

16th March 2020

Our ref: GE18885/KOD02/200316

Tom Nelson
Linden Homes South
1A Guildford Business Park
Guildford
Surrey
GU2 8XG

Dear Tom,

RE: Boorley Parcel B6 Further Investigation

Further to the recent investigation works undertaken we write to present the preliminary information and a summary of the ground conditions encountered during site works undertaken at the above site.

The scope of works comprised up to fifteen trial pits to depths of up to 1.9m bgl within Parcel B6 in line with positions agreed with the Client. Due to flooding at the surface within the north-eastern area of the site exploratory holes within Parcel B6, it was only possible to excavate fourteen of the fifteen trial pits proposed during the site works. Site works were undertaken on the 4th March 2020.

Background

The purpose of the site works undertaken within Parcel B6 was to investigate possible soft ground within the area of the site which was located outside of the area of the previous phase of site works within this parcel, where limited site investigation data was currently present.

Published geological records and previous investigation works across the wider site indicated that the ground conditions were likely to comprise sand and gravel of superficial River Terrace Deposits overlying sand, silt and clay of the Wittering Formation within Parcel B6.

Given the current and past use of the site it was also considered likely that a thickness of Made Ground may be present across the site.

Site Description

At the time of the site works, the site comprised an open field bounded by heras fencing in all directions. Esso fuel lines were located along the western boundary of the site and were separated from the rest of the site by heras fencing. The ground surface on site was wet and soft underfoot.

A number of stockpiles of material were located along the centre of the site adjacent to an area of land where c. 200mm of surface material had been stripped off. It was noted that water was pooling on the ground surface in this area.

Ground Conditions

The ground conditions encountered were broadly consistent with published geological records and previous investigation across the wider site and comprised a thickness of Made Ground/reworked ground and relic topsoil

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overlying clay, sand and gravel in Parcel B6. A generalised summary of the encountered conditions is presented in Table 1 below.

Top (m bgl)	Base (m bgl)	Geology
0	0.30 - 0.80	MADE GROUND: Orangish brown/dark brown/greenish grey/greyish brown/bluish grey CLAY with varying proportions of sand, gravel, brick fragments, concrete rubble, tile, metal, plastic, bluish black staining, rootlets and an organic odour; Brown/dark brown slightly gravelly SILT with varying proportions of rootlets, dark brown/black staining, brick fragments and an organic odour (likely an old topsoil layer).
0.20 - 0.40	0.50 - 0.80	RELIC TOPSOIL (TP01, TP05, TP08): Brown slightly gravelly SILT with abundant rootlets, dark brown staining and an organic odour. Gravel is fine to medium sub angular of flint.
0.30 - 0.80	1.50 – 1.90	WITTERING FORMATION: Soft to stiff orangish brown CLAY with varying proportions of sand, gravel, cobbles and boulders, rootlets, orange/dark brown staining; Orangish brown/pale grey fine SAND with varying proportions of clay, gravel, orange staining and black flecking; Orangish brown GRAVEL with varying proportions of clay, sand, cobbles and orange staining.

NOTE – due to the difficulty in distinguishing the River Terrace Deposits from the Wittering Formation on site, all natural deposits have been logged as Wittering Formation

Table 1 Summary of Ground Conditions for Parcel B6

Obstructions were encountered within a number of pits. A disused and silted up plastic pipe was encountered within TP10. With the exception of an organic odour associated with organic material within a number of pits no visual or olfactory evidence of contamination was encountered within the exploratory holes on site.

Groundwater was encountered within some of trial pits during excavation as detailed in Table 2 .

Location	Water Strike (m bgl)	Time Elapsed (min)	Depth to Water (m bgl)	Note
TP05	1.90	20	1.90	Water coming up from base of pit
TP09	1.80	20	1.75	Water coming up from base of pit

Table 2 Groundwater conditions encountered during excavation

In addition, water was noted to be ponding at the surface in the vicinity of TP02 and TP06 as well as a 'very wet surface layer' being reported in the vicinity of TP15.

