

PHYSICAL CHARACTERISTICS REPORT INCORPORATING AGRICULTURAL LAND CLASSIFICATION

LAND AT BRAMPTON WEST (EXTENSION)

1.0 INTRODUCTION

1.1 A survey was carried out over 88ha of land situated north west of Brampton, Cambridgeshire in connection with a proposed gravel extraction by Tarmac Quarry Products.

1.2 A total of 91 inspections were made using a dutch auger to a depth of 1.2m. In addition, two soil pits were dug to assess subsoil conditions.

2.0 AGRICULTURAL LAND CLASSIFICATION

2.1 The definition of Agricultural Land Classification grades are included in Appendix 1.

2.2 The table below shows the breakdown of ALC grades in hectares and percentage terms for the survey area.

Agricultural Land Classification

Grade	ha	%
3a	8.3	9.2
3b	82.7	90.8
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TOTAL	91.0	100.0

2.3 A detailed inspection of the site identified one main soil type. Soils typically comprise stoneless or very slightly stony clay or clay loam topsoils overlying clay subsoils. Profiles are typically non calcareous although small areas of calcareous profiles were identified. Soils were found to be predominantly wetness class III or occasionally wetness class II. The main limitation to agricultural land quality for this site arises from wetness/workability problems and risk of winter flooding.

2.4 GRADE 3a

2.4.1 Land graded 3a occurs in the north east and north west corners of the site. These soils are calcareous variants of the wetness class III soils described in paragraph 2.3.

2.5 GRADE 3b

2.5.1 The majority of the site has been classified as 3b. These soils are typically non calcareous and are predominantly poorly drained (wetness class III). A strip of non calcareous soils occurs along the southern site boundary which was assessed as wetness class II. This strip of land is prone to winter flooding which restricts this area from a higher grade.

2.6 A full description of site and soil physical characteristics is given below.

3.0 SITE PHYSICAL CHARACTERISTICS

Climate

3.1 Climatic information for the site has been interpolated from the 5km grid datasets produced by the Meteorological Office (Met Office, 1989). The average annual rainfall for the site is 577mm, which is low by national standards. The number of days at which the site is likely to be at field capacity is also low at 109.

3.2 The accumulated temperature for this area is approximately 1451 degrees Celsius and soil moisture deficits for wheat and potatoes are 117 and 112 respectively.

3.3 These climatic characteristics do not impose a climatic limitation on the ALC grading of the site.

Relief

The altitude of the site is approximately 15m AOD. The site is generally level with gentle south facing slopes towards the north. Consequently gradient and altitude do not constitute limitations to ALC grade.

4.0 Soil Physical Characteristics

4.1 Geology

The published 1:50,000 solid and drift edition geology sheet 187 (Huntingdon) shows the site to comprise alluvium overlying Oxford clay.

4.2 Soils

The published 1:250,000 Soil Survey of England and Wales sheet 4 shows the majority of the site as Evesham 3 with an area of Fladbury 1 towards the south eastern corner. During the course of this survey, a detailed inspection of the soils confirmed the presence of the Evesham 3 Association. A strip of soils which were assessed as wetness class II were identified along the southern boundary of the site. However, for the purposes of this report, the site is regarded as comprising a single soil type in terms of soil handling properties.

Soil Mapping Unit 1

Topsoil

Texture: clay, heavy clay loam or heavy silty clay loam
CaCO₃: variable
Colour: typically brown (10YR 4/3)
Stone: commonly 2-3% total stone, mainly comprising small round and sub rounded flints
Depth: typically 28-32cm
Structure: cultivation zone - not applicable
Boundary: smooth clear lower boundary
Roots: common fine and very fine roots

Upper Subsoil

Texture: clay
CaCO₃: variable
Colour: typically brown (10YR 5/3)
Stone: negligible
Depth: in the range 45-70cm, typically 60cm
Structure: typically developed coarse angular blocky
Consistence: firm
Boundary: smooth and clear
Roots: few fine and very fine

Lower Subsoil

Texture: clay
CaCO₃: variable
Colour: typically greyish brown (10YR 5/2)
Stone: negligible
Depth: 120 cm +
Structure: typically moderately developed very coarse prismatic
Consistence: very firm
Roots: few fine and very fine

References

Geological Survey of Great Britain, 1975, Sheet 187 (Huntingdon) 1:50,000.

Soil Survey of England and Wales, 1983, Sheet 4, 1:250,000.

MAFF, 1988, Agricultural Land Classification of England and Wales.

Meteorological Office, 1989, Climatological data for Agricultural Land
Classification.