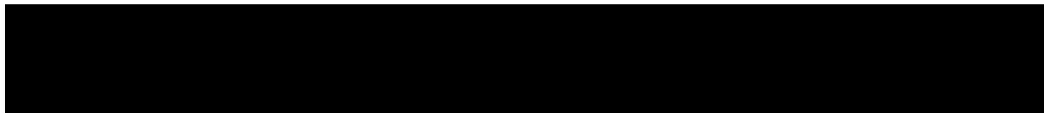


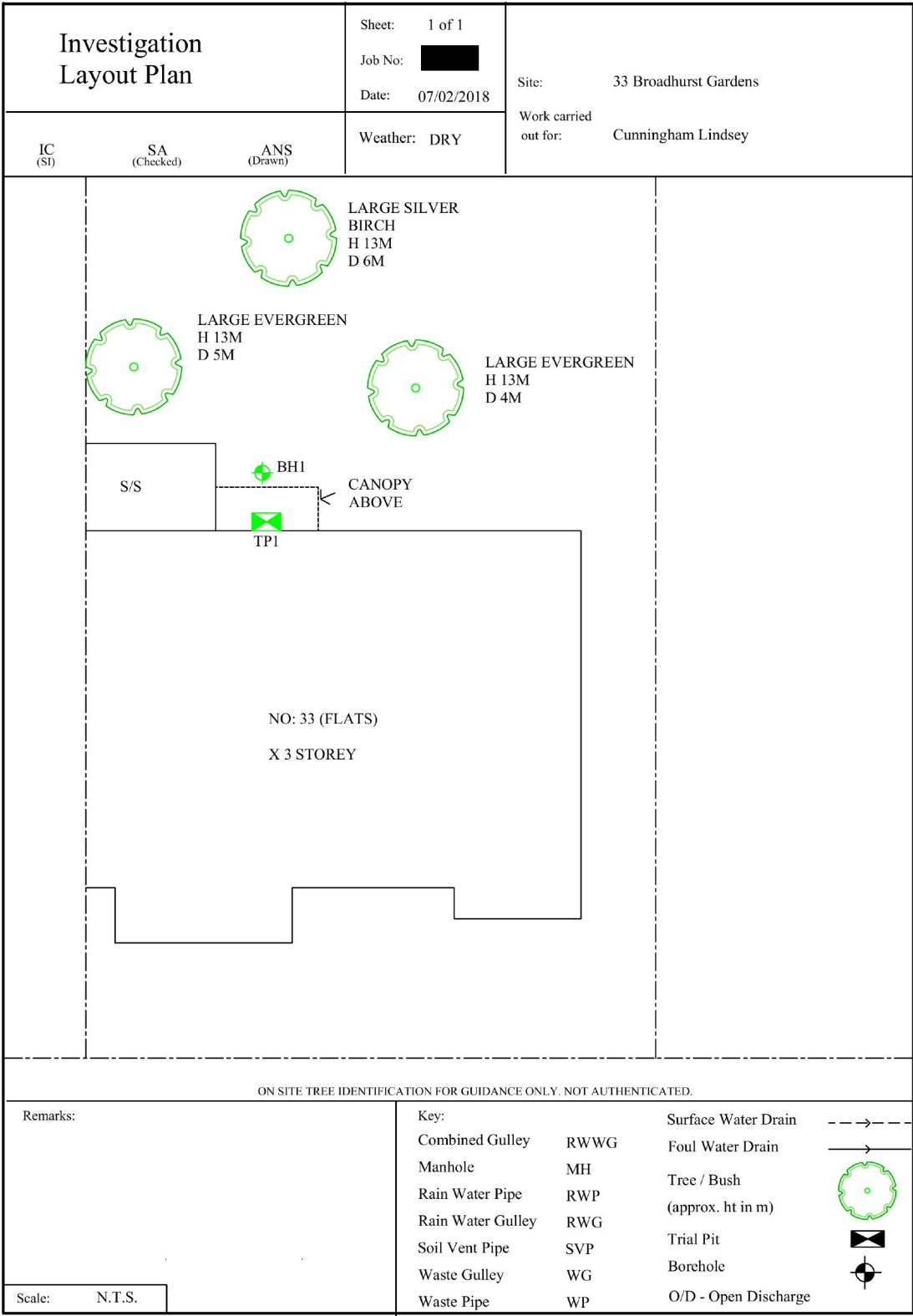
## SITE INVESTIGATION FACTUAL REPORT

Report No: [REDACTED]  
Client: Cunningham Lindsey - Morley (Leeds)  
Site: Flat 1/2 & 5, 33 Broadhurst Gardens  
Client Ref: [REDACTED] Rosbury Properties Limited  
Date of Visit: 07/02/18

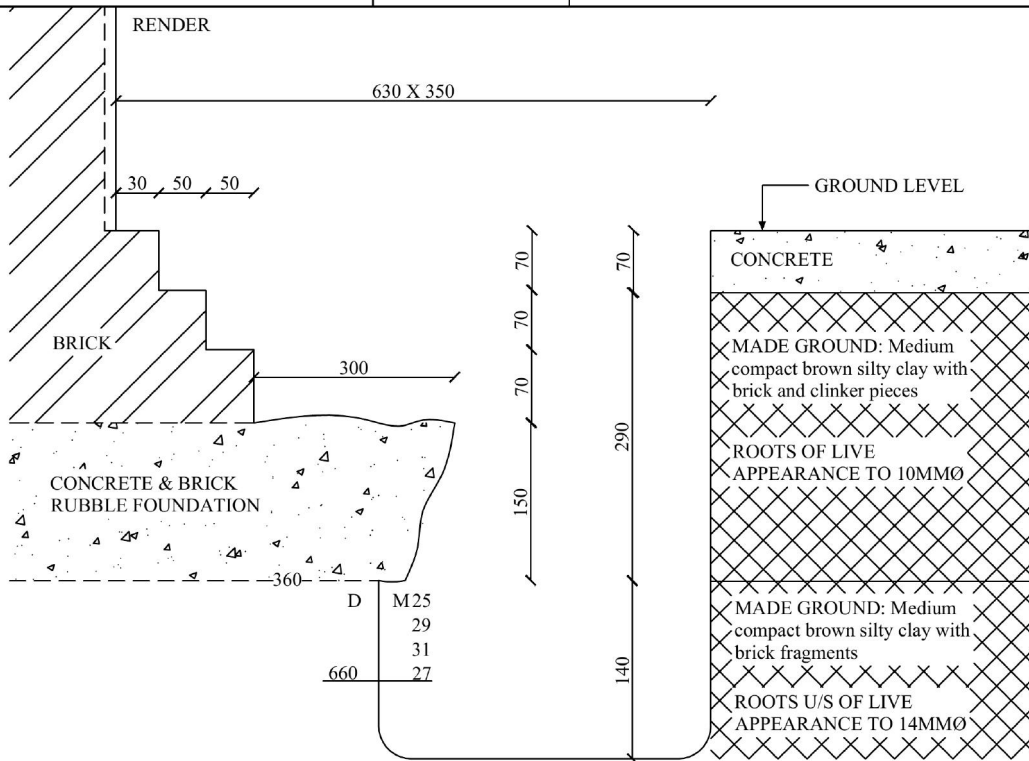


Home Emergency Response - Subsidence Investigation - Drainage Services – Crack & Level Monitoring – Property Video Surveys





Trial Pit No: 1	Sheet: 1 of 1	Site: 33 Broadhurst Gardens
	Job No: [REDACTED]	
Hand Tools	Date: 07/02/2018	Work carried out for: Cunningham Lindsey
Weather: DRY	Drawn by: ANS	
	Ground Level mOD:	



FOR STRATA BELOW 500 mm SEE BH LOG 1. BH1 MOVED 500MM BEHIND TP

Remarks: Curved steel pin knocked 300mm under foundation at 360mm below ground level. Unable to auger made ground in TP - BH moved.  All measurements in millimetres.	Key:	
	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	
Logged: IC	Checked: SA	Approved:
	Scale: N.T.S.	