Rootlets were encountered within a number of exploratory holes on site at depths of up to 1.90m bgl. A summary of depths to which roots were observed within the exploratory holes, with the exception of within Topsoil and Made Ground, is presented in Table 3 below.

Exploratory Hole	Maximum observed depth (m bgl)	Diameter (mm)
TP01	1.60 (base of hole)	Frequent rootlets
TP04	1.40 1.60 (base of hole)	Frequent rootlets Rare rootlets
TP05	1.20 1.90 (base of hole)	Frequent rootlets Rare rootlets
TP06	1.00	Some rootlets
TP07	0.90 1.50 (base of hole)	Some rootlets Rare rootlets
TP08	1.50	Frequent rootlets
TP09	1.40	Frequent rootlets

Exploratory Hole	Maximum observed depth (m bgl)	Diameter (mm)
TP11	1.50	Frequent rootlets
TP12	1.60 (base of hole)	Some rootlets
TP13	1.40 1.70	Frequent rootlets Occasional rootlets
TP15	1.40	Frequent rootlets

Table 3 Summary of roots observed in recovered soils – Parcel B6

The ground investigation has encountered the presence of roots, rootlets and rotting rootlets to depths of up to 1.90m bgl (base of hole) within the trial pits on Parcel B6. In addition, the presence of roots in excess of the likely minimum founding depth (based on volume change potential) is likely to require deepening of foundations across areas of the site. The depth of roots and rootlets encountered as part of the additional investigation works are presented in Table 3. It is considered that foundations should pass through and be located beneath areas where abundant or frequent rootlets have been recorded. However, foundations could potentially be located in areas where some or rare rootlets have been identified or where there is evidence of decaying rootlets subject to agreement with NHBC (or alternative Building Control provider).

For further details of the ground conditions encountered, reference should be made to the exploratory hole logs included within Appendix A.

Conventional Foundations

The results of the Atterberg Limit tests on samples previously recovered and reported under separate cover from the investigation across the Parcel B6 have indicated the soils tested to vary from low to high volume change potential, as defined by NHBC Standards, Chapter 4.2. Whilst low to medium volume change potential soils were present in some locations, the absence of high volume change potential strata in proximity to these areas cannot be ruled out and thus a high volume change potential designation is recommended. Therefore, a minimum founding depth of 1.0m bgl is recommended where planting is outside of the zone of influence of trees. It is noted that this is a minimum depth based on volume change potential and conventional foundations are often constructed to a depth of 1.2-1.5m bgl on many sites in order to accommodate services and the like.

Minimum recommended foundation depths have been derived taking consideration of the reported strengths recorded for the soils recovered from the exploratory holes and assumes founding on a firm (or stronger) clay, or a sand/gravel stratum. Indicative minimum foundation depths are presented in Table 4.

Location	Soil Description	Strength of Ground encountered (m bgl)	Groundwater Depth Recorded (m bgl)	Minimum Recommended Foundation Depth (m bgl)
TP1	Stiff very sandy CLAY with frequent rootlets.	Stiff from 0.80m to 1.60m (base of pit)	Not encountered	1.60+ due to roots
TP2	Stiff slightly gravelly sandy CLAY over firm very sandy CLAY.	Stiff from 0.80m to 1.30m Firm from 1.30m to 1.60m (Base of pit)	Not encountered	1.20
TP3	Not possible to excavate due to flooding of area at surface level			
TP4	Stiff slightly gravelly sandy CLAY with frequent rootlets, becoming rare at 1.5m	Stiff from 0.80m to 1.60m (Base of pit)	Not encountered	1.50 due to roots

