

## SITE INVESTIGATION FACTUAL REPORT

Report No: 177587  
Client: Cunningham Lindsey - Maidstone  
Site: 36, Frognal  
London  
Client Ref: 7149339-36 Frognal Ltd  
Date of Visit: 25/04/2014



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

Unit E2 First Floor Suite, Boundary Court  
Willow Farm Business Park, Castle Donington  
Leicestershire, DE74 2NN

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✉ enquiries@cet-uk.com  
🌐 www.cet-uk.com

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

# Investigation Layout Plan

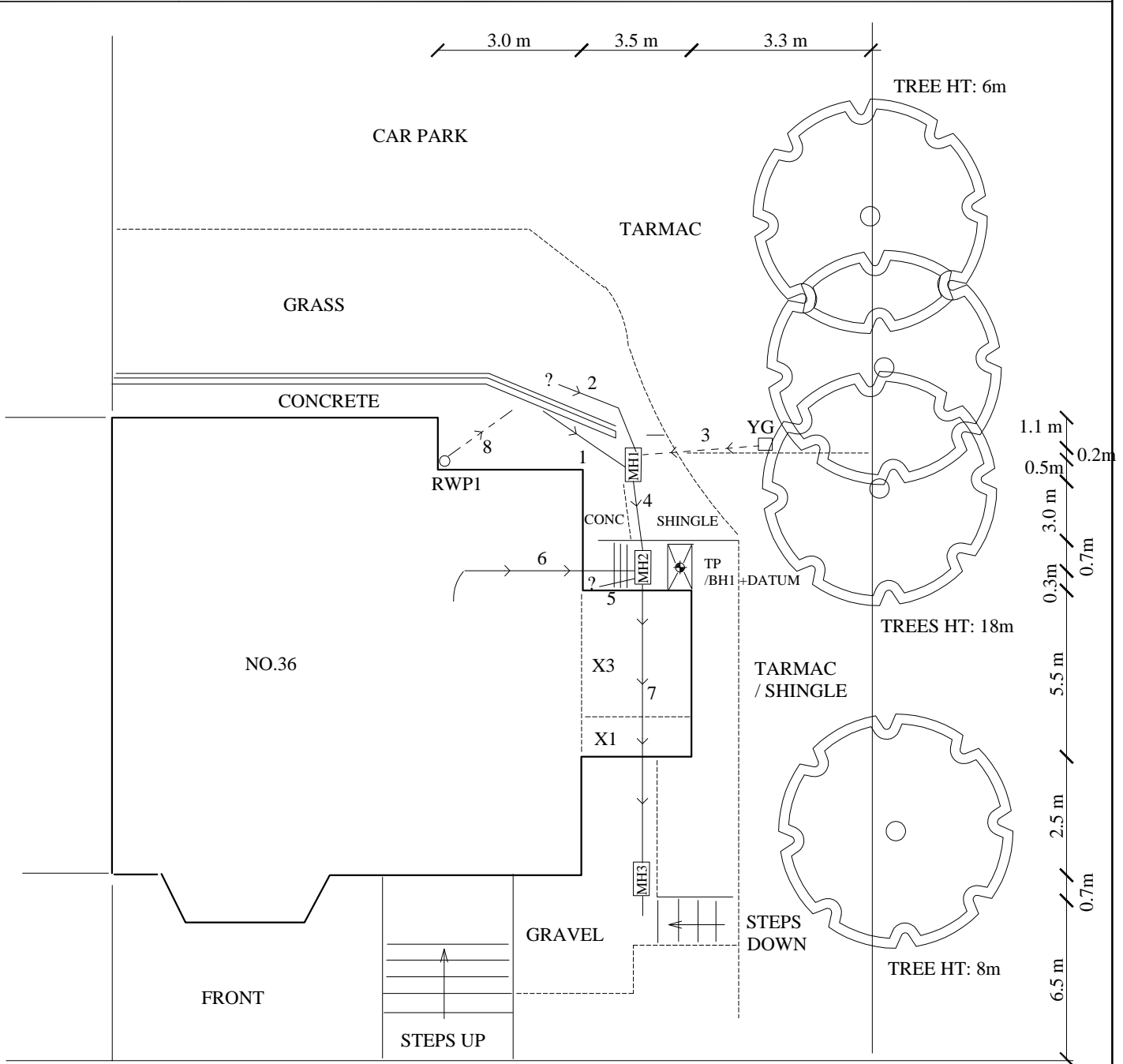
Sheet: 1 of 1  
 Job No: 177587E  
 Date: 25/04/2014

Site: 36 Frogmal, NW3

MD (SI) SE (Checked) AR (Drawn)

Weather: SHOWERS

Work carried out for: Cunningham Lindsey



ON SITE TREE IDENTIFICATION FOR GUIDANCE ONLY. NOT AUTHENTICATED.

**Remarks:**

Parking - onsite.  
 Water supply - outside tap.  
 Site access - good - some steps.  
 Power - internal.

**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		

Scale: N.T.S.

# Trial Pit No: 1

Sheet: 1 of 1  
 Job No: 177587E  
 Date: 25/04/2014

Site: 36 Frogmal, NW3

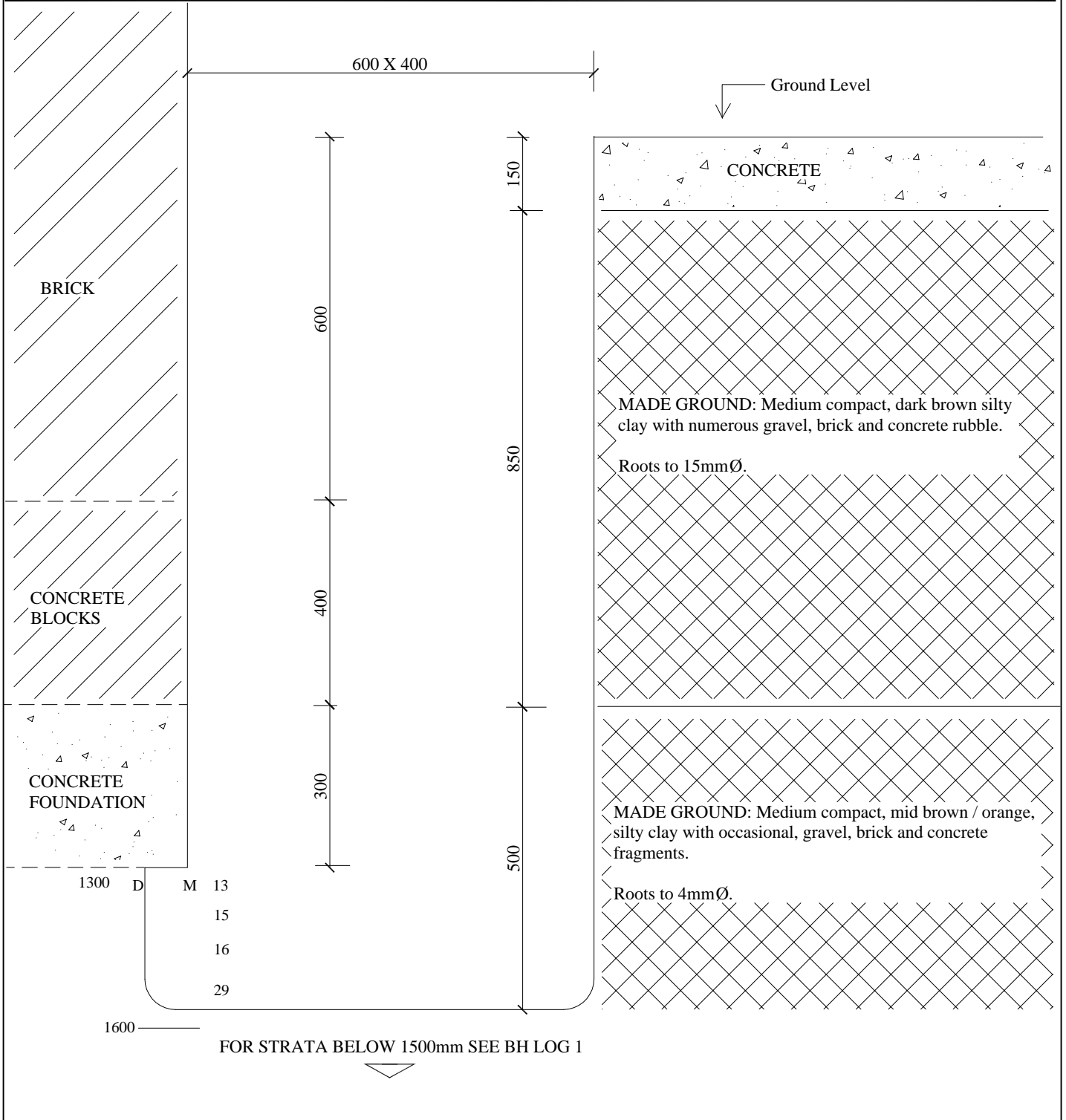
Excavation Method: Hand tools

Drawn by: AR

Work carried out for: Cunningham Lindsey

Weather: Showers

Ground Level  
 mOD:



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: MD

Checked: SE

Approved:

Scale: N.T.S.

