

A
Factual Report
of
Site Investigation
undertaken for
Martin Beaumanoir
at
7 Green View
The Green
Theydon Bois
on
16th January 2009



Chelmer Site Investigations,
Unit 15, East Hanningfield Industrial Estate, Old Church Road,
East Hanningfield, Essex CM43 8AB
Telephone: 01245 400930 Fax: 01245 400933
Email: info@siteinvestigations.co.uk Website: www.siteinvestigations.co.uk

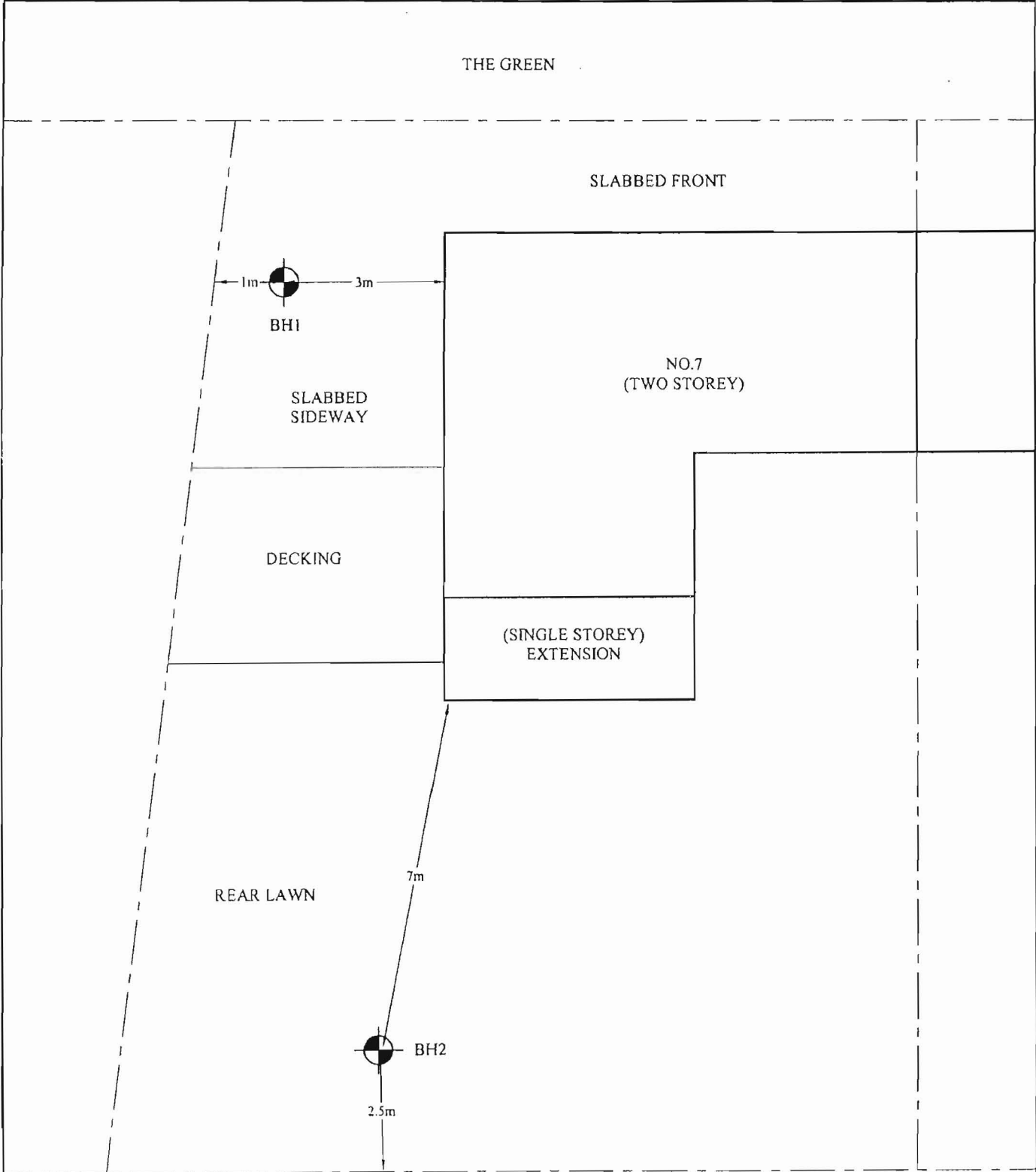


Chelmer Site Investigations

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Client: Martin Beaumanoir	Scale: N.T.S.	Sheet No: 1 of 1	Date: 16.1.09	
Location: 7 Green View, The Green Theydon Bois	Job No: 1480	Weather: Overcast	Drawn by: JG	Checked by: ME



Notes: On site tree identification for guidance only. Not authenticated.

Key:

-  Tree/Shrub
-  Borehole
-  Trial Pit
-  Gully
-  Tree Stump
-  Rain Water/Soil Pipe
-  Manhole



Client: Martin Beamanoir		Scale: N.T.S.		Sheet No: 1 of 1		Date: 16.1.09		
Site: 7 Green View, The Green, Theydon Bois		Job No: 1480		Borehole No: 1		Boring Method: C.F.A.		
Weather: Overcast				Drawn by: JG		Approved by: MCE		
Depth Mtrs	Description of Strata	Thickness	Legend	Sample	Test Type Result	Root Information	Depth of Water	Depth Mtrs
G.L.	SLABS OVER SAND	0.10						
