

REFUSE



*25, Ramblers Way
Waterlooville
Hants
PO7 8RE*

INSURANCE CLAIM

CONCERNING SUSPECTED SUBSIDENCE

RÉSUMÉ OF TECHNICAL ASPECTS

This résumé is prepared on behalf of [REDACTED] for the purpose of investigating a claim for subsidence. It is not intended to cover any aspect of structural inadequacy or building defect that may otherwise have been in existence at the time of inspection.

30/11/2009

INTRODUCTION

Technical aspects of this claim are being overseen by our Project Manager, Richard West, in accordance with our Project Managed Service.

DESCRIPTION OF BUILDING

The property is a brick and block built house under a tiled roof. The building dates from 1984. The subject of the claim is a conservatory that was completed in April 2004.

CIRCUMSTANCES OF DISCOVERY OF DAMAGE

The policyholder and homeowner [REDACTED] discovered water ingress to the conservatory in autumn 2009. They arranged for the conservatory installers to seal the roof. Following the development of further movement, insurers were advised of a claim under the policy.

NATURE AND EXTENT OF DAMAGE

Description and Mechanism

The principal damage takes the form of rotational movement of the left-hand wall of conservatory. A gap of approximately 15 mm has developed at the junction with the rear of the house. The left-hand wall of the conservatory leans out by 10mm/m

Significance

The damage would be placed in category 3 moderate of in accordance with BRE Digest 251.

Onset and Progression

Current damage has developed over Summer 2009

SITE INVESTIGATIONS

Site investigations were undertaken by CET Safehouse Ltd on 29/9/09 and comprised excavation of a single trial hole / borehole. They have revealed the corner concrete foundations to be 800 mm thick, bearing at a depth of 1.1 m. We understand that the left and right hand walls are supported on steel beams cast in concrete at a higher level

Site investigations have been completed, and we have been able to confirm the cause of damage. It is recommended that vegetation close to the property is removed to mitigate against further movement and we are arranging for this to be done. The scope of repairs will be agreed following a period of monitoring.

MONITORING

Based on the observations made at the time of our initial visit and the subsequent results of the site investigation, we believe that cyclical movement will continue unless measures are taken to stabilise the foundations of the property in the area of damage. Accordingly, we have now

instructed level monitoring to obtain evidence for an application to the local authority in respect of the protected tree.

CAUSE OF DAMAGE

Foundations of the extension have been built to a depth of 1.1m. Active oak roots were found to a depth of 2.4m. The clay soil is susceptible to movement as a result of changes in volume of the clay with variations in moisture content. Analysis of the site investigation results has indicated that the soil has been affected by shrinkage. In this case, the damage has therefore been caused by clay shrinkage subsidence following moisture extraction by nearby vegetation.

RECOMMENDATIONS

Removal of the protected Oak tree is necessary to enable the foundations to stabilise.