Borehole No: <b>1</b> & Datum			Sheet: 1 of 1		Site: 36, Frogmal, NW3				
Boring Method: CFA			Job No: 177587E		Date: 25/04/2014				
Diameter: 100mm		Coordinates:		Ground Level mOD:		Work Carried out for: Cunningham Lindsey			
Depth (m)	Description of Strata	Thick-ness (m)	Legend	Sample	Test Type	Test Result	Depth (m)	Field Records/Comments	Depth to water (m)
1.50	As trial pit 1	1.50						Roots to 1mm diameter to 2.8m	
1.90	MADE GROUND: medium compact, mid brown / orange, silty clay with occasional gravel, brick and concrete fragments	0.40							
2.30	MADE GROUND: soft as above	0.40		D	M	10 09 08 14	2.00	From 3.3m dead and decomposing root fragments to 5.0m	
2.80	Stiff, mid brown, mottled orange, sandy silty CLAY thinly laminated with orange and brown silt and fine sand	0.50	___x ___ ___	D			2.50		
			___x ___ ___	D	V	102 110	3.00		
			x___ ___ ___	D			3.50		
	Stiff, mid brown / orange, grey veined sandy, silty CLAY, occasional carbon deposits and thinly laminated with orange and brown silt and fine sand	3.20	___x ___ ___	D	V	130+ 130+	4.00		
			___x ___ ___	D			4.50		
6.00			___x ___ ___	D	V	130+ 130+	5.00		
	Borehole ends at 6.0m								
Remarks: Borehole dry and open on completion No samples taken or insitu strength tests taken below 5.0m Datum installed at 6.0m				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: MD	Checked: SE	Drawn by Jo F		Scale: NTS			Weather: Showers		

Our Ref : 177587

# Laboratory Testing Results

Date Sampled: 25/04/2014

Location : 36, Frognaal, NW3

Date Received : 28/04/2014

Work carried out for: Cunningham Lindsey - Maidstone

Date Tested : 28/04/2014

Date of Report : 06/05/2014

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 <sub>3</sub> [12]	SO <sub>4</sub> [13]	
1	1.30(U/S)	D	30	13	74	27	47	0.07	41	CV								
	2.0	D	29	8	50	24	26	0.20	24	CH								
	2.5	D	26	<5	46	21	25	0.18	25	CI	168	64						
	3.0	D	27	<5									106					
	3.5	D	24	<5	54	20	34	0.12	34	CH	168	144						
	4.0	D	25	<5									> 130					
	4.5	D	25	<5							168	137						
	5.0	D	25	<5							168	113	> 130					

**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 using

a Pilcon hand vane or Geonor vane (GV).

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

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

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

[13] SO<sub>4</sub> = 1.2 x SO<sub>3</sub>

[14] 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

**Key**

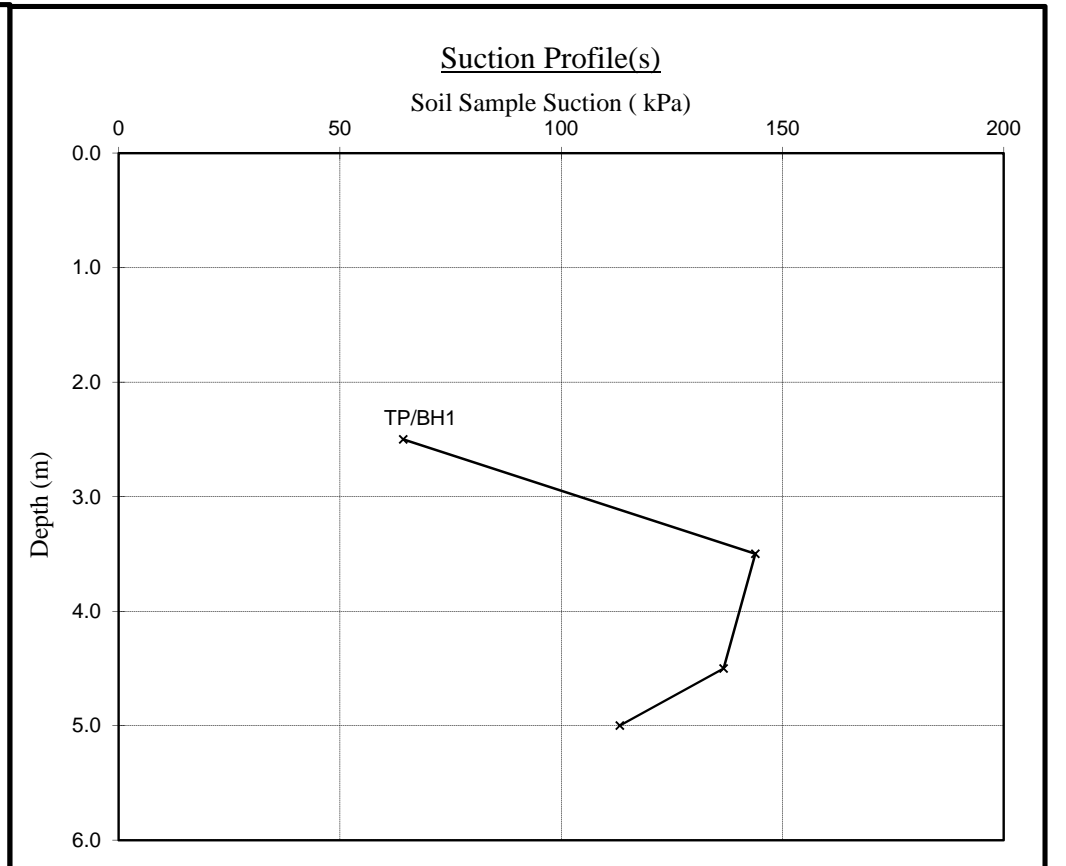
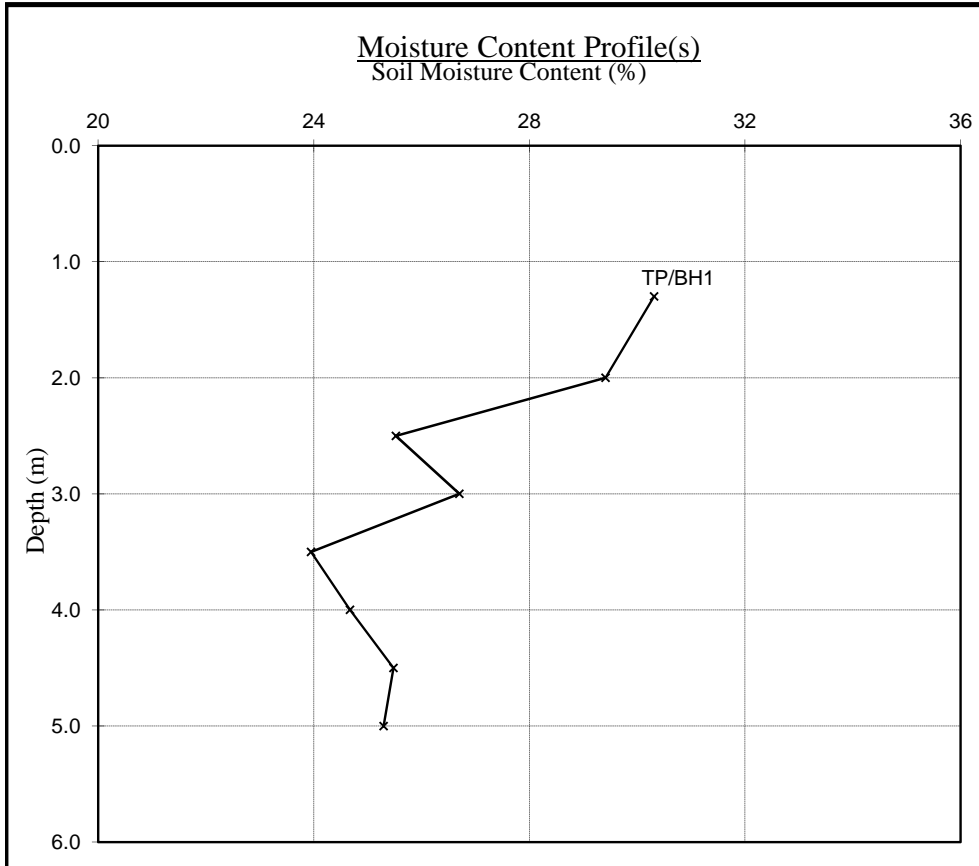
- D Disturbed sample ( small )
- B Disturbed sample ( bulk )
- U Undisturbed sample
- W Groundwater sample
- ENP Essentially Non-Plastic by inspection
- U/S Underside of Foundation