0.10	TYPE 1 ROADSTONE	0.10				Hair and fibrous roots to 1.2m ↓		
0.20	MADE GROUND: medium compact dark brown/grey silty clay with gravel and brick fragments.	0.40		D				0.50
0.60	Firm mid brown/orange grey veined silty CLAY with partings of orange and brown silt and fine sand claystone nodules and crystals.	1.00		D	V 68 72	No roots observed below 1.2m ↓		1.00
1.60	Stiff as above.	1.80		D	V 94 100			1.50
				D	V 122 132			2.00
				D	V 140+ 140+			2.50
				D	V 140+ 140+			3.00
3.40	Very stiff mid brown silty CLAY with partings of orange and brown silt and fine sand claystone nodules and crystals.	3.10		D	V 140+ 140+			3.50
				D	V 140+ 140+			4.00
				D	V 140+ 140+			4.50
				D	V 140+ 140+			5.00
6.50	Very stiff mid grey silty CLAY with partings of brown silt and fine sand and crystals.	3.50		D	V 140+ 140+			6.00
				D	V 140+ 140+		7.00	
				D	V 140+ 140+		8.00	
				D	V 140+ 140+		9.00	
10.00	Borehole ends at 10.0m			D	V 140+ 140+			10.00
Remarks: Borehole dry and open on completion.				Key: T.D.T.D. Too Dense to Drive D Small Disturbed Sample B Bulk Disturbed Sample U Undisturbed Sample(U100) W Water Sample J Jar Sample V Picon Vanc (kPa) M Mackintosh Probe N Standard Penetration Test Blow Count				



