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SHEPWAY LOCAL PLAN
SITE 37: ETCHINGHILL, KENT
AGRICULTURAL LAND CLASSIFICATION
ALC MAP & REPORT
SEPTEMBER 1993

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AGRICULTURAL LAND CLASSIFICATION REPORT**

1.0 Summary

1.1 In September, 1993, a detailed Agricultural Land Classification (ALC) was made on 3.3 hectares of land on the south-eastern edge of the village of Etchinghill in Kent.

1.2 The work was conducted under ADAS sub-contracting arrangements by Nick Duncan and Associates and was in response to a commission by MAFF's Land Use Planning Unit to provide information on the quality of agricultural land affected by the potential inclusion of this land in the Shepway District Local Plan.

1.3 The classification has been made using MAFF's revised guidelines and criteria for grading the quality of agricultural land. 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 use for agriculture.

1.4 Four soil borings and one soil pit were examined.

1.5 All of the agricultural area (2.7 ha) has been classified as Grade 2 due to a minor workability limitation. The soils are deep and free-draining. There may be a slight wetness limitation on parts of the site but, generally, the combination of the heavy topsoil textures and prevailing temperature act to restrict the workability of this land.

1.6 The ALC information is shown on the attached map. The information is presented at a scale of 1:5,000; it is accurate at this level but any enlargement would be misleading. This map supercedes any previous ALC information for this site.

1.7 A general description of the grades and sub-grades is provided as an appendix. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

2.0 Climate

2.1 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

2.2 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature (degree days Jan-June), as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset (Met. Office 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site. However climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations. At this locality the moisture deficits are moderately low for potatoes thus reducing the risk of soil droughtiness. The Field Capacity Days are not correspondingly high however so there is not necessarily an increased chance of soil wetness.

2.4 No local climatic factors such as exposure or frost risk affect the site.

Climatic Interpolation

Grid Reference :	TR 168 393
Altitude (m) :	115
Accumulated Temperature (days) :	1374
Average Annual Rainfall (mm) :	798
Field Capacity (days) :	168
Moisture Deficit, Wheat (mm) :	106
Moisture Deficit, Potatoes (mm) :	98
Overall Climatic Grade :	1

3.0 Relief

3.1 The site lies at an altitude of 115m AOD and falls very gently (1 degree) to the north east.

4.0 Geology and Soil

4.1 British Geological Survey (1978), sheet 305 and 306, Folkestone and Dover show the site to be included in a small island of head brickearth surrounded by Lower Chalk.

4.2 The soil type for this site is entirely the Wantage 1 Association as shown on the Soil Survey map of South East England (SSEW, 1983, 1:25,000). The soil is described as 'well drained calcareous silty soils, in places shallow over argillaceous chalk.' (SSEW, 1983). Those found on this site, however, have developed over the brickearth and have non-calcareous silty clay loam and clay textures.

5.0 Agricultural Land Classification

5.1 The attached ALC map provides the details of the area measurements and distribution of each grade.

5.2 The location of the soil observation points are shown on the attached sample point map.

5.3 Grade 2

The soil profiles surveyed on this site comprise a non-calcareous heavy silty clay loam topsoil over a brown heavy silty clay loam upper subsoil. Below 70-90cm depth the soils have a clay or silty clay texture with few manganiferous concretions. The soil profile has a few flints throughout and generally becomes slightly stonier in the subsoil. The soils are assessed as Wetness Class I. Although the soils are free draining, the presence of a non-calcareous heavy silty clay loam topsoil will mean that cultivations during the wetter periods of the year may cause structural damage to the soil. This restricts the land to Grade 2 on the basis of a minor workability restriction. There is also a droughtiness limitation on this site, despite the moderately low moisture deficits, due to the coarse textured, slightly stony subsoil. The amount of available water in the profile is reduced and thus imposes slight drought stress on crops such that yields may be slightly depressed. This site is therefore restricted to Grade 2 on both droughtiness and workability.

ADAS REFERENCE : 2010/187/93
MAFF REFERENCE : EL 20/109

Resource Planning Team
Guildford Statutory Group
ADAS Reading

REFERENCES

- * British Geological Survey (1978), Sheet No.305 & 306, Folkestone and Dover A, 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 Data for Agricultural Land Classification.
- * Soil Survey of England and Wales (1983), Sheet No.6, Soils of South East England, 1:250,000. And accompanying legend.

APPENDIX II

FIELD ASSESSMENT OF SOIL WETNESS CLASS

SOIL WETNESS CLASSIFICATION

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging ¹
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years. ²
II	The soil profile is wet within 70 cm depth for 31-90 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but only wet within 40 cm depth for 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years or, if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years or, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.

¹The number of days specified is not necessarily a continuous period.

²'In most years' is defined as more than 10 out of 20 years.

APPENDIX I

DESCRIPTION OF THE GRADES AND SUBGRADES

Grade 1 : Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2 : Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3 : Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

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.

Subgrade 3b : Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4 : Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (eg. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5 : Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

Agricultural Buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

Open Water

Includes lakes, ponds and rivers as map scale permits.

Land Not Surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.