FACTUAL REPORT

OF

INVESTIGATION

AT:- 25, Ramblers Way, Waterloooville
Waterloooville

ON:- 29 September 2009

FOR:-
c/o Cunningham Lindsey - Solent

REF:- 3342120-

JOB NO:- 70386

REPORT ISSUED:- 14/10/2009

SPECIALIST CONTRACTING DIVISION

CET SAFEHOUSE LIMITED

Lawness Barns, Mountnessing Road, Billericay, Essex CM12 0TS

WWW.CETSAFEHOUSE.COM

Tel: 01277 655377

Fax: 01277 655977

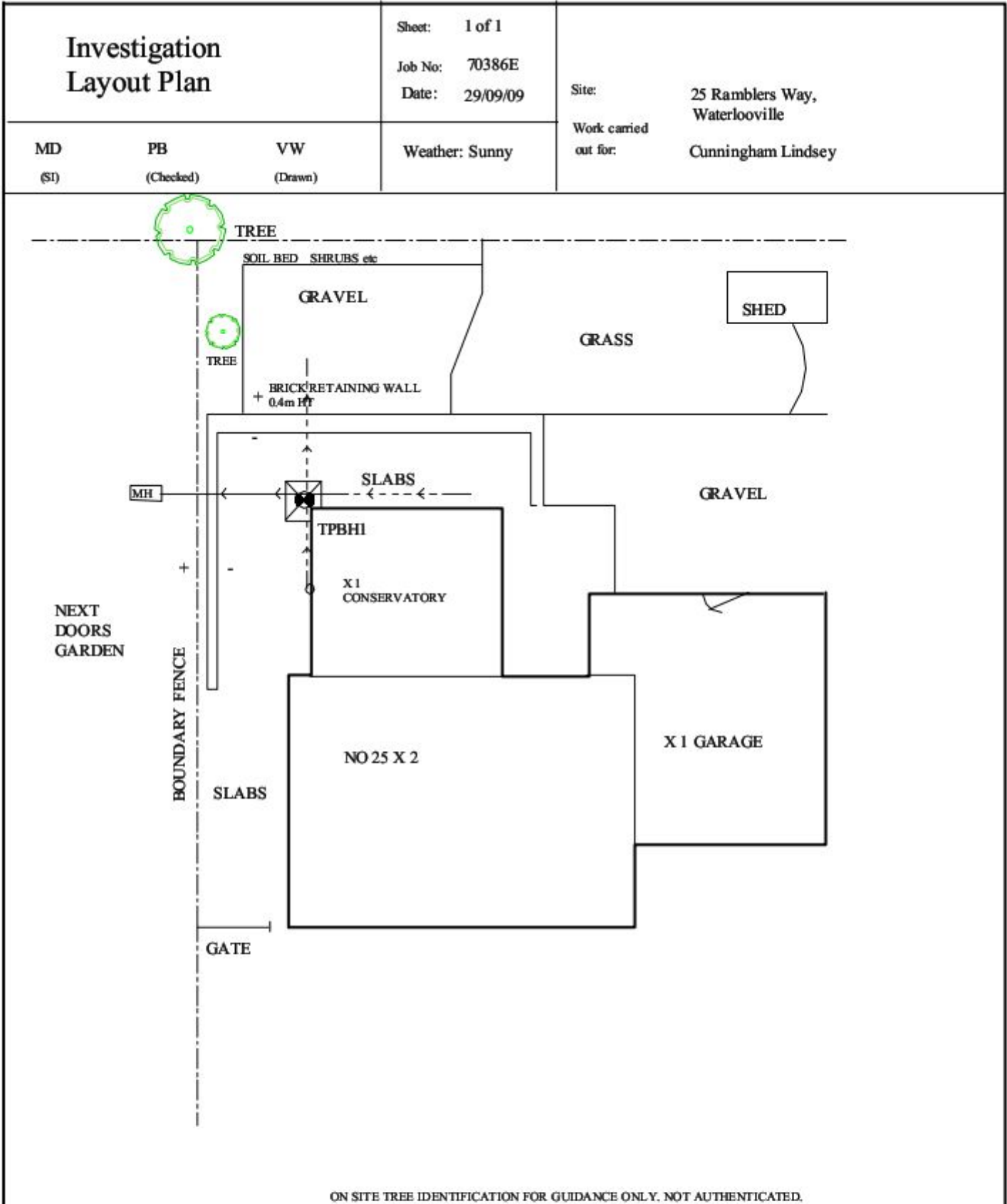
Investigation Layout Plan			Sheet: 1 of 1	Site: 25 Ramblers Way, Waterlooville
			Job No: 70386E	
			Date: 29/09/09	
MD (SI)	PB (Checked)	VW (Drawn)	Weather: Sunny	Work carried out for: Cunningham Lindsey

Investigation Layout Plan			Sheet: 1 of 1	Site: 25 Ramblers Way, Waterlooville
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The diagram is a detailed layout plan of a garden. A vertical dashed line on the left represents the 'BOUNDARY FENCE'. To its left is the 'NEXT DOORS GARDEN'. A 'GATE' is located at the bottom of the boundary fence. A 'MH' (manhole) is marked with a cross on the boundary fence. A 'TREE' is shown as a green circle with a cross at the top left. Another 'TREE' is shown as a green circle with a cross on the boundary fence. A 'BRICK RETAINING WALL 0.4m Ht' is shown as a horizontal line with a cross. Above the wall is a 'SOIL BED SHRUBS etc' area. Below the wall is a 'GRAVEL' area. A 'SHED' is shown as a rectangle on the right. A 'GRASS' area is shown on the right. A 'SLABS' area is shown as a rectangle in the center. A 'TPBHI' (Tree Protection Barrier) is shown as a cross on the boundary fence. A 'X1 CONSERVATORY' is shown as a rectangle. A 'NO 25 X 2' area is shown as a large rectangle. A 'X1 GARAGE' is shown as a rectangle. A 'SLABS' area is shown as a rectangle. A 'GRAVEL' area is shown on the right. A 'GATE' is located at the bottom of the boundary fence.

ON SITE TREE IDENTIFICATION FOR GUIDANCE ONLY. NOT AUTHENTICATED.

Remarks:
Scale: N.T.S.

