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LAND ADJACENT TO EBBSFLEET  
LANE NEAR MINSTER, RAMSGATE  
KENT

AGRICULTURAL LAND CLASSIFICATION  
ALC MAP & REPORT

FEBRUARY 1993

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LAND ADJACENT TO EBBSFLEET LANE, NEAR MINSTER, RAMSGATE, KENT

1 INTRODUCTION

1 1 In February 1993 an Agricultural Land Classification (ALC) survey was carried out on approximately 22 hectares of land adjacent to Ebbsfleet Lane, near Minster, Ramsgate, Kent ADAS was commissioned by MAFF to determine the quality of land in connection with a change of land use from a golf driving range to an off road vehicle driver training school

1 2 The survey work was carried out at a detailed level of approximately 1 boring per hectare A total of 21 auger borings and 2 soil inspection pits were assessed using 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 the survey the land was overgrown with weeds To the northwest of the site building and earth moving activities were evident but had since been terminated

1 3 The distribution of grades and subgrades is shown on the attached ALC map and the areas are given in the table below The map has been drawn at a scale of 1 5000 Any enlargement of this scale would be misleading

Table 1 Distribution of Grades and Subgrades

<u>Grade</u>	<u>Area (ha)</u>	<u>% Total Agricultural Land</u>
2	5.2	25.1
3A	15.5	<u>74.9</u>
Non agricultural (scrub)	0.6	<u>100%</u> (20.7 ha)
Urban	<u>1.3</u>	
Total area of site	<u>22.6</u>	

1 4 A general description of the ALC grades and subgrades and landcover categories is attached

1 5 The majority of the site has been classified as subgrade 3A Coarse loamy and fine loamy soils typically pass to clayey textures at depth which are slowly permeable However due to the very dry climatic regime land is principally limited by droughtiness limitations

1 6 Land to the south is classified as grade 2 and is associated with better drained soils which typically become clayey at depth This land is limited by slight droughtiness imperfections

2 PHYSICAL FACTORS AFFECTING LAND QUALITY

Altitude and Relief

- 2 1 The site lies at an altitude of 5-15 metres AOD, with land sloping gently away from Cottington Hill located to the north. Nowhere on the site do altitude or relief constitute a limitation to agricultural land quality.

Climate

- 2 2 Climatic variables were interpolated from a 5 km grid dataset (Met Office 1989) for a representative location in the site area.

Table 2 Climatic Interpolation

Grid Reference	SU 335 636
Altitude (M AOD)	10
Accumulated Temperature (°days Jan-June)	1479
Average Annual Rainfall (mm)	625
Field Capacity Days	127
Moisture Deficit - wheat (mm)	128
Moisture Deficit - potatoes (mm)	126

- 2 3 These climatic variables do not constitute a climatic limitation to agricultural land quality. However, it should be noted that at this locality average annual rainfall is low in a regional context, as are field capacity days. Reflecting this, moisture deficits are particularly high. Climate and soil factors interact to affect soil wetness and moreover soil droughtiness limitations.

Geology and Soils

- 2 4 The published 1:50,000 scale geology map sheet 274 Ramsgate (Geol Survey 1980) shows the site to be mapped as Tertiary Thanet Beds - silty and fine sandy clays of marine origin.
- 2 5 The published 1:250,000 scale soils map, sheet 6 "Soils of South East England" (SSEW, 1983) shows the site to be mapped as Hamble 1 Association - Deep well drained stoneless fine silty soils. Some similar soils affected by groundwater and some fine loamy soils with slowly permeable subsoils (SSEW 1983). A detailed examination of the soils indicates the presence of one soil type similar to that described above with free draining and slowly permeable profiles.

3 AGRICULTURAL LAND CLASSIFICATION

Grade 2

- 3 1 Very good quality land is found adjacent to Ebbsfleet Lane. Typical profiles are non calcareous and comprise topsoils of stoneless to very slightly stony (0-1% flints and fine soft sandstone by volume) fine sandy loam. Upper subsoils comprise stoneless to very slightly stony (0-2% flints and fine soft sandstone) fine sandy loam, occasionally sandy clay loam. Lower subsoils comprise similar textures, occasionally passing into slowly permeable clay at 75-90 cm depth. Stone content is

stoneless to very slightly stony (0-5% flints and fine soft sandstone) Profiles are typically well drained wetness class I occasionally wetness class II where slowly permeable layers occur above 80 cm depth The main limitation to land is a slight droughtiness imperfection due to the interaction of sandy textured soils and the dry nature of climate in locality Consequently land is classified as grade 2