# Moisture Content and Suction Profiles

Our Ref : 177587  
 Location : 36, Frogna, NW3  
 Work carried out for: Cunningham Lindsey - Maidstone

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

Date Sampled : 25/04/2014  
 Date Received : 28/04/2014  
 Date Tested : 28/04/2014  
 Date of Report : 06/05/2014



Notes

1. 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 : 177587

Location : 36, Frogna1, NW3

Work carried out for: Cunningham Lindsey - Maidstone

# Moisture Content and Shear Strength Profiles

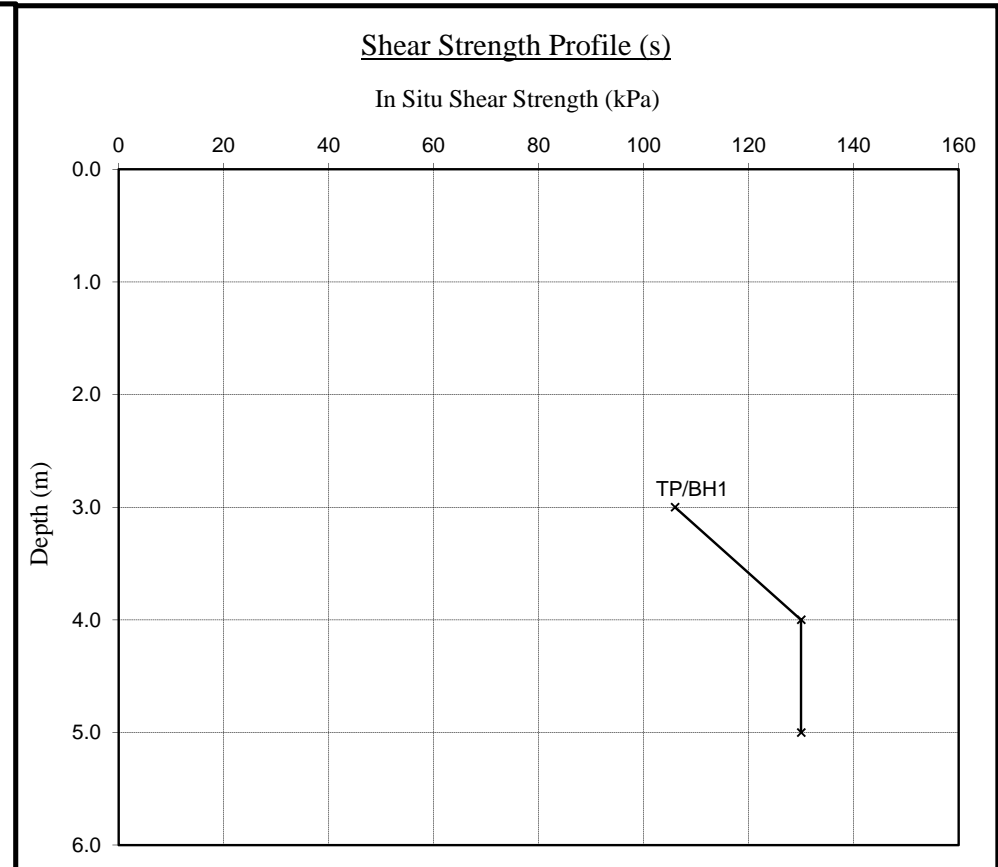
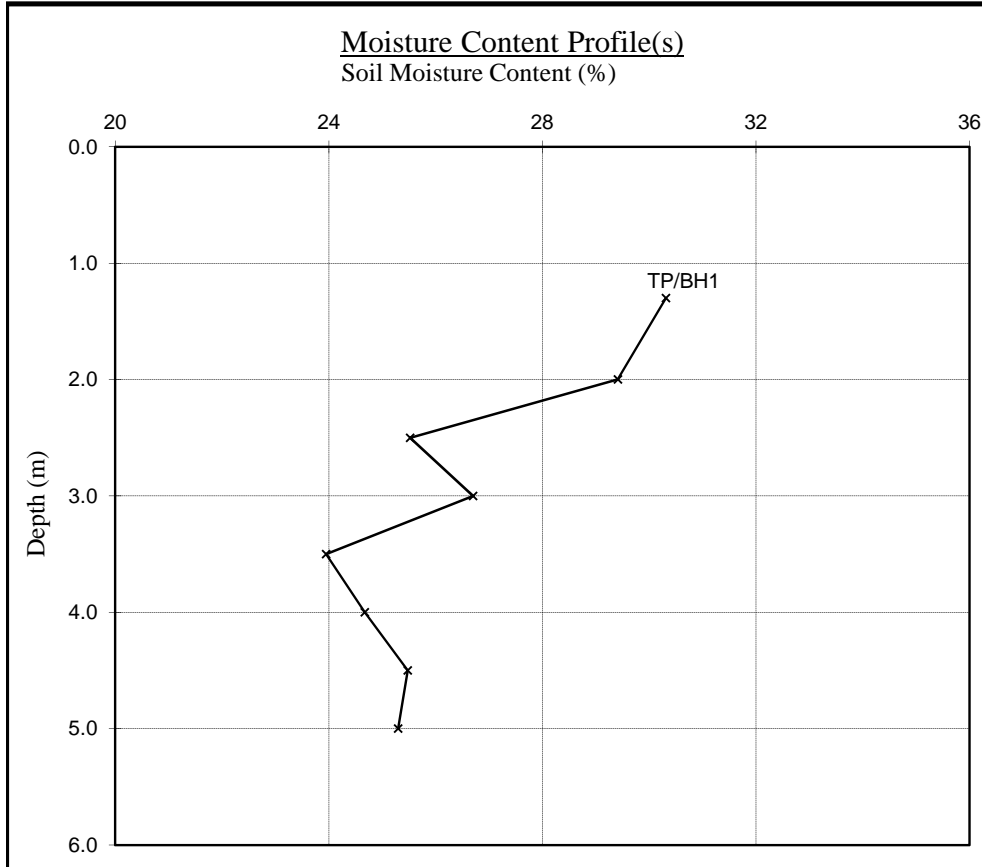
Date Sampled : 25/04/2014