Key:			
Combined Gulley	RWWG	Surface Water Drain	
Manhole	MH	Foul Water Drain	
Rain Water Pipe	RWP	Tree / Bush	
Rain Water Gulley	RWG	(approx. ht in m)	
Soil Vent Pipe	SVP	Trial Pit	
Waste Gulley	WG	Borehole	
Waste Pipe	WP		

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Scale:	N.T.S.
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Trial Pit No: 1		Sheet: 1 of 1 Job No: 70386E Date: 29/09/09	Site: 25 Ramblers Way, Waterloooville Work carried out for: Cunningham Lindsey
Excavation Method: Hand Tools		Drawn by: DVC	
Weather: Sunny		Ground Level mOD:	

Ground Level

SLABS

CONCRETE SPOTS

CONCRETE

MADE GROUND: Medium compact, moist, mid brown, gravelly, sandy, silty clay with concrete rubble, rocks, brick, flint fragments & pea-shingle (from pipe surround).
Roots to 2mm diameter.

Stiff, mid brown, grey veined, silty CLAY with partings of orange silt & fine sand.
Roots to 3mm diameter.

Remarks: All measurements in millimetres. U/S not confirmed. Foundation dimensions determined using a hand auger and curved steel pin. Drove pin 200mm beyond U/S foundation. Limited space in Trial Pit due to drains running through and across Trial Pit.		Key: <table style="display: inline-table; vertical-align: top; margin-left: 10px;"> <tr> <td>D</td><td>Small disturbed sample</td> <td>J</td><td>Jar sample</td> </tr> <tr> <td>B</td><td>Bulk disturbed sample</td> <td>V</td><td>Pilcon Vane (kPa)</td> </tr> <tr> <td>W</td><td>Water sample</td> <td>M</td><td>Mackintosh probe</td> </tr> <tr> <td colspan="4">TDTD Too dense to drive</td> </tr> </table>		D	Small disturbed sample	J	Jar sample	B	Bulk disturbed sample	V	Pilcon Vane (kPa)	W	Water sample	M	Mackintosh probe	TDTD Too dense to drive			
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Logged: NJ	Checked: SE	Approved:	Scale: N.T.S.																

Borehole No: 1		Sheet: 1 of 1		Site: 25 Ramblers Way, Waterloooville							
Boring Method: Hand Auger		Job No: 70386E								Date: 29/09/2009	
Diameter: 75mm	Coordinates:	Ground Level mOD:								Work Carried out for: Cunningham Lindsey	
Depth (m)	Description of Strata	Thick-ness (m)	Legend	Sample	Test Type	Result	Depth (m)	Field Records/Comments	Depth to water (m)		
1.50	As Trial Pit 1	1.50									
2.50	Stiff, mid brown, grey veined, silty CLAY with partings of orange silt & fine sand & occasional crystals.	1.00		D	V	120+ 120+	1.50	Roots to 4mm diameter to 2m			
			D	V	120+ 120+	2.00	Roots to 2mm diameter to 2.4m				
			D	V	120+ 120+	2.50	No roots observed below 2.4m				
			D	V	120+ 120+	3.00					
			D	V	120+ 120+	3.50					
5.00	Stiff, mid greyish brown, as above.	2.50		D	V	120+ 120+	4.00				
			D	V	120+ 120+	4.50					
			D	V	120+ 120+	5.00					
			D	V	120+ 120+	5.00					
			D	V	120+ 120+	5.00					
Borehole ends at 5m											
Remarks: Borehole dry and open on completion				Key: T.D.T.D. Too Dense to Drive D Small disturbed sample J Jar sample B Bulk disturbed sample V Pilcon Vane (kPa) W Water sample M Mackintosh Probe							
Logged: NJ	Checked: SE	Typed by: DVC		Scale: NTS		Weather: Sunny					

Our Ref : 70386

Location : 25, Ramblers Way

Work carried out for : Cunningham Lindsey - Solent

Laboratory Testing Results

Date Sampled: 29/09/2009

Date Received : 02/10/2009

Date Tested : 05/10/2009

Date of Report : 13/10/2009

Sample Ref		Type	Moisture Content (%) [1]	Soil Fraction >0.425mm (%) [2]	Liquid Limit (%) [3]	Plastic Limit (%) [4]	Plasticity Index (%) [5]	Liquidity Index [5]	Modified Plasticity Index (%) [6]	Soil Class [7]	Filter Paper Contact Time (h) [8]	Soil Sample Suction (kPa)	In situ Shear Vane Strength (kPa) [9]	Organic Content (%) [10]	pH Value [11]	Sulphate Content (g/l)		Class [14]
TP/BH No	Depth (m)															SO ₃ [12]	SO ₄ [13]	
1	1.1	D	26	<5	69	27	43	-0.01	43	CH	168	484	> 120					
	1.5	D	26	<5	71	27	44	-0.02	44	CV	168	489	> 120					
	2.0	D	27	<5									> 120					
	2.5	D	27	<5	74	26	47	0.01	47	CV	168	563	> 120					
	3.0	D	27	<5									> 120					
	3.5	D	27	<5	79	26	53	0.02	53	CV	168	438	> 120					
	4.0	D	27	<5									> 120					
	4.5	D	29	<5							168	402						
	5.0	D	29	<5														

