

SITE INVESTIGATION FACTUAL REPORT

Report No: 545839
Client: Sedgwick International UK - Maidstone
Site: 3 Buttsmead
Northwood
Client Ref: 6865297
Date of Visit: 03/12/18

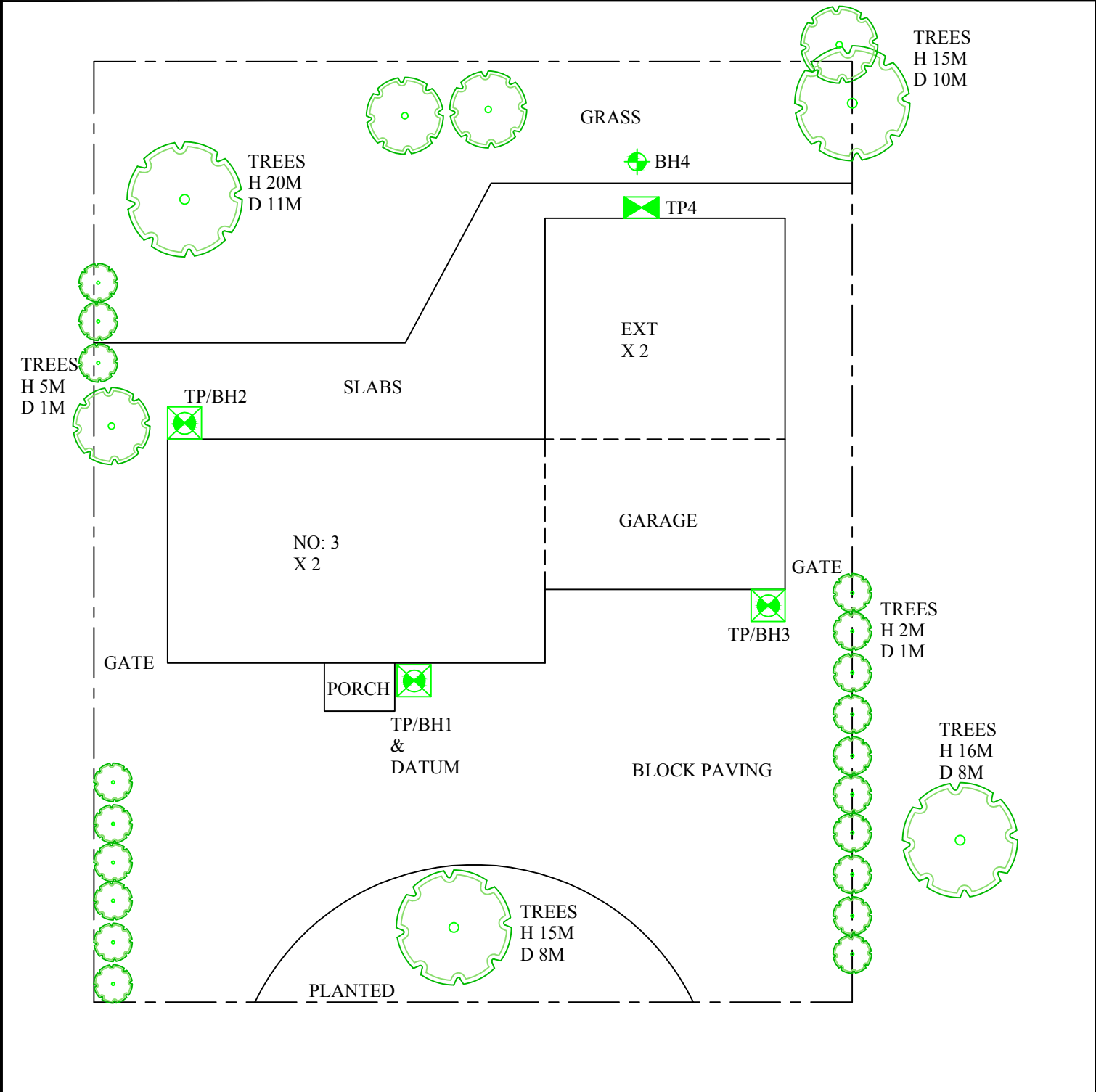


Home Emergency Response - Subsidence Investigation - Drainage Services – Crack & Level Monitoring – Property Video Surveys

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

☎ 0843 2272362
✉ enquiries@cet-uk.com
💻 www.cet-uk.com

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



ON SITE TREE IDENTIFICATION FOR GUIDANCE ONLY. NOT AUTHENTICATED.