Date Received : 28/04/2014

Date Tested : 28/04/2014

Date of Report : 06/05/2014

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



Notes

1. 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

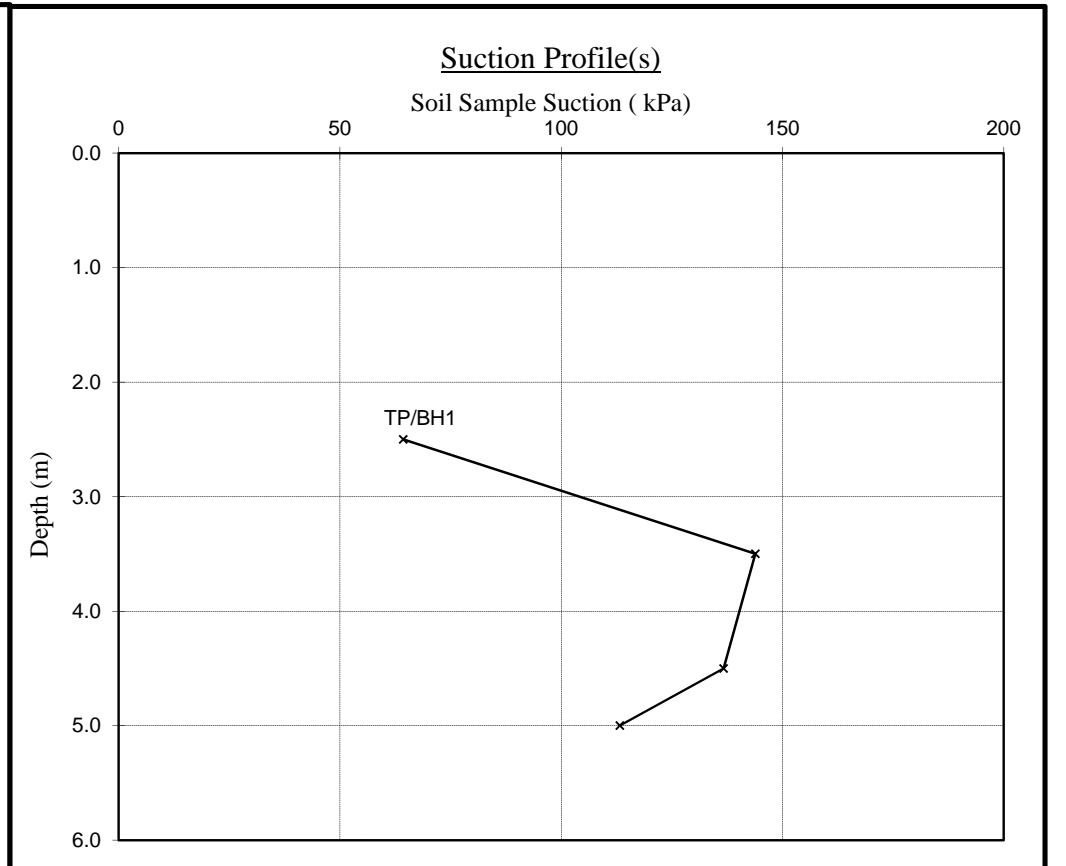
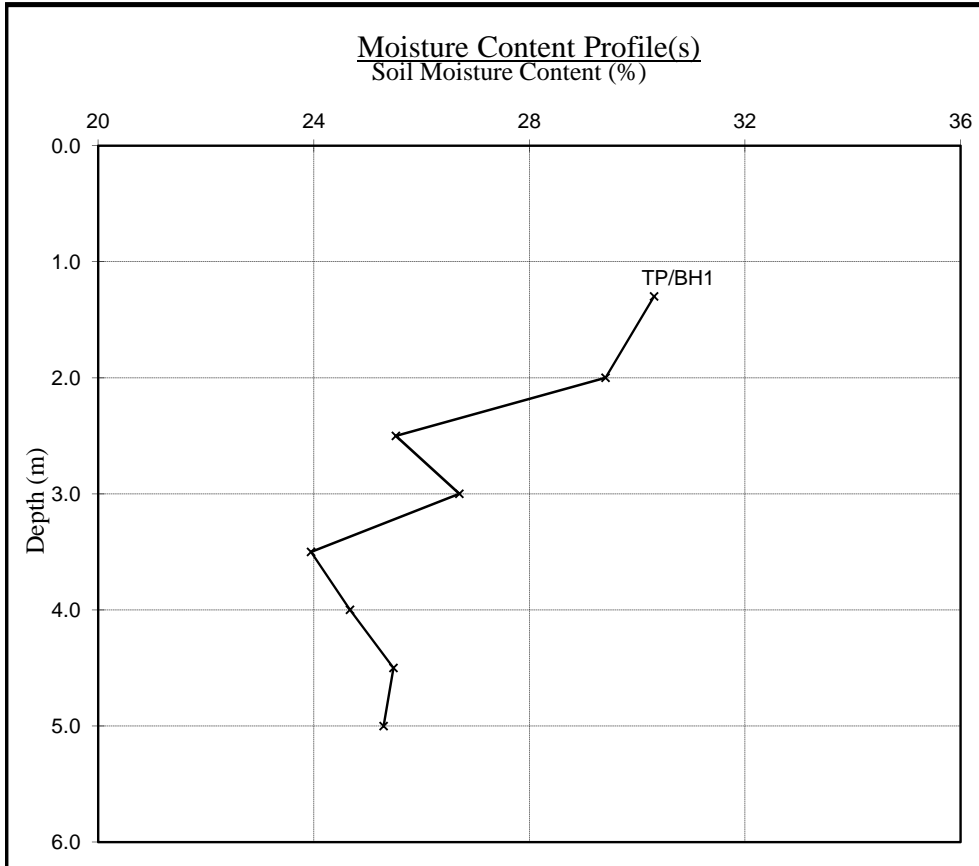
Unless otherwise stated, values of Shear Strength were determined in situ by CET using a Pilcon Hand Vane the calibration of which is limited to a maximum reading of 130 kPa.

# Moisture Content and Suction Profiles

Our Ref : 177587  
 Location : 36, Frognal, NW3  
 Work carried out for: Cunningham Lindsey - Maidstone

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

Date Sampled : 25/04/2014  
 Date Received : 28/04/2014  
 Date Tested : 28/04/2014  
 Date of Report : 06/05/2014



Notes

1. 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.



# Tree Root Identification Ltd

Sheet: 1 of 1

Job No: 177587  
Date: 30/04/2014  
Order No: 545519

Our Ref: CET300414

Site: 36 Frognaal, London.

Work carried  
out for: Cunningham Lindsey

## Certificate of Analysis

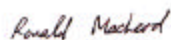
The following work was commissioned by CET on behalf of their client. Root samples were obtained in sealed packets from the above site with no reference given as to the types of tree or shrub from which they may have originated.

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 (underside)	3.0	<u>Tilia</u> (lime) (3 roots)	positive
BH1 (roots to a depth of 2.8m)	hair-like*	too immature to analyse (4 roots)	—

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

\* There were no 1.0mm in diameter roots in this sample.



DR RONALD D MACLEOD  
Principal Scientist

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Telephone: 01738 787448 / 07582 733 406

e-mail: rdmmacleod@btconnect.com web site: www.treerootidentification.com

Principal Scientist: R.D. MacLeod, B.Sc., Ph.D.,

Accounts/Quality Manager: Fiona M. Sinclair, BA English Studies (Merit)

Registered in Scotland, No. 358068. Registered Office: "Mandaya", Highfield Place, Bankfoot, PH1 4AX.

To: Cunningham Lindsey - Maidstone  
 4 North Court  
 South Park Business Village  
 Armstrong Road  
 Kent  
 ME15 6JZ

Our Ref: **177587**  
 Your Ref: **7149339**  
 Date: **28-Apr-14**

Ftiao: Yiu-Shan Wong

<b>ESTIMATE</b>
-----------------

Site:- **36, Frognal**

Item		Amount
1.0	Location <b>Manhole 1 upstream. Run 1</b>	£340.00
	Shared System Yes with the flats	
	Condition Grade B	
	Drain Serviceability Unserviceable	
	Work Spec Line from manhole 1 upstream to the buried gully	
2.0	Location <b>Manhole 1 upstream. Run 2</b>	£520.00
	Shared System Yes with the flats	
	Condition Grade B	
	Drain Serviceability Unserviceable	
	Work Spec High pressure water jet to remove the debris and Cctv. Line from manhole 1 upstream for 3.0 metres or more if required	
3.0	Location <b>Manhole 1 upstream to the yard gully. Run 3</b>	£623.00
	Shared System No	
	Condition Grade B	
	Drain Serviceability Unserviceable	
	Work Spec Excavate and replace the gully and 0.5 metres of pipe-work. High pressure water jet to remove the debris and line from manhole 1 upstream to the excavation	

Item 2 any further repair that may be required will be done on the agreed rates, terms and conditions.

**Notes**

Repairs to shared runs and off boundary pipe-work may be the responsibility of the water authority. Total £1,483.00

**Condition Grade**

A - Structurally sound with no leakage evident.  
 B - Cracks and fractures observed. plus VAT @20% £296.60  
 C - Structurally unsound Total + VAT £1,779.60

Quotation is binding only if accepted within 28 days from date of issue and is subject to our Standard Terms and Conditions  
 The price qualification notes, stated on the drainage solutions schedule of rates, apply to this quotation.  
 CET Structures Ltd undertakes to return to site free of charge to carry out remedial work to the drainage repairs set out above for a period of 2 months from the date of this invoice. The company standard charge rates will apply to the visit should the work requested be unrelated to the said repairs.

**ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE**

Site:- **36, Frognal**  
 Client :- **Cunningham Lindsey - Maidstone**  
 Attention of:- **Yiu-Shan Wong**

Client ref	7149339
Job Number :-	177587
Insurer	Zurich Commercial
Date:-	28-Apr-14