Test Methods / Notes

[1] BS 1377 : Part 2 : 1990, Test No 3.2

[2] Estimated if <5%, otherwise measured

[3] BS 1377 : Part 2 : 1990, Test No 4.4

[4] BS 1377 : Part 2 : 1990, Test No 5.3

[5] BS 1377 : Part 2 : 1990, Test No 5.4

[6] BRE Digest 240 : 1993

[7] BS 5930 : 1981 : Figure 31 - Plasticity Chart for the classification of fine soils

[8] In-house method S9a adapted from BRE IP 4/93

[9] Values of shear strength were determined in situ by CET Sufhouse using a Pilon hand vane or Geonor vane (GV).

[10] BS 1377 : Part 3 : 1990, Test No 4

[11] BS 1377 : Part 3 : 1990, Test No 9

[12] BS 1377 : Part 3 : 1990, Test No 5.6

[13] SO₄ = 1.2 x SO₃

[14] BRE Special Digest One (Concrete in Aggressive Ground)2005

Note that if the SO₄ content falls into the DS-4 or DS-5 class, it would be prudent to consider the sample as falling into the DS-4m or DS-5m class respectively unless water soluble magnesium testing is undertaken to prove otherwise

Key

D Disturbed sample (small)

B Disturbed sample (bulk)

U Undisturbed sample

W Groundwater sample

ENP Essentially Non-Plastic by inspection

U/S Underside of Foundation

Our Ref: 70386

Location: 25, Ramblers Way

Work carried out for: Cunningham Lindsey - Solent

Moisture Content and Suction Profiles

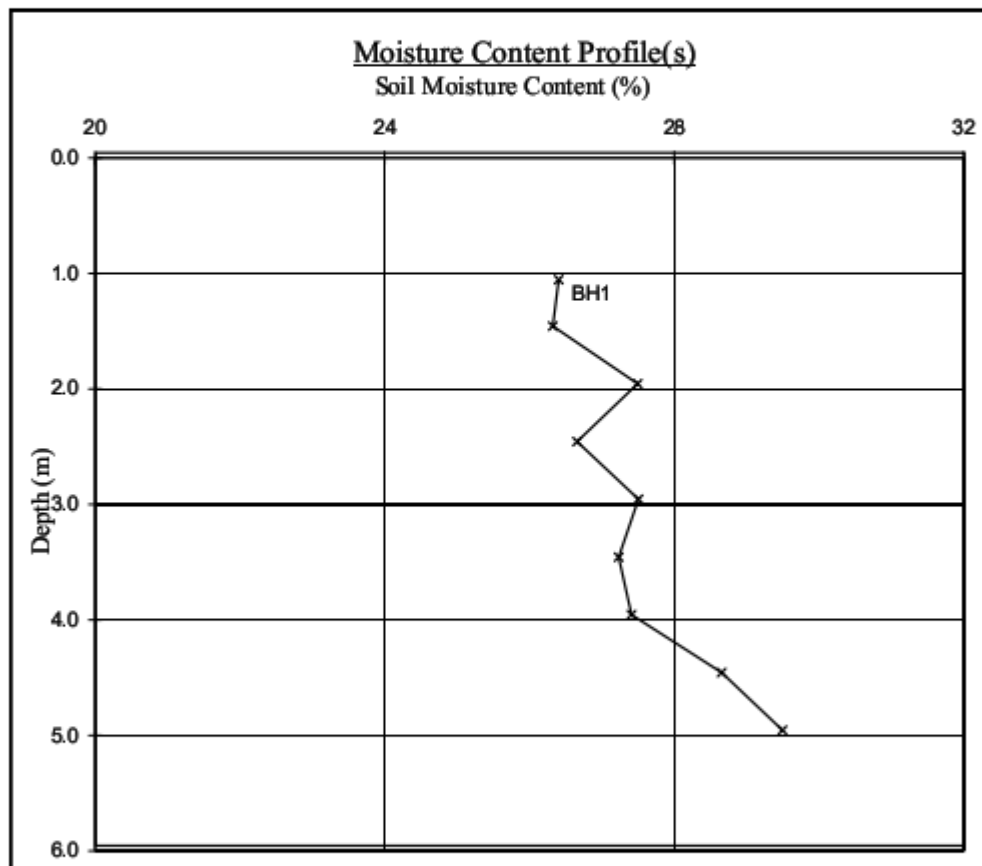
Note: Unless specifically noted the profiles have not been related to a site datum.