Location	Soil Description	Strength of Ground encountered (m bgl)	Groundwater Depth Recorded (m bgl)	Minimum Recommended Foundation Depth (m bgl)
TP5	Firm slightly gravelly very sandy CLAY with frequent rootlets over firm becoming soft very sandy CLAY.	Stiff from 0.50m to 1.20m Firm becoming soft from 1.20m to 1.90m	1.90	Either shallow, wide foundations with a low bearing capacity (60kPa) within the stiff clays where roots are not present or a piled solution to account for weaker underling soils and presence of roots. Softening of soil possibility associated with presence of shallow water encountered.
TP6	Very stiff to stiff slightly gravelly very sandy CLAY with some rootlets over slightly clayey fine SAND.	Very stiff from 0.50m to 0.90, Stiff at 0.90m	Not encountered	1.20
TP7	Stiff gravelly sandy CLAY with some rootlets over stiff slightly gravelly very sandy CLAY with rare rootlets.	Stiff from 0.40m to 1.50m (Base of pit)	Not encountered	1.20
TP8	Stiff to very stiff slightly gravelly very sandy CLAY with frequent rootlets over firm very sandy CLAY.	Stiff from 0.70m to 1.50m Firm from 1.50m to 1.80m (Base of pit)	Not encountered	1.50 due to roots
TP9	Stiff slightly gravelly very sandy CLAY with frequent rootlets over firm gravelly very sandy CLAY with some cobbles and boulders of flint.	Stiff from 0.50m to 1.40m Soft to firm from 1.40m to 1.80m (Base of pit)	1.75	Either shallow wide foundations with a low bearing capacity (60kPa) within the stiff clays where roots are not present or a piled solution to account for weaker underling soils and presence of roots. Softening of soil possibility associated with presence of shallow water encountered.
TP10	Firm sandy CLAY over clayey fine SAND.	Firm from 0.60m to 1.30m	Not encountered	1.20
TP11	Stiff slightly gravelly very sandy clay with frequent rootlets over stiff slightly gravelly very sandy CLAY.	Stiff from 0.75m to 1.80 (Base of pit)	Not encountered	1.50 due to roots

Location	Soil Description	Strength of Ground encountered (m bgl)	Groundwater Depth Recorded (m bgl)	Minimum Recommended Foundation Depth (m bgl)
TP12	Stiff becoming firm slightly gravelly sandy CLAY with some rootlets.	Stiff from 0.90m to 1.30m Firm from 1.50m to 1.60m (Base of pit)	Not encountered	1.20, possibly requiring depending to pass through any frequent rootlets if encountered. Watching brief recommended during foundation excavations. Reduced bearing capacity of 75kPa.
TP13	Stiff to very stiff slightly gravelly sandy CLAY with frequent rootlets over firm sandy very gravelly CLAY with occasional rootlets.	Stiff to Very Stiff from 0.55 to 1.40 Firm from 1.40 to 1.70 (Base of SI)	Not encountered	1.40 due to roots
TP14	Very stiff gravelly very sandy CLAY with frequent rootlets over slightly clayey sandy cobbly flint GRAVEL.	Very stiff from 0.80m to 1.40m	Not encountered	1.40 due to roots
TP15	Stiff slightly gravelly sandy CLAY with frequent rootlets over slightly clayey sandy GRAVEL.	Stiff from 0.70m to 1.40m	Not encountered	1.40 due to roots

Table 4 Summary of Foundation Depth Recommendations

It should be noted that groundwater was recorded at shallow depth within TP5 and TP9. It is possible that if groundwater is encountered during excavation for foundations, this could adversely impact the stability of trenches and constructability of conventional foundations in this area. As such, it may be prudent to excavate a trial trench (off alignment) prior to construction of the foundations to plots around TP5 and TP9 is shallow wider foundation with a lower bearing capacity are selected over a piled solution in this area. If adverse conditions prevail, it may be necessary to revise the foundation solution such as to construct piled foundations, dewater or otherwise revise the construction method. A piled foundation, whilst having a higher construction cost would mitigate the constructability and potential longer term performance risks associated with a shallow foundation solution in these locations.