Recommendation 1

Item No	Description	Unit	Quantity	Rate (£)	Price (£)
<b>Manhole 1 upstream. Run 1</b>					
1.0	<b>Emergency Drain Blockage Clearance</b>				
1.1	Unblock drain 8am-6pm - First 1/2 Hour	Item		<b>£70.00</b>	£0.00
1.2	Unblock drain 8am-6pm- Subsequent 1/2 Hour	Item		<b>£30.00</b>	£0.00
1.3	Unblock drain 6pm-midnight	Item		<b>£100.00</b>	£0.00
1.4	Unblock drain 6pm-midnight - Subsequent 1/2 hour	Item		<b>£35.00</b>	£0.00
2.1	<b>CCTV Surveys</b>				
2.2	Undertake CCTV survey 8am-6pm (up to 3 hours)	Item		<b>£130.00</b>	£0.00
2.3	Additional 1/2 hr survey charge	Item		<b>£30.00</b>	£0.00
3.0	<b>Replacing Underground Drainage</b>				
3.1	<b>Gullies</b>				
3.2	Take out and replace gully (100mm outlet)	Item		<b>£130.00</b>	£0.00
3.3	Take out and replace rodding point (100mm outlet)	Item		<b>£90.00</b>	£0.00
3.4	<b>Bends/junctions</b>				
3.5	Excavate and replace rest bend (100mm outlet)	Item		<b>£90.00</b>	£0.00
3.6	Excavate and replace rest bend (150mm outlet)	Item		<b>£120.00</b>	£0.00
3.7	Excavate and replace junction/bend (100mmØ), Excavation depth 0-1m.	Item		<b>£70.00</b>	£0.00
3.8	Excavate and replace junction/bend (150mmØ), Excavation depth 0-1m	Item		<b>£70.00</b>	£0.00
3.9	Excavate and replace junction/bend (100mmØ), Excavation depth 1-1.5m.	Item		<b>£70.00</b>	£0.00
3.10	Excavate and replace junction/bend (150mmØ), Excavation depth 1-1.5m.	Item		<b>£70.00</b>	£0.00
3.11	Excavate and replace junction/bend (100mmØ), Excavation depth 1.5-2.0m.	Item		<b>£70.00</b>	£0.00
3.12	Excavate and replace junction/bend (150mmØ), Excavation depth 1.5-2.0m.	Item		<b>£70.00</b>	£0.00
3.13	<b>Pipes</b>				
3.14	Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m, First 10m.	m		<b>£95.00</b>	£0.00
3.15	Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m, First 10m.	m		<b>£120.00</b>	£0.00
3.16	Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m.	m		<b>£95.00</b>	£0.00
3.17	Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m.	m		<b>£120.00</b>	£0.00
3.18	Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m, First 10m.	m		<b>£150.00</b>	£0.00
3.19	Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m, First 10m.	m		<b>£160.00</b>	£0.00
3.20	Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m.	m		<b>£150.00</b>	£0.00
3.21	Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m.	m		<b>£160.00</b>	£0.00
3.22	Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m, First 10m.	m		<b>£270.00</b>	£0.00
3.23	Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m, First 10m.	m		<b>£290.00</b>	£0.00
3.24	Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m.	m		<b>£250.00</b>	£0.00
3.25	Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m.	m		<b>£270.00</b>	£0.00
3.26	<b>Surface Reinstatement of Trenches</b>				
3.27	Excavate through and reinstate turf.			<b>£0.00</b>	£0.00
3.28	Excavate through and replace concrete paving slabs	m		<b>£30.00</b>	£0.00
3.29	Excavate through and replace block paving	m		<b>£50.00</b>	£0.00
3.30	Excavate through and reinstate plain concrete, maximum thickness 100mm.	m		<b>£47.00</b>	£0.00
3.31	Excavate through and reinstate plain concrete, thickness 100- 200mm.	m		<b>£95.00</b>	£0.00
3.32	Excavate through and reinstate reinforced concrete, maximum thickness 100mm.	m		<b>£90.00</b>	£0.00
3.33	Excavate through and reinstate reinforced concrete, thickness 100-200mm.	m		<b>£115.00</b>	£0.00
3.34	Excavate through and reinstate Tarmac - Cold rolled	m		<b>£48.00</b>	£0.00
3.35	Excavate through and reinstate Tarmac - Hot rolled	m		<b>POA</b>	
3.36	Reinstatement of crazy paving	m		<b>£75.00</b>	£0.00
4.0	<b>Lining</b>				
4.1	Set up lining rig for drain lining including first 3m of lining per run, for 100mm or 150mm	Item	1	<b>£290.00</b>	£290.00
4.2	Line 100mmØ drain	m	1	<b>£50.00</b>	£50.00
4.3	Line 150mmØ drain	m		<b>£70.00</b>	£0.00
4.4	Post lining CCTV survey	no		<b>£100.00</b>	£0.00
4.5	Minimum lining charge	Item		<b>£290.00</b>	£0.00
4.6	Root cutting of drain prior to lining	hr		<b>£65.00</b>	£0.00
4.7	Set up lining rig for patch lining	Item		<b>£0.00</b>	£0.00
4.8	Patch line 100mmØ drain	no		<b>£250.00</b>	£0.00
4.9	Patch line 150mmØ drain	no		<b>£280.00</b>	£0.00
4.10	Post patch lining CCTV survey	Item		<b>£100.00</b>	£0.00
4.11	Minimum patch lining charge	Item		<b>£250.00</b>	£0.00
4.12	Re-open lateral branch up to 2m length, pipe up to 150mm	no		<b>£190.00</b>	£0.00
4.13	Re-open lateral branch over 2m length, pipe up to 150mm	no		<b>£280.00</b>	£0.00
5.0	<b>Miscellaneous</b>				
5.1	Excavation and backfill of soakaway (1m3) with stone	Item		<b>£400.00</b>	£0.00
5.2	% Uplift on disbursements and suppliers charges	%		<b>1.25</b>	£0.00
5.3	Daywork - Hourly labour rate	hr		<b>£30.00</b>	£0.00
5.4	Minimum project value	Item		<b>£346.50</b>	£0.00
5.5					£0.00
5.6					£0.00
5.7					£0.00
5.8					£0.00
6.0	<b>Additional items</b>				
6.1	De-scaling (fat/grime)	hr		<b>£65.00</b>	£0.00
6.2	De-scaling (scale using chain flails)	hr		<b>£90.00</b>	£0.00
6.3	Gully surround	item		<b>£30.00</b>	£0.00
6.4	Manhole works (up to 1.2m)	item		<b>£80.00</b>	£0.00
6.6	Oversize soakaway (1.5m3)	item		<b>£600.00</b>	£0.00
6.7	Soakaway >1.5m3	item		<b>POA</b>	
6.8	Waste disposal	m		<b>£20.00</b>	£0.00
6.9	Shoring	m		<b>£40.00</b>	£0.00
<b>Total Estimate Price For Recommendation Number</b>			<b>1.0</b>		<b>£340.00</b>
Subject to discount				<b>0.00</b>	£0.00
Total subject to VAT @ 20%					<b>£340.00</b>

Note: Subject to the attached Terms and Conditions  
 A - When calculating prices, all measurements are rounded up  
 C - Every effort will be made to match existing surfaces where disturbed although this cannot be guaranteed  
 G - Daywork rates do not include for materials that are charged at cost plus 25%  
 KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour  
 B - Depths are taken to the base of excavations  
 D - All rates exclude VAT  
 F - The above rates are subject to re-measurement  
 E - Depths are taken to the base of excavations

**ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE**

Site:- **36, Frognal**  
 Client :- **Cunningham Lindsey - Maidstone**  
 Attention of:- **Yiu-Shan Wong**

Client ref	7149339
Job Number :-	177587
Insurer	Zurich Commercial
Date:-	28-Apr-14