Date Sampled: 29/09/2009

Date Received: 02/10/2009

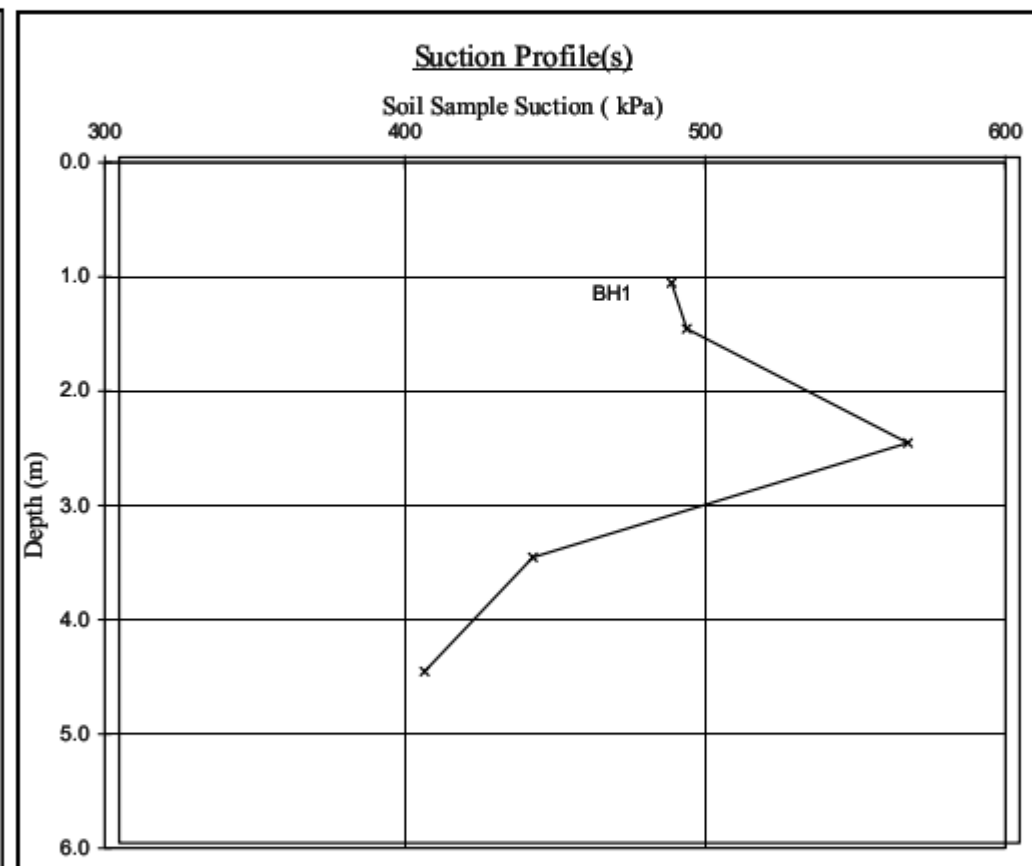
Date Tested: 05/10/2009

Date of Report: 13/10/2009



Note

If plotted, 0.4 LL and PL+2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clays) at shallow depths.



Note

When shown, the theoretical equilibrium suction profiles are based on conventional assumptions associated with London Clay (and similarly overconsolidated clays) at shallow depths. Note that the sample disturbance component is dependant on the method of sampling and any subsequent recompaction. The above plots show this to be 100kPa which is the value suggested by the BRE on the basis of their limited number of tests on recompacted samples. This may or may not be appropriate in this instance and judgement should be exercised.

