Camks 43-90

AGRICULTURAL LAND CLASSIFICATION

WARDENTREE LANE, SPALDING LINCOLNSHIRE

1. BACKGROUND

1.1 The site, an area of 11.8 hectares, is the subject of an application for industrial development north of Spalding, Lincolnshire. MAFF surveyed the site in September 1990 to assess the agricultural land quality.

2. PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climate data for the site was obtained from the published agricultural climatic database. (Met Office, 1989). This indicates that the site's annual average rainfall is 570 mm (22.4"). This data also indicates that field capacity days are 107 and moisture deficits are 121 mm for wheat and 117 mm for potatoes. These climatic characteristics do not impose any climatic limitation on the ALC grading of the survey site.

Altitude and Relief

2.2 The land lies fairly level at an altitude of 3m AOD. Gradient and altitude do not constitute limitations to the ALC grade.

Geology and Soils

2.3 The published 1/4" to 1 mile geology map sheet 12 (Geological Survey of England and Wales 1953) shows the survey area to comprise alluvium, peat and fen silts.

2.4 The Soil Survey of England and Wales have mapped the soils at a reconnaissance scale of 1:250,000. This map entitled "The Soils of Eastern England", shows the occurrence of the Wisbech Association* within the survey area. During this survey a more detailed inspection of the soils was carried out.

One main soil type occurs over the site.

2.4.1 The site comprises marine alluvium derived soils which are porous due to the presence of a dense network of coarse interlinking bio-pores. The soils typically** comprise medium clay loam topsoils over upper subsoils of heavy clay loams or occasionally clays. Below depths of 50/85 cm profiles often merge into marine silts. (namely fine sandy loam or fine sandy silt loam textures). These lower marine silt horizons are often calcareous.

3. AGRICULTURAL LAND CLASSIFICATION

3.1 The definition of the agricultural land classification grades are included in Appendix 1.

*Wisbech Association: Deep stoneless, calcareous coarse silty soils. Groundwater usually controlled by ditches or pumps. Flat land with low ridges.

**A few profiles of deep marine silts were noted in the vicinity of the track; Grid Ref TF255253. However, these covered too small an area to delineate separately at this scale.

3.2 The table below shows the ALC grades for the survey area.

AGRICULTURAL LAND CLASSIFICATION

Grade	ha	%
2	11.8	100
TOTAL	11.8	100

3.3 Grade 2

The whole of the survey area has been mapped as grade 2. The soils are described in full in paragraph 2.4.1. The soils have good or moderately good water retention characteristics depending on the depth at which the marine silt is encountered. Where the marine silt occurs below depths of 70 cm the profiles are slightly droughty. Over the whole of the site the subsoils are gleyed but permeable due to the presence of the biopores; as a result they have a wetness class of II. Where profiles are slightly droughty minor wetness, workability and droughtiness limitations exclude the land from grade 1. Where profiles have only very minor droughtiness imperfections slight wetness and workability limitations alone restrict the land to grade 2.

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Appendix 1

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 with affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. When more demanding crops and 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 levels of yields. It is mainly suited to grass with occasional arable crops (eg cereals and forage crops) the yield of which are variable. In most 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.

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES 1953
Drift edition geology sheet 12; scale 1/4" to 1 mile.

MAFF, 1988 Agricultural land Classification of England and Wales (Revised Guidelines and criteria for grading the quality of agricultural land). Alnwick.

METEOROLOGICAL OFFICE 1989. Climate data extracted from the published Agricultural Climate Dataset.

SOIL SURVEY OF ENGLAND AND WALES 1983 The soils of Eastern England. Sheet 4, 1:250,000.