Recommendation 2

Item No	Description	Unit	Quantity	Rate (£)	Price (£)
<b>Manhole 1 upstream. Run 2</b>					
1.0	<b>Emergency Drain Blockage Clearance</b>				
1.1	Unblock drain 8am-6pm - First 1/2 Hour	Item	1	<b>£70.00</b>	£70.00
1.2	Unblock drain 8am-6pm- Subsequent 1/2 Hour	Item	1	<b>£30.00</b>	£30.00
1.3	Unblock drain 6pm-midnight	Item		<b>£100.00</b>	£0.00
1.4	Unblock drain 6pm-midnight - Subsequent 1/2 hour	Item		<b>£35.00</b>	£0.00
2.1	<b>CCTV Surveys</b>				
2.2	Undertake CCTV survey 8am-6pm (up to 3 hours)	Item	1	<b>£130.00</b>	£130.00
2.3	Additional 1/2 hr survey charge	Item		<b>£30.00</b>	£0.00
3.0	<b>Replacing Underground Drainage</b>				
3.1	<b>Gullies</b>				
3.2	Take out and replace gully (100mm outlet)	Item		<b>£130.00</b>	£0.00
3.3	Take out and replace rodding point (100mm outlet)	Item		<b>£90.00</b>	£0.00
3.4	<b>Bends/junctions</b>				
3.5	Excavate and replace rest bend (100mm outlet)	Item		<b>£90.00</b>	£0.00
3.6	Excavate and replace rest bend (150mm outlet)	Item		<b>£120.00</b>	£0.00
3.7	Excavate and replace junction/bend (100mmØ), Excavation depth 0-1m.	Item		<b>£70.00</b>	£0.00
3.8	Excavate and replace junction/bend (150mmØ), Excavation depth 0-1m	Item		<b>£70.00</b>	£0.00
3.9	Excavate and replace junction/bend (100mmØ), Excavation depth 1-1.5m.	Item		<b>£70.00</b>	£0.00
3.10	Excavate and replace junction/bend (150mmØ), Excavation depth 1-1.5m.	Item		<b>£70.00</b>	£0.00
3.11	Excavate and replace junction/bend (100mmØ), Excavation depth 1.5-2.0m.	Item		<b>£70.00</b>	£0.00
3.12	Excavate and replace junction/bend (150mmØ), Excavation depth 1.5-2.0m.	Item		<b>£70.00</b>	£0.00
3.13	<b>Pipes</b>				
3.14	Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m, First 10m.	m		<b>£95.00</b>	£0.00
3.15	Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m, First 10m.	m		<b>£120.00</b>	£0.00
3.16	Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m.	m		<b>£95.00</b>	£0.00
3.17	Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m.	m		<b>£120.00</b>	£0.00
3.18	Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m, First 10m.	m		<b>£150.00</b>	£0.00
3.19	Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m, First 10m.	m		<b>£160.00</b>	£0.00
3.20	Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m.	m		<b>£150.00</b>	£0.00
3.21	Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m.	m		<b>£160.00</b>	£0.00
3.22	Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m, First 10m.	m		<b>£270.00</b>	£0.00
3.23	Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m, First 10m.	m		<b>£290.00</b>	£0.00
3.24	Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m.	m		<b>£250.00</b>	£0.00
3.25	Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m.	m		<b>£270.00</b>	£0.00
3.26	<b>Surface Reinstatement of Trenches</b>				
3.27	Excavate through and reinstate turf.			<b>£0.00</b>	£0.00
3.28	Excavate through and replace concrete paving slabs	m		<b>£30.00</b>	£0.00
3.29	Excavate through and replace block paving	m		<b>£50.00</b>	£0.00
3.30	Excavate through and reinstate plain concrete, maximum thickness 100mm.	m		<b>£47.00</b>	£0.00
3.31	Excavate through and reinstate plain concrete, thickness 100- 200mm.	m		<b>£95.00</b>	£0.00
3.32	Excavate through and reinstate reinforced concrete, maximum thickness 100mm.	m		<b>£90.00</b>	£0.00
3.33	Excavate through and reinstate reinforced concrete, thickness 100-200mm.	m		<b>£115.00</b>	£0.00
3.34	Excavate through and reinstate Tarmac - Cold rolled	m		<b>£48.00</b>	£0.00
3.35	Excavate through and reinstate Tarmac - Hot rolled	m		<b>POA</b>	
3.36	Reinstatement of crazy paving	m		<b>£75.00</b>	£0.00
4.0	<b>Lining</b>				
4.1	Set up lining rig for drain lining including first 3m of lining per run, for 100mm or 150mm	Item	1	<b>£290.00</b>	£290.00
4.2	Line 100mmØ drain	m		<b>£50.00</b>	£0.00
4.3	Line 150mmØ drain	m		<b>£70.00</b>	£0.00
4.4	Post lining CCTV survey	no		<b>£100.00</b>	£0.00
4.5	Minimum lining charge	Item		<b>£290.00</b>	£0.00
4.6	Root cutting of drain prior to lining	hr		<b>£65.00</b>	£0.00
4.7	Set up lining rig for patch lining	Item		<b>£0.00</b>	£0.00
4.8	Patch line 100mmØ drain	no		<b>£250.00</b>	£0.00
4.9	Patch line 150mmØ drain	no		<b>£280.00</b>	£0.00
4.10	Post patch lining CCTV survey	Item		<b>£100.00</b>	£0.00
4.11	Minimum patch lining charge	Item		<b>£250.00</b>	£0.00
4.12	Re-open lateral branch up to 2m length, pipe up to 150mm	no		<b>£190.00</b>	£0.00
4.13	Re-open lateral branch over 2m length, pipe up to 150mm	no		<b>£280.00</b>	£0.00
5.0	<b>Miscellaneous</b>				
5.1	Excavation and backfill of soakaway (1m3) with stone	Item		<b>£400.00</b>	£0.00
5.2	% Uplift on disbursements and suppliers charges	%		<b>£1.25</b>	£0.00
5.3	Daywork - Hourly labour rate	hr		<b>£30.00</b>	£0.00
5.4	Minimum project value	Item		<b>£346.50</b>	£0.00
5.5				<b>£0.00</b>	£0.00
5.6				<b>£0.00</b>	£0.00
5.7				<b>£0.00</b>	£0.00
5.8				<b>£0.00</b>	£0.00
6.0	<b>Additional items</b>				
6.1	De-scaling (fat/grime)	hr		<b>£65.00</b>	£0.00
6.2	De-scaling (scale using chain flails)	hr		<b>£90.00</b>	£0.00
6.3	Gully surround	item		<b>£30.00</b>	£0.00
6.4	Manhole works (up to 1.2m)	item		<b>£80.00</b>	£0.00
6.6	Oversize soakaway (1.5m3)	item		<b>£600.00</b>	£0.00
6.7	Soakaway >1.5m3	item		<b>POA</b>	
6.8	Waste disposal	m		<b>£20.00</b>	£0.00
6.9	Shoring	m		<b>£40.00</b>	£0.00
<b>Total Estimate Price For Recommendation Number</b>			<b>2.0</b>		<b>£520.00</b>
Subject to discount				<b>0.00</b>	£0.00
Total subject to VAT @ 20%					<b>£520.00</b>

Note: Subject to the attached Terms and Conditions

A - When calculating prices, all measurements are rounded up

C - Every effort will be made to match existing surfaces where disturbed although this cannot be guaranteed

G - Daywork rates do not include for materials that are charged at cost plus 25%

KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour

B - Depths are taken to the base of excavations

D - All rates exclude VAT

F - The above rates are subject to re-measurement

E - Depths are taken to the base of excavations

**ESTIMATING & COSTING SHEET - DOMESTIC DRAINAGE**

Site:- **36, Frognal**  
 Client :- **Cunningham Lindsey - Maidstone**  
 Attention of:- **Yiu-Shan Wong**

Client ref	7149339
Job Number :-	177587
Insurer	Zurich Commercial
Date:-	28-Apr-14

