

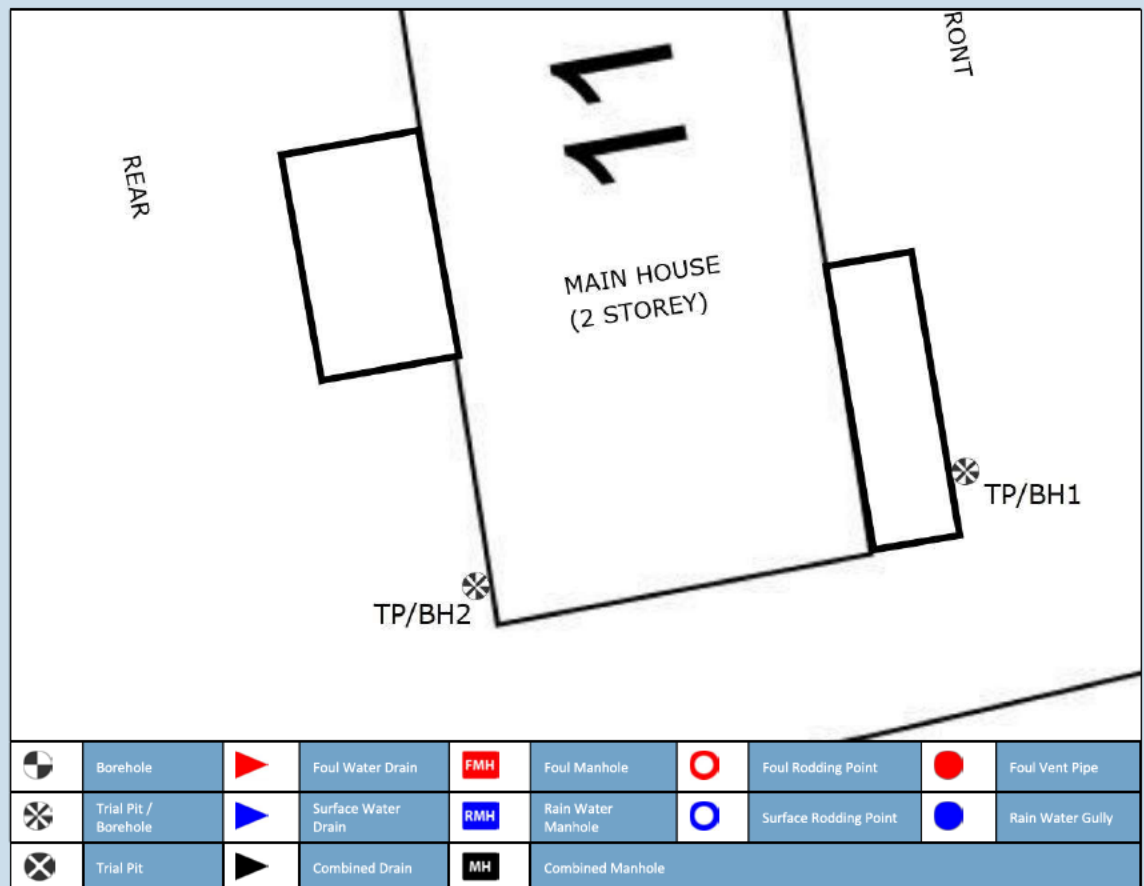
GEOTECHNICAL

for Subsidence Management Services

11 Cape Copse, Rudgwick, Horsham, RH12 3HG

Client: Subsidence Management Services
Client Contact: Nigel Buxton
Client Ref: IFS-LVI-ROF-23-0107374
Policy Holder: Mr Charan Sandhu
Report Date: 19 June 2023
Our Ref: C71843G32576

