

LAND SOUTH OF CHISWELL GREEN LANE

Agricultural Land Classification Report

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Land South of Chiswell
Green Lane Final
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AGRICULTURAL LAND CLASSIFICATION

Quality Management

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Figure 1: RPS Agricultural Land Classification of the Site

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Appendix 1 Auger Boring and Soil Pit Descriptions

1. INTRODUCTION

- 1.1 This report presents the results of a detailed agricultural land classification (ALC) survey of land South of Chiswell Green Lane undertaken in accordance with the Ministry of Agriculture Fisheries and Food Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land 1988.
- 1.2 The methodology for data collection is presented in Section 2 of the report. Section 3 describes the location, topography and climatic characteristics of the Site and Section 4 contains a review of published information relevant to the ALC of the Site. Section 5 describes the soils and agricultural land quality of the Site in detail. Section 6 provides overall conclusions and references are provided in Section 7.

2. METHODOLOGY

2.1 The agricultural resources that have been included in the study are agricultural land quality and soil resources. The methods used to collect data on these agricultural resources are described below.

Agricultural Land Classification

2.2 The assessment of the effects on agricultural land quality and soil resources is based on a desk top assessment of relevant published information and a detailed site survey.

Desk Top Study

2.3 The desk top study included the following information:

- Geological Information from British Geological Survey Internet Portal at www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html;
- Soil Survey of England and Wales, National Soil Map of England and Wales, Sheet 6 (South East England), 1:250,000
- The Met. Office Climatological data for Agricultural Land Classification, January 1989
- DEFRA MAGIC (Multi-Agency Geographic Information for the Countryside) website at www.magic.defra.gov.uk

Site Survey

2.4 A detailed site survey was undertaken on the site in January 2022. This included the examination of 15 hand auger borings taken at the locations shown on Figure 1, together with the examination of a soil pit. The auger boring and soil pit descriptions are provided in Appendix 1.

3. LOCATION, LAND USE, TOPOGRAPHY AND CLIMATE

Location and Land Use

3.1 The Site comprises a group of grassland fields used mainly for horse grazing. The site lies approximately 1.5km to the north east of M25 Junction 21A, and is bounded to the north by Chiswell Green Lane and to the east by existing residential properties in Chiswell Green.

Topography

3.2 The site occupies a very gently sloping position ranging from approximate 105m a.o.d. in the north falling to the south at about 85m a.o.d. with an overall slope of about 1 in 30 (about 2°).

3.3 Gradient does not limit the quality of the agricultural land across the site.

Climate

3.4 The following climatic data relevant to the assessment of specific limitations within the ALC system has been obtained from the Meteorological Office’s standard 5km grid point data set for representative points in the north, centre and south of the Site.

Climatic Data for Site	Grid reference TL 131 042
Altitude (m)	90m
Accumulated Temperature ATO (day degrees)	1397
Average Annual Rainfall AAR (mm)	688
Climatic Grade	1
Field Capacity Duration (days)	144
Moisture Deficit for wheat (mm)	107
Moisture Deficit for potatoes (mm)	98

3.5 The data are typical of SE England, with a relatively low Field Capacity Duration (a measure of climatic wetness) over the winter and moderate moisture deficits which build up during the summer. In itself the climate imposes no ALC limitation.

4. PUBLISHED GEOLOGICAL, SOIL AND ALC INFORMATION

Geology

- 4.1 According to the BGS internet portal, the local bedrock is the Upper Chalk but with much of the site shown as having a superficial covering of sand and gravel. On the original geological map on which the BGS Portal information is based it is simply classed as Glacial Gravel but more specifically on the BGS Portal as fluvio-glacial sand and gravel of the Kesgrave Catchment Subgroup. Such deposits are often referred to simply as Plateau Gravels as distinct from river terrace gravels found on terraces along present or former river courses.
- 4.2 In and around the site the chalk is shown with no superficial drift in a pattern resembling small valleys which, in situations like this, would make sense i.e. the Chalk underlying the gravels is exposed where the gravels are cut through by a small valley. However, no distinct valley feature is present on the site.

