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SHEPWAY LOCAL PLAN  
SITE 45: DENSOLE, KENT  
AGRICULTURAL LAND CLASSIFICATION  
ALC MAP & REPORT  
SEPTEMBER 1993

**SHEPWAY LOCAL PLAN  
SITE 45: DENSOLE, KENT  
AGRICULTURAL LAND CLASSIFICATION REPORT**

**1.0 Summary**

1.1 In September, 1993, a detailed Agricultural Land Classification (ALC) was made on 2.7 hectares of land on the western edge of the village of Densole 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 Five soil borings and one soil pit were examined.

1.5 All of the site (an area of 2.7 ha) has been classified as Grade 2 due to a minor climatic limitation on the western side of the site and a slight wetness limitation in the east. The soils experience seasonal wetness in the subsoil related to the presence of poorly structured clay horizons. To the west, the soils are deep and free-draining. Here, the combination of prevailing rainfall and temperature restrict the utilisation of the 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 an overall climatic limitation affecting the site which restricts it to Grade 2. The combination of rainfall and temperature gives rise to a cool, moist climatic regime, in regional terms. Climatic factors also influence soil wetness and soil droughtiness.

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

### Climatic Interpolation

Grid Reference :	TR 210 417
Altitude (m) :	150
Accumulated Temperature (days) :	1332
Average Annual Rainfall (mm) :	814
Field Capacity (days) :	172
Moisture Deficit, Wheat (mm) :	99
Moisture Deficit, Potatoes (mm) :	89
Overall Climatic Grade :	2

## 3.0 Relief

3.1 The site lies at an altitude of 150m AOD and has a small dry valley running north south with side slopes of 2 degrees. Nowhere on the site do gradient or relief affect agricultural land quality.

## 4.0 Geology and Soil

4.1 British Geological Survey (1982), sheet 289, Canterbury shows the site to be underlain by Clay-with-flints on the eastern side with a narrow finger of head brickearth forming the western half.

4.2 The soil type for this site is entirely the Batcombe Association as shown on the Soil Survey map of South East England (SSEW, 1983, 1:25,000). The soil is described as 'Variably flinty, fine silty and fine loamy over clayey, stagnogleyic paleo-argillic brown earths, having red mottled subsoils.' (SSEW, 1983).

## 5.0 Agricultural Land Classification

5.1 The attached ALC map provides 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 current survey correlated well with the geology map with deep silty soils on the western side and more clayey soils to the east. A typical profile on the eastern side of the site has a medium clay loam topsoil over a brown clay upper subsoil which has faint reddish mottles. The mottling becomes more distinct below 50-60cm and the soil also becomes slowly permeable below this depth. These soils have therefore been classified as Wetness Class II and the land is slightly limited by soil wetness. On the western side of the site the soils have a silt loam topsoil over a medium silty clay loam upper subsoil becoming heavy silty clay loam below 50cm with a few faint ochreous mottles. Below 80-100cm the soil again becomes a medium silty clay loam without any ochreous mottling. These soils are assessed as Wetness Class I and with a silt loam topsoil texture are not susceptible to any workability limitation. Furthermore, the large available water capacity in these soils means that they will not be susceptible to drought. This part of the site is limited to Grade 2 due only to the climatic limitation. The heavier textured soils on the eastern side of the site, however, are limited to Grade 2 as a result of the climatic limitation and a minor wetness and workability restriction. With a medium clay loam topsoil texture they will be limited to Grade 2, given the prevailing climate, since opportunities for working the land and livestock grazing will be slightly restricted.

ADAS REFERENCE : 2010/190/93  
MAFF REFERENCE : EL 20/109

Resource Planning Team  
Guildford Statutory Group  
ADAS Reading

## REFERENCES

- \* British Geological Survey (1982), Sheet No.289, Canterbury, 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 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.

## 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 <sup>1</sup>
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years. <sup>2</sup>
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.

<sup>1</sup>The number of days specified is not necessarily a continuous period.

<sup>2</sup>'In most years' is defined as more than 10 out of 20 years.