It is considered that in general conventional foundations could be suitable for the proposed low-rise development as indicated in Table 5, albeit taken through any Made Ground, soft clay, root or desiccated zones, or disturbed ground to terminate in the firm, or stiff clay, or sand of the Wittering Formation. For plots in the vicinity of TP5 and TP9 a piled foundation solution may be more appropriate due to constructability concerns and the presence of soft clays underlying the firm to stiff clays present at shallow depth for which a reduced bearing capacity (and likely wider foundation) is required.

Where foundations are proposed to be constructed within the zone of influence of trees, it is possible that foundations would need to be deepened to account for the presence and influence of trees. It is possible that foundation bases would require to be stepped and as such, it is recommended that steps do not exceed 0.50m in height at any point and are at least 1.0m (lateral distance) away from any corner or node point on the foundations.

Where this cannot be accommodated, the foundation should be formed at the greater depth. Foundations which are proposed in proximity to trees (remaining, removed or proposed) should be designed in accordance with NHBC Standards Chapter 4.2, and design approaches 4.2B and 4.2C, which incorporate the water demand of trees and the distance of the tree from the nearest portion of foundation.

Based on the ground conditions encountered, a net allowable bearing capacity of 60kPa is recommended for the firm (locally borderline soft to firm) clay of the Wittering Formation within TP5 and TP9 at shallow depth, with 90kPa where firm to very stiff clays have been encountered to the full depth of the investigation undertaken. The higher value is limited due to the potential for the presence of firm clay within the strata underlying the foundation. Total settlement should remain within tolerable limits for the recommended allowable bearing capacity.

Heave protection measures in accordance with NHBC Standards will be required where foundation depths exceed 1.50m and where foundations pass through desiccated ground.

It is recommended that foundation excavations be concreted or blinded as soon after excavation as possible. Where concreting could take place the following day it is recommended that excavations are not taken to full depth overnight and that the final 0.50m of cover is only removed immediately prior to concreting.

Excavations

Excavations within the clay soils at the site are likely be stable in the short to medium term. Large scale excavations and those left unsupported for long time periods are likely to be less stable. The stability of excavations will also be reduced where sand lenses are present and where exposed to surface water, or where soft strata are present.

Closure

We trust that we have interpreted your instructions correctly, and please do not hesitate to contact us should you have any queries.

Yours sincerely
For and on Behalf of Geo-Environmental



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Consulting Engineer
katie.odea@gesl.net

Enc	Figure 1	Site Location Plan
	Figure 2	Exploratory Hole Location Plan – Parcel B6
	Appendix A	Exploratory Hole Logs





FIGURES





Project:	Boorley B4 and B6			Title	Site Location Plan - B4 & B6	
Client:	Linden Homes South			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE18885	Revision:	1.0			
Drawn:	KOD	Date:	06/03/2020			
Figure:	1	Scale:	not to scale			



Project:	Boorley B6 - Further Assessment			Title	Additional Eploratory Holes - Parcel B6	
Client:	Linden Homes South			Geo-Environmental Services Ltd Unit 7 Danworth Farm, Cuckfield Road Hurstpierpoint, West Sussex BN6 9GL +44(0)1273 832972 www.gesl.net	 Geo-Environmental	
Ref No:	GE18885	Revision:	1			
Drawn:	KOD	Date:	17/02/2020			
Figure:	2 (B6)	Scale:	Not to scale			





APPENDIX A

Exploratory Hole Logs





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

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Trial Pit Log

Trial Pit No

TP01

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451411.03 - 114648.27
Level: 16.95

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 3.50

Depth
1.60

0.60

Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30	16.64		Orangish brown dark brown and greenish grey sandy gravelly CLAY with some brick fragments, frequent rootlets and an organic odour.	
				0.80	16.14		Brown slightly gravelly SILT with abundant rootlets, dark brown staining and an organic odour. Gravel is fine to medium sub angular flint. (OLD TOPSOIL LAYER)	
	1.00	PP	PP=2.8kg/cm2				Stiff orangish brown very sandy CLAY with frequent rootlets, some orange staining and some dark brown staining.	1
	1.20	PP	PP=2.2kg/cm2					
	1.40	PP	PP=2.0kg/cm2					
	1.60	PP	PP=2.2kg/cm2	1.60	15.34		End of Pit at 1.60m	2
								3
								4
								5