Client: Martin Beamanoir		Scale: N.T.S.	Sheet No: 1 of 1	Date: 16.1.09					
Site: 7 Green View, The Green, Theydon Bois		Job No: 1480	Borehole No: 2	Boring Method: C.F.A.					
Weather: Overcast			Drawn by: JG	Approved by: MCE					
Depth Mtrs	Description of Strata	Thickness	Legend	Sample	Test Type Result		Root Information	Depth of Water	Depth Mtrs
G.L.	Turf over TOPSOIL	0.10							
0.10	MADE GROUND: medium compact dark brown/grey silty clay with gravel brick and china fragments.	0.60					Hair and fibrous roots to 1.2m ↓ No roots observed below 1.2m		
0.70	Firm mid brown/orange grey veined silty CLAY with partings of orange and brown silt and fine sand claystone nodules and crystals.	1.60		D					0.50
				D	V	68 66		1.00	
				D				1.50	
				D	V	74 74		2.00	
2.30	Stiff as above.	1.40		D				2.50	
				D	V	116 120		3.00	
				D				3.50	
3.70	Very stiff mid brown/orange silty CLAY with partings of orange and brown silt and fine sand claystone nodules and crystals.	1.80		D	V	140+ 140+		4.00	
				D				4.50	
				D	V	140+ 140+		5.00	
5.50	Very stiff mid to dark brown silty CLAY with partings of orange and brown silt and fine sand claystone nodules and crystals.	1.20		D	V	140+ 140+		6.00	
6.70				D	V	140+ 140+		7.00	
	Very stiff mid grey silty CLAY with partings of brown silty and fine sand and crystals.	3.30		D	V	140+ 140+		8.00	
				D	V	140+ 140+		9.00	
10.00				D	V	140+ 140+		10.00	
Borehole ends at 10.0m									
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) U Undisturbed Sample(U100) M Mackintosh Probe W Water Sample N Standard Penetration Test Blow Count					

Chelmer Geotechnical Laboratories

Unit 15 East Hanningfield Industrial Estate Old Church Road East Hanningfield Essex CM3 8AB Tel: 01245 401393 Fax: 01245 400933 Email: info@soillabs.co.uk

Laboratory Testing Results

Job No: CGL01106
 Client: Martin Beaumanoir CSI Ref: 1480
 Site: 7 Green View The Green Theydon Bois

Received: 16.01.09
 Tested: 20.01.09
 Complete: 22.01.09

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]
BH / Sample No	Depth (m)															SO ₃ [12]	SO ₄ [13]	
1/006164	1.0	D	35	<5	81	27	54	0.15	54	CV			70					
1/006165	2.0	D	32	<5	77	26	51	0.11	51	CV			97					
1/006166	3.0	D	33	<5	80	30	50	0.06	50	CV			137					
1/006167	4.0	D	33	<5	81	29	52	0.06	52	CV			> 140					

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 Chelmer Site Investigations using a Ficon hand vane or Goonor 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] 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
 B Bulk sample
 U U100 (undisturbed sample)
 W Water sample
 ENP Essentially Non-Plastic by inspection
 U/S Underside Foundation

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BH / Sample No	Depth (m)															SO ₃ SO ₄		
																[12]	[13]	
2/006168	1.0	D	40	11	86	28	58	0.20	52	CV			67					
2/006169	2.0	D	31	<5	72	27	45	0.10	45	CV			74					
2/006170	3.0	D	32	<5	75	28	47	0.09	47	CV			118					
2/006171	4.0	D	31	<5	76	27	49	0.09	49	CV			> 140					

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
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a Ficon hand vane or Geonor vane (GV).

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

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[13] SO₄ = 1.2 x SO₃

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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

