



Stoneyfield Oxted: Desk Based Soils and Agricultural Land Assessment

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Stoneyfield Oxted: Desk Based Soils and Agricultural Land Assessment

Client

Temple Group Ltd
on behalf of
Croudace Homes,
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CR3 6XQ

croudacehomes

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P21295_R1_DO1 Site location

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1. Introduction

1.1. Instruction

Yellow Sub Geo Ltd (Yellow Sub) has been instructed by Temple Group Ltd (Temple) on behalf of Croudace Homes (the Client) to provide a desk based soils and agricultural land assessment (Desk Study) for a proposed residential led development at Stoneyfield, Barrow Green Road, Oxted (the Site). Instruction to proceed was confirmed by email on the 29th July 2024.

1.2. Brief

The brief was to undertake desk based research to provide an understanding of the soils, minerals, agricultural land classification and land quality to support the proposed development through the planning process.

1.3. Limitations

This report has not been supported by on-Site soil surveys.

This report is written strictly for the benefit of the Client and bound by the conditions presented in Appendix A.



2. Site Information

The following section collates and presents available information pertinent to the Site and its local environs.

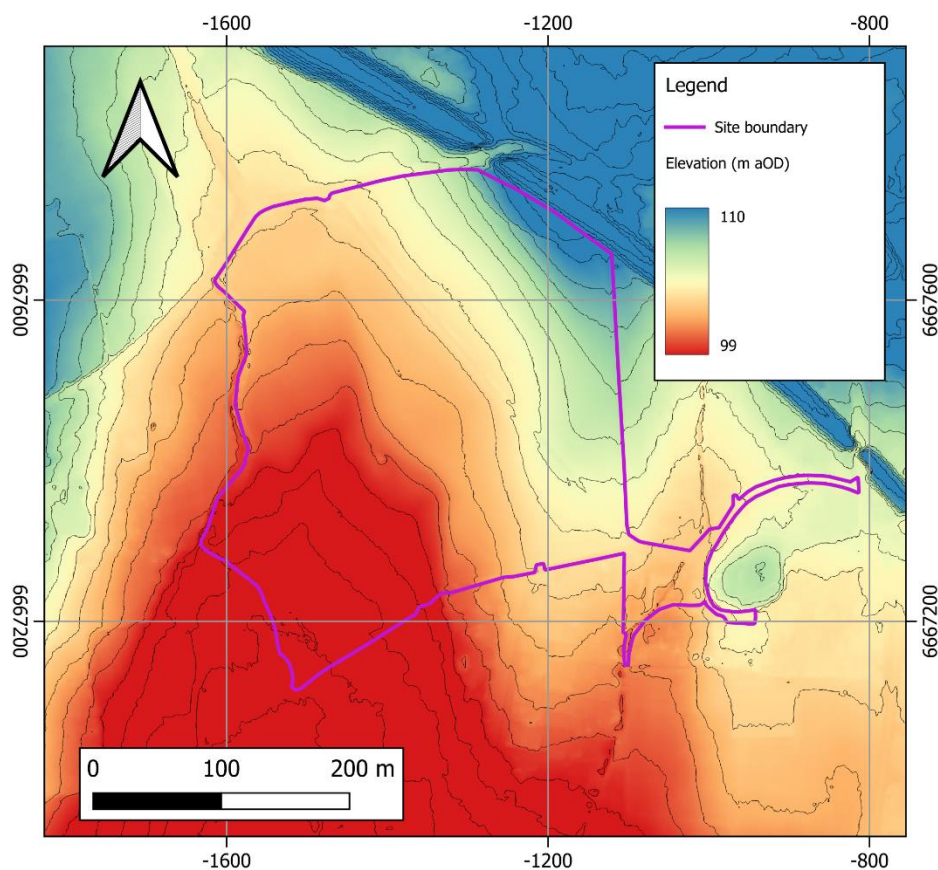
2.1. Site location and description

A Site location plan is presented as drawing P21295_R1_D01. The Site address is as follows:

Land off Barrow Green road,
Stoneyfields,
Oxted,
Surrey
RH8 OLW (nearest postcode).

The Site area (taken from the indicative Site layout presented in Appendix B) is approximately 10.24ha and the National Grid Reference at the centre of the Site is 538775,153120. The Site slopes slightly from the north-eastern corner to the south-western corner ranging from approximately 110m above Ordnance Datum (m aOD) to 99m aOD as shown in Figure 2-1 below.