Water Strikes	
Depth Strike	Notes to (m/gg)

Remarks

Stability Sides stable





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

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Trial Pit Log

Trial Pit No
TP02
Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451386.34 - 114639.90
Level: 17.24

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 5.00
Depth 1.60

Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30	16.94		Dark brown, greyish brown and orangish brown mottled sandy gravelly CLAY with brick fragments and rootlets.	
				0.80	16.44		Dark grey to black sandy clay with brick fragments, plastic, metal and rotting organic material (grass and wood) with bluish black staining and a strong organic odour.	
	0.90	PP	PP=3.0kg/cm2				Stiff orangish brown slightly gravelly sandy CLAY. Sand is fine. Gravel is fine to medium sub angular flint.	1
	1.10	PP	PP=2.8kg/cm2					
	1.20	PP	PP=2.8kg/cm2					
				1.30	15.94		Firm orangish brown very sandy CLAY. Sand is fine.	
	1.40	PP	PP=1.2kg/cm2					
	1.60	PP	PP=1.5kg/cm2	1.60	15.64		End of Pit at 1.60m	2
								3
								4
								5

Remarks Water puddling at surface

Stability Sides stable





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environmental www.gesl.net

Trial Pit Log

Trial Pit No

TP04

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451382.26 - 114624.48
Level: 17.45

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 5.00

Depth
1.60

0.60

Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50	16.95		Greyish brown, orangish brown and pale bluish grey sandy gravelly CLAY with abundant roots 1-15mm, rootlets and an organic odour.	
				0.80	16.65		Dark brown slightly gravelly SILT with brick fragments and abundant roots 1-5mm rootlets and an organic odour.	
	0.90	PP	PP=2.5kg/cm2				Stiff orangish brown slightly gravelly sandy CLAY with frequent rootlets and some orange staining.	1
	1.10	PP	PP=2.8kg/cm2					
	1.30	PP	PP=2.8kg/cm2					
	1.50	PP	PP=2.6kg/cm2				Rootlets become rare	
				1.60	15.85		End of Pit at 1.60m	2
								3
								4
								5

Depth (m)	Water Strike

Remarks

Stability Sides stable





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

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Trial Pit Log

Trial Pit No
TP05
Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451406.79 - 114625.85
Level: 16.75

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 4.00

Scale
1:25

Client: Linden Homes

Depth
1.90

0.60

Logged
KOD

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20	16.55		Orangish brown slightly sandy gravelly CLAY with brick fragments, rootlets, bluish black staining and an organic odour.	
				0.50	16.24		Dark brown slightly clayey, slightly gravelly SILT with an organic odour. Gravel is fine to medium sub angular flint. (OLD TOPSOIL LAYER)	
	0.70	PP	PP=1.5kg/cm2				Firm to stiff orangish brown slightly gravelly very sandy CLAY with frequent rootlets and dark brown staining. Sand is fine. Gravel is fine to medium sub angular flint.	1
	0.90	PP	PP=1.5kg/cm2					
	1.10	PP	PP=2.5kg/cm2					
	1.30	PP	PP=1.5kg/cm2	1.20	15.54		Firm becoming soft orangish brown very sandy CLAY with rare gravel, rare rootlets and some orange staining. Sand is fine. Gravel is fine sub angular flint.	
	1.50	PP	PP=1.2kg/cm2					
	1.60	PP	PP=0.8kg/cm2					
	1.70	PP	PP=0.7kg/cm2					
	1.80	PP	PP=0.8kg/cm2					
				1.90	14.84		End of Pit at 1.90m	2
								3
								4
								5

Depth Strike	Water Strike	Remarks
1.90	1.90	Water coming up from base of pit
		Stability Sides stable





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

Geo-Environmental www.gesl.net

Trial Pit Log

Trial Pit No

TP06

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451357.32 - 114602.02
Level: 17.83