Soils

- 4.3 No detailed soil map of the area has been published and so the only source of information is the relevant sheet of the 1:250,000 scale National Soil Map (Sheet 6 South East England). This shows geographic groupings of soils called Soil Associations, usually related to specific parent materials. Within each Association there are likely to be a number of more tightly defined soil types known as Soil Series.
- 4.4 Various Soil Associations are shown around St Albans as listed below, with their geological parent materials

Code	Association	Geological Parent Material
571z	HAMBLE 2	Aeolian silty drift (Brickearth)
581b	SONNING 1	Plateau gravel and river terrace drift
581d	CARSTENS	Plateau drift and Clay-with-flints
581e	MARLOW	Plateau and river terrace drift
582a	BATCOMBE	Plateau drift and Clay-with-flints
582b	Hornbeam 1	Plateau and glaciofluvial drift
582c	HORNBEAM 2	Plateau drift
582d	HORNBEAM 2	Chalky till

- 4.5 The terms Plateau drift and Clay-with-flints are those by the soil survey of England and Wales for what is collectively called Clay-with-flints on geological maps.
- 4.6 The map actually shows the site as Association 581d CARSTENS but this seems likely to be a mistake since as shown in the above table, this association is found over Plateau Drift and Clay-with-flints, not the Plateau Gravels (fluvioglacial sand and gravels) which are shown on the geological map. The most likely Association for Plateau Gravels in the region would be Association 581b SONNING 1.
- 4.7 The SONNING 1 Association is described as a collection “Well drained flinty coarse loamy and sandy soils, mainly over gravel. Some coarse loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging”. The description of the Association in the Regional Bulletin accompanying the soil map goes on to say “The main soils are typical paleo-argillic brown earths. Coarse loamy Sonning soils over gravel at moderate depth are usually dominant but in places loamy gravelly Bockmer soils are equally common. Sandy gravelly St Albans soils, argillic brown sands and coarse loamy over gravelly Hall soils, typical brown earths are locally widespread”. The

description also mentions soils with slight seasonal waterlogging but these are thought not likely to be found in this particular area. There is no mention of the sort of soils likely to be found where the underlying chalk is exposed. Also mentioned is the “complexity of the soil pattern.

Agricultural Land Classification

- 4.8 The site is on the Provisional 1:63,360 scale ALC map, Sheet 160 (London NW) published in 1970. and is shown as undifferentiated Grade 3.
- 4.9 Since the published Provisional ALC maps were produced there has been a comprehensive revision to the guidelines and criteria for allocating land to particular grades. In addition, the provisional mapping shows no division of Grade 3 into Subgrades 3a and 3b. Therefore, whilst the mapping provides information on the likely relative gradings of areas of land they cannot be used to identify the distribution of ALC grades on individual sites.

5. AGRICULTURAL LAND CLASSIFICATION OF THE SITE

5.1 The detailed survey has identified the Site as a mixture of Subgrades 3a and Subgrade 3b agricultural land as shown on Figure 1.

5.2 The main limitations on the quality of the agricultural land are soil stoniness and soil wetness in addition at 4 of the auger boring locations with profiles being characteristic of soils from the Sonning 1 soil association. The main soil profile types and their limitations on the site are as follows:

- Moderately stony (more than 15% stone >2cm in diameter) overlying similar subsoils/lower subsoils and impenetrable stony horizons at depth. These profiles are graded Subgrade 3b according to a soil stoniness limitation;
- Slightly stony (between 10 and 15% stone >2cm in diameter) medium or sandy clay loam topsoils overlying similar subsoils and lower subsoils, commonly with increasing stone content at depth. These
- Slightly stony medium clay loam topsoils over heavy clay loam upper subsoils and slowly permeable clays at depth. These profiles are limited to Subgrade 3a by both topsoil stone content and a susceptibility to wetness.

5.3 The areas and percentages of ALC grades on the Site are therefore as follows:

ALC Grade	Area (ha)	%
Subgrade 3a	7.0	50
Subgrade 3b	5.5	40
Non Agricultural	1.4	10
TOTAL	13.9	100