Figure 2-1 Site topography





2.2. Site description

The Site currently comprises agricultural land consisting of ploughed fields with a public footpath running NNW to SSE across the central area. It is noted that whilst the Site is currently an arable agricultural field, it is isolated and within a wider urban environment.

Surrounding land includes a graveyard, parkland, commercial and residential which is summarised in Table 2-1.

Table 2-1 Adjacent land use summary

Boundary	Land use
North	The land immediately adjacent to the Site comprises Barrow Green Road. The East Grinstead railway line runs almost adjacent to the north-east of the Site, running parallel with the north-eastern boundary.
East	A graveyard and St Mary's Church lie immediately to the east/ southeast, with a hub of residential and commercial buildings further eastwards.
West	Ridgeway Manor care home and other residential properties lie to the west of Site. A unnamed stream, a tributary of the River Eden, runs in parallel to the Site's western boundary.
South	Wheeler Avenue with associated residential housing lies to the south of the Site as well as Oxted Lawn Tennis Club and Master Park. Ancient woodland, still marked on OS mapping as 'Bogs', lies adjacent to the Site's south-western corner.

2.3. Geology and mineral deposits

2.3.1. Geology

According to British Geological Survey (BGS) 1:50,000 scale mapping, the general geological sequence (see Figure 2-2) underlying the Site is as follows:

- Superficial deposits: Mostly absent with Alluvium (Clay, Silt, Sand and Gravel) in the far western section of Site associated with the unnamed tributary of the River Eden.
- Solid geology: Folkestone Formation (Sandstone) across the majority of the Site with the Gault Formation (Mudstone) in the far north of the Site.

Nearby historical borehole logs within the BGS database confirm this succession and those closest are summarised in Table 2-2.

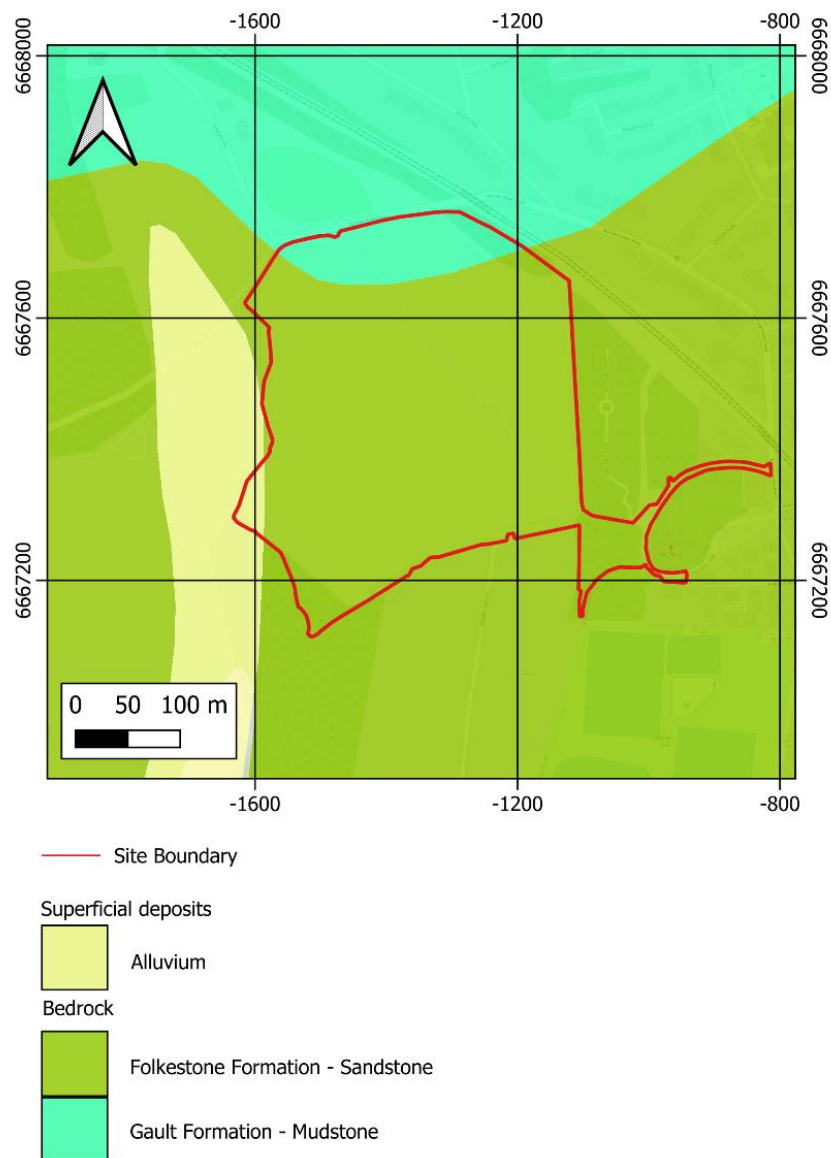
Table 2-2 Strata encountered in nearby historical borehole logs