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 5.00

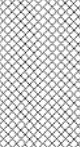
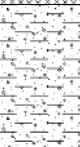
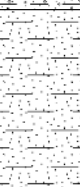
Depth
1.60

0.45

Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50	17.33		Brown slightly gravelly sandy CLAY with brick fragments, concrete rubble, tile and some black staining.	
	0.60	PP	PP=3.1kg/cm2				Stiff to very stiff orangish brown slightly gravelly very sandy CLAY with some rootlets with brown staining. Sand is fine. Gravel is fine to medium sub angular flint.	
	0.75	PP	PP=3.2kg/cm2					
	0.90	PP	PP=2.8kg/cm2	1.00	16.83		Orangish brown with some pale grey slightly clayey fine SAND with some black flecking	1
				1.60	16.23		End of Pit at 1.60m	2
								3
								4
								5

Remarks Water puddling at surface.

Stability Sides stable





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

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Trial Pit Log

Trial Pit No

TP07

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451372.94 - 114604.23

Level: 17.54

Date

04/03/2020

Location: Boorley Green

Dimensions (m): 5.00

Depth
1.50

0.60



Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40	17.14		Brown slightly gravelly sandy CLAY with abundant brick, frequent rootlets and some rotting organic material with black staining.	
	0.50	PP	PP=1.5kg/cm2				Stiff orangish brown, pale grey and dark brown mottled slightly gravelly sandy CLAY with some rootlets and orange staining.	
	0.75	PP	PP=2.4kg/cm2					
	1.00	PP	PP=2.7kg/cm2	0.90	16.64		Stiff orangish brown slightly gravelly very sandy CLAY with abundant dark brown staining and rare rootlets.	1
	1.25	PP	PP=3.0kg/cm2					
	1.50	PP	PP=2.8kg/cm2	1.50	16.04		End of Pit at 1.50m	
								2
								3
								4
								5

Water Strikes	
Depth Strike	Notes to (m/gg)

Remarks

Stability Sides stable





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

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Trial Pit Log

Trial Pit No
TP08
Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451399.47 - 114608.82
Level: 16.97

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 3.50

Depth
1.80

0.60

Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40	16.57		Orangish brown, greenish grey and brown mottled sandy gravelly clay with brick fragments.	
				0.70	16.27		Dark brown slightly gravelly SILT with abundant rootlets and a strong organic odour. Gravel is fine to medium sub angular flint. (OLD TOPSOIL LAYER)	
	0.80	PP	PP=2.8kg/cm2				Stiff to very stiff orangish brown slightly gravelly very sandy CLAY with frequent rootlets and dark brown staining. Sand is fine. Gravel is fine to medium sub angular flint.	1
	1.00	PP	PP=3.1kg/cm2					
	1.20	PP	PP=3.2kg/cm2					
				1.50	15.47		Firm orangish brown very sandy CLAY with some black flecking. Sand is fine.	
	1.60	PP	PP=1.2kg/cm2					
	1.80	PP	PP=1.1kg/cm2	1.80	15.17		End of Pit at 1.80m	2
								3
								4
								5

Water Strikes	
Depth Strike	Notes to (m/kg)

Remarks

Stability Sides stable





Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL

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Trial Pit Log

Trial Pit No

TP09

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451411.67 - 114596.21
Level: 16.52

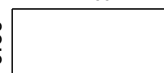
Date
04/03/2020

Location: Boorley Green

Dimensions (m): 4.50

Depth
1.80

0.60



Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30	16.22		Orangish brown, greyish brown and pale grey sandy gravelly clay with brick fragments, frequent rootlets and dark brown staining.	
				0.50	16.02		Dark brown slightly gravelly SILT with some brick fragments, frequent rootlets and dark brown to black staining.	
	0.80	PP	PP=1.8kg/cm2				Stiff dry orangish brown slightly gravelly very sandy CLAY with frequent rootlets, dark brown staining, and orange staining. Sand is fine. Gravel is fine to medium sub angular flint.	1
	1.10	PP	PP=2.5kg/cm2					
	1.50	PP	PP=0.8kg/cm2	1.40	15.12		Firm orangish brown gravelly very sandy CLAY with some cobbles and boulders of flint. Gravel is fine to coarse sub angular flint.	
	1.60	PP	PP=1.0kg/cm2					
				1.80	14.72		End of Pit at 1.80m	2
								3
								4
								5