Remarks:	Key:		Surface Water Drain	---
	Combined Gully	RWWG	Foul Water Drain	---
	Manhole	MH	Tree / Bush	(approx. ht in m)
	Rain Water Pipe	RWP	Trial Pit	
	Rain Water Gulley	RWG	Borehole	
	Soil Vent Pipe	SVP	O/D - Open Discharge	
Scale: N.T.S.		Waste Gulley	WG	
		Waste Pipe	WP	

TEST REPORT: Trial Pit

REPORT NUMBER: C987451 / 67713.1.1.1

TRIAL PIT REF: TP1

CLIENT: Sedgwick International UK

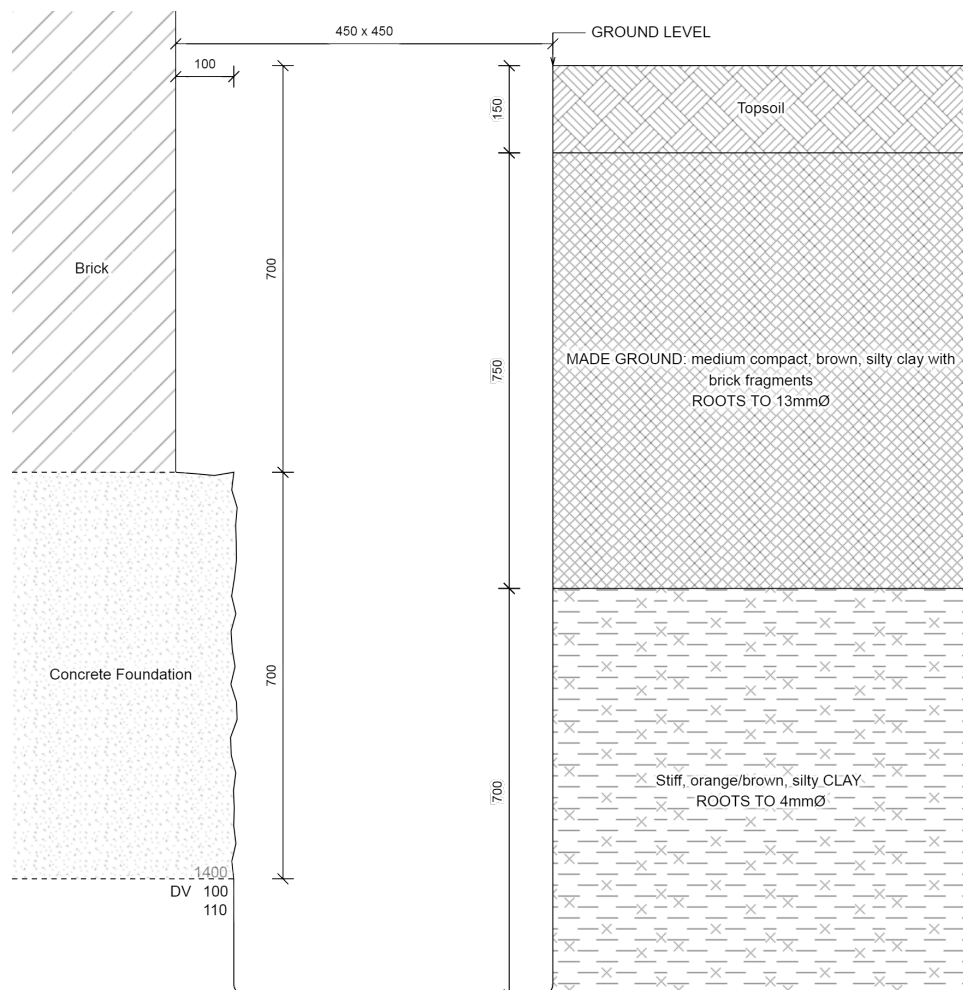
JOB NO: 545839

EXCAVATION METHOD: Hand tools

DATE: 29/03/2019

SITE: 3 Buttsmead HA6 2TL

WEATHER: Dry



For Strata below 1600mm see Bore Hole log

TP excavated to 1200mm, then extended to 1600mm with the aid of a hand auger

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

Remarks:

For and on behalf of CET
Sophie Cahalane - Admin Assistant

Report Format:

DE74 2UD

Approved Signatory
29-Mar-19

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Report version 1

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[illegible]

TEST REPORT: Trial Pit

REPORT NUMBER: C987451 / 67713.1.1.2

TRIAL PIT REF: TP2

CLIENT: Sedgwick International UK

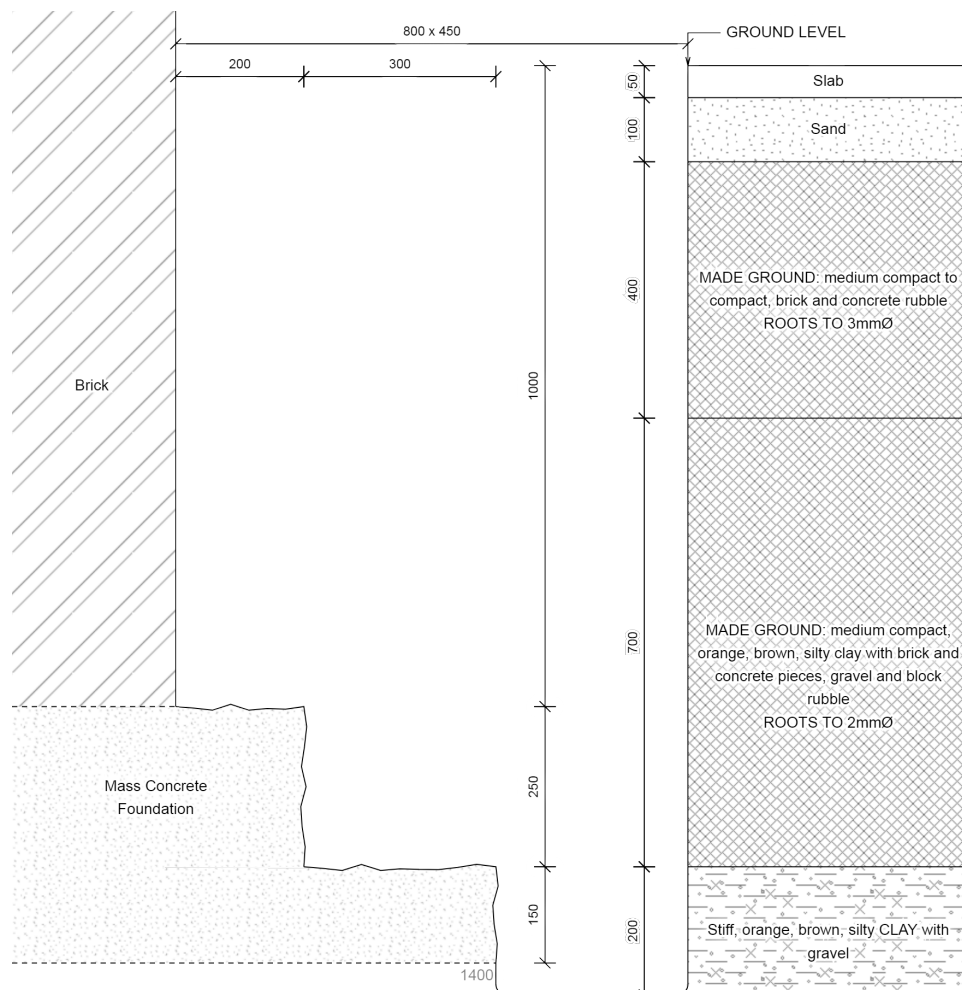
JOB NO: 545839

EXCAVATION METHOD: Hand tools

DATE: 29/03/2019

SITE: 3 Buttsmead HA6 2TL

WEATHER: Raining



For Strata below 1450mm see Bore Hole log

TP abandoned at 1400mm as too deep to excavate. BH done through base of TP. U/S not found.