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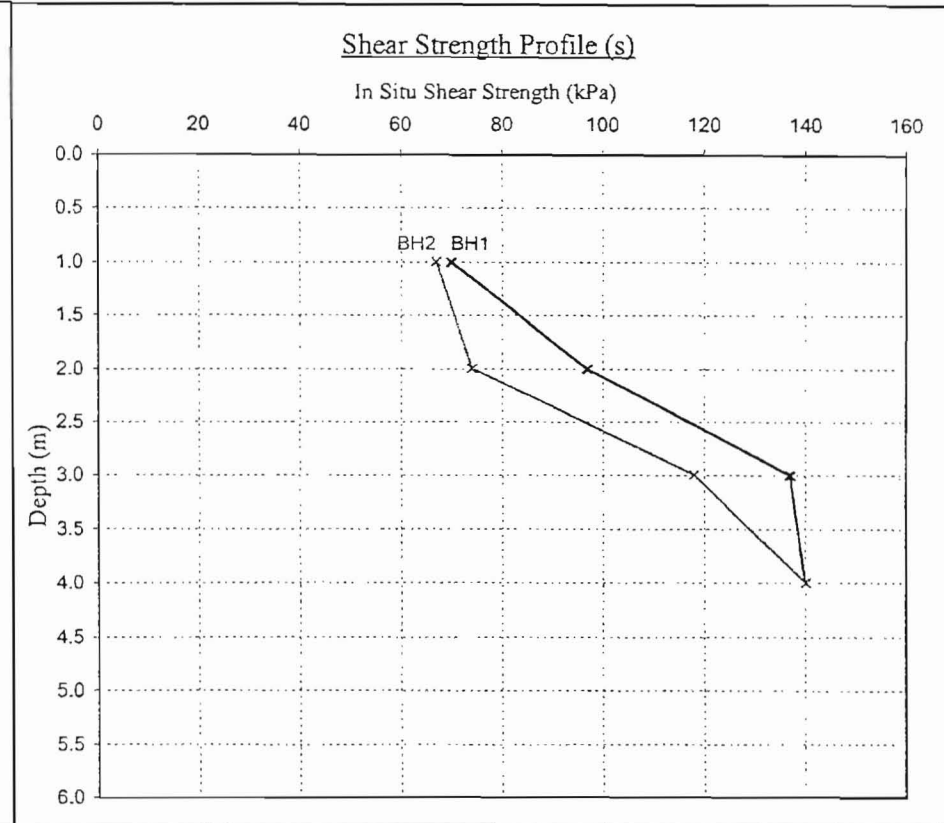
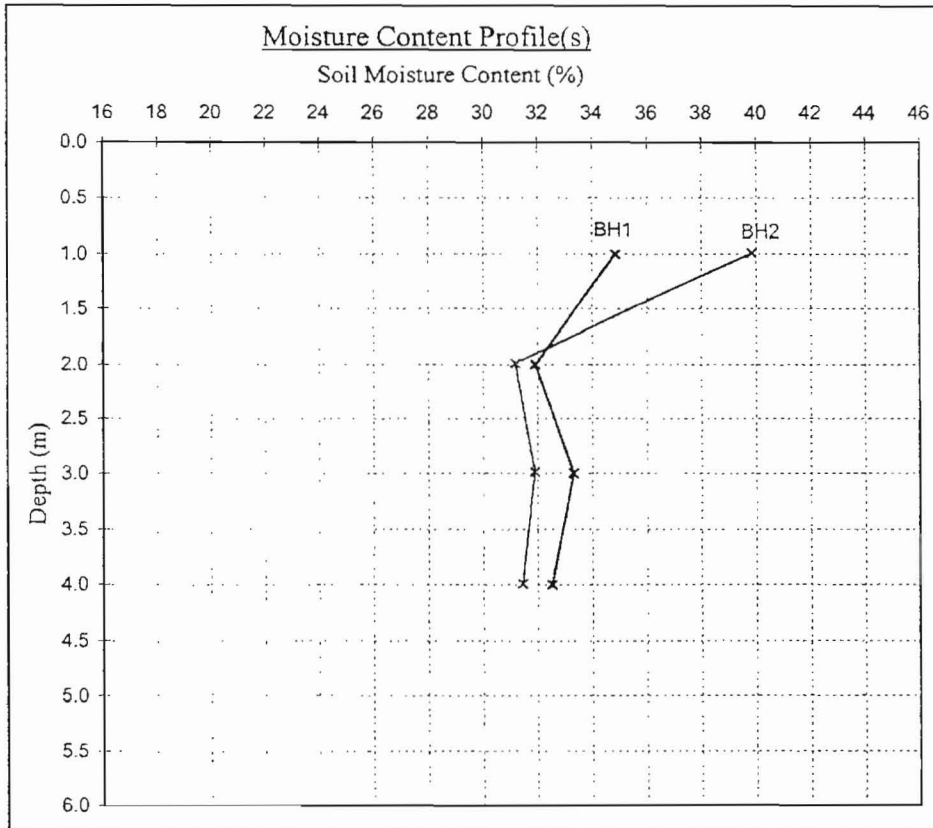
Unit 15 East Hanningfield Industrial Estate Old Church Road East Hanningfield Essex CM3 8AB Tel: 01245 401393 Fax: 01245 400933 Email: info@soillabs.co.uk