#### Subgrade 3A

- 3 2 Good quality land covers the majority of the site area Profiles are typically non calcareous and comprise topsoils of fine sandy loam or sandy clay loam occasionally medium clay loam Stone content is stoneless to very slightly stony (0-1% flints and fine soft sandstone) Upper subsoils are variable in texture but typically comprise sandy clay loam or clay occasionally medium and heavy clay loam with similar stone content Lower subsoils are predominantly stoneless and consist of sandy clay, clay or sandy clay loam Profiles suffer from slight wetness imperfections wetness class II occasionally I associated with slowly permeable layers occurring in the lower subsoil between 55-80 cm depth However the main limitation is droughtiness The dry nature of the climate in the locality interacting with sandy textured soils and poorly structured clays restricts available water for crop growth Consequently land suffers from moderate droughtiness limitations and is classified subgrade 3A Some better and poorer quality profiles were found but due to their limited number and extent these were included in this subgrade

#### Non Agricultural Land

- 3 3 A small area of land to the north west corner of the site was covered in dense impenetrable weed and scrub vegetation with some evidence of earth movements and refuse dumping also While not in agricultural use at the time of survey it was considered that land could be relatively easily returned to agriculture Consequently land was classified as non agricultural

#### Urban

- 3 4 Bordering non agricultural land described above building and earth moving activities had been commenced but since terminated These included a metalled road and foundations of buildings It was considered there would be relatively little potential for a return to agricultural and land was classified as urban

ADAS Ref 2012/014/93  
MAFF Ref EL 10303

Resource Planning Team  
Guildford Statutory Group  
ADAS Reading

SOURCES OF REFERENCE

BRITISH GEOLOGICAL SURVEY 1980 Sheet 274 (Ramsgate) Solid and drift  
edition 1 50 000 scale

MAFF 1988 Agricultural Land Classification of England and Wales Revised  
guidelines and criteria for grading the quality of agricultural land  
(Alnwick)

METEOROLOGICAL OFFICE, 1989 Climatological datasets for Agricultural Land  
Classification

SOIL SURVEY OF ENGLAND AND WALES, 1983 Sheet 6 Soils of South East  
England 1 250,000 scale

SOIL SURVEY OF ENGLAND AND WALES, 1984 Bulletin 15 "Soils and their use in  
South East England

## DESCRIPTION OF THE GRADES AND SUBGRADES

The ALC grades and subgrades are described below in terms of the types of limitation which can occur, typical cropping range and the expected level and consistency of yield. In practice, the grades are defined by reference to physical characteristics and the grading guidance and cut-offs for limitation factors in Section 3 on table 1 and to be ranked in accordance with these general descriptions. The most productive and flexible land falls into Grades 1 and 2 and Subgrade 3a and collectively comprises about one third of the agricultural land in England and Wales. About half the land is of moderate quality in Subgrade 3b or poor quality in Grade 4. Although less significant on a national scale such land can be locally valuable to agriculture and the rural economy where poorer farmland predominates. The remainder is very poor quality land in Grade 5 which mostly occurs in the uplands.

Descriptions are also given of other land categories which may be used on ALC maps.

### **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 and horticultural crops can usually be grown but on some land in the 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.

### **Grade 3 – good to moderate quality agricultural land**

Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where 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 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 very severe limitations which restrict use to permanent pasture or rough grazing except for occasional pioneer forage crops.

#### **Descriptions of other land categories used on ALC maps**

##### **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/air fields. 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 land cover types eg buildings in large grounds and where map scale permits the cover types may be shown separately. Otherwise the most extensive cover type will usually be shown.

### 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 <i>or</i> if there is no slowly permeable layer within 80 cm depth it is wet within 70 cm for more than 90 days but not wet within 40 cm depth for more than 30 days in most years
III	The soil profile is wet within 70 cm depth for 91-180 days in most years <i>or</i> if there is no slowly permeable layer 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 and 90 days in most years
IV	The soil profile is wet within 70 cm depth for more than 180 days but not within 40 cm depth for more than 210 days in most years <i>or</i> if there is no slowly permeable layer 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

<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