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

Remarks:

For and on behalf of CET
Sophie Cahalane - Admin Assistant

Report Format:

Approved Signatory
29-Mar-19

DE74 2UD

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Report version 1

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TEST REPORT: Trial Pit

REPORT NUMBER: C957429 / 56316.1.1.3

TRIAL PIT REF: Tp3

CLIENT: Sedgwick International UK

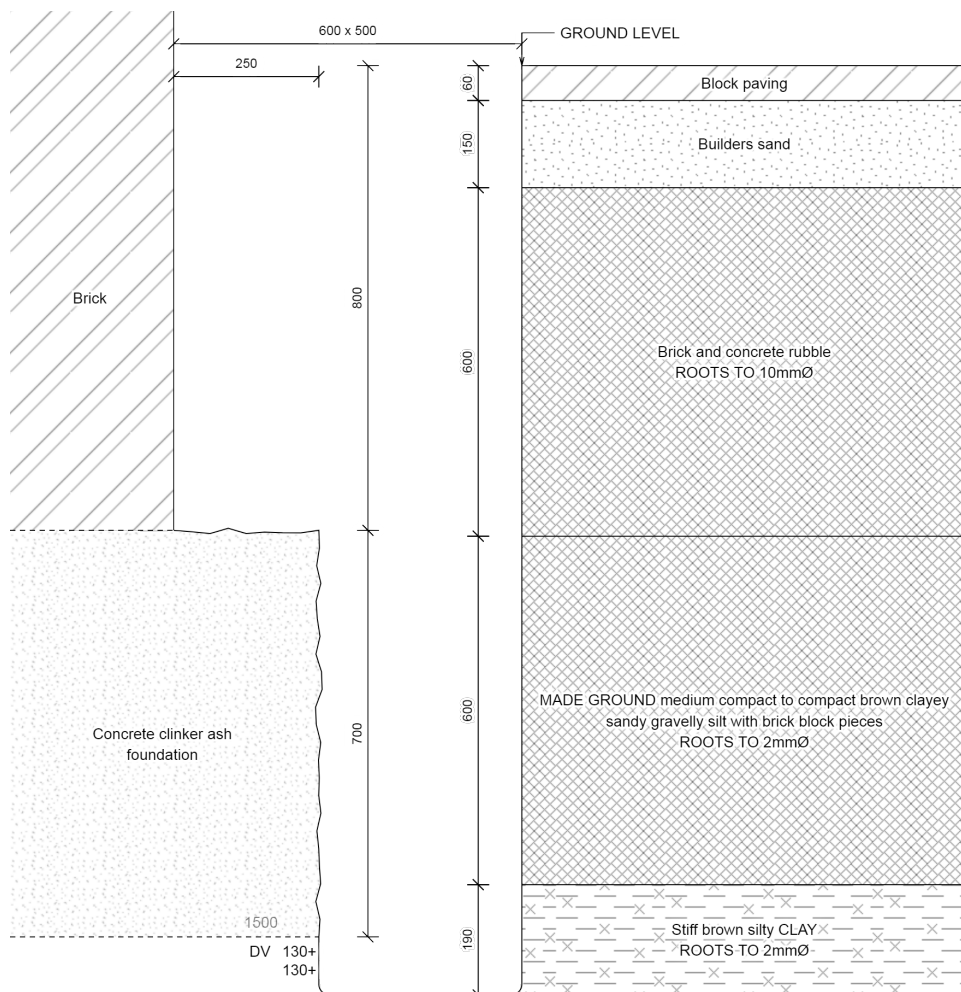
JOB NO: 545839

EXCAVATION METHOD: Hand tools

DATE: 03/12/2018

SITE: 3 Buttsmead, HA6 2TL

WEATHER: Raining



For Strata below 1600mm see Bore Hole log

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

Remarks:

For and on behalf of CET
Scott Alger - Lab

Report Format:

Approved Signatory
05-Dec-18

DE74 2UD

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Report version 1

Page 1 of 1

Borehole		3			Sheet:	1 of 1	Site:	3 Buttsmead			
					Job No:	545839					
					Date:	03/12/2018					
Boring Method:		Hand Auger			Ground Level:		Client:	Sedgwick International UK - Maidstone			
Diameter (mm):	75	Weather:	rain								
Depth	Soil Description						Samples and Tests				
(m)							Thickness	Legend	Depth	Type	Result
0.00	See Trial Pit						1.60				
1.60	Stiff brown silty CLAY						0.80				
2.40	End of BH										
Remarks:					Key:					To	Max
BH end at 2.3mObstruction thought to be siltstone,too dense to hand auger.BH dry and open on completion,no roots observed below 2.2m					D - Disturbed Sample					Depth	Dia
					B - Bulk Sample					(m)	(mm)
					W - Water Sample Roots					2.20	1
					J - Jar Sample Roots						
					V - Pilcon Shear Vane (kPa Roots						
					M - Mackintosh Probe Depth to Water (m)						
					TDTD - Too Dense To Drive						
Logged:	AH	SA	Checked:	Approved:	Version	V1.0 28/01/16	N.T.S.				