Moisture Content and Shear Strength Profiles

Client: Martin Beaumanoir CSI Ref: 1480
 Site: 7 Green View The Green Theydon Bois

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

Job No: CGL01106
 Received: 16.01.09
 Tested: 20.01.09
 Complete: 22.01.09



Notes

1. If the Soil Fraction > 0.425mm exceeds 5% the Equivalent Moisture Content of the remainder (calculated in accordance with BS 1377: Part 2 : 1990, cl.3.2.4 note 1) is also plotted and the alternative profile additionally shown as an appropriately coloured broken line.
2. 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

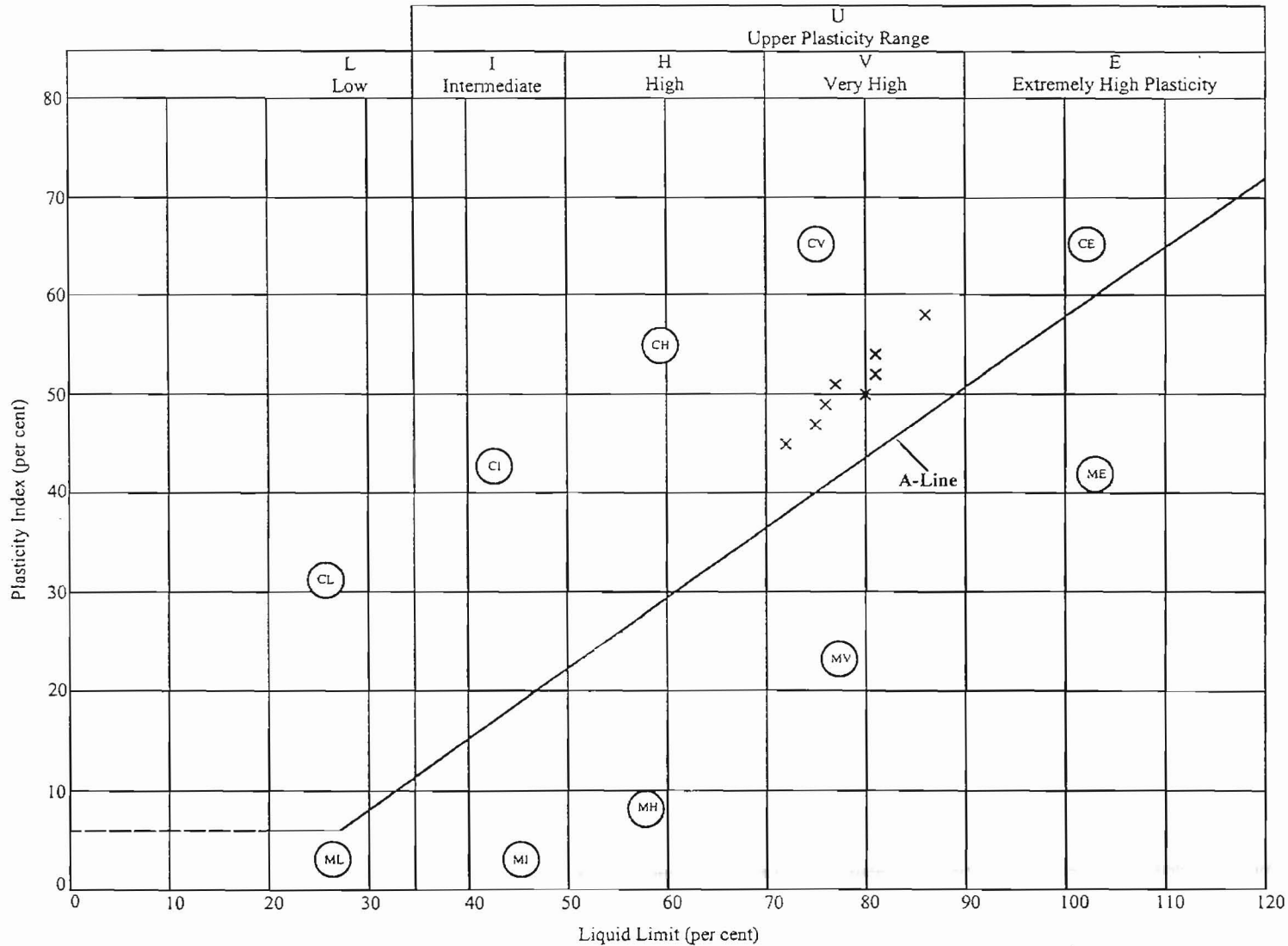
Unless otherwise stated, values of Shear Strength were determined in situ by Chelmer Site Investigations using a Pilcon Hand Vane the calibration of which is limited to a maximum reading of 140 kPa.