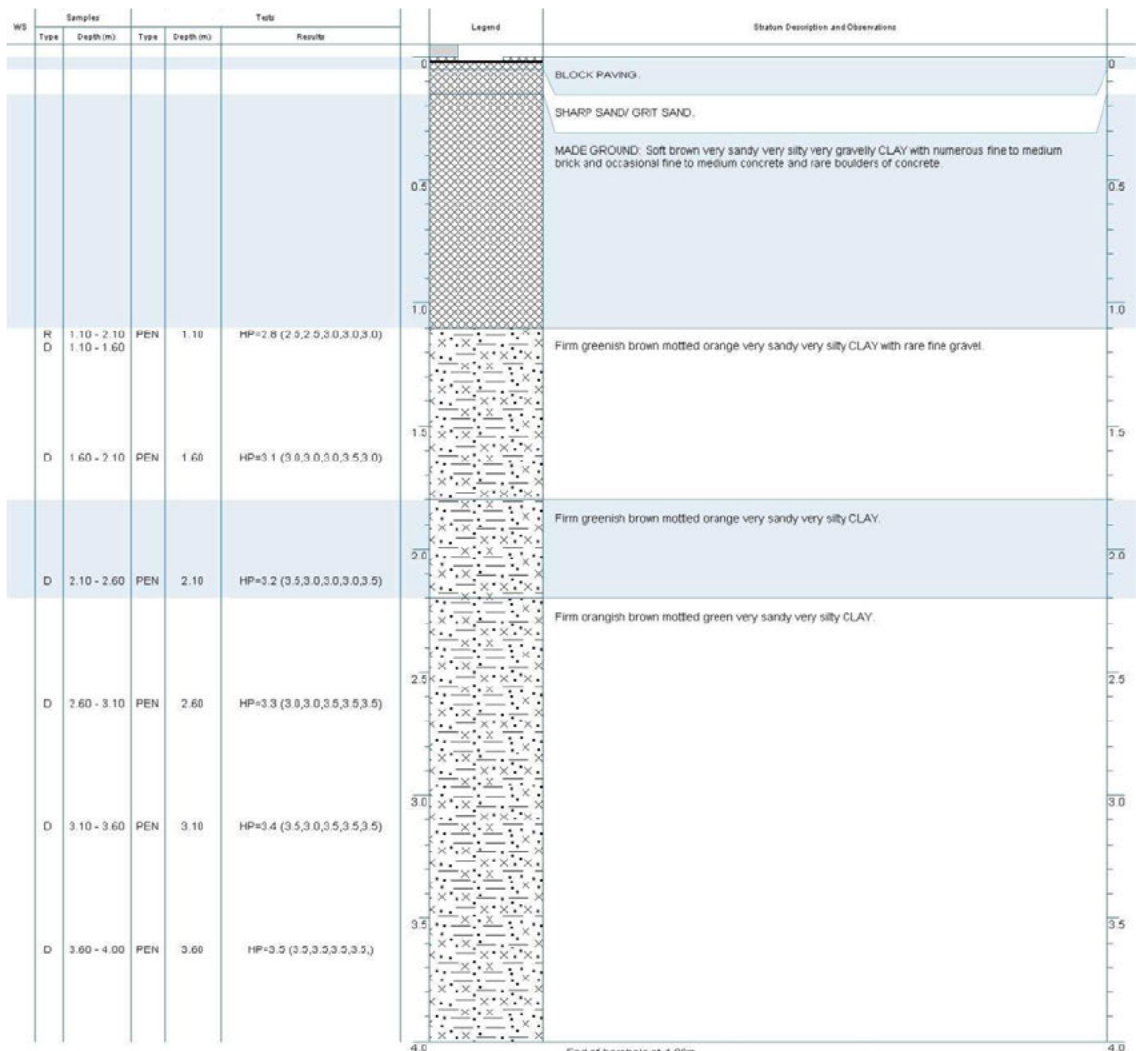
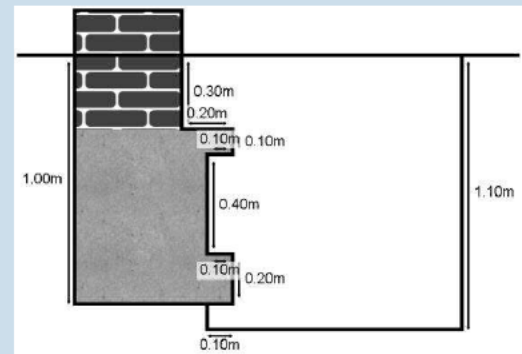
Site Plan



TP/BH1 Foundation Detail and Borehole Log

Foundation Detail

House foundation comprised of brick wall to 300mm bgl, bearing on concrete to 400mm bgl with a total projection of 200mm from the elevation. In turn, bearing on concrete to 800mm bgl with a total projection of 100mm from the elevation, In turn, bearing on concrete to 1000mm bgl with a total projection of 200mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 200mm back from the face of the foundation.

