

AGRICULTURAL LAND CLASSIFICATION

LAND AT NEWPORT PAGNELL ADJACENT TO A422 AND B526

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1. BACKGROUND

1.1 Land on this 3.3 ha site was inspected on 23 June 1989 in connection with two development proposals involving industrial and service uses. Six auger boring tests together with a small soil pit were made over the site. At the time of survey the land was in arable (wheat) production.

2. PHYSICAL FACTORS AFFECTING LAND QUALITY

Relief

2.1 The site lies at an altitude of 55-60 m A.O.D. within the valleys of the Rivers Ouse and Ouzel. The land has overall falls in a southerly direction with the lowest part of the site in the extreme southwestern corner. Gradient and altitude place no limitation on the agricultural land quality of the site.

Climate

2.2 Site interpolated average annual rainfall (Met. Office, 1989) gives a value of 613 mm for the site which is low by national standards. Field capacity days, a measure of climatic wetness, is correspondingly low with a value of 123 days (Met. Office 1989). Accumulated temperatures, an indication of the relative warmth of a locality, is relatively high at 1420 day degrees above 0°C (Jan-June) (Met. Office, 1989). Moisture deficits are 113 mm for wheat and 106 mm for potatoes. (Met. Office, 1989). Climatic factors per se place no limitation on agricultural land classification grade but do affect interactive limitations between soil and climate namely soil wetness and droughtiness.

Geology and Soils

2.3 The published geological map sheet for the site at 1:25,000 (Milton Keynes - Special Geological Sheet SP 83) (Institute Geological Sciences, 1970) indicates that the lower lying parts of the site are derived from superficial head deposits, whilst the upper elevations are mapped as Oxford Clay. This description accords well with the two soil types noted during detailed survey work. Soils associated with the head deposits typically comprise sandy clay loam topsoils overlying similar textured upper subsoils which pass into heavy clay within 80-95 cm. The soils associated with the Oxford Clay are heavier textured having heavy clay loam topsoils passing into clay within 25-35 cm.

3. AGRICULTURAL LAND CLASSIFICATION

3.1 The land was graded in accordance with the revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988).

Grades 2 and 3b have been mapped on the site; the breakdown of these grades in terms of area and extent is given below:

	ha	%
Grade 2	1.1	33
Grade 3b	2.2	67

Grade 2

- 3.2 Land of this quality is mapped on lower slopes and is believed to be associated with the superficial head deposits. Soils comprise non or very slightly calcareous (< 1% CaCO₃) sandy clay loam topsoils overlying similar textured subsoils. A heavy clay lower subsoil is typically encountered within 80-95 cm of the surface. Such soils are gleyed to within 50-95 cm of the surface and are placed in wetness classes I and II. Although wetness forms a minor limitation at some locations, droughtiness is also an important consideration in a low rainfall area such as Newport Pagnell and at this site soils such as described previously cannot be graded higher than grade 2 due to droughtiness limitations.

Grade 3

Subgrade 3b

- 3.3 Grade 3b land is mapped on the higher parts of the site. Soils typically comprise very slightly calcareous (< 1% CaCO₃) heavy clay loam topsoils overlying clay subsoils. These soils are gleyed and slowly permeable within 40 cm and are appropriately placed in wetness class III given the low field capacity clay range for the locality. The main limitation of this type of land is heavy soil textures and slowly permeable subsoils giving rise to a moderately severe wetness limitation. This reduces the flexibility of cultivations, and reduces the range of crops which can be grown satisfactorily.

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Reading

SOURCES OF REFERENCE

INSTITUTE GEOLOGICAL SCIENCES (1970), Milton Keynes - Special Geological Sheet SP 83 with parts of SP 73, 74, 84, 93 and 94 (1:25,000).

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

METEOROLOGICAL OFFICE (1988) Climatological datasets for Agricultural Land Classification.