Depth Strike	Water Strikes	Remarks
1.80	1.75	Water coming up from base of pit
		Stability Sides stable





Unit 7, Danworth Farm
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Trial Pit Log

Trial Pit No

TP10

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451345.99 - 114587.69
Level: 18.03

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 5.00

Scale
1:25

Client: Linden Homes

Depth
1.70

0.60

Logged
KOD

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.30	17.73		Dark brown sandy gravelly CLAY with brick fragments and frequent rootlets	
							Disused, silted up plastic pipe	
				0.60	17.43		Orangish brown slightly clayey sandy GRAVEL with black flecking and orange staining. Sand is fine to coarse. Gravel is fine to coarse sub rounded flint.	
	0.75	PP	PP=1.2kg/cm2				Firm orangish brown and bluish grey mottled very sandy CLAY with some sand lenses. Sand is fine.	1
	1.00	PP	PP=0.9kg/cm2				Orangish brown and pale bluish grey mottled slightly clayey fine SAND with orange staining.	
				1.30	16.73			
				1.70	16.33		End of Pit at 1.70m	2
								3
								4
								5

Water Strikes	
Depth (m)	Notes (m)

Remarks

Stability Sides stable





Unit 7, Danworth Farm
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Trial Pit Log

Trial Pit No

TP11

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451370.69 - 114587.92
Level: 17.46

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 6.00

Scale
1:25

Client: Linden Homes

Depth
1.80

0.60

Logged
KOD

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50	16.96		Greyish brown sandy gravelly clay with brick fragments, concrete rubble, orange staining and frequent rootlets. Sand is fine. Gravel is fine to coarse sub angular flint and some chalk.	
	0.80	PP	PP=2.5kg/cm2	0.75	16.71		Dark brown slightly gravelly SILT with frequent rootlets and dark brown to black staining. (OLD TOPSOIL LAYER)	
	1.00	PP	PP=2.2kg/cm2				Stiff orangish brown to reddish brown slightly gravelly very sandy CLAY with orange staining, frequent rootlets, some sand lenses and 100mm diameter pockets of gravel. Sand is fine. Gravel is fine to medium sub angular flint.	1
	1.30	PP	PP=2.6kg/cm2					
	1.60	PP	PP=1.7kg/cm2	1.50	15.96		Firm to stiff orangish brown and pale grey mottled slightly gravelly very sandy CLAY with orange staining. Sand is fine. Gravel is fine to medium sub angular flint.	
	1.80	PP	PP=1.5kg/cm2	1.80	15.66		End of Pit at 1.80m	2
								3
								4
								5

Water Strikes	
Depth Strike	Notes to (mlog)

Remarks

Stability Sides stable





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Trial Pit Log

Trial Pit No
TP12
Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451385.53 - 114587.85
Level: 17.03

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 4.00

Depth
1.60

0.60

Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50	16.53		Greyish brown and orangish brown sandy gravelly CLAY with brick fragments and frequent rootlets.	
				0.80	16.23		Dark brown slightly gravelly SILT with abundant rootlets and some brick fragments. Gravel is fine to medium sub angular flint.	
	0.90	PP	PP=2.2kg/cm2				Stiff becoming firm orangish brown slightly gravelly sandy CLAY with orange and dark brown staining and some rootlets. Sand is fine. Gravel is fine to medium sub angular flint.	1
	1.10	PP	PP=1.8kg/cm2					
	1.30	PP	PP=1.8kg/cm2					
	1.50	PP	PP=1.2kg/cm2				<i>Fine to medium flint gravel band in southern end of pit.</i>	
				1.60	15.43		End of Pit at 1.60m	2
								3
								4
								5

