

## **SITE INVESTIGATION FACTUAL REPORT**

Report No: 412170  
Client: Cunningham Lindsey - Maidstone  
Site: Flat 7-Flat 10, Cliff Road Studios  
Client Ref: 6211101-Freeways Personal Service Ltd  
Date of Visit: 15/03/17

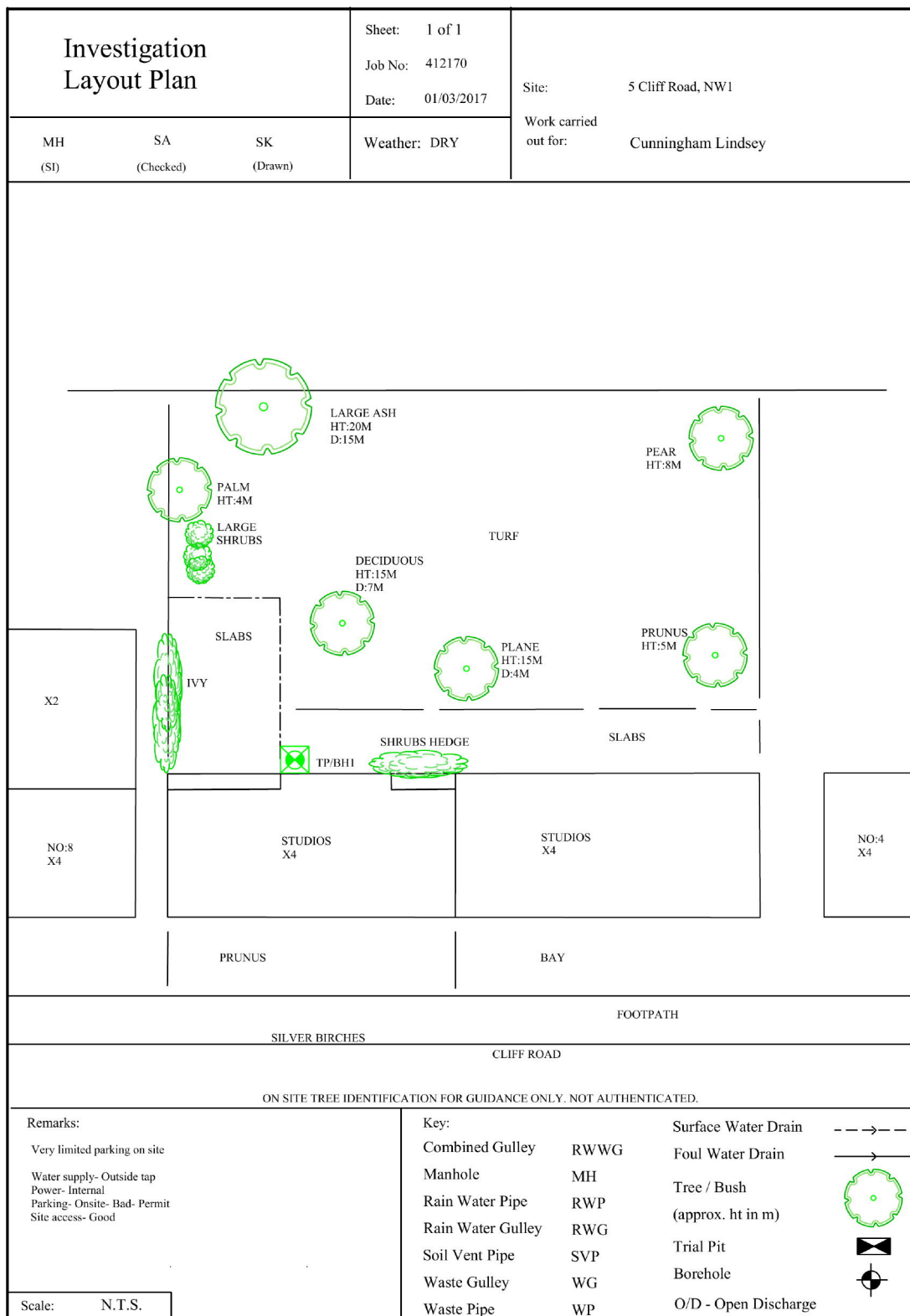


**Home Emergency Response - Subsidence Investigation - Drainage Services – Crack & Level Monitoring – Property Video Surveys**

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Leicestershire, DE74 2NN

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CET is the trading name of CET Structures Ltd  
Registered in England No. 02527130



Trial Pit No: 1		Sheet: 1 of 1	Site: 5 Cliff Road NW1  Work carried out for: Cunningham Lindsey
Hand Tools		Job No: 414170	
Weather: DRY		Date: 01/03/2017	
		Drawn by: RM	
		Ground Level mOD:	

500 X 300

GROUND LEVEL

TOPSOIL

MADE GROUND: Soft mid to dark brown sandy silty clay with occasional gravel, brick, concrete pieces, clinker fragments and concrete and building rubble.