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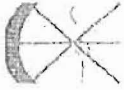


Key	
BH 1	X
BH 2	X

Plasticity Chart for the classification of fine soils and the finer part of coarse soils.

In Compliance with BS 5930 : 1981

SILT (M-SOIL), M, plots below A-Line
 CLAY, C, plots above A-Line } M and C may be combined as FINE SOIL, F.



REPORT NOTES

Equipment Used

Hand tools, Mechanical Concrete Breaker and Spade, Hand Augers, 100mm/150mm diameter Mechanical Flight Auger Rig, GEO205 Flight Auger Rig, Window Sampling Rig, and Large or Limited Access Shell & Auger Rig upon request and/or access permitting.

On Site Tests

By Pilcon Shear-Vane Tester (Kn/m^2) in clay soils, and/or Mackintosh Probe in granular soils or made ground and/or upon request Continuous Dynamic Probe Testing and Standard Penetration Testing.

Note:

Details reported in trial-pits and boreholes relate to positions investigated only as instructed by the client or engineer on the date shown.

We are therefore unable to accept any responsibility for changes in soil conditions not investigated i.e. variations due to climate, season, vegetation and varying ground water levels.

Full terms and conditions are available upon request.

7 Green View, The Green, Theydon Bois, Essex

Surface Water

Calculation of surface water drained area based on the requirements of Building Regulations Approved Document H and BS EN 752.

The existing property currently drains via gutters and rainwater pipes to an existing below ground system, and benefits from both a front and rear garden.

The proposed extensions are below ground in the form of a basement, and above ground to the side / rear.

The basement structure will be formed by a contiguous piled wall, and does not have any adverse effects on the area previously drained due to the nature of the sub-soil (made ground over clay) other than perched water. The footprint of this has therefore been excluded from the area of consideration.

The perched water table is located approximately 500mm below the surface will be retained by the installation of land drains to prevent a flowpath, and protect the below ground structure, by maintaining the current scenario.

The additional roof area of the extension is mainly formed over the existing hard paved area (or decking over hard paving) and has been evaluated at 75mm/h proposed instead of 50mm/h existing.

Existing impermeable area

= 50.75m² roof area @75mm/h + 78.65m² hard paved area @ 50mm/h

= 1.06 l/s + 1.10 l/s

= 2.16 l/s

Proposed impermeable area

= 92.40m² roof area @75mm/h + 34.30m² hard paved area @ 50mm/h

= 1.94 l/s + 0.48 l/s

= 2.42 l/s

The increase is therefore negligible at 0.26 l/s.



