AGRICULTURAL LAND CLASSIFICATION
MEDWAY GAP LOCAL PLAN
HERMITAGE LANE, AYLESFORD

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LAND WEST OF HERMITAGE LANE, AYLESFORD, KENT

1. INTRODUCTION

1.1 In July 1992, an Agricultural Land Classification (ALC) survey was carried out on 24.65 ha of land at Aylesford, Kent. ADAS was commissioned by MAFF to determine the quality of land affected by the proposal to include this site for development in the Medway Gap Local Plan.

1.2 The survey work was carried out at a detailed level of approximately 1 boring per hectare. A total of 14 borings and one soil inspection pit were described 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.

1.3 The distribution of the grades and sub-grades 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.

Distribution of Grades and Sub-grades

	Area (ha)	% total agricultural land
Grade 2	7.5	62
3a	4.55	38
Total Agricultural Area	12.05	100
Urban	4.4	
Woodland	5.7	
Non-Agricultural	2.5	
Total Area of Site	24.65	

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

1.5 Grades 2 and 3a have been mapped. Land is well drained, profiles typically comprising medium clay loam or sandy clay loam textures throughout. Soils have developed from Lower Greensand deposits of sandy limestone and as a result may be very slightly to slightly stony and may rest over brashy ragstone at variable depths. Land of the higher quality is generally deeper than land mapped as grade 3a, although all land is limited by minor to slight droughtiness.

2. PHYSICAL FACTORS AFFECTING LAND QUALITY

Relief

2.1 The site lies at an altitude of 30-40 m A.O.D., with the highest land occurring across the southern part of the site and falling very gently northwards.

Gradient nor altitude represent significant limitations to land quality at this locality.

Climate

2.2 Climatic variables were estimated by interpolation from a 5 km grid database (Met. Office, 1989) for a representative location in the survey area.

Climatic Interpolation

Grid Reference	TQ	724	573
Altitude, (m, AOD)		30	
Accumulated Temperature (° days, Jan-June)		1473	
Average Annual Rainfall (mm)		666	
Field Capacity Days		137	
Moisture Deficit, wheat (mm)		118	
Moisture Deficit, potatoes (mm)		113	

2.3 Overall climate does not act as a limitation to agricultural land quality at this locality. Climatic factors, specifically field capacity days and crop moisture deficits do, however, interact with soil factors to affect soil wetness and droughtiness limitations.

Geology and Soils

2.4 British Geological Survey, Sheet 288, Maidstone, (1976) shows the majority of the site to be underlain by Hythe Beds, (sandy limestone and calcareous sand). It is possible that a small area of Sandgate Beds, (silty clay and Fuller's earth) may underlie the north-eastern part of the site.

2.5 Soil Survey of England and Wales, Soils of Kent (1980) shows the site to comprise soils of the Barming and Malling series. These typical argillic brown earths are described as 'loamy soils in drift over Lower Greensand rocks', (SSEW, 1980).

Soil Survey of England and Wales, Sheet 6, (1983), maps the site as the Fyfield 2 association, these soils being described as 'coarse loamy and sandy, well drained soils'. (SSEW, 1984)

2.6 Detailed field examination of the soils on the soils on the site indicates the presence of one main soil type, which is medium textured and well drained, resting over brashy ragstone of the Hythe Beds at variable depths.

3. AGRICULTURAL LAND CLASSIFICATION

3.1 The ALC grading of the site is primarily determined by the interaction between soil and climatic factors giving rise to a soil droughtiness limitation.

Grades 2 and 3a have been mapped in addition to areas in non-agricultural, urban and woodland uses.

Grade 2

3.2 This very good quality agricultural land has been mapped across the western part of the site and it represents 62% of the total agricultural land surveyed.

Profiles typically comprise non-calcareous medium clay loam topsoils over similar textures or sandy clay loam in the subsoil. Occasional profiles pass to heavier textures, such as heavy clay loam or clay in the lower subsoil below 75 cm. Profiles may be very slightly to slightly stony (ie. 2-10% v/v ragstone fragments) throughout and may become impenetrable, (to soil auger) over brashy ragstone from 75 cm depth.

These soils are well drained, wetness class I, and are limited by a slight drought risk as a result of the interaction between profile characteristics and soil moisture deficits causing a slight reduction in the soil moisture available for crop growth.

Grade 3a

3.3 Good quality land has been mapped to the east of Dog Kennel Wood. Soils are similar to those described above but are typically slightly more stony in the subsoil, may comprise sandier subsoil horizons (eg, sandy loam and loamy sand), and/or are shallower over brashy ragstone becoming impenetrable, (to soil auger), at variable depths below 45 cm. As a result, profiles are slightly more drought prone than those mapped as grade 2. Moderate reserves of available water cause this land to be subject to a slight droughtiness limitation.

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ADAS Reading

SOURCES OF REFERENCE

- British Geological Survey (1976) Sheet 288, Maidstone

- 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 [SSEW] (1980) Soils of Kent.

- SSEW (1983) Sheet 6, Soils of South-East England.

- SSEW (1984) Bulletin 15, Soils and their use in South-East England

APPENDIX 1
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 enable land 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/airfields. 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.