Borehole ref.	Strata	Maximum depth (m bgl)
TQ35SE2 (179m east)	MADE GROUND: Fill of brick and gravel	0.91
	Medium dense white SAND	2.13
	Very dense white SAND with traces of fine gravel	6.1
TQ35SE3 (179m east)	MADE GROUND: Fill of brick and gravel	1.83
	Medium dense white SAND	3.39
	Very dense white SAND	5.49
	Very dense white silty SAND	6.1



Borehole ref.	Strata	Maximum depth (m bgl)
TQ13SE194 (45m north)	Dense to very dese gravelly SAND with a layer of clay	1.6
	Medium strength to high strength CLAY to silty CLAY with a layer of sand	2.3
	Low strength to medium strength CLAY	7.4
	Loose to medium dense gravelly SAND with a layer of clay	7.75

Figure 2-2 BGS 1:50,000 combined geology



Contains BGS 1:50,000 map data



2.3.2. Mineral Resources

5No. historic sand pits are located within 500m of Site (between 165m and 451m), all of which comprised surface mineral workings.

In accordance with Surrey County Council's mineral and waste policies and plans, the Site does not fall within a minerals safeguarding or strategy area.

2.4. Soils

2.4.1. Published soils data

Soilscapes records the majority of soil on Site (Folkestone Formation) as Soilscape 6, freely draining slightly acid loamy soils with low fertility. There is a small parcel of land in the north-east (Gault Clay) classified as Soilscape 18, slowly seasonally wet slightly acid but base-rich loamy and clayey soils of moderate fertility.

2.4.2. Agricultural Land Classification

With reference to the Natural England BMV Land Assessment, (see



Figure 2-3) the Site is located in an area where land is predominantly in urban use. This classification is also used in the Tandridge Landscape Capacity and Sensitivity Study, 2016 (OXT007). Extrapolating the assessment to remove the urban classification and relating it to surrounding assessments suggests the Site would fall into the Grade 3 (Good to Moderate) category. The Site has not been classified under the Post 1988 Agricultural Land Classification and therefore it has not been classified in terms of categories 3a and 3b.

In addition to the above, the Natural England maps (see Figure 2-4) indicates the Site is partially classified as land predominantly in urban use (approx. 50%) with the remaining 50% in the north having a predicted moderate likelihood of BMV land (20% to 60% probability of including BMV soils).

No Grade 1 or 2 agricultural soils are predicted to be present on Site or within close proximity. Therefore the only potential for BMV land is where they may be classified as Grade 3a.