TEST REPORT: Trial Pit

REPORT NUMBER: C987451 / 67713.1.1.3

TRIAL PIT REF: TP4

CLIENT: Sedgwick International UK

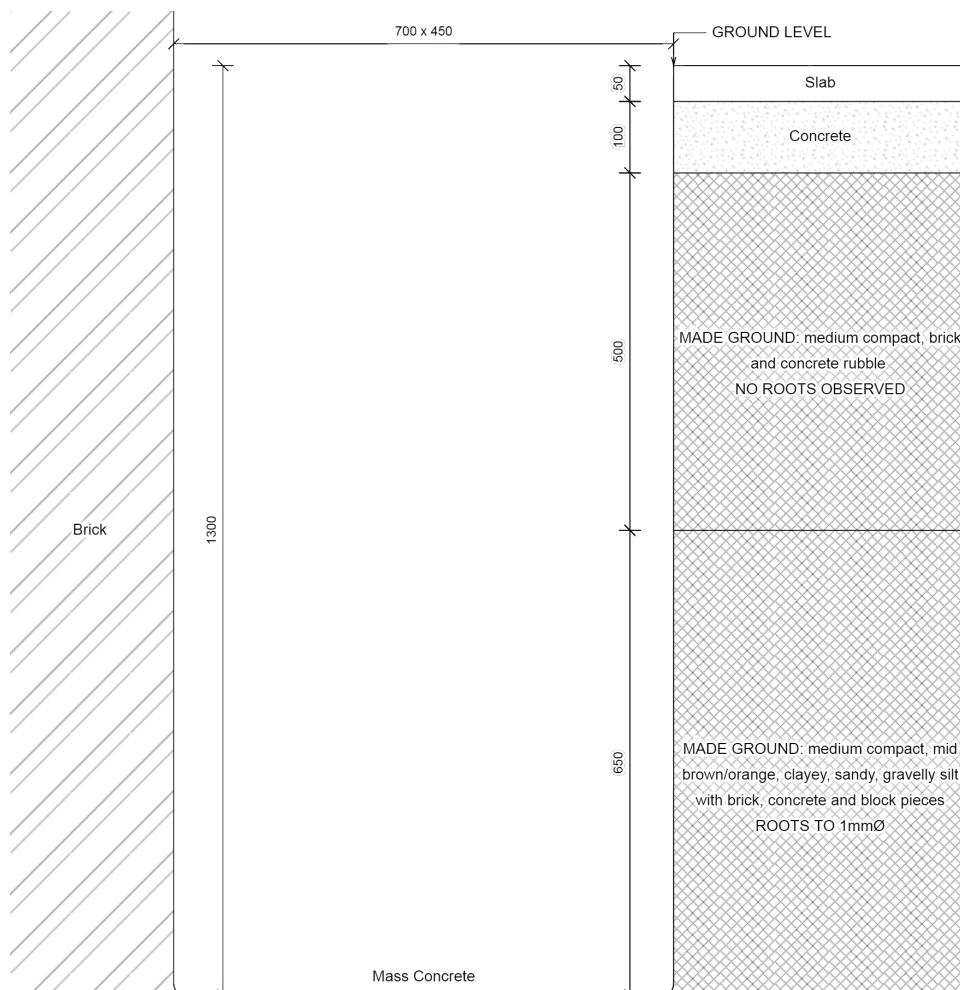
JOB NO: 545839

EXCAVATION METHOD: Hand tools

DATE: 29/03/2019

SITE: 3 Buttsmead HA6 2TL

WEATHER: Raining



Trial pit abandoned at 1300mm

TP abandoned at 1300mm as too deep to excavate. Water entering TP from guttering. BH carried out to rear of TP to avoid made ground and water U/S of foundation not found. No soil sample taken.