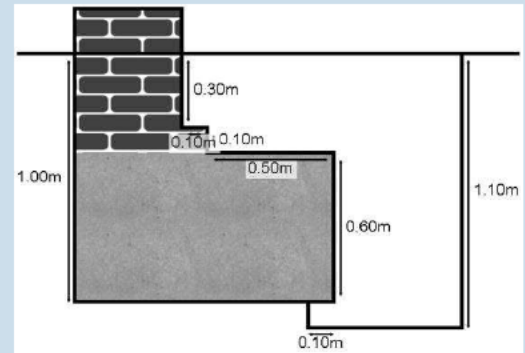


-- End of borehole at 4.00m --
Trial pit excavated to 1.10m bgl. Borehole completed by mech window sampler. Roots encountered to 2.1m bgl. Groundwater strikes not encountered. PEN = Hand Penetrometer (kg/sq cm).

TP/BH2 Foundation Detail and Borehole Log

Foundation Detail

House foundation comprised of brick wall to 300mm bgl, bearing on brickwork to 400mm bgl with a total projection of 100mm from the elevation. In turn, bearing on concrete to 1000mm bgl with a total projection of 600mm from the elevation. Underside of foundation (USF) was exposed to 100mm back from the face of the foundation and probed 200mm back from the face of the foundation.



WS	Samples		Tests		Legend	Stratum Description and Observations
	Type	Depth (m)	Type	Depth (m)		
					0	PAVING SLAB.
					0.5	SHARP SAND/ GRIT SAND.
					1.0	MADE GROUND: Soft brown very sandy very gravelly very silty CLAY with numerous fine to medium brick and occasional fine to medium concrete and rare boulders of concrete.
	R D	1.10 - 2.10 1.10 - 1.60	PEN	1.10	1.0	Firm greenish brown mottled orange very sandy very silty CLAY.
	D	1.60 - 2.10	PEN	1.60	1.5	
					2.0	Stiff orangish brown mottled green very sandy very silty CLAY.
	D	2.10 - 2.20	PEN	2.10		
			MP	2.20		
						Refusal 50 for 0mm

-- End of borehole at 2.30m --
Trial pit excavated to 1.10m bgl. Borehole completed by mech window sampler. Roots encountered to 2.1m bgl. Groundwater strikes not encountered. PEN = Hand Penetrometer (kg/sq cm). MP = Mackintosh Probe (blows per 75mm).

Site Observations

GENERAL:

Site Investigation works (TP/BH 1) undertaken on 14 June 2023 during dry weather (i.e. no rain).

Site Investigation works (TP/BH 2) undertaken on 14 June 2023 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 1m bgl (TP/BH 1).

House foundation was exposed and the underside of foundation (USF) recorded to be 1m bgl (TP/BH 2).

BOREHOLE:

Hand Held Percussive Window Sampler and Mackintosh Probe refusal at 2.2m bgl due to stiffness within the clay (TP/BH 2).

Borehole terminated. No further works undertaken.

ROOTS:

Roots encountered to 2.1m bgl (TP/BH 1).

Roots encountered to 2.1m bgl (TP/BH 2).

IN SITU TESTING:

Hand Penetrometer (PEN) undertaken at 1.1m bgl (TP/BH 1) within the window sampler and thereafter in the window sampler at maximum 0.5m intervals.

Hand Penetrometer (PEN) undertaken at 1.1m bgl (TP/BH 2) within the window sampler and thereafter in the window sampler at maximum 0.5m intervals.

Mackintosh Probe (MP) test undertaken at 2.2m bgl (TP/BH 2) within the window sample borehole only with no further Mackintosh Probe (MP) testing undertaken.

