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East Hampshire Local Plan
Ramshill, Petersfield
Agricultural Land Classification
ALC Map And Report
November 1993

**EAST HAMPSHIRE LOCAL PLAN
RAMSHILL, PETERSFIELD
AGRICULTURAL LAND CLASSIFICATION REPORT**

1. Summary

- 1.1 In November 1993, a detailed Agricultural Land Classification (ALC) was made on 8.9 hectares of land at Ramshill, Petersfield, which is located on the north-eastern side of Petersfield in Hampshire.
- 1.2 The work was conducted under ADAS sub-contracting arrangements by N A Duncan & Associates and was in response to a commission from 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 East Hampshire 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 Ten soil borings and 2 soil pits were examined.
- 1.5 The site has been classified as predominantly Grade 1 with a smaller area of Grade 2 on the higher land at the south-west of the site. All the soils on the site are free draining and the only minor restrictions to the agricultural use of the site are found on the south-western part where there is a minor droughtiness limitation. The soils in this part of the site have sandy subsoil horizons thereby restricting the available water capacity of the soil profile, resulting in crops being slightly susceptible to drought in the drier parts of the year. The remainder of the site has adequate water reserves due to the fine loamy subsoil horizons.
- 1.6 The ALC information is shown on the attached map and areas are given in Table 1 below. The map has been drawn to a scale of 1:5,000 and is accurate at this level, but any enlargement would be misleading. This map supersedes any previous ALC information for this site.

Table 1 : Distribution of Grades and Subgrades

<u>Grade</u>	<u>Area(ha)</u>	<u>% of Agricultural Area</u>
1	6.4	71.9
2	<u>2.5</u>	<u>28.1</u>
Total area of site	8.9	100%

- 1.8 A general description of the grades and subgrades 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 expected level of consistency of yield.

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.

Table 2 : Climatic Interpolation

Grid Reference	SU752242
Altitude (m, AOD)	75
Accumulated Temperature (°days, Jan-June)	1458
Average Annual Rainfall (mm)	952
Field Capacity Days	209
Moisture deficit, wheat (mm)	93
Moisture deficit, potatoes (mm)	83

- 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, the climate is very wet in a regional context. Field capacity days are very high and crop adjusted moisture deficits are correspondingly low thereby giving rise to an increased risk of soil wetness problems, whilst reducing the likelihood of soil droughtiness.

3. Relief

- 3.1 The site slopes gently towards the north-east from a high point of 80m AOD at the south eastern corner to a low point of 70m AOD alongside Kingsfernsden Lane. Nowhere on the site does gradient or microrelief act as a limitation to agricultural land quality.

4. Geology and Soils

- 4.1 British Geological Survey, (1975) Sheet 300, Alresford shows the site to be underlain by the Sandgate Beds of the Lower Greensand. This deposit generally comprises sandy silts and clays.
- 4.2 The soils on the site comprise the Fyfield 4 Association, as shown on the Soil Survey map of South East England (SSEW, 1983, 1:250,000). These soils are described as, 'deep well drained often stoneless coarse loamy and sandy soils. Some fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging. Some slowly permeable seasonally waterlogged fine loamy over clayey soils', (SSEW, 1983).

- 4.3 Detailed field examination of the soils on the site revealed two distinct soil types: deep, freely draining coarse loamy over sandy soils at the south western end of the site; sandy silt loams over clay loams across the remainder of the site, which are also free draining.

5. Agricultural Land Classification

- 5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.
- 5.2 The location of the soil observation points are shown on the attached sample point map.

Grade 1

- 5.3 The majority of the site has been classed as Grade 1, excellent quality agricultural land. Medium sandy silt loam topsoils overlie a medium clay loam subsoil. This subsoil occasionally becomes slightly sandy. Profiles are free draining (Wetness Class I is thereby assigned) and stoneless throughout. Pit 2, dug within this mapping unit, typifies such profiles. These soils have adequate soil moisture reserves to prevent crops suffering from drought stress during the drier parts of the year. The free draining nature of the soils allied with the light topsoil texture means that under the prevailing climatic regime land may be worked and trafficked at most times of the year. This land is highly versatile and could therefore support a wide range of crops.

Grade 2

- 5.4 The remainder of the agricultural land surveyed has been classed as Grade 2, very good quality. The key limitation is slight soil droughtiness. Profiles are slightly lighter in texture, generally comprising medium sandy loam topsoils over loamy medium sand subsoils. Within some profiles, medium sand is present below 100 cm. The soils are free draining (Wetness Class I is thereby assigned) and generally stoneless throughout. Pit 1, dug within this mapping unit, typifies such profiles. The combination of coarse soil textures, subsoil structural conditions and the local climatic regime means that the amount of water available in the profile for extraction by roots is slightly restricted. The sandy nature of the soils is partially offset by the relatively moist climate prevailing at this locality, such that soil droughtiness is only slight. These soils are very versatile and would support a wide range of crops, although crop yields may be depressed in drier years.

ADAS Reference : 1502/230/93
MAFF Reference : EL 15/468

Resource Planning Team
Guildford Statutory Group
ADAS Reading

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

REFERENCES

British Geological Survey (1975), Sheet 300, Alresford, 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 6, Soils of South East England, 1:250,000 and accompanying legend.

APPENDIX III

DEFINITION OF SOIL WETNESS CLASS

Wetness Class I

The soil profile is not wet within 70 cm depth for more than 30 days in most years.

Wetness Class 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 180 days, but only wet within 40 cm depth for 31-90 days in most years.

Wetness Class 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.

Wetness Class 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.

Wetness Class V

The soil profile is wet within 40 cm depth for 211-335 days in most years.

Wetness Class VI

The soil profile is wet within 40 cm depth for more than 335 days in most years.