Figure 2-3 Natural England BMV Land Assessment

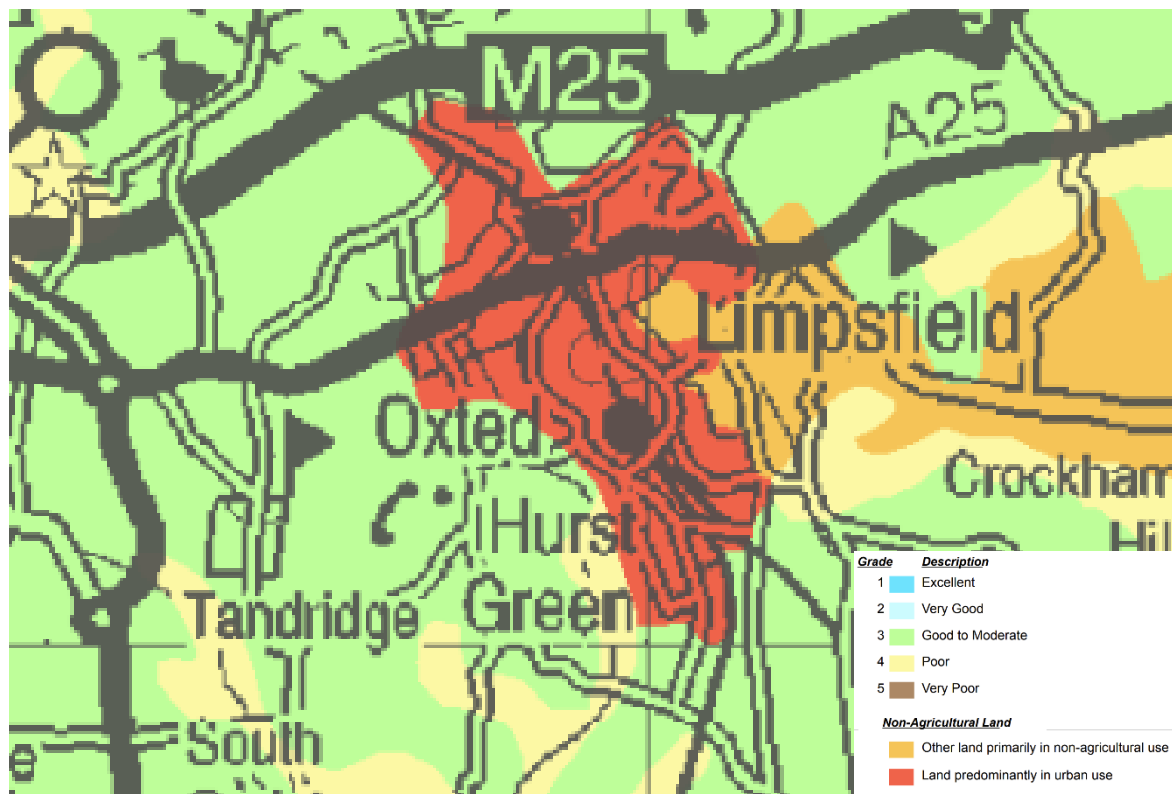
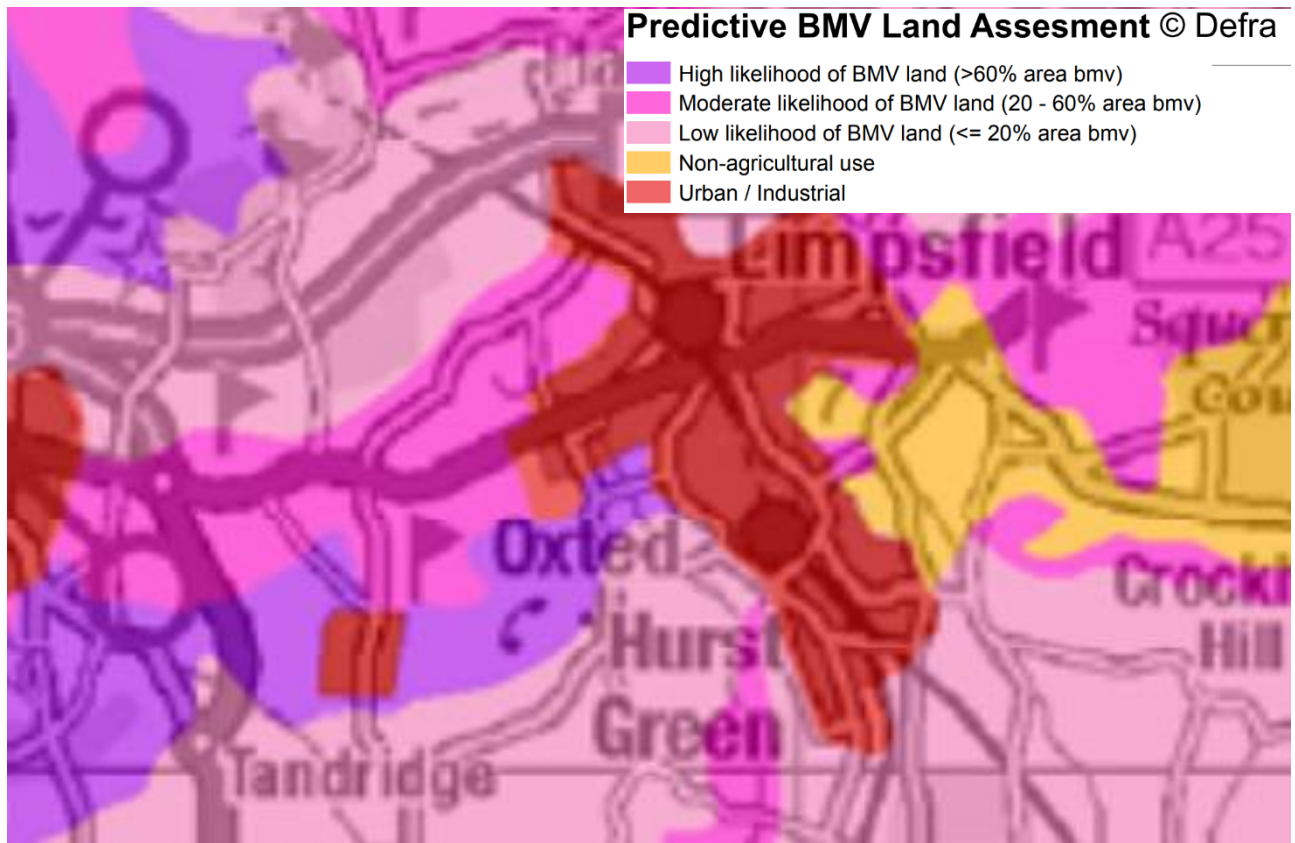