Our Ref: 70386

Location: 25, Ramblers Way

Work carried out for: Cunningham Lindsey - Solent

Moisture Content and Shear Strength Profiles

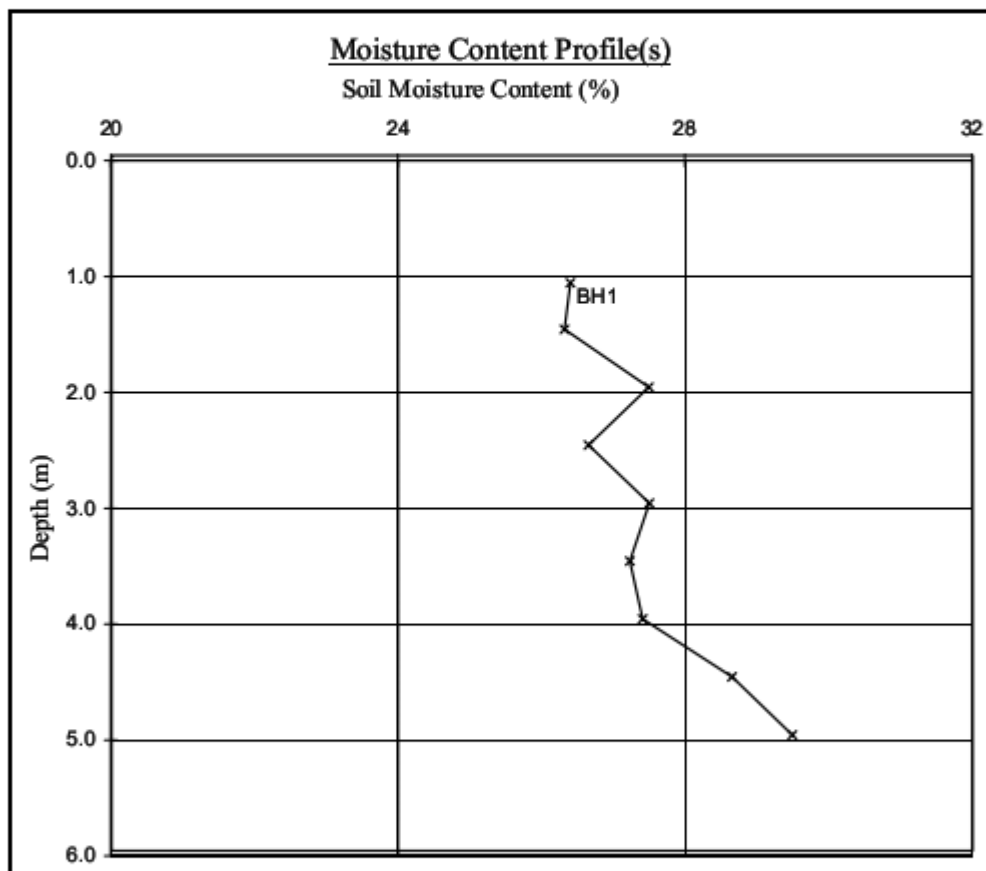
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Date Sampled : 29/09/2009

Date Received : 02/10/2009

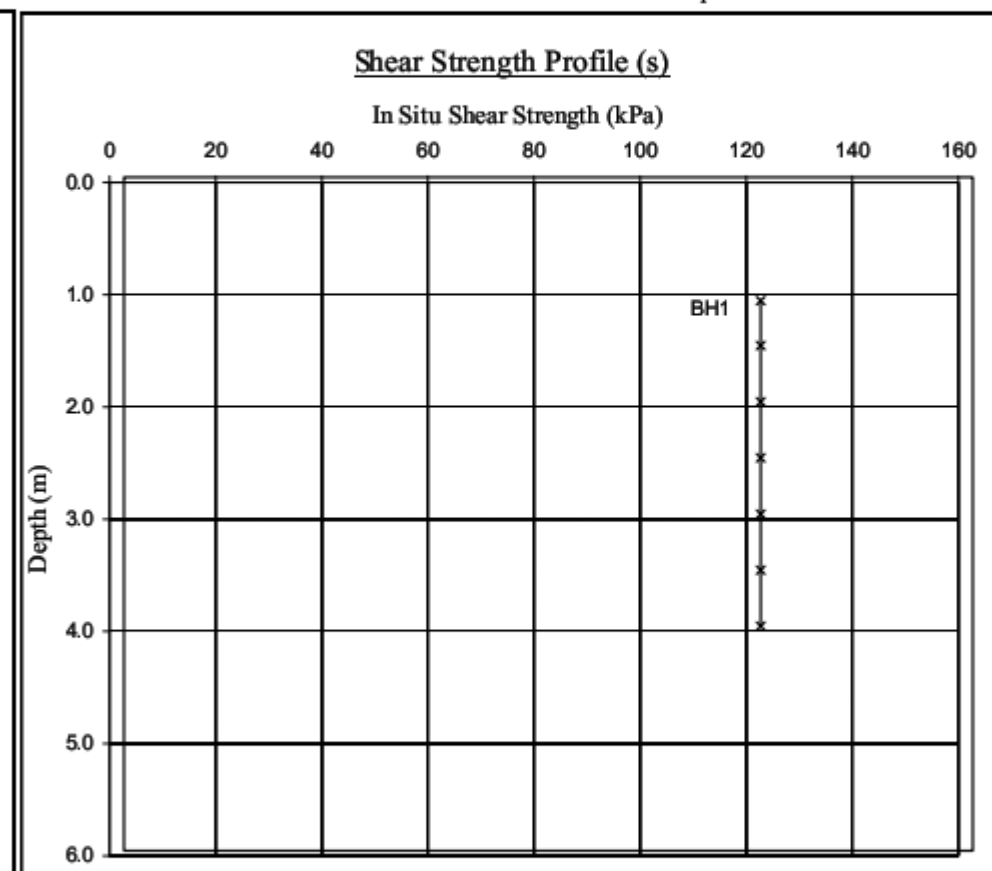
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Note

If plotted, 0.4 LL and PL+2 (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clays) at shallow depths.



