████
UK1133	Van pack HPWJ & CCTV in preparation of lining	nr	████	1.00	████
UK1140	Drain Lining - 100mm. Install Structural liner into existing 100mm underground drain. 2mm Wall.	m	████	3.00	████
Total (Excl VAT)					████

RUN / LOCATION: RUN B

Repair Item	Description	Unit	Rate (£)	Quantity	Amount (£)
UK10051	Drain Tracing - Electronic, with report plotting location & depth.	nr	████	1.00	████
UK0605	Excavate & remove isolated length. Replace in new 110mm DMCu Bed, surround & backfill to 1000mm.	nr	████	1.00	████
UK0880	Short Radius Bend. Remove existing item and replace with new 110mm DMCu.	nr	████	2.00	████
UK1050	Removal, disposal and reinstatement of concrete path. Road to drainage 100mm thick.	m2	████	1.00	████
UK0025	Protection Temporary works to floors, 1000 gauge.	m2	████	2.00	████
UK8120300	Hardcore Filling to excavations over 250 mm average thick.	m	████	1.00	████
UK2050005	Disposal by hand excavated contaminated/saturated material off site.	m3	████	1.00	████
*	CCTV survey of underground drainage & report	nr	████	1.00	████
UK0525	High Pressure Water Jetting - up to 1 hour on site.	hr	████	1.00	████
Total (Excl VAT)					████

REPAIR ESTIMATE TOTALS:

Run / Location	Amount (£)
RUN A	████
RUN B	████
Total (Excl VAT)	████

Address:

22 Princess Anne Road, Horsham, RH12 3HR