

**AGRICULTURAL LAND CLASSIFICATION**

**LAND ADJACENT A47**

**TUDDENHAM BYPASS**

**NORFOLK**

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### LAND ADJACENT A47 TUDDENHAM BYPASS, NORFOLK

#### 1. BACKGROUND

- 1.1 The site, an area of 6 hectares, is the subject of an application for a golf driving range adjacent to the A47 Tuddenham bypass, Norfolk. ADAS carried out a detailed survey of the site in May 1992 to assess the agricultural land quality.
- 1.2 On the published Agricultural Land Classification (ALC) Map Sheet No. 125 (Provisional, 1:63,360 scale, MAFF 1972) the survey area is shown as grade 3. The current survey was undertaken to provide more detailed information on land quality.
- 1.3 Soil inspections were made using a hand held 120 cm Dutch soil auger. One soil inspection pit was dug to assess subsoil conditions and to supplement soil auger boring information.

#### 2. PHYSICAL FACTORS AFFECTING LAND QUALITY

##### Climate

- 2.1 Climate data for the site was interpolated from the published agricultural climatic dataset (Met. Office, 1989). This indicates that the site has an annual average rainfall of 644 mm (25.4 inches) and that field capacity days are 129. This also shows that the accumulated temperature for this area is approximately 1375 day degrees Celsius. Soil moisture deficits for wheat and potatoes are 113 mm and 106 mm respectively. These climatic characteristics do not impose any climatic limitation on the ALC grading of the survey site.

##### Altitude and Relief

- 2.2 The site slopes gently southeast wards from 45 m AOD to 40 m AOD. Gradient and altitude do not constitute limitations to the ALC grade.

## Geology

- 2.3 The published 1:50,000 scale solid and drift edition geology Map Sheet 161 (Norwich) (Geological Survey of England and Wales, 1975) show the site to comprise boulder clay.

## Soils

- 2.4 The published 1:100,000 scale soils map "Soils of Norfolk" (Soil Survey of England and Wales, 1973) shows the occurrence of typical stagnogley soils, which comprise loamy and clayey drift over chalk (chalky boulder clay), includes the Beccles, Aldeby and Ragdale series. The current detailed inspection confirmed the presence of one boulder clay derived soil.
- 2.5 The soils consist of non calcareous loamy upper horizons over calcareous, clayey lower subsoils. Topsoils typically comprise slightly stony medium clay loams or occasionally heavy clay loams. Total topsoil stone is in the range 5% to 10%, being commonly 5% flints. Upper subsoils are very slightly or slightly stony with total stone in the range 2% to 10% flints, commonly 5%. Lower subsoils comprise calcareous clays which contain typically 5% to 10% chalk stones. Depth to the chalky clay varies from 45/60 cms.

## 3. AGRICULTURAL LAND CLASSIFICATION

- 3.1 The definitions of the Agricultural Land Classification (ALC) grades are included in Appendix 1.
- 3.2 The whole site has been mapped as subgrade 3a (6 ha).

Subgrade 3a

- 3.3 The site is limited to grade 3a by wetness and workability constraints. The soils are described in paragraph 2.5. Profiles are slowly permeable directly below the topsoil. Thus the wetness class has been assessed as III, or occasionally II where slow permeability occurs at a greater depth. The fine loamy topsoils combine with profile wetness to impose moderate limitations on the agricultural potential of this land. Consequently the land is limited to subgrade 3a.

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## References

GEOLOGICAL SURVEY OF GREAT BRITAIN (ENGLAND AND WALES) 1975. Solid and drift edition Geology Sheet 161 (Norwich) 1:50,000 scale.

MAFF 1972. Agricultural Land Classification Sheet 125 Provisional. Scale 1:63,360.

MAFF 1988. Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for Grading the Quality of Agricultural Land). Alnwick.

METEOROLOGICAL OFFICE 1989. Published climatic data extracted from the agroclimatic dataset, compiled by the Meteorological Office.

SOIL SURVEY OF ENGLAND AND WALES 1973. "Soils of Norfolk". 1:100,000 scale.

APPENDIX 1

DESCRIPTION OF AGRICULTURAL LAND CLASSIFICATION SUBGRADE 3a

SUBGRADE 3a - good quality agricultural land.

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

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**Map 1: Agricultural Land Classification**