Note

Unless otherwise stated, values of Shear Strength were determined in situ by CET Safehouse using a Pilcon Hand Vane the calibration of which is limited to a maximum reading of 150 kPa.

Tree Root Identification Ltd

Sheet: 1 of 1

Job No: 70386
Date: 06/10/2009
Order No: 273506/E3
Our Ref: CET061009

Site: 25 Ramblers Way,
Waterlooville, PO7 8RE.
Work carried
out for: Cunningham Lindsey.

Certificate of Analysis

The following work was commissioned by CET Safehouse Limited on behalf of their client. Root samples were obtained in sealed packets from the above site with no reference given as to the types of tree or shrub from which they may have originated.

The results were as follows -

<u>Trial pit/ Borehole number</u>	<u>Root diameter (mm)</u>	<u>Tree, shrub or climber from which root originates</u>	<u>Result of starch test#</u>
TP1 (underside)	<0.5	<u>Quercus</u> (oak) or <u>Castanea</u> (sweet chestnut) (2 roots)	negative
BH1 (depth: 2.0m)	0.5-1.0	<u>Quercus</u> (oak) or <u>Castanea</u> (sweet chestnut) (3 roots)	positive, but only just
BH1 (depth: 2.0m)	1.0-1.5	<u>Quercus</u> (oak) (2 roots)	positive

The presence of starch indicates that the root was alive in the recent past.

Ronald MacLeod

DR RONALD D MACLEOD
Principal Scientist

Address for correspondence: 3 Langley Drive, Kinnoull Hill, Perth, PH2 7XA.

Telephone: 01738 630873

e-mail: rdmacleod@btconnect.com

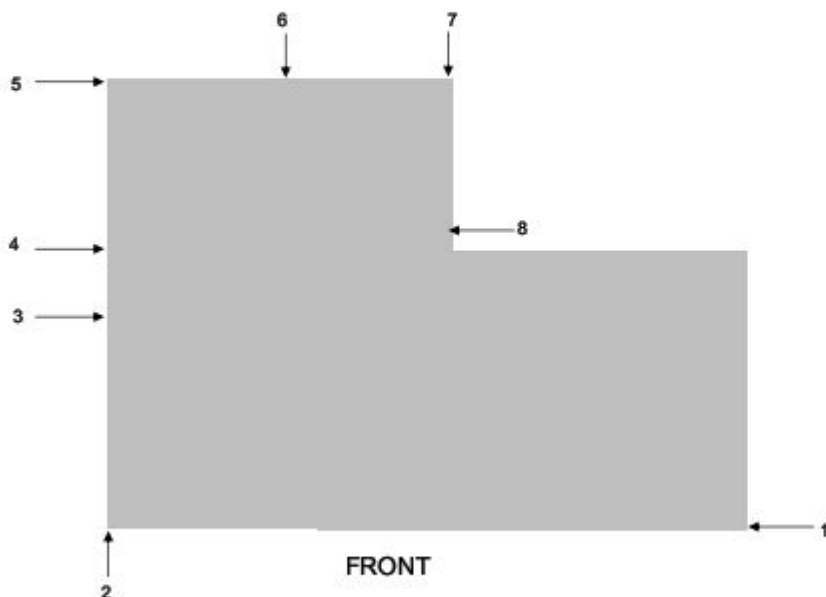
Principal Scientist: RD. MacLeod, BSc., PhD.,

Accounts/Quality Manager: Fiona M. Sinclair, HNC. (Management)

Registered in Scotland, No. 258058. Registered Office: "Mandays", Highfield Place, Bankfoot, PH11 4AX.

Provider Details			Client Details			Risk Address		
Name:	CETSafehouse		Insurance Co.:			Occupier:		
Our Ref:	00/24038		Client Name:	Cunningham Lindsey		Address:	25 Ramblers Way	
Date of Issue:	22/10/10		Technical Mgr:	Richard West		Address:		
			Email:	grmsolent@cl-uk.com		Town:	Waterlooville	
			Client Ref:	3342120		County:		
			Address:	1460 Solent Business Park		Post Code:	PO7 8RE	
Monitoring Details			Address:	Whiteley		Tel Day:		
Instruction Date:	08/12/09		Town:	Fareham		Tel Eve:		
First Reading Date:	21/12/09		County:	Hants		Mobile:		
Maximum No Visits:	TBC		Post Code:	PO15 7AF		Other:		
Anticipated Expiry Date:	TBC		Other Email:	Richard.West@pubfields.cunninghamltd.co.uk		Other:		
Monitoring Int (Wks):	6							