KEY



Extent of Forest Land



Agreed boundary line

Rev	Drawn	Date



CITY OF LONDON

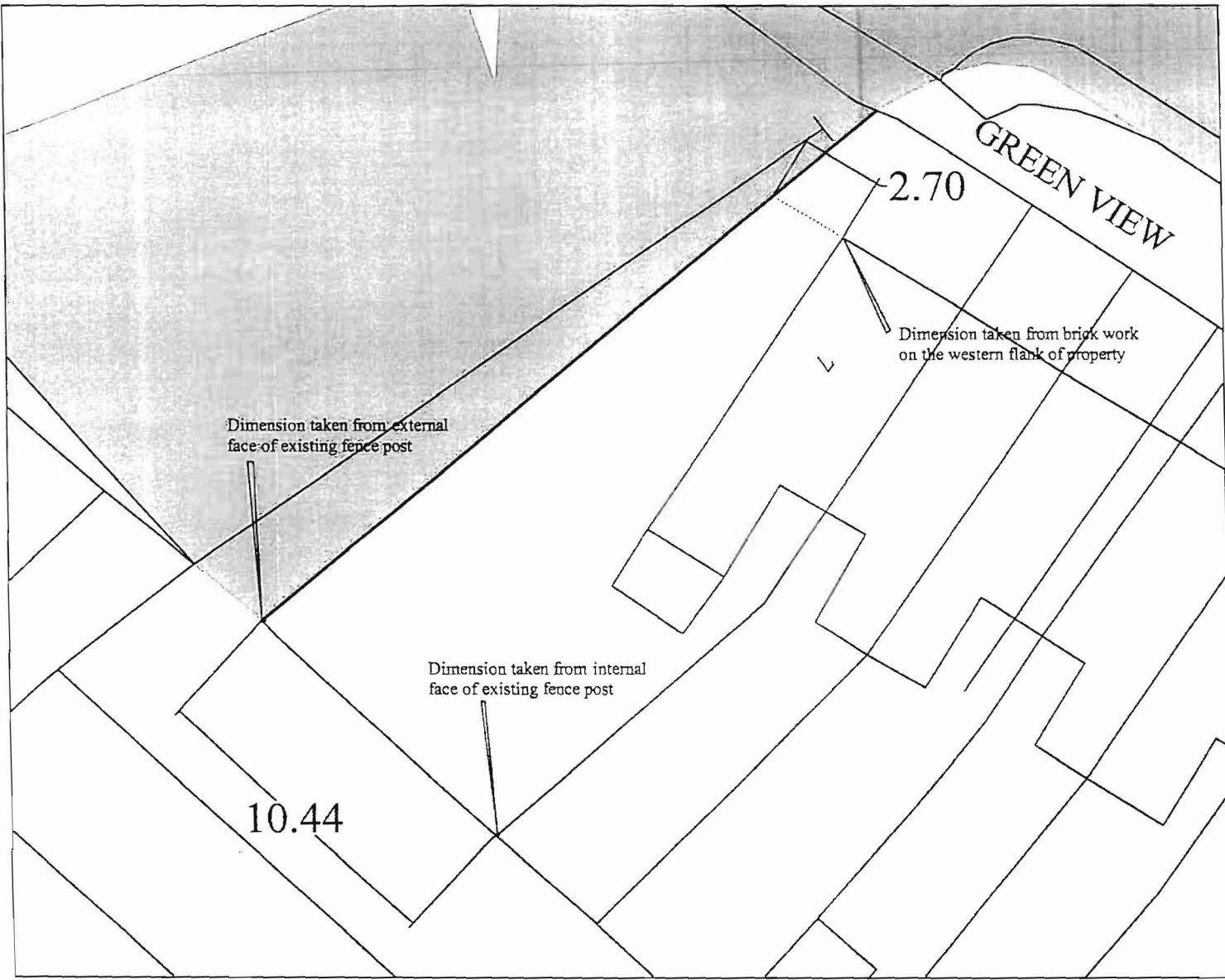
P.G. Bennett, MA (Cantab) FRICS
City Surveyor

CITY SURVEYOR'S DEPARTMENT
Corporate Property Group
Cartographic Plans & Research Section

Address :
7 Green View,
Theydon Bois,
Essex, CM16 7JD

Title :
Agreed boundary between
above property and Epping
Forest.

Print scale : A4@ 1:1	Drawn by : JEC
Date : May 2009	Proj code : UPRN
Drawing No : 1-C-30536-01	
Revision	



Scale 1:500

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