WATER STRIKES:

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

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

SOIL ANALYSIS

for Subsidence Management Services

11 Cape Copse, Horsham, RH12 3HG

Client: Subsidence Management Services
Claim Number: 700-17-001187
Policy Holder: Mr Charan Sandhu
Report Date: 13/07/2023
Our Ref: L26254

Compiled By:

Name	Position	Signature
Saira Dougan	Laboratory Technician	
Name	Position	
Bob Walker	Laboratory Manager	

Checked By:

Date samples received: 16-Jun-23
Water Content Test Date: 21-Jun-23
Atterberg Limits Test Date: 03-Jul-23



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.

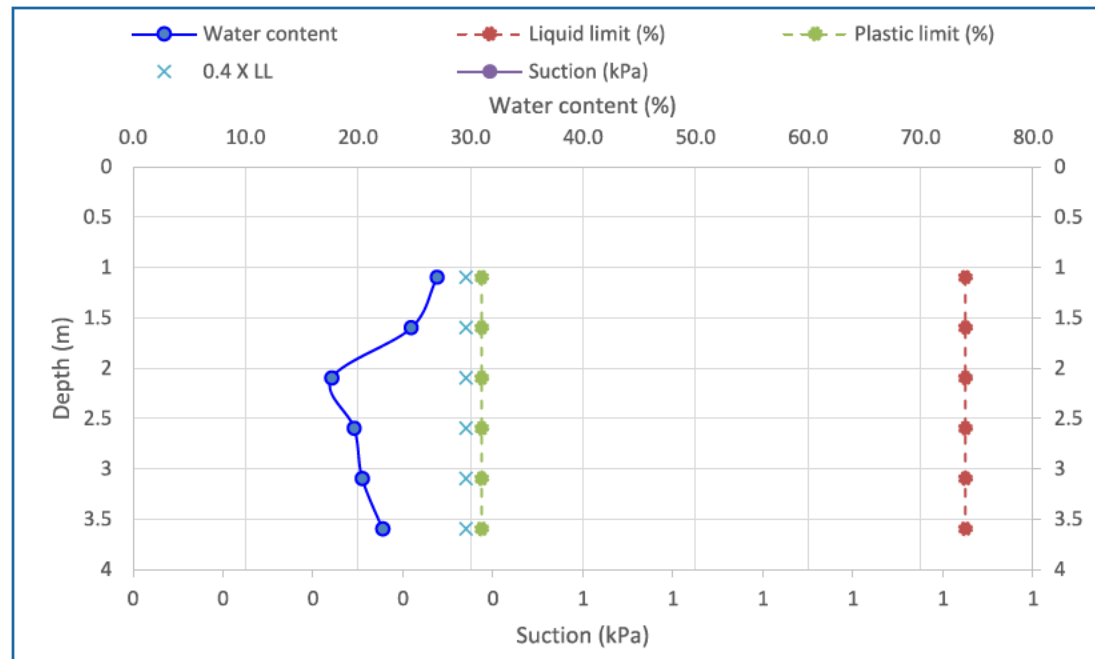
The Plastic Limit test and the determination of the Plasticity Index is undertaken in accordance with BS1377:Part 2:1990. Where a plastic limit has been denoted with an asterisk (*) then it has been derived from the liquid limit and has not been tested.

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.

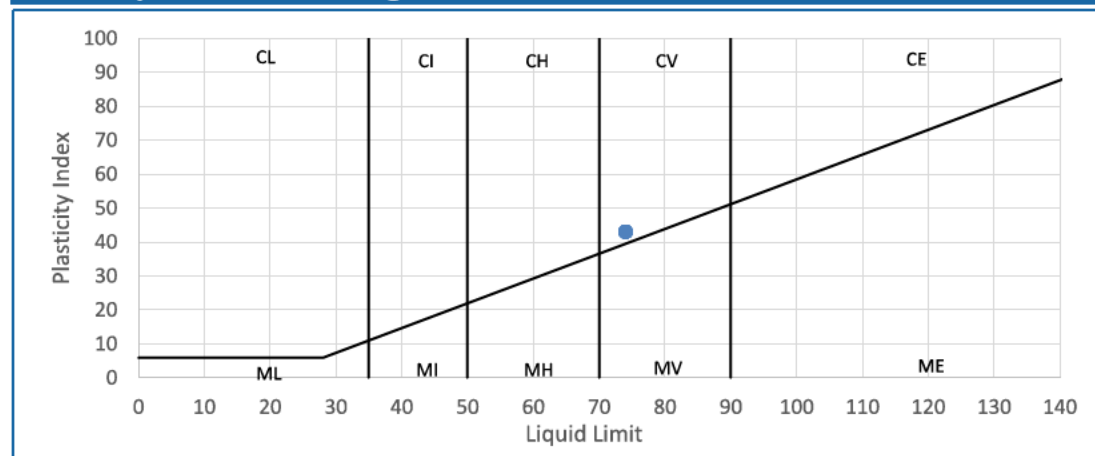
[Laboratory feedback form](#)