Figure 2-4 Natural England predictive BMV Land Assessment



2.4.3. Soil geo-chemistry

The values below are estimated from rural topsoil data collected by the BGS, with a sampling density of 1 sample per 2km². In areas where soil sampling was not possible, stream sediment data was collected with a sampling density of 1 per 2.5km².

Table 2-3 BGS Estimated Background Soil Chemistry

Potentially harmful element	Estimated background concentration (mg/kg)	Location
Arsenic	15-25	On Site
Lead	100-600	
Bio-accessible Lead	60-360	
Cadmium	1.8	
Chromium	40-90	
Nickel	15-30	



2.5. Hydrogeology

Where present along the western boundary, the superficial Alluvium is classified by the EA as a Secondary A Aquifer. A Secondary A Aquifer is described by the EA as 'comprising permeable layers that can support local water supplies, and may form an important source of base flow to rivers.'

The Folkestone Formation bedrock below the majority of the Site is classified by the EA as a Principal Aquifer. A Principal Aquifer is described as 'rocks that provide significant quantities of water and can support water supply and/or baseflow to rivers, lakes and wetlands on a strategic scale. They typically have a high intergranular and/or fracture permeability, meaning they usually provide a high level of water storage.' Where present in the far north of the Site, the Gault Formation is classified as unproductive strata.

According to the BGS, groundwater vulnerability across the Site is classified as high with bedrock permeability estimated by the BGS to be high and intergranular.

The Site falls into Zone III (total catchment) of a Source Protection Zone (SPZ). However there are no licenced abstractions noted within 500m of Site.

2.6. Hydrology

2.6.1. Surface water

Surface water features on-Site consist of an unnamed stream running along the Site's western boundary. This stream is a tributary of the River Eden, converging approximately 1km south of the Site. Another unnamed stream is recorded along the eastern boundary running in parallel to Court Farm Lane/ the two graveyards. Towland pond is located approximately 550m south-west of the Site.

2.6.2. Flooding

Review of the Flood Map for Planning from the EA, indicates that the Site is in Flood Zone 1 and is at low risk from surface water (pluvial) flooding.

2.6.3. Groundwater flooding

BGS data indicates there is low to moderate potential for groundwater flooding to occur at the Site.

2.7. Site history

A review of historical and contemporary Ordnance Survey (OS) mapping of the Site has been undertaken. The historical mapping is provided in Appendix C with salient observations summarised in Table 2-4.



Table 2-4 Site History

Date	Details
1840 (1:2,500)	The earliest OS mapping shows the Site as 3No. fields of agricultural land with ancient woodland shown adjacent to the Site's south-western boundary with a smaller patch of trees shown on the north-eastern edge of Site. A public footpath is shown running through the centre of Site. Court Farm and St Mary's Church are present off-site to the south-east close to the Site boundary. The London, Brighton & South Coast railway line has been constructed running north-east of Site.
1869-1871 (1:10,560)	Off-site Chalkpit Wood is established 500m north of the Site, connecting to the woods on the north-eastern edge of Site.
1895-1896 (1:2,500, 1:10,560)	The Site remains agricultural fields. Off-site St Mary's Church has an adjacent graveyard constructed. Further residential expansion is noted east of the Site. Ridgeway House has been constructed west of the Site. A lime works, gravel pit and associated shafts are noted 1km north of Site.
1912 (1:2,500)	No significant changes on Site. The ancient woodland adjacent to the Site's south-western boundary is now marked as 'The Bogs'. Off-site a tank is noted at Court Farm. A gasworks and associated tank as well as a laundrette have been constructed approximately 450m south-east of Site. A Goods Shed has also been constructed adjacent to the Gas Works.
1933 (1:2,500)	No significant changes on Site. Off-site another graveyard has been constructed to the east of Site. Ridgeway house to the west of the Site has been renamed 'Blunt House' and has expanded towards Site with a swimming pool constructed close to the western boundary. Allotment gardens have been planted 250m north of the Site.
1964 (1:2,500)	No significant changes on Site. Off-site to the south, Wheeler Avenue has been built with associated residential housing.
1970-1971 (1:10,000)	No significant changes on Site. The graveyard east of the Site has been expanded and now lies adjacent to the Site's eastern boundary. The swimming pool adjacent to the Site's western boundary is now marked as a pond.
1976-1977 (1:10,000)	No significant changes on Site. Off-site the gasworks is no longer marked.
1990-1992 (1:2,500)	No significant changes on Site. Blunt house to the west of the Site has been renamed 'Ridgeway Manor (Home for the Aged).
1998 (1:10,000)	No significant changes on Site.
2001(1:10,000)	No significant changes on Site.
2010 (1:10,000)	No significant changes on Site.
2024 (1:10,000)	No significant changes on Site.