<b>Borehole</b>		<b>1</b>	Sheet:	<b>1 of 1</b>	Site:	Flat 1/2 & 5	
			Job No:	████████			
			Date:	<b>07/02/2018</b>			
Boring Method:	Hand Auger		Ground Level:		Client:	Cunningham Lindsey - Morley (Leeds)	
Diameter (mm):	75	Weather:	dry				
Depth	Soil Description				Samples and Tests		
(m)			Thickness	Legend	Depth	Type	Result
0.00	MADEGROUND				0.10		
0.10	MADEGROUND medium compact brown silty sandy clay with brick and clinker and concrete pieces				0.20		
0.30	MADEGROUND medium compact brown silty sandy clay with brick and clinker fragments				2.40		
					1.00	DM	29
							32
							34
							35
					1.50	DM	35
							36
							35
							33
					2.00	DM	31
							29
							28
							31
					2.50	DM	28
							23
2.70	MADEGROUND medium compact moist,pungent,stained brown silty sandy clay with clinker fragments				0.60		22
							18
					3.00	DM	17
							16
							14
3.30	End of BH						14
Remarks: BH ends at 3.3m.Unable to extract sample. BH dry and open on completion.No roots observed below 1.5m.No access for drill.					Key: D - Disturbed Sample B - Bulk Sample W - Water Sample      Roots J - Jar Sample          Roots V - Pilcon Shear Vane (kPa) Roots M - Mackintosh Probe    Depth to Water (m) TDTD - Too Dense To Drive		
To Max					Depth Dia		
					(m) (mm)		
					1.50 2		
Logged:	ic	SA	Checked:	Approved:	Version	V1.0 28/01/16	N.T.S.

## Laboratory Summary Results

Our Ref: [REDACTED]

Date Sampled: 07/02/18

Location: Flat 1/2 & 5, 33, Broadhurst Gardens, London

Date Received: 08/02/18

Client: Cunningham Lindsey - Morley (Leeds)

Date Tested: 09/02/18

Address: Subsidence Scanning Centre, Ground Floor, Fountain Court, LS27 0JG

Date of Report: 14/02/18

TP/BH No	Sample Ref Depth (m)	Type	Moisture Content (%) [1]	Soil Fraction > 0.425mm (%) [2]	Liquid Limit (%) [3]	Plastic Limit (%) [4]	Plasticity Index (%) [5]	Liquidity Index [3]	Modified Plasticity Index (%) [6]	Soil Class [7]	Filter Paper Contact Time (h)	Soil Sample Suction (kPa) [8]	Oedometer Strain [9]	Estimated Heave Potential (Dd) (mm) [10]	In situ Shear Vane Strength (kPa) [11]	Organic Content (%) [12]	pH Value [13]	Sulphate Content* (g/l)		Class [16]
																		SO3 [14]	SO4 [15]	
1	U/S 0.36	D	28	<5	75	31	44	-0.07	44	CV										
	1.0	D	27	12	76	28	48	-0.03	42	CV										
	1.5	D	27	8																
	2.0	D	25	12	71	23	48	0.05	42	CV										
	2.5	D	26	11																
	3.0	D	32	14	74	31	43	0.01	37	CV										
Not suitable for suction testing - Made Ground																				

**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 5.2

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

[6] BRE Digest 240: 1993

[7] BS 5996: 1991 - Figure 31 - Plasticity Chart for the classification of fine soils

[8] In-house method S9a adapted from BRE IP 493

[9] In-house Test Procedure S17c: One Dimensional Swell/Strain Test

[10] Estimated Heave Potential (Dd)

[11] Values of shear strength were determined in situ by CPT using

a Picon hand vane or Geopac vane (GV).