Samples from BH1

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
1	1.1	27.0	74	31	43	100	43		Firm grey-brown clayey SILT with rare gravel. Gravel is fine
2	1.6	24.7	74	31	43	100	43		Firm grey-brown clayey SILT with rare gravel. Gravel is fine
3	2.1	17.7	74	31	43	100	43		Firm grey-brown clayey SILT with rare gravel. Gravel is fine
4	2.6	19.7	74	31	43	100	43		Firm grey-brown clayey SILT with rare gravel. Gravel is fine
5	3.1	20.4	74	31	43	100	43		Firm grey-brown clayey SILT with rare gravel. Gravel is fine
6	3.6	22.2	74	31	43	100	43		Firm grey-brown clayey SILT with rare gravel. Gravel is fine

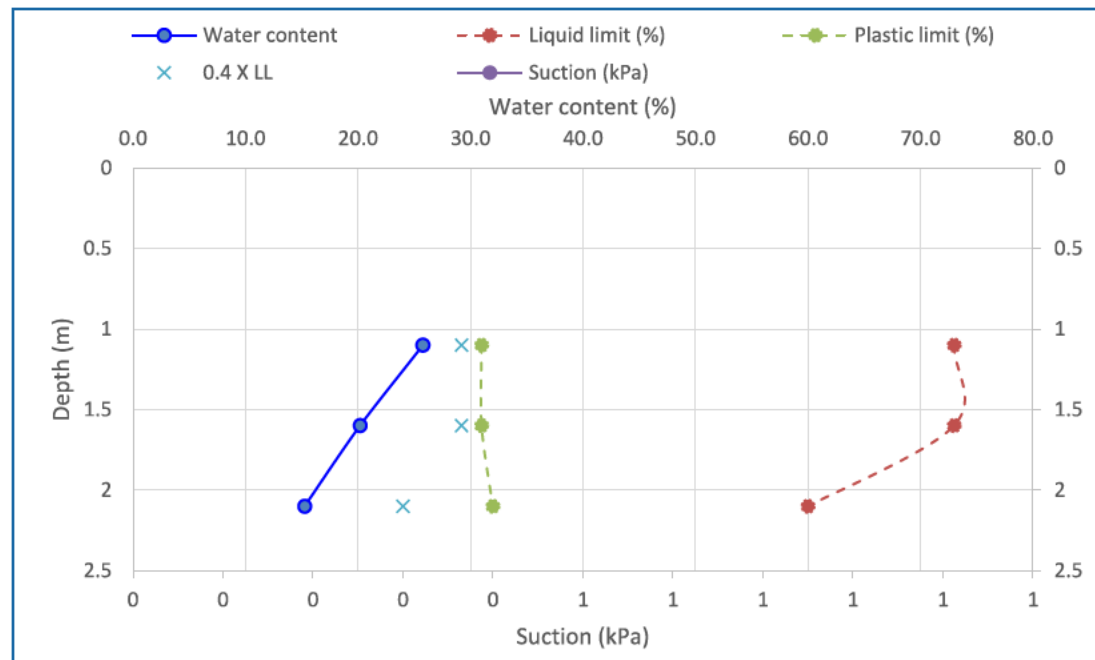


Plasticity Chart for Casagrande Classification

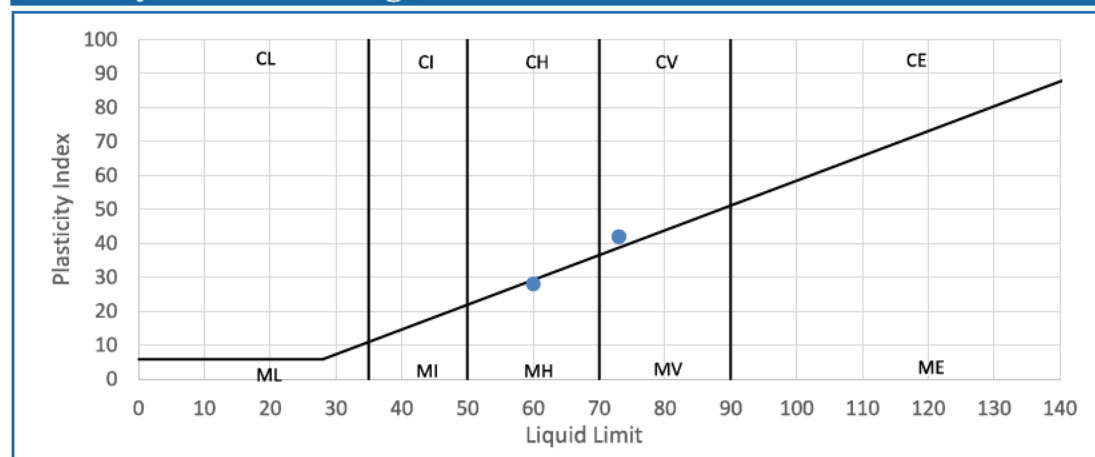


Samples from BH2

Lab Ref	Depth (m)	WC (%)	LL (%)	PL (%)	PI (%)	.425 mm(%)	mod. PI (%)	Av. Suc. (kPa)	Description
7	1.1	25.8	73	31	42	100	42		Firm grey-brown clayey SILT with rare gravel. Gravel is fine
8	1.6	20.2	73	31	42	100	42		Firm grey-brown clayey SILT with rare gravel. Gravel is fine
9	2.1	15.3	60	32	28	99	28		Friable grey-brown slightly clayey SILT with rare gravel. Gravel is fine and medium.



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					
8					
9					

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

11 Cape Copse, Rudgwick, Horsham, RH12 3HG

Client: Subsidence Management Services
Client Contact: Nigel Buxton
Claim Number: 700-17-001187
Client Reference: IFS-LVI-ROF-23-0107374
Policy Holder: Mr Charan Sandhu
Report Date: 19 June 2023
Our Ref: R51953



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

Sub Sample	Species Identified		Root Diameter	Starch
TP/BH1:				
1.1-2.1m	Quercus spp.	1	1 mm	Abundant
TP/BH2:				
1.1-2.1m	Quercus spp.	2	20 mm	Abundant

Comments:

- 1 - Plus 2 others also identified as *Quercus* spp.
- 2 - Plus 3 others also identified as *Quercus* spp.