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

Remarks:

For and on behalf of CET
Sophie Cahalane - Admin Assistant

Report Format:

Approved Signatory
29-Mar-19

DE74 2UD

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Report version 1

Page 1 of 1

Borehole		4			Sheet:	1 of 1	Site:	3 Buttsmead					
					Job No:	545839							
					Date:	03/12/2018							
Boring Method:		Hand Auger			Ground Level:		Client:	Sedgwick International UK - Maidstone					
Diameter (mm):	75	Weather:	rain										
Depth	Soil Description						Samples and Tests						
(m)							Thickness	Legend	Depth	Type	Result		
0.00	Turf over MADEGROUND medium compact brown gravelly silty clay						0.60						
0.60	Firm brown very silty CLAY						0.90						
									1.00	DV	42		
											50		
1.50	Stiff orange-brown silty gravelly CLAY						0.80		1.50	DV	130+		
											130+		
									2.00	DV	130+		
											130+		
2.30	Stiff grey-brown silty CLAY						0.90						
									2.50	DV	130+		
											130+		
									3.00	DV	130+		
											130+		
3.20	End of BH												
Remarks: BH ends at 3.2m.Obstruction thought to be siltstone , too dense to hand auger.BH dry and open on completion,no roots observed below 2.3m.						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)
												2.30	1
Logged:	AH	SA	Checked:	Approved:	Version	V1.0 28/01/16	N.T.S.						

Laboratory Summary Results

Our Ref : 545839

Date Sampled: 11/02/19

Location : 3, Buttsmead, Northwood

Date Received : 12/02/19

Client: Sedgwick International UK - Maidstone

Date Tested : 14/02/19

Address: 4 North Court, South Park Business Village, Armstrong Road, ME15 6JZ

Date of Report : 27/02/19

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)																	SO3 [14]	SO4 [15]	
1	U/S 1.40	D	27	<5	57	21	36	0.16	36	CH					105					
	2.0	D	21	<5	57	21	36	0.01	36	CH					140					
	2.5	D	18	<5																
	3.0	D	19	<5	59	20	39	-0.03	39	CH					> 140					
	3.5	D	12	13																
	4.0	D	15	10											> 140					
	4.5	D	5.50	15																
	5.0	D	7.43	7																
																				</

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] In-house Test Procedure S17a: One Dimensional Swell/Strain Test

[10] Estimated Heave Potential (Dd)

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

a Pilcon hand vane or Geonor 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] SO₄ = 1.2 x SO₃

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

* 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
 U/S Underside of Foundation



Laboratory Summary Results

Our Ref : 545839

Date Sampled: 03/12/18

Location : 3, Buttsmead, Northwood

Date Received : 05/12/18

Client: Sedgwick International UK - Maidstone

Date Tested : 06/12/18

Address: 4 North Court, South Park Business Village, Armstrong Road, ME15 6JZ

Date of Report : 12/12/18

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)																	SO3 [14]	SO4 [15]	
BH2	1.5	D	25	<5	56	21	35	0.12	35	CH					> 130					
	2.0	D	26	<5											> 130					
	2.5	D	26	<5	52	21	31	0.16	31	CH					> 130					
	3.0	D	24	<5											> 130					
	3.5	D	24	<5	62	23	39	0.03	39	CH					> 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

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a Pilcon hand vane or Geonor vane (GV).

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

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

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 ENP Essentially Non-Plastic by inspection
 U/S Underside of Foundation



Version: 5BH V1.5 - 26.06.18

Our Ref : 545839

Location : 3, Buttsmead, Northwood

Client: Sedgwick International UK - Maidstone

Address: 4 North Court, South Park Business Village, Armstrong Road, ME15 6JZ

Laboratory Testing Results

Date Sampled : 03/12/18

Date Received : 05/12/18

Date Tested : 06/12/18

Date of Report : 12/12/18

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)																	SO3 [14]	SO4 [15]	
3	U/S 1.50	D	21	<5	62	20	42	0.02	42	CH					> 130					
	2.0	D	21	<5	53	17	36	0.11	36	CH					> 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