ROOTS OF LIVE APPEARANCE TO 30MMØ

MADE GROUND: Medium compact, mid to dark brown sandy very silty clay with occasional gravel, brick, concrete clinker fragments and general builders rubble

ROOTS OF LIVE APPEARANCE TO 15MMØ

FOR STRATA BELOW 600 mm SEE BH LOG 1

Remarks: 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: MH	Checked: SA	Approved:	Scale: N.T.S.
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<b>Borehole</b>		<b>1</b>	Sheet: <b>1 of 1</b> Job No: <b>412170</b> Date: <b>01/03/2017</b>		Site: <b>Flat 7- Flat 10, Cliff Road Studios</b>	
Boring Method: <b>Hand Auger</b>		Ground Level:		Client: <b>Cunningham Lindsey - Maidstone</b>		
Diameter (mm):	<b>75</b>	Weather:	<b>Dry</b>			
Depth	Soil Description				Thickness	Legend
(m)						
0.00	See Trial Pit				0.60	
0.60	MADEGROUND medium compact to compact mid to dark brown silty sandy clay with brick, clinker and concrete pieces, gravel and carbon deposits.				0.80	
1.40	Very Stiff mid brown, grey veined silty CLAY with partings of orange silt and fine sand with occasional gravel and carbon flecks.				0.60	
2.00	Very Stiff mid brown, grey veined silty CLAY with partings of orange silt and fine sand with occasional gravel, claystone nodules and carbon flecks.				0.30	
2.30	End of BH					
Remarks: BH ends at 2.3m, too dense to hand auger. BH dry and open on completion.					Key: D - Disturbed Sample B - Bulk Sample W - Water Sample      Roots J - Jar Sample          Roots V - Pilcon Shear Vane (kP: Roots M - Mackintosh Probe    Depth to Water (m) TDTD - Too Dense To Drive	
Logged:      AC      SA      Checked:      Approved:					Version      V1.0 28/01/16      N.T.S.	

## Laboratory Summary Results

Our Ref : 412170  
 Location : Flat 7- Flat 10, Cliff Road Studios  
 Client: Cunningham Lindsey - Maidstone  
 Address: 4 North Court, South Park Business Village, Armstrong Road, ME15 6JZ

Date Sampled: 15/03/17  
 Date Received : 03/03/17  
 Date Tested : 06/03/17  
 Date of Report : 13/03/17

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.)	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]
TP/BH No	Depth (m)																	SO <sub>3</sub> [14]	SO <sub>4</sub> [15]	
1	U/S 0.40	D	24	38	62	25	37	-0.03	23	CH										
	1.0	D	24	<5	67	22	45	0.04	45	CH										
	1.5	D	26	<5																
	2.0	D	25	9	80	24	56	0.02	51	CV										
				0.4m - 1m not suitable for further suction testing - made ground																
				1.5m - 2m not suitable for further suction testing - too small																

### 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 900: 1981: Figure 31 - Plasticity Chart for the classification of fine soils

[8] In-house method S1a adapted from BRE IP 493  
 [9] In-house Test Procedure S17a: One Dimensional Swell/Shrink Test  
 [10] Estimated Heave Potential (Dd)  
 [11] Values of shear strength were determined in situ by CET using a Pileon hand vane or Geosor vane (GV).  
 [12] BS 1377: Part 3: 1990, Test No 4  
 [13] BS 1377: Part 2: 1990, Test No 9  
 [14] BS 1377: Part 3: 1990, Test No 5.6  
 [15] SO<sub>3</sub> = 1.2 x SO<sub>4</sub>

[16] BRE Special Digest One (Concrete in Aggressive Ground) August 2002  
 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