Recommendation 3

Item No	Description	Unit	Quantity	Rate (£)	Price (£)
<b>Manhole 1 upstream to the yard gully. Run 3</b>					
1.0	<b>Emergency Drain Blockage Clearance</b>				
1.1	Unblock drain 8am-6pm - First 1/2 Hour	Item		<b>£70.00</b>	£0.00
1.2	Unblock drain 8am-6pm- Subsequent 1/2 Hour	Item		<b>£30.00</b>	£0.00
1.3	Unblock drain 6pm-midnight	Item		<b>£100.00</b>	£0.00
1.4	Unblock drain 6pm-midnight - Subsequent 1/2 hour	Item		<b>£35.00</b>	£0.00
2.1	<b>CCTV Surveys</b>				
2.2	Undertake CCTV survey 8am-6pm (up to 3 hours)	Item		<b>£130.00</b>	£0.00
2.3	Additional 1/2 hr survey charge	Item		<b>£30.00</b>	£0.00
3.0	<b>Replacing Underground Drainage</b>				
3.1	<b>Gullies</b>				
3.2	Take out and replace gully (100mm outlet)	Item	1	<b>£130.00</b>	£130.00
3.3	Take out and replace rodding point (100mm outlet)	Item		<b>£90.00</b>	£0.00
3.4	<b>Bends/junctions</b>				
3.5	Excavate and replace rest bend (100mm outlet)	Item		<b>£90.00</b>	£0.00
3.6	Excavate and replace rest bend (150mm outlet)	Item		<b>£120.00</b>	£0.00
3.7	Excavate and replace junction/bend (100mmØ), Excavation depth 0-1m.	Item	0.5	<b>£70.00</b>	£70.00
3.8	Excavate and replace junction/bend (150mmØ), Excavation depth 0-1m	Item		<b>£70.00</b>	£0.00
3.9	Excavate and replace junction/bend (100mmØ), Excavation depth 1-1.5m.	Item		<b>£70.00</b>	£0.00
3.10	Excavate and replace junction/bend (150mmØ), Excavation depth 1-1.5m.	Item		<b>£70.00</b>	£0.00
3.11	Excavate and replace junction/bend (100mmØ), Excavation depth 1.5-2.0m.	Item		<b>£70.00</b>	£0.00
3.12	Excavate and replace junction/bend (150mmØ), Excavation depth 1.5-2.0m.	Item		<b>£70.00</b>	£0.00
3.13	<b>Pipes</b>				
3.14	Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m, First 10m.	m		<b>£95.00</b>	£0.00
3.15	Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m, First 10m.	m		<b>£120.00</b>	£0.00
3.16	Excavate trench and replace 100mmØ pipework, Excavation depth 0-1m.	m		<b>£95.00</b>	£0.00
3.17	Excavate trench and replace 150mmØ pipework, Excavation depth 0-1m.	m		<b>£120.00</b>	£0.00
3.18	Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m, First 10m.	m		<b>£150.00</b>	£0.00
3.19	Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m, First 10m.	m		<b>£160.00</b>	£0.00
3.20	Excavate trench and replace 100mmØ pipework, Excavation depth 1-1.5m.	m		<b>£150.00</b>	£0.00
3.21	Excavate trench and replace 150mmØ pipework, Excavation depth 1-1.5m.	m		<b>£160.00</b>	£0.00
3.22	Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m, First 10m.	m		<b>£270.00</b>	£0.00
3.23	Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m, First 10m.	m		<b>£290.00</b>	£0.00
3.24	Excavate trench and replace 100mmØ pipework, Excavation depth 1.5-2.0m.	m		<b>£250.00</b>	£0.00
3.25	Excavate trench and replace 150mmØ pipework, Excavation depth 1.5-2.0m.	m		<b>£270.00</b>	£0.00
3.26	<b>Surface Reinstatement of Trenches</b>				
3.27	Excavate through and reinstate turf.			<b>£0.00</b>	£0.00
3.28	Excavate through and replace concrete paving slabs	m		<b>£30.00</b>	£0.00
3.29	Excavate through and replace block paving	m		<b>£50.00</b>	£0.00
3.30	Excavate through and reinstate plain concrete, maximum thickness 100mm.	m		<b>£47.00</b>	£0.00
3.31	Excavate through and reinstate plain concrete, thickness 100- 200mm.	m		<b>£95.00</b>	£0.00
3.32	Excavate through and reinstate reinforced concrete, maximum thickness 100mm.	m		<b>£90.00</b>	£0.00
3.33	Excavate through and reinstate reinforced concrete, thickness 100-200mm.	m		<b>£115.00</b>	£0.00
3.34	Excavate through and reinstate Tarmac - Cold rolled	m	1	<b>£48.00</b>	£48.00
3.35	Excavate through and reinstate Tarmac - Hot rolled	m		<b>POA</b>	
3.36	Reinstatement of crazy paving	m		<b>£75.00</b>	£0.00
4.0	<b>Lining</b>				
4.1	Set up lining rig for drain lining including first 3m of lining per run, for 100mm or 150mm	Item	1	<b>£290.00</b>	£290.00
4.2	Line 100mmØ drain	m		<b>£50.00</b>	£0.00
4.3	Line 150mmØ drain	m		<b>£70.00</b>	£0.00
4.4	Post lining CCTV survey	no		<b>£100.00</b>	£0.00
4.5	Minimum lining charge	Item		<b>£290.00</b>	£0.00
4.6	Root cutting of drain prior to lining	hr		<b>£65.00</b>	£0.00
4.7	Set up lining rig for patch lining	Item		<b>£0.00</b>	£0.00
4.8	Patch line 100mmØ drain	no		<b>£250.00</b>	£0.00
4.9	Patch line 150mmØ drain	no		<b>£280.00</b>	£0.00
4.10	Post patch lining CCTV survey	Item		<b>£100.00</b>	£0.00
4.11	Minimum patch lining charge	Item		<b>£250.00</b>	£0.00
4.12	Re-open lateral branch up to 2m length, pipe up to 150mm	no		<b>£190.00</b>	£0.00
4.13	Re-open lateral branch over 2m length, pipe up to 150mm	no		<b>£280.00</b>	£0.00
5.0	<b>Miscellaneous</b>				
5.1	Excavation and backfill of soakaway (1m3) with stone	Item		<b>£400.00</b>	£0.00
5.2	% Uplift on disbursements and suppliers charges	%		<b>£1.25</b>	£0.00
5.3	Daywork - Hourly labour rate	hr		<b>£30.00</b>	£0.00
5.4	Minimum project value	Item		<b>£346.50</b>	£0.00
5.5				<b>£0.00</b>	£0.00
5.6				<b>£0.00</b>	£0.00
5.7				<b>£0.00</b>	£0.00
5.8				<b>£0.00</b>	£0.00
6.0	<b>Additional items</b>				
6.1	De-scaling (fat/grime)	hr	1	<b>£65.00</b>	£65.00
6.2	De-scaling (scale using chain flails)	hr		<b>£90.00</b>	£0.00
6.3	Gully surround	item		<b>£30.00</b>	£0.00
6.4	Manhole works (up to 1.2m)	item		<b>£80.00</b>	£0.00
6.6	Oversize soakaway (1.5m3)	item		<b>£600.00</b>	£0.00
6.7	Soakaway >1.5m3	item		<b>POA</b>	
6.8	Waste disposal	m	1	<b>£20.00</b>	£20.00
6.9	Shoring	m		<b>£40.00</b>	£0.00
<b>Total Estimate Price For Recommendation Number</b>			<b>3.0</b>		<b>£623.00</b>
Subject to discount				<b>0.00</b>	£0.00
Total subject to VAT @ 20%					<b>£623.00</b>

Note: Subject to the attached Terms and Conditions  
 A - When calculating prices, all measurements are rounded up  
 C - Every effort will be made to match existing surfaces where disturbed although this cannot be guaranteed  
 G - Daywork rates do not include for materials that are charged at cost plus 25%  
 KEY: ne = not exceeding, eo = extra over rate, m = linear metre, nr = number, hr = hour  
 B - Depths are taken to the base of excavations  
 D - All rates exclude VAT  
 F - The above rates are subject to re-measurement  
 E - Depths are taken to the base of excavations

# Underground Drainage Report

Sheet: 1 of 4

Site: 36, Frogna1

Job No: 177587

Work carried out for: Cunningham Lindsey - Maidstone

Date: 25-Apr-14

## MANHOLE DETAILS

Manhole	Depth to Invert	Condition
MH1	1000mm	As built
MH2	2125mm	As built
MH3	2350mm	As built

## CCTV Survey:-

### 1. Drainage Run:

From manhole 1 run 1 to upstream - 100mm clay surface water ? - Upstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Concrete
3.4	FC	From 12 o'clock to 12 o'clock	
3.4	FL	At 5 o'clock	
3.5	FL	At 1 o'clock	
3.5	FL	At 9 o'clock	
3.8	JDM		
4.0	FH	Reached upstream buried gully	

### 2 Drainage Run:

From manhole 1 run 2 to upstream - 100mm asbestos ? surface water - Upstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Topsoil
0.8	LU	Slight	
1.1	LL	Slight	
2.2	LR	Slight	
2.2	DE	15%	
2.6	RF(J)		
2.8	DE	100%	
3.0	SA	Run blocked	

## Water Test Grade:

0 - Unable to fill	2 - Medium Loss over 2 minutes
1 - Heavy Loss	3 - Slow Loss over 5 minutes
	4 - No Loss

# Underground Drainage Report

Sheet: 2 of 4

Site: 36, Frognal

Job No: 177587

Work carried out for: Cunningham Lindsey - Maidstone

Date: 25-Apr-14

### 3 Drainage Run:

From manhole 1 run 3 to yard gully - 100mm clay surface water -Upstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Shingle
0.5			Tarmac
0.7	OJM		
1.6	CC	From 12 o'clock to 12 o'clock	
1.9	FM	From 12 o'clock to 12 o'clock	
2.8	DE	20%	
2.8	FC	From 12 o'clock to 12 o'clock on gully	
2.8	FH	Reached yard gully	

### 4 Drainage Run:

From manhole 1 run 4 to manhole 2 - 100mm liner surface water -Downstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Shingle
0.0	DE	10%	
0.3			Brick wall
2.0	MC	Clay	
2.8			Concrete
3.3	FH	Reached MH2	

### 5 Drainage Run:

From manhole 2 run 5 to upstream - 100mm clay foul water -Upstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Concrete
0.0	MC	Lined	
0.2			Concrete steps
0.6	MC	Clay	
0.7	LU		
0.9	FH	Reached upstream ? ( unsure where it goes)	

### Water Test Grade:

- 0 - Unable to fill
- 1 - Heavy Loss
- 2 - Medium Loss over 2 minutes
- 3 - Slow Loss over 5 minutes
- 4 - No Loss

# Underground Drainage Report

Sheet: 3 of 4

Site: 36, Frognal

Job No: 177587

Work carried out for: Cunningham Lindsey - Maidstone

Date: 25-Apr-14

## 6 Drainage Run:

From manhole 2 run 6 to upstream - 100mm clay foul water -Upstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Concrete
0.1	MC	Lined	
0.2			Concrete steps
0.7			Concrete steps
1.3			Under house
2.0	MC	Clay	
5.1	LL		
5.3	WL	10%	
6.8	LU		
7.3	FH	Reached upstream ( possible DSWC)	

## 7 Drainage Run:

From manhole 2 run 7 to downstream - 100mm cast iron combined -Downstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Concrete
0.1			Under house
1.6	WL	40%	
1.7	DE	50%	
2.1	FH	Unable to push ( debris)	

## 7 Drainage Run:

From manhole 3 run 7 to upstream - 100mm cast iron combined -Upstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Gravel
2.2			Under house
5.8	ESM	From 6 o'clock to 9 o'clock - 20%	
7.0	DE	50%	
7.1	SA	Unable to push	

## Water Test Grade:

0 - Unable to fill	2 - Medium Loss over 2 minutes
1 - Heavy Loss	3 - Slow Loss over 5 minutes
	4 - No Loss



# Underground Drainage Report

Sheet: 4 of 4

Site: 36, Frogna1

Job No: 177587

Work carried out for: Cunningham Lindsey - Maidstone

Date: 25-Apr-14

## 8 Drainage Run:

From rain water pipe 1 rodding eye run 8 to downstream - 100mm clay surface water -Downstream ( shared with flats)

Metres:	Code:	Observations:	Surface Material/ Condition:
0.0		Start	Concrete
0.0	DE	35% continuous	
1.4	SA	Unable to push - debris	