2.8. Environmental designations

Online mapping (Defra) indicates there are multiple environmental designations on and within close proximity of the Site and in the surrounding local area, a summary of these designations is provided in Table 2-5 below.

Table 2-5 Environmental designations

Designation	Location	Information
Ancient Woodland	Adjacent to the Site's south-western boundary	An area of designated ancient woodland lies adjacent to Site with further 7No. areas of ancient woodland located within 500m north of the Site.
Greenbelt	On-Site	-
Nitrate Vulnerable Zones	On-Site	Areas at risk from nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). Upper Eden NVZ surface water and Godstone.



3. Conclusions

3.1. Conclusions

Earliest OS mapping from 1888 shows the Site and surrounding area to consist of ploughed agricultural land which has remained to the present day. Whilst the Site has remained in agricultural (arable) use, the surrounding area has become increasingly urban leading it to become an isolated field.

Natural England mapping and previous assessments by Tandridge District Council (OXT007) note that the Site is classified as land which is predominantly in urban use. However, extrapolating surrounding ALC data suggests the Site would fall into Grade 3 (moderate to good). No surveys have been undertaken to classify the Site in terms of Grades 3a and 3b. Therefore, whilst no BMV land is mapped on-Site, its presence cannot be ruled out. Natural England predictive mapping suggests a 20% to 60% probability of BMV land being present on Site.

Given the limited size (10ha), isolated nature of the field and current urban ALC classification which reflects the immediate surrounding uses in the wider village of Oxted, it is considered that the land is of limited benefit for agricultural purposes.



Appendix A Report Conditions

This report has been prepared by Yellow Sub Geo Ltd. (Yellow Sub Geo) in its professional capacity as soil and groundwater specialists, with reasonable skill, care and diligence within the agreed scope and terms of contract and taking account of the manpower and resources devoted to it by agreement with its client, and is provided by Yellow Sub Geo solely for the internal use of its client. The advice and opinions in this report should be read and relied on only in the context of the report as a whole, taking account of the terms of reference agreed with the client. The findings are based on the information made available to Yellow Sub Geo at the date of the report (and will have been assumed to be correct) and on current UK standards, codes, technology and practices as at that time. They do not purport to include any manner of legal advice or opinion. New information or changes in conditions and regulatory requirements may occur in future, which will change the conclusions presented here. Where necessary and appropriate, the report represents and relies on published information from third party, publicly and commercially available sources which is used in good faith of its accuracy and efficacy. Yellow Sub Geo cannot accept responsibility for the work of others. Site investigation results necessarily rely on tests and observations within exploratory holes only. The inherent variation in ground conditions mean that the results may not be representative of ground conditions between exploratory holes. Yellow Sub Geo take no responsibility for variation in ground conditions between exploratory positions. This report is confidential to the client. The client may submit the report to regulatory bodies, where appropriate. Should the client wish to release this report to any other third party for that party's reliance, Yellow Sub Geo may, by prior written agreement, agree to such release, provided that it is acknowledged that Yellow Sub Geo accepts no responsibility of any nature to any third party to whom this report or any part thereof is made known. Yellow Sub Geo accepts no responsibility for any loss or damage incurred as a result, and the third party does not acquire any rights whatsoever, contractual or otherwise, against Yellow Sub Geo except as expressly agreed with Yellow Sub Geo in writing. Yellow Sub Geo reserves the right to withhold and/ or negotiate the transference of reliance on this report, subject to legal and commercial review.



Appendix B Client Drawings



Appendix C Groundsure Report