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

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U/S Underside of Foundation



Our Ref : 545839

Location : 3, Buttsmead, Northwood

Client: Sedgwick International UK - Maidstone

Address: 4 North Court, South Park Business Village, Armstrong Road, ME15 6JZ

Laboratory Testing Results

Date Sampled : 03/12/18

Date Received : 05/12/18

Date Tested : 06/12/18

Date of Report : 12/12/18

Sample Ref.		Type	Moisture Content (%) [1]	Soil Fraction > 0.425mm (%) [2]	Liquid Limit (%) [3]	Plastic Limit (%) [4]	Plasticity Index (%) [5]	Liquididity * 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 ₃ [14]	SO ₄ [15]	
BH4	1.0	D	31	<5	51	21	30	0.34	30	CH					46					
	1.5	D	22	12											> 130					
	2.0	D	23	<5	63	19	44	0.09	44	CH					> 130					
	2.5	D	22	<5	64	19	45	0.07	45	CH					> 130					
	3.0	D	13	<5	Insufficient sample for further testing										> 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 TP 4/95

[9] In-house Test Procedure S17a: One Dimensional Swell/Strain Test

[10] Estimated Heave Potential (Dd)

[11] Values of shear strength were determined in situ by CET using a Pilcon hand vane or Geonor 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] SO₄ = 1.2 x SO₃

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

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Full reports can be provided upon request

Key

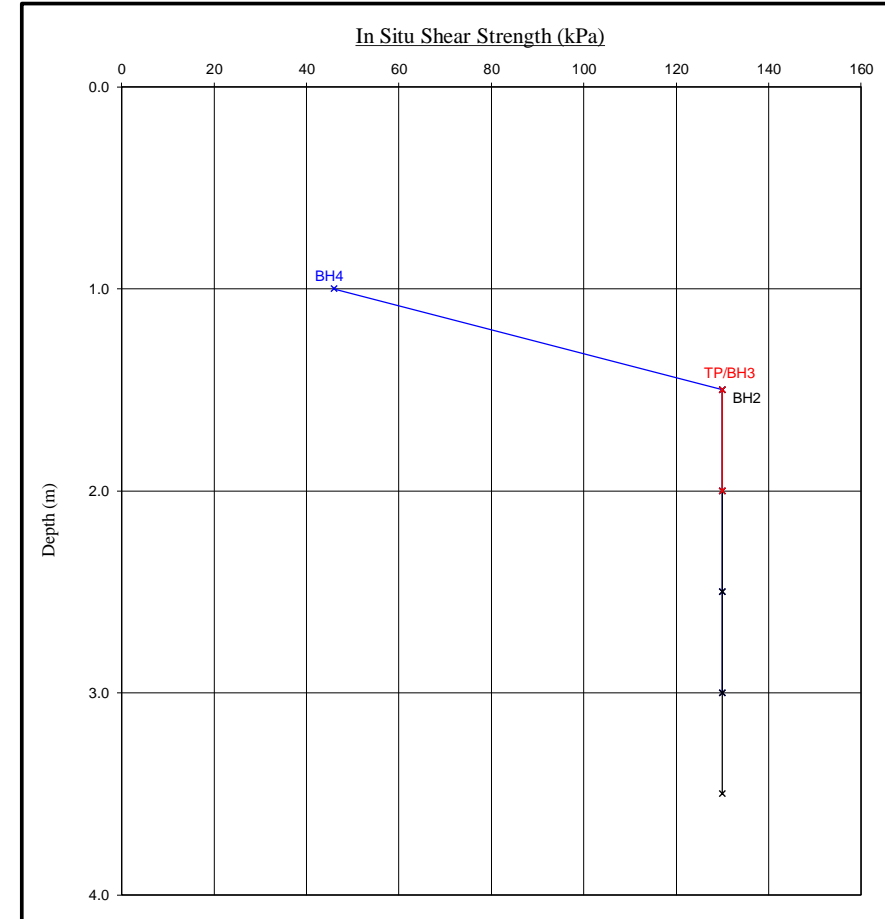
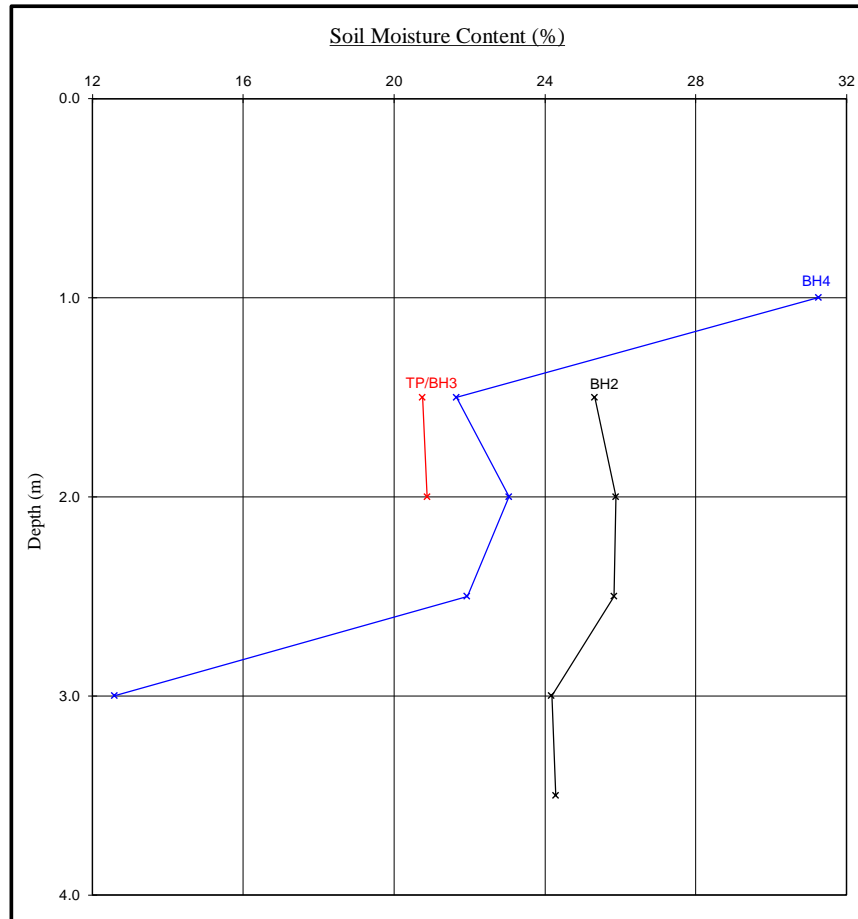
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Moisture Content Profiles