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

Signed: M D Mitchell

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 Mr C Sandhu

Risk Address: 11 Cape Copse, Horsham, RH12 3HG

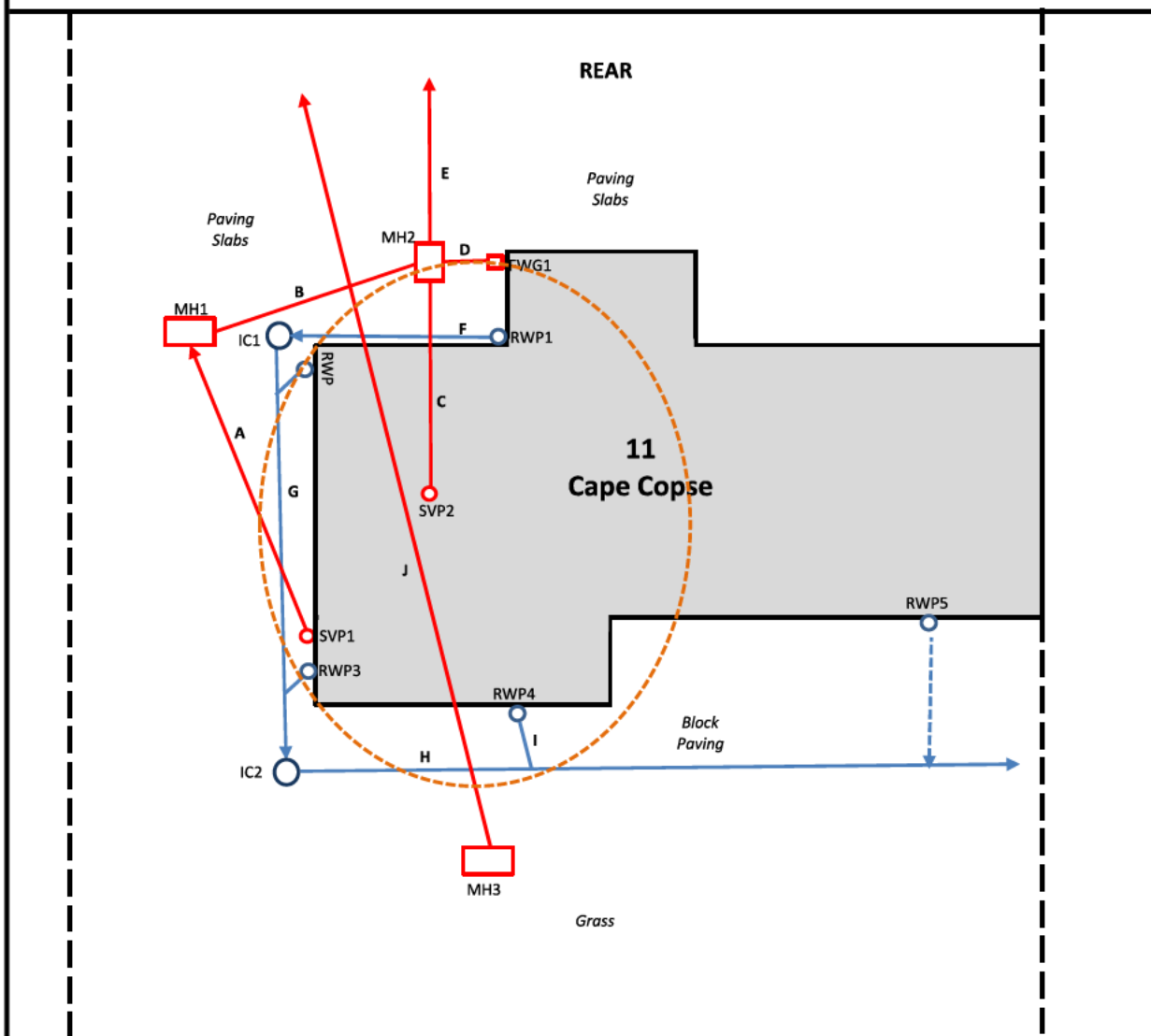
Visit Date: 5th May 2023

Client Reference: IFS-LVI-ROF-23-0107374

Our Reference: C71843 D25130

Report Date: 10th May 2023

Report Content: Front Page
Site Plan
CCTV Coding
Drain Overview
Quote



Key

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

Notes:

Address:

11 Cape Copse, Horsham, RH12 3HG

RUN	Start From :	MH2	Finish at :	Downstream Node	Pipe Ø:	100mm
E	Invert Level (m):	1	Invert Level (m):	N/a	Material:	Clay
FOUL	Condition grade:	B	Direction:	Downstream	Responsibility:	Home Owner
<i>Distance</i>	<i>Code</i>	<i>Hydraulic Test - Fail</i>				
0.00	SN	Start Node from MH2				
0.00	WL	Water Level 0%				
0.30	CC	Crack Circumferential				
0.30	JDM	Joint Displaced (Medium)				
1.80	DEE	Attached Deposits (encrustation)				
2.40	CC	Crack Circumferential				
2.50	FN	Finish Node - Beyond Area of Concern				
RUN	Start From :	IC1	Finish at :	RWP1	Pipe Ø:	100mm
F	Invert Level (m):	0.38	Invert Level (m):	N/a	Material:	Plastic
STORM	Condition grade:	A	Direction:	Upstream	Responsibility:	Home Owner
<i>Distance</i>	<i>Code</i>	<i>Hydraulic Test - Pass</i>				
0.00	SN	Start Node from IC1				
0.00	WL	Water Level 100%				
1.50	WL	Water Level 10%				
1.75	WL	Water Level 0%				
3.85	LU	Line of drain deviates up °				
4.05	FN	Finish Node at RWP1				
RUN	Start From :	IC1	Finish at :	IC2	Pipe Ø:	100mm
G	Invert Level (m):	0.38	Invert Level (m):	N/a	Material:	Plastic
STORM	Condition grade:	A	Direction:	Downstream	Responsibility:	Home Owner
<i>Distance</i>	<i>Code</i>	<i>Hydraulic Test - Pass (Inc RWP2 & RWP3)</i>				
0.00	SN	Start Node from IC1				
0.00	WL	Water Level 0%				
0.30	JN	Junction - RWP2				
6.70	JN	Junction - RWP3				
7.60	FN	Finish Node at IC2				
RUN	Start From :	IC2	Finish at :	Downstream Node	Pipe Ø:	100mm
H	Invert Level (m):	0.6	Invert Level (m):	N/a	Material:	Plastic
STORM	Condition grade:	B	Direction:	Downstream	Responsibility:	Home Owner
<i>Distance</i>	<i>Code</i>	<i>Hydraulic Test - Not Tested</i>				
0.00	SN	Start Node from IC2				
0.00	WL	Water Level 0%				
3.15	LR	Line of drain deviates right - Slight				
4.25	JN	Junction - RWP4				
4.50	MC	Material of drain changes at this point to Plastic				
4.50	REM	Remark - Rubber Seal visible				
4.60	REM	Remark - Damaged pipe				
5.45	WL	Water Level 10%				
5.75	FC	Fracture Circumferential				
6.25	JDM	Joint Displaced (Medium)				
6.75	FC	Fracture Circumferential				
7.40	FC	Fracture Circumferential				
8.50	FN	Finish Node - Beyond Area of Concern				

Address:

11 Cape Copse, Horsham, RH12 3HG

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 SVP1

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 B: 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 C: MH2 Upstream to SVP2

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Fail

CCTV Survey Result: Structural damage

Recommended Repair:

Prepare the drain and line from MH2 upstream to Rest bend, approx 5m and seal end with a patch

Test the drain on completion to ensure it is now watertight

Drain Run D: MH2 Upstream to FWG1

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Fail

CCTV Survey Result: Structural damage

Recommended Repair:

Excavate and replace FWG1 together with pipework downb to MH2, approx 1.15m

Drain Run E: MH2 to Downstream Node Point

Pipe Diameter: 100mm

Responsibility: Home Owner

Hydraulic Pressure Test: Fail

CCTV Survey Result: Structural damage

Recommended Repair:

Prepare the drain and line from MH2 downstream for 3m to seal defects.

Drain Run F: IC1 Upstream to RWP1**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 G: IC1 Downstream to IC2**Pipe Diameter:** 100mm**Responsibility:** Home Owner**Hydraulic Pressure Test:** Pass - Including RWP2 & RWP3**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 H: IC2 to Downstream Node Point**Pipe Diameter:** 100mm**Responsibility:** Home Owner**Hydraulic Pressure Test:** Not Tested**CCTV Survey Result:** Structural damage**Recommended Repair:**

Trace out the drain and excavate at suitable point out of the area of concern

Replace an isolated section of pipework

Prepare the drain and line from excavation upstream to junction from RWP4, approx 3.5m

Test the pipework from excavation, upstream to IC2 (incl RWP4) to ensure it is now watertight

Drain Run I: RWP4 Downstream to Run H**Pipe Diameter:** 100mm**Responsibility:** Home Owner**Hydraulic Pressure Test:** Not Tested**CCTV Survey Result:** No structural damage**Recommended Repair:**

See Run H

Drain Run J: MH3 to Downstream Node Point**Pipe Diameter:** 150mm**Responsibility:** Local Water Authority**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.

Nb - This pipework is not serving the PH property

NOTE: The re-instatement will be carried out on a like-for-like basis but where concrete or tarmac has been re-instated these surfaces will not match to the existing surface and will be seen as its new material.

Water Main Test		Result	Notes
		PASS	

Address:

11 Cape Copse, Horsham, RH12 3HG