6. CONCLUSIONS

- 6.1 The Site comprises approximately 7.0 ha of Subgrade 3a land and 5.5 ha of Subgrade 3b land limited by stoniness or stoniness and wetness limitations.
- 6.2 The weight to be attached to the area of agricultural land affected by the proposal in the overall planning balance should be considered in the context of the relevant national and local planning framework.
- 6.3 The National Planning Policy Framework (NPPF) 2021, sets out the Government's planning policies for England and how these are expected to be applied. Section 15, Paragraph 174 states that:
- 6.4 *Planning policies and decisions should contribute to and enhance the natural and local by:*
- 6.5 *a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- 6.6 *b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland*
- 6.7 The best and most versatile land is defined as land graded 1, 2 or 3a according to the MAFF ALC guidelines 1988.
- 6.8 The development of the Site would affect an area of 7.0ha of Subgrade 3a land (50% of the Site) together with 5.5ha of lower quality Subgrade 3b land.
- 6.9 In terms of the weight to be attached to the effects of the proposal on high quality agricultural land the Natural England guidance for consultation with Local Authorities identifies the threshold of such land that would be considered significant:
- 6.10 *“In accordance with Town and Country Planning (Development Management Procedure) (England)(Amendment) Order 2012 Schedule 5, the LPA must consult Natural England on:*
- 6.11 *The loss of not less than 20ha of grades 1, 2 or 3a agricultural land which is for the time being used for agricultural purposes;*
- 6.12 *The loss of less than 20ha of grades 1, 2 or 3a agricultural land which is for the time being used for agricultural purposes, in circumstances in which the development is likely to lead to a further loss agricultural land amounting cumulatively to 20ha or more.”*
- 6.13 In terms of the threshold identified by this guidance, the Site comprises only a limited area of the lowest quality within the category of the best and most versatile land, where the development would not be likely to lead to the loss of more than 20ha of the best and most versatile land, due to its contained nature. Within this context, no overriding weight should be attached in the overall planning balance to this limited loss of Subgrade 3a land.
- 6.14 The City of St Albans District Local Plan Review (1994) saved policies in July 2020 includes Policy 102 Loss of Agricultural Land which states:
- “Development which would result in the loss of agricultural land will be assessed against the following criteria:*
- (i) Land Quality: development resulting in the loss of high quality agricultural land, classified by the Ministry of Agriculture as being Grade 1,2 or 3a, will normally be refused. An exception to the policy may be made if there is an overriding need for the development and there is no alternative land of a lower quality which could reasonably be used.*
- 6.15 This policy was developed within the National Policy Framework under PPG 7 “The Countryside and the Rural Economy” and does not reflect the current framework for consideration under the

NPPF as referred to above. Therefore, the consideration of the weight to be attached to the development of 7ha of the lowest quality of “best and most versatile” Subgrade 3a land should be considered within the context of the current NPPF as discussed above and not within framework of the outdated PPG 7.

7. REFERENCES

MAFF (1988) Agricultural Land Classification of England and Wales Revised Guidelines and Criteria for grading the quality of agricultural land MAFF Publications,

MET OFFICE (1989) Climatological Data for Agricultural Land Classification Meteorological Office Bracknell
Soil Survey of England and Wales, National Soil Map of England and Wales, Sheet 6 (South East England), 1:250,000 and accompanying Regional Bulletin (1984)

DEFRA MAGIC (Multi-Agency Geographic Information for the Countryside) website: www.magic.defra.gov.uk

HODGSON J M (Ed) (1997) Soil Survey Field Handbook Soil Survey Technical Monograph No 5 Silsoe

British Geological Survey Viewer: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>



FIGURES



APPENDICES

Appendix 1

Auger Boring and Soil Pit Descriptions

Auger Boring Descriptions

Key to Auger Boring Descriptions

Textures

Mcl	medium clay loam
ScI	sandy clay loam
Hcl	heavy clay loam
C	clay

Colours

DB	Dark brown
B	Brown
Yb	Yellowish brown
Rb	Reddish brown

Others

- Fdom – few distinct ochreous mottles
- Cdom – common distinct ochreous mottles
- Cdogm – common distinct ochreous and grey mottles

