Cambs 60/91

AGRICULTURAL LAND CLASSIFICATION AND SOIL PHYSICAL CHARACTERISTICS AT HOVELS FARM, CORRINGHAM, ESSEX

1. BACKGROUND

The site, a field of 4.6 ha, is the subject of an application by C T Prior (the contractors working on the A13 extension), for the storage of soil stripped during road building. MAFF surveyed the site in September 1991 to assess the agricultural land quality and the soil physical characteristics.

2. SITE PHYSICAL CHARACTERISTICS

2.1 Climate

Climatic data for the site was obtained from the published agricultural climatic dataset (Met Office, 1989). This indicates that for the site's mid range altitude of 30m AOD the average annual rainfall is 575mm (22.6 inches). This data also indicates that the field capacity days are 103 and moisture deficits are 123mm for wheat and 119mm for potatoes. These characteristics do not impose any climatic limitation on the ALC grading of the survey site.

2.2 Altitude and Relief

The land comprises a south facing valley side ranging in altitude from 42m on the northern edge to 20m in the southern corner. There is a 10° slope on the higher land limiting approximately one third of the site to 3b. The uneven nature of the land was noted, but did not constitute a micro relief limitation.

3. AGRICULTURAL LAND CLASSIFICATION (refer to ALC Map)

3.1 The definitions of Agricultural Land Classification (ALC) grades are included in Appendix 2.

3.2 The whole of the site (4.6 ha) was graded 3b.

3.3 Subgrade 3b

Slowly permeable layer starting from 35 cm limits the land to wetness class III. The heavy clay-loam topsoils combine with a profile wetness class of III to impose a significant wetness and workability constraint on the land. Thus the land is graded 3b. (Moderate quality agricultural land).

4. SOIL PHYSICAL CHARACTERISTICS

4.1 Geology

The geology of the area has been mapped at a scale of 1:50,000 (Geol. Survey 1976). Solid and drift edition geology sheets 258 and 259 (Southend and Foulness) show half the site to be London Clay and the northern half as landslip.

4.2 Soils

During the survey a detailed inspection of the soil identified a single type over the whole of the area. This soil comprises heavy clay loam topsoils over clay subsoils which are heavily gleyed.

Appendix 1

Description of soil physical characteristics

Topsoil:	texture	:	Heavy clay loam
	stone	:	Stoneless
	colour	:	Dark greyish brown (10YR42)
	depth	:	27 cm
	boundary	:	Clear and smooth
Subsoil:	texture	:	Clay
	stone	:	Stone free
	colour	:	Greyish brown (10YR52)
	structure	:	Moderately developed coarse Angular Blocky
	consistence	:	Very firm
	depth	:	120cm+

Additional Information

Wetness Class : typically III

Calcium Carbonate : Profiles non calcareous throughout.

Appendix 2

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 cops 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.

REFERENCES

Geological survey of England and Wales 1976 solid and drift eddition geology sheets 258 and 259; scale 1:50,000.

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 Agricutural Climatic Dataset.