Our Ref : 545839
 Location : 3, Buttsmead, Northwood
 Work carried out for: Sedgwick International UK - Maidstone

Date Sampled : 03/12/18
 Date Received : 05/12/18
 Date Tested : 06/12/18
 Date of Report : 12/12/18



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.

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 130 kPa.
2. Unless specifically noted the profiles have not been related to a site datum.

EPSL**European Plant Science Laboratory**

Sheet: 1 of 1

Job No: **545839**Date: **22/02/2019**Order No: **1310062**EPSL Ref: **R28531**Site: **3 Buttsmead, Northwood,**Work carried
out for: **Sedgwick International UK*****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)	3 mm	Quercus spp. 3 roots	Positive
BH1 (to 3m)	1 mm	probably Quercus spp. *	Negative

* Very decayed.

Quercus spp. are oaks (both deciduous and evergreen).



MDM

Address for correspondence: EPSL, Intec, Parc Menai, Bangor, Gwynedd, North Wales, LL57 4FG

Telephone: 01248 672 652

e-mail: lab@innovation-environmental.co.uk

Head of Laboratory Services : *M D Mitchell B.Sc. (Hons), M.Phil.*

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*

Registered in England. No 3256771, Registered Office: Yarmouth House, 1300 Parkway, Solent Business Park, Hampshire, PO15 7AE

EPSL**European Plant Science Laboratory**

Sheet: 1 of 1

Job No: **545839**Date: **07/12/2018**Order No: **1254017**EPSL Ref: **R26673**Site: **3 Buttsmead, Northwood,**Work carried
out for: **Sedgwick International UK*****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>
BH2 (2m)	<1 mm	broadleaved species, too juvenile for positive identification	Positive
TP3 (USF)	2 mm	either Quercus spp. or Castanea spp.	Positive
TP3 (USF)	1.5 mm	Cupressaceae spp. 2 roots	Positive
BH3 (2.2m)	1 mm	Cupressaceae spp.	Positive
BH4 (1-2.3m)	<1 mm	either Quercus spp. or Castanea spp. 4 roots	Positive

Quercus spp. are oaks. Castanea spp. include sweet chestnut.

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



MDM

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Head of Laboratory Services : *M D Mitchell B.Sc. (Hons), M.Phil.*

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*

Registered in England. No 3256771, Registered Office: Yarmouth House, 1300 Parkway, Solent Business Park, Hampshire, PO15 7AE