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

[13] BS 1377 - Part 2: 1990, Test No 9

[14] BS 1377 - Part 1: 1990, Test No 5.6

[15] SO<sub>3</sub> = 12 x SO<sub>4</sub>

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

Note that if the SO<sub>4</sub> 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.

\* These tests are not UKAS accredited

Full reports can be provided upon request

**Key**

- D Disturbed sample (small)
- B Disturbed sample (bulk)
- U Undisturbed sample
- W Groundwater sample
- FNP Functionally Non-Perturb by Inspection
- US Underside of Foundation

Version: 5BH V1.4 - 11/05/15

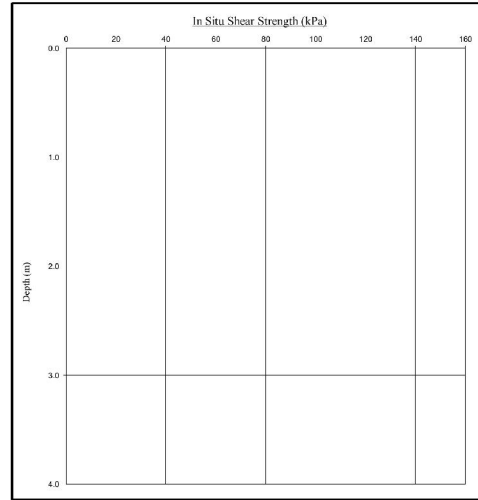
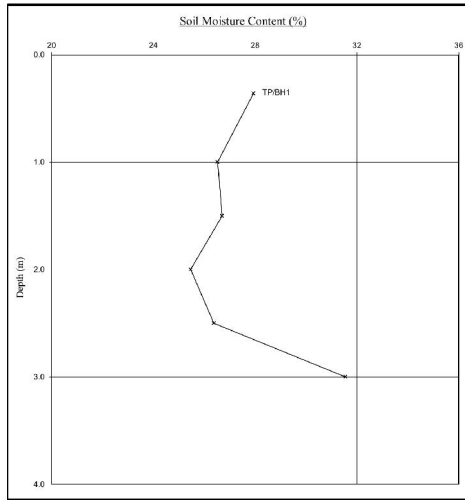


8618

## Moisture Content Profiles

Our Ref: [REDACTED]  
Location: Flat 1/2 & 5, 33, Broadhurst Gardens, London  
Work carried out for: Cumingham Lindsey - Morley (Leeds)

Date Sampled: 07/02/18  
Date Received: 08/02/18  
Date Tested: 09/02/18  
Date of Report: 14/02/18



**Notes**  
1. If plotted,  $\sigma_{v1}$  and  $P1 \cdot 2$  (after Driscoll, 1983) should only be applied to London Clay (and similarly overconsolidated clay) at shallow depths.  
2. Unless specifically noted the profiles have not been related to a site datum.

**Note**  
1. Unless otherwise stated, values of Shear Strength were determined in situ by CET using a Ficon Hand Vane the calibration of which is limited to a maximum reading of 140 kPa.  
2. Unless specifically noted the profiles have not been related to a site datum.

*Certificate of Analysis*

The following work was commissioned by CET 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 (USF)	8 mm	Betula spp.	Positive
TP1 (USF)	15 mm	Cupressaceae spp. * 2 roots	Positive
BH1 (to 1.5m)	4 mm	Cupressaceae spp. 3 roots	Positive

\* Plus 2 bark fragments, probably the same.

Betula spp. are birches.

Cupressaceae spp. include Lawson cypress, western red cedar, Monterey cypress, Leyland cypress and junipers.

[REDACTED]

MDM

[REDACTED]

RJS

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*Plant Anatomist : Dr G S Turner B.Sc. (Hons), M.Sc., Ph.D*

*Plant Anatomist : Dr R J Shaw B.Sc. (Hons), Ph.D*

*Consultant: Dr M P Denne B.Sc. (Hons), M.Sc., Ph.D*