Target Date:				1/2/10											
Reading Date:				21/12/09	5/2/10	22/3/10	11/5/10	29/6/10	2/8/10	13/9/10	19/10/10				
Issue Date:				4/1/10	18/2/10	28/3/10	22/5/10	8/7/10	7/8/10	16/9/10	22/10/10				
Row No.	Point Name	X Co-ordinate	Y Co-ordinate	1	2	3	4	5	6	7	8	9	10	11	12
1	2	0.00	0.00	11.0600	11.0580	11.0561	11.0573	11.0597	11.0597	11.0593	11.0601				
2	1	5.20	0.00	11.0448	11.0423	11.0405	11.0417	11.0445	11.0451	11.0443	11.0450				
3		5.20	3.10												
4	8	3.00	3.10	11.0308	11.0343	11.0351	11.0345	11.0333	11.0289	11.0311	11.0322				
5	7	3.00	5.30	11.0400	11.0464	11.0515	11.0547	11.0488	11.0364	11.0347	11.0366				
6	6	1.50	5.30	11.0367	11.0467	11.0545	11.0589	11.0496	11.0273	11.0263	11.0301				
7	5	0.00	5.30	11.0352	11.0475	11.0559	11.0616	11.0485	11.0194	11.0189	11.0224				
8	4	0.00	3.10	11.0490	11.0532	11.0562	11.0562	11.0560	11.0487	11.0457	11.0468				
9	3	0.00	2.50	11.0491	11.0495	11.0498	11.0513	11.0495	11.0481	11.0483	11.0487				
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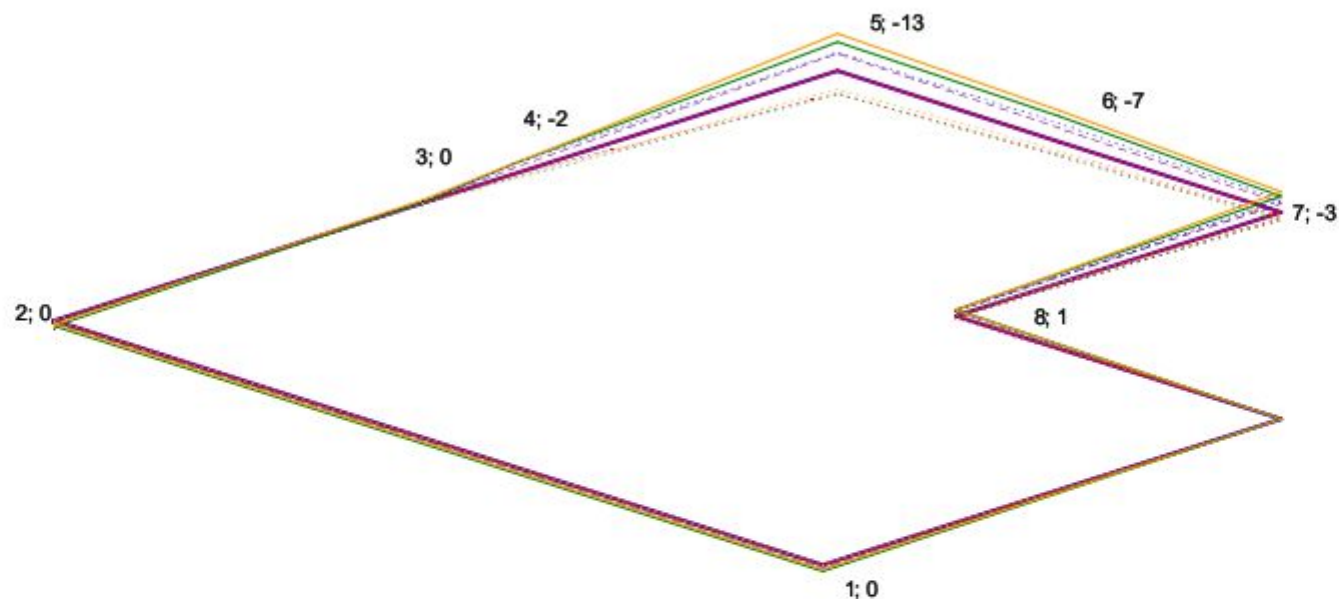
Sketch Plan

Comments

- Not same brick course
- TBM is manhole rim

Client: Cunningham Lindsey

Client Ref: 3342120

CETSafehouse Ref: 00/24038



— Datum Reading	— Reading 1 (21/12/09)	--- Reading 2 (5/2/10)	— Reading 3 (22/3/10)	— Reading 4 (11/5/10)
..... Reading 5 (29/6/10)	 Reading 6 (2/8/10)	 Reading 7 (13/9/10)	 Reading 8 (19/10/10)	--- Reading 9 (0/1/00)
--- Reading 10 (0/1/00)	--- Reading 11 (0/1/00)	--- Reading 12 (0/1/00)		

Notes:

Vertical distorted scale 1: 15

Chart is displaying Subsidence

Point labels give level difference of last reading from original datum in mm.

