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Agricultural Land Classification
Test Valley Local Plan
Site 194, Enham Alamein
ALC Map and Report
May 1993

**AGRICULTURAL LAND CLASSIFICATION
TEST VALLEY LOCAL PLAN
SITE 194 : ENHAM ALAMEIN**

1. Summary

1.1 During April 1993, an Agricultural Land Classification (ALC) survey was carried out on 6.0 hectares of land at Enham Alamein, north of Andover, Hampshire. ADAS was commissioned by MAFF to determine the quality of land affected by the inclusion of this site in the Test Valley Local Plan.

1.2 The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 6 borings and one soil inspection pit were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on its agricultural use.

At the time of survey, the land was in arable use for winter cereals.

1.3 The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent are given in the table below. The map has been drawn at a scale of 1:5,000. It is accurate at this scale, but any enlargement may be misleading.

Distribution of Grades and Subgrades

	<u>Area (ha)</u>	<u>% total agricultural area</u>
Grade 2	4.7	100
Total agricultural area	<u>4.7</u>	<u>100%</u>
Non-agricultural	0.1	
Woodland	1.0	
Urban	<u>0.2</u>	
Total area of site	<u>6.0</u> ha	

1.4 Appendix 1 gives a general description of the grades and land use categories identified in this survey.

1.5 Very good quality agricultural land has been mapped across the entire site. Soils are derived from silty drift deposits overlying clay-with flints and they are generally deep, slightly to moderately stony throughout and well drained. The combination of soil textural characteristics and profile stoniness, results in soils which have slightly reduced reserves of available water. However, the climatic regime at this locality is a warm, moist one in the context of South-East England such that the resultant soil droughtiness limitation is only a minor one.

2. Climate

- 2.1 Estimates of climatic variables relevant to the assessment of agricultural land quality were obtained by interpolation from a 5 km grid point dataset (Met Office, 1989) for a representative location in the survey area.

Climatic Interpolation

Grid Reference	SU366491
Altitude, (m AOD)	100
Accumulated Temperature (°days, Jan-June)	1427
Average Annual Rainfall (mm)	782
Field Capacity Days	172
Moisture deficit, wheat (mm)	100
Moisture deficit, potatoes (mm)	89

- 2.2 Climatic factors are considered first when classifying land since climate can be overriding in the sense that adverse climatic conditions may restrict land quality irrespective of favourable site and soil conditions. The details in the table above show that there is no overall climatic limitation affecting this site. In addition, no local climatic factors such as exposure or frost risk affect the site.
- 2.3 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. At this locality, field capacity days are moderately high in a regional context. As a consequence the likelihood of soil wetness and workability limitations may be enhanced.

3. Relief

- 3.1 The site lies at an altitude of 85-100 metres AOD with the highest land occurring towards the north-western boundary, falling gently towards the south-east. Nowhere on the site do relief or gradient affect agricultural land quality.

4. Geology and Soils

- 4.1 British Geological Survey (1975) Sheet 283, Andover shows the majority of the site to be underlain by Cretaceous Upper Chalk with a small area in the south-eastern part of the site mapped as Recent River and Valley Gravels.
- 4.2 Soil Survey of England and Wales (1983) Sheet 6, Soils of South-East England shows the site to mainly comprise soils of the Carstens Association, these being described as, 'fine silty over reddish clayey typical paleo-argillic brown earths' (SSEW, 1984). A small area of the Charity 2 Association has been mapped which coincides with the River and Valley Gravel deposits. These soils are described as, 'deep, well drained typical argillic brown earths in flinty drift', (SSEW, 1984).
- 4.3 Detailed survey of the soils on the site confirmed the presence of deep, fine silty and clayey soils which were well drained and slightly to moderately flinty throughout.

5. Agricultural Land Classification

- 5.1 The entire site has been classified as Grade 2, very good quality agricultural land, the principal limitation being that of soil droughtiness. Parts of the site are also restricted to this grade on the basis of a slight topsoil stone limitation.

Grade 2

- 5.2 All of the agricultural land surveyed on the site has been assigned to Grade 2. Profiles typically comprise medium silty clay loam topsoils which may be calcareous or non-calcareous and which contain between 6 and 10% total flints by volume, (3-6% > 2 cm). These overlie heavy silty clay loam upper subsoils passing to clay at variable depth but within about 68 cm, or may directly overlie clay in the subsoil. These reddish clay subsoils are generally well drained, Wetness Class I, although they may show signs of slightly impeded drainage in the form of manganese concretions or few to common ochreous mottles. The important property of these subsoils in terms of land classification is their stoniness. Upper subsoils containing 10-15% total flints by volume pass to moderately stony lower subsoils having up to 30% total flints by volume. These hard, impermeable stones in the profile reduce the capacity of the soils to hold soil moisture. As a result the demand for water for crop development and growth may not be fully met throughout the year. Crops may suffer slight drought stress as a consequence and land cannot be graded higher than Grade 2 to reflect this slight droughtiness limitation.

ADAS Ref: 1512/062/93
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Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCE OF REFERENCE

- * BRITISH GEOLOGICAL SURVEY (1975) Sheet 283, Andover, 1:50,000.
- * MAFF (1988) Agricultural Land Classification of England and Wales : Revised guidelines and criteria for grading the quality of agricultural land.
- * METEOROLOGICAL OFFICE (1989) Climatological datasets for Agricultural Land Classification.
- * SOIL SURVEY OF ENGLAND AND WALES (1983). Sheet 6, Soils of South-east England.
- * SOIL SURVEY OF ENGLAND AND WALES (1984) Bulletin 15, Soils and their use in South-East England.