Water Strikes	
Depth Strike	Notes to (m/gg)

Remarks

Stability Sides stable





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Trial Pit Log

Trial Pit No

TP13

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451398.28 - 114587.31
Level: 16.81

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 3.50

Scale
1:25

Client: Linden Homes

Depth
1.70

0.60

Logged
KOD

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40	16.41		Orangish brown, pale grey and greenish grey mottled slightly gravelly sandy CLAY with brick fragments, orange and dark brown staining and abundant rootlets. Sand is fine. Gravel is fine to coarse sub angular flint.	
				0.55	16.26		Dark brown slightly gravelly SILT with abundant rootlets and an organic odour. (OLD TOPSOIL LAYER)	
	0.80	PP	PP=3.2kg/cm2				Stiff to very stiff orangish brown slightly gravelly sandy CLAY with frequent rootlets and dark brown staining.	1
	1.00	PP	PP=2.8kg/cm2					
	1.20	PP	PP=2.5kg/cm2					
	1.50	PP	PP=1.5kg/cm2	1.40	15.41		Firm orangish brown sandy very gravelly CLAY with occasional rootlets and some sandy gravel bands. Sand is fine to medium. Gravel is fine to coarse sub angular flint.	
				1.70	15.11		End of Pit at 1.70m	2
								3
								4
								5

Water Strikes	
Depth Strike	Notes to (m) (g)

Remarks

Stability Sides stable





Unit 7, Danworth Farm
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Trial Pit Log

Trial Pit No

TP14

Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451402.79 - 114582.75
Level: 16.75

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 3.50

Depth
1.60

0.60

Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50	16.25		Greyish brown, greyish grey and orangish brown sandy gravelly CLAY with brick fragments, abundant rootlets and dark brown to black staining and an organic odour.	
				0.80	15.95		Dark brown slightly gravelly SILT with abundant rootlets, black staining and an organic odour.	
	1.00	PP	PP=3.5kg/cm2				Very stiff dry orangish brown slightly gravelly very sandy CLAY with frequent rootlets and dark brown staining.	1
	1.10	PP	PP=3.2kg/cm2					
	1.20	PP	PP=3.0kg/cm2					
				1.40	15.35		Becomes cobbly	
				1.60	15.15		Orangish brown slightly clayey sandy cobbly flint GRAVEL with orange staining with some bands of clay. Sand is fine to coarse. Gravel is fine to coarse sub angular flint.	
							End of Pit at 1.60m	2
								3
								4
								5

Water Strikes	
Depth Strike	Notes to (mlog)

Remarks

Stability Sides stable





Unit 7, Danworth Farm
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Trial Pit Log

Trial Pit No
TP15
Sheet 1 of 1

Project Name: Boorley Green Parcel B4 & Parcel B6

Project No.
GE18885

Co-ords: 451401.85 - 114570.60
Level: 16.68

Date
04/03/2020

Location: Boorley Green

Dimensions (m): 3.50

Depth
1.60

0.60

Scale
1:25

Logged
KOD

Client: Linden Homes

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50	16.18		Orangish brown, greenish grey and dark grey sandy gravelly CLAY with brick fragments.	
				0.70	15.98		Dark brown slightly gravelly SILT with abundant rootlets and an organic odour. (OLD TOPSOIL LAYER)	
	0.80	PP	PP=2.0kg/cm2				Stiff orangish brown and brown slightly gravelly sandy CLAY with frequent rootlets and orange staining. Sand is fine. Gravel is fine to coarse sub angular flint.	1
	1.00	PP	PP=1.8kg/cm2					
	1.20	PP	PP=1.8kg/cm2					
				1.40	15.28		Orangish brown slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse sub angular flint.	
				1.60	15.08		End of Pit at 1.60m	
								2
								3
								4
								5

Remarks Very wet surface (top 100mm)

Stability Sides stable