REPORT

Number	Depth	Colour	Texture	Description	Grade
1.	0 – 26	DB	Mcl	Topsoil Stone (TS) pit 15 -20% stone>2cm, 2-3% >6cm	3b stoniness
	23 – 38	B	Scl	Stoniness pit – as topsoil	
	38-42	YB	Scl	Stoniness as above	
	IMP				
2.	0 – 26	Db	Mcl	10-15% stone (TS pit) > 2cm	3a stoniness
	26 – 35	PB	Mcl	5 -10% stone	
	35 – 45	YB	Scl	10-15% stone	
	45 – 50			Ditto becoming gritty and stony (15%+)	
	IMP				
3.	0 – 27	Db	Mcl	10-15% stone >2cm	3a stoniness
	27 – 55	B	Mcl	10% stone	
	55 – 65	B	Mcl	10-15% stone	
	65 – 70	B	Mcl	Gritty 15-20% stone plus fom	
	IMP				
4.	0 – 27	Db	Mcl	5 – 10% >2cm	2
	27 – 50	B	Mcl	5-10% stone	
	50 – 70+	b	hcl	10% stone fom	
5.	0 – 28	Db	Mcl	10-15% stone >2cm (TS PIT)	3a stoniness
	28 – 50	B	Mcl	10% stone	
	50 – 60	B	Mcl	10-15% stone	
	60 – 65	B	Mcl	Gritty 15-20% stone plus fom	
	IMP				
6.	0 – 27	Db	Mcl	20-25% > 2cm TS PIT	3b stoniness
	27 – 35	B	Mcl	15%+ stone	
	35 – 40	Yb	Scl	Gritty and stony (20%+)	
	IMP				

REPORT

Number	Depth	Colour	Texture	Description	Grade
7.	0 – 26	Db	Scl	15 - 20% > 2cm TS PIT	3b stoniness
	26 – 33	B	Mcl	15%+ stone	
	33 – 38	Yb	Scl	Gritty and stony (20%+)	
	IMP				
8.	0 – 28	Db	Mcl	15 - 20% > 2cm	3b stoniness
	28 - 35	B	scl	10 - 15%+ stone	
	35 – 40	Yb	Scl	Gritty and stony (20%+)	
	IMP				
9.	0 – 26	Db	Mcl	20-25% > 2cm TS PIT	3b stoniness
	26 – 30	B	scl	15%+ stone	
	30 -35	Yb	Scl	Gritty and stony (20%+)	
	IMP				
10.	0 – 25	Db	Mcl	5 -10 stone >2cm	2/3a Wetness
	25 – 40	B	Mcl	5 – 10% stone Fdom	
	40 – 50	Rb	Hcl	Cdom	WC III
	50 – 70+	Yb	C	Cdogm	
11.	0 – 27	Db	Mcl	10-15% stone>2cm (TS Pit)	3a wetness (WC III) and stoniness
	27 – 38	YB	Hcl	10 – 15% stone fdom	
	38 – 60+	Y/Rb	C	C cdom 5 – 10% stone	
12.	0 – 26	Db	Mcl	10-15% stone>2cm	3a wetness (WC III) and stoniness
	26 – 37	YB	Hcl	10 – 15% stone fdom	
	37 – 60+	Y/Rb	C	C cdom 5 – 10% stone	
13.	0 – 26	DB	Mcl	Topsoil Stone pit 15 -20% stone>2cm, 2-3% >6cm	3b stoniness
	23 – 33	B	Scl	Gritty and becoming very stony	

REPORT

Number	Depth	Colour	Texture	Description	Grade
	IMP				
14.	0 – 28	DB	Mcl	15 -20% stone>2cm, 2-3% >6cm	3b stoniness
	28 – 38	B	Scl	Stoniness pit – as topsoil	
	38-42	YB	Scl	Stoniness as above	
15.	0 – 28	Db	Mcl	10-15% stone>2cm (TS Pit)	Stoniness/ wetness (WC III)
	28 – 45	YB	Hcl	10 – 15% stone fdom	
	45 – 60+	Y/Rb	Hcl/c	C cdom 5 – 10% stone	

Soil Pit Description (close to Auger Boring 11)

- 0 – 26 cm dark brown (7.5YR 3/4) medium clay loam (TS Sample); non calcareous; abundant grass roots; moist; approx. 12 % stones >2cm diameter;
- 26 – 39cm brown (7.5YR 5/4) heavy clay loam; few grass roots; moist to very moist at base; 10-15% total stone; common distinct ochreous and grey mottling; moderate to coarse angular blocky structure; firm
- 39 – 55+ reddish to light reddish brown (5 YR 5/3 6/3) clay; reddish brown (5YR 4/4) medium sandy loam; few grass roots; moist; 10 % greyish sandstone; moderate coarse prismatic structure