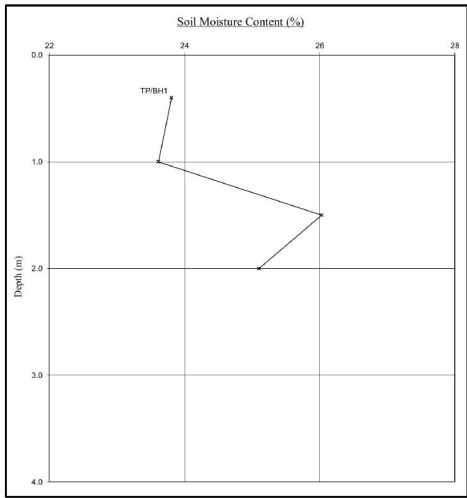
### Key

D Disturbed sample ( small )  
 B Disturbed sample ( bulk )  
 U Undisturbed sample  
 W Groundwater sample  
 ENP Essentially Non-Plastic by inspection  
 US Underside of Foundation



Moisture Content Profiles

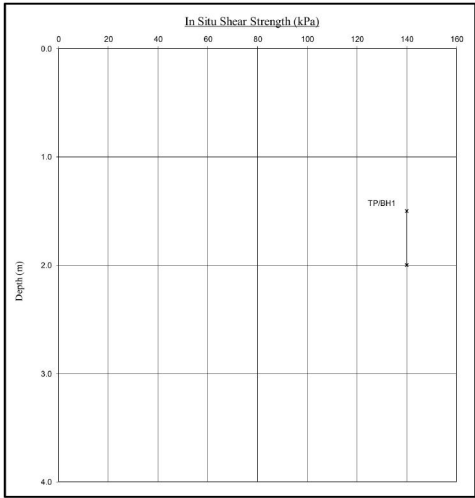
Our Ref : 412170  
Location : Flat 7- Flat 10, Cliff Road Studios  
Work carried out for: Cunningham Lindsey - Maidstone




Notes  
1. If plotted, 0.4 LL and PL/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.

Shear Strength Profiles

Date Sampled : 15/03/17  
Date Received : 03/03/17  
Date Tested : 06/03/17  
Date of Report : 13/03/17



Note  
1. Unless otherwise stated, values of Shear Strength were determined in situ by CET using a Picon 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.

<b>EPSL</b> <b>European Plant Science Laboratory</b>	Sheet: 1 of 1  Job No: <b>412170</b> Date: <b>07/03/2017</b> Order No: <b>954442</b>  EPSL Ref: <b>R18087</b>	Site: <b>5 Cliff Road, NW1</b>  Work carried out for: <b>Cunningham Lindsey</b>																			
	<p style="text-align: center;"><b><i>Certificate of Analysis</i></b></p> <p>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 -</p> <table border="1"> <thead> <tr> <th><b>Trial pit/ Borehole number</b></th> <th><b>Root diameter (mm)</b></th> <th><b>Tree, shrub or climber from which root originates</b></th> <th><b>Result of starch test</b></th> </tr> </thead> <tbody> <tr> <td>TP1 (USF)</td> <td>10 mm</td> <td>Acer spp. 4 roots</td> <td>Positive</td> </tr> <tr> <td>TP1 (USF)</td> <td>2 mm</td> <td>Choisya spp.</td> <td>Positive</td> </tr> <tr> <td>BH1 (to 2.3m)</td> <td>4 mm</td> <td>Acer spp. 3 roots</td> <td>Positive</td> </tr> <tr> <td>BH1 (to 2.3m)</td> <td>1.5 mm</td> <td>probably Leguminosae spp. 2 roots</td> <td>Positive</td> </tr> </tbody> </table> <p>Acer spp. are maples, including sycamore, Norway maple, and Japanese maples.          Choisya spp. are evergreen shrubs, including the Mexican orange blossom.          Leguminosae spp. include laburnum, Robinia (false acacia or locust), broom, the pagoda tree and the climber wisteria.</p> <div style="text-align: center;">           MDM       </div>		<b>Trial pit/ Borehole number</b>	<b>Root diameter (mm)</b>	<b>Tree, shrub or climber from which root originates</b>	<b>Result of starch test</b>	TP1 (USF)	10 mm	Acer spp. 4 roots	Positive	TP1 (USF)	2 mm	Choisya spp.	Positive	BH1 (to 2.3m)	4 mm	Acer spp. 3 roots	Positive	BH1 (to 2.3m)	1.5 mm	probably Leguminosae spp. 2 roots
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