- END OF SURVEY -

*Our assessment of the drainage system is based on our visual inspection and on information collated at the time of the survey. Where assumptions have been made these are based on our experience and do not constitute any form of guarantee, nor do we guarantee that further deterioration will not occur following this survey. CCTV video records will be stored for a period of 3 months from date of inspection and then destroyed.*

## Water Test Grade:

- 0 - Unable to fill
- 1 - Heavy Loss
- 2 - Medium Loss over 2 minutes
- 3 - Slow Loss over 5 minutes
- 4 - No Loss

# **CET STRUCTURES LTD TERMS AND CONDITIONS**

**Site:-** 36, Frogna1

**Client Ref:-** 7149339

**Client :-** Cunningham Lindsey - Maidstone

**Job Number:-** 177587

**Attention of:-** Yiu-Shan Wong

**Insurer:-** Zurich Commercial

**Date:-** 28-Apr-14

## **General Terms and Conditions**

- 1 On site parking is a prerequisite of any drain repair contract. This quotation is to the addressee only and should not be forwarded unless prior agreement is obtained from CET Structures Ltd. Every effort will be made to match existing surfaces however, there will be evidence of excavation works in certain circumstances.
- 2 The rates do not include for excavation of surfaces other than soft ground or concrete < 100mm thick; reinstatement other than concrete <100mm thick; internal excavations; reinstatement >750mm in width; excavation of depths greater than 1.2m; reinforced concrete.
- 3 CET's standard soakaway that is priced on the agreed alliance schedule of drainage rates is constructed to dimensions specified in the NHBC Guidelines for small soakaways. The soakaway is generally located 5m from any foundations (should site constraints permit) and is constructed to provide adequate short term surface water storage and percolation into surrounding ground. This small 1m<sup>3</sup> soakaway is usually of sufficient capacity to accommodate average rainfall from an average surface area of roof space, however in extreme weather conditions and /or larger than average roof surface area feeding the soakaway, surcharging may occur. Alternative designs and prices are available at a cost along with percolation testing. Certain ground conditions may not be suitable for soakaway design due to low permeability and this information is not always readily available.

## **Notes**

For excavation and reinstatement of any steps, will be done on day work rate.

With a minimum of 4 hours. Materials at cost plus 25%.

Any obstacles, shrubs & plants that are located in the working area will need to be removed by others to allow for these works

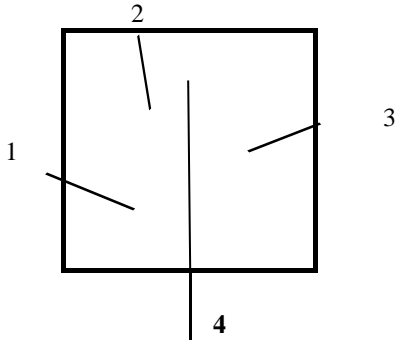
The bend/s in the drainage run/s may cause the liner to fail. Which would result in excavation of the failed liner. This will be done on day-work rate and materials cost plus 25%.

Item 2 any further repair that may be required will be done on the agreed rates, terms and conditions.

## Water Authority Sewer Condition Codes

<b>B</b> Broken pipe at... (or from... to...) o'clock	<b>JN</b> Junction at...o'clock, diameter...mm
<b>BR</b> Branch Major	<b>JX</b> Junction defective at.. o'clock, diameter.. mm
<b>CC</b> Crack circumferential from... to... o'clock	<b>LC</b> Lining of sewer changes/starts/finishes at this point
<b>CL</b> Crack longitudinal @... o'clock	<b>LD</b> Line of sewer deviates down
<b>CM</b> Cracks multiple from... to... o'clock	<b>LL</b> Line of sewer deviates left
<b>CN</b> Connection at... o'clock, diameter... mm	<b>LN</b> Line defect at (or from.. to..) o'clock
<b>CNI</b> Connection at... o'clock, diameter... mm, intrusion... mm	<b>LR</b> Line of sewer deviates right
<b>CU</b> Camera under water	<b>LU</b> Line of sewer deviates up
<b>CX</b> Connection defective at... o'clock	<b>MB</b> Missing bricks at.. (or from.. to..) o'clock
<b>CXI</b> Connection defective at... o'clock, diameter... mm, intrusion... mm	<b>MC</b> Material of sewer changes at this point
<b>D</b> Deformed sewer... %	<b>MH</b> Manhole/node
<b>DB</b> Displaced bricks at (or from.. to..) o'clock	<b>MM</b> Mortar missing medium at.. (or from.. to..) o'clock
<b>DC</b> Dimension of sewer changes at this point	<b>MS</b> Mortar missing surface at.. (or from.. to..) o'clock
<b>DE</b> Debris (non silt/grease)... % cross-sectional loss	<b>MT</b> Mortar missing total at.. (or from.. to..) o'clock
<b>DEG</b> Debris grease... % cross-sectional area loss	<b>OB</b> Obstruction... % height/diameter loss
<b>DES</b> Debris silt... % cross-sectional area loss	<b>OJL</b> Open joint large
<b>DI</b> Dropped invert, gap... mm	<b>OJM</b> Open joint medium
<b>EHI</b> Encrustation heavy from.. to.. o'clock % cross-sectional area loss (at joint)	<b>PC</b> Length of pipe forming sewer changes at this point, new length...mm
<b>ELJ</b> Encrustation light from.. to.. o'clock%	<b>RFJ</b> Roots fine (at joint)
<b>EMJ</b> Encrustation medium from.. to.. o'clock %, cross-sectional area loss (at joint)	<b>RMJ</b> Roots mass... % cross-sectional area loss (at joint)
<b>ESH</b> Scale heavy... % cross-sectional area loss from... to... o'clock	<b>RTJ</b> Roots tap (at joint)
<b>ESL</b> Scale light from... to... o'clock	<b>SA</b> Survey abandoned
<b>ESM</b> Scale medium... % cross-sectional area loss from... to... o'clock	<b>SC</b> Shape of sewer changes at this point
<b>FC</b> Fracture circumferential from... to... o'clock	<b>SSL</b> Surface damage, spalling large at (or from.. to..) o'clock
<b>FL</b> Fracture longitudinal at... o'clock	<b>SSM</b> Surface damage, spalling medium at (or from.. to..) o'clock
<b>FM</b> Fractures multiple from... to... o'clock	<b>SSS</b> Surface damage, spalling slight at (or from.. to..) o'clock
<b>GO</b> General observation at this point	<b>SWL</b> Surface damage, wear large at... (or from.. to..) o'clock
<b>GP</b> General photograph number... taken at this point	<b>SWM</b> Surface damage, wear medium at... (or from.. to..) o'clock
<b>H</b> Hole in sewer at... o'clock	<b>SWS</b> Surface damage, wear slight at.. (or from.. to..) o'clock
<b>IDJ</b> Infiltration dripper at (or from... to...) o'clock (at joint)	<b>V</b> Vermin (rats and mice)
<b>IGJ</b> Infiltration gusher at (or from... to...) o'clock (at joint)	<b>WL</b> Water level... % height/diameter
<b>IRJ</b> Infiltration runner at (or from... to...) o'clock (at joint)	<b>X</b> Sewer collapsed... % cross-sectional area loss
<b>ISJ</b> Infiltration seeper at (or from... to...) o'clock (at joint)	<b>FH</b> End of survey
<b>JDM</b> Joint displaced medium	
<b>JDL</b> Joint displaced large	

M/H: 1 Depth: 1000mm



Chamber Dimension (mm):

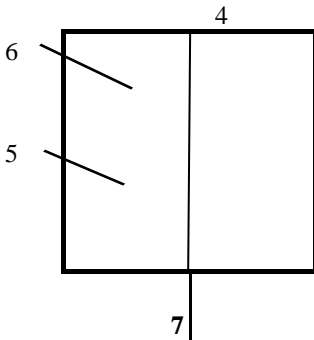
Depths of run if different to invert level:-

Run	_____
2	600mm
	_____
	_____
	_____
	_____
	_____

Manhole Condition

As built

M/H: 2 Depth: 2125mm



Chamber Dimension (mm):

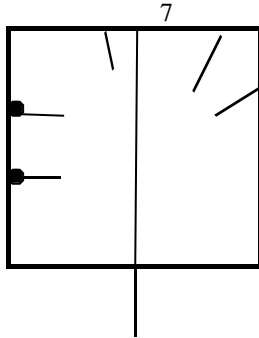
Depths of run if different to invert level:-

Run	_____
	_____
	_____
	_____
	_____
	_____
	_____

Manhole Condition

As built

M/H: 3 Depth: 2350mm



Chamber Dimension (mm):

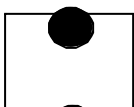
Depths of run if different to invert level:-

Run	_____
	_____
	_____
	_____
	_____
	_____
	_____

Manhole Condition

As built

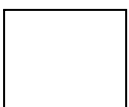
KEY....



Internal Back Drop



External Back Drop



Interceptor

Water Pressure Test Results

From:

To:

Pass / Fail