Cambs. 34/89

AGRICULTURAL LAND CLASSIFICATION
NORWICH AREA LOCAL PLAN
LAND AT COLNEY LANE A, NORFOLK

1. BACKGROUND

1.1 The site, an area of 204.8 hectares, is the subject of a local plan review for the Norwich area. Within the site, 71.4 hectares of land, adjacent to Hethersett Lane, and 20.6 hectares of land, adjacent to Newfound Farm, where surveyed previously be MAFF in 1988, in connection with proposals to develop a new hospital. The remaining 112.7 hectares were surveyed by MAFF during August 1989.

1.2 On the published Agricultural Land Classification map sheet number 126 (provisional, scale 1:63360 MAFF 1969), the area is shown as grade 3.

PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climatic data for the site was obtained from the published agricultural climatic dataset (Met. Office 1989). This indicates for the site's mid range altitude (25m AOD) the annual average rainfall is 619mm (24.4"). This dataset also indicates that field capacity days are 120 and moisture deficits are 117mm for wheat and 112mm for potatoes. These climatic characteristics do not impose any climatic limitation on the ALC grading of the survey site.

Altitude and Relief

2.2 A valley feature (at approx. 15m AOD) runs from west to east through the centre of the site. From this valley feature the land rises gently to the north and south to a maximum altitude of 32m AOD, at the south-western corner of the site. Gradient and altitude do not constitute limitations to the ALC grade.

Geology and Soils

2.3 The published 1:50,000 scale drift edition geology map sheet 161 and the 1:25,000 scale Sand and Gravel Resources sheet TG10 show the survey area to comprise mainly sand and gravel deposits interspersed by smaller areas of boulder clay.

2.4 The Soil Survey of England and Wales have mapped the area on two occasions firstly, in 1973, at a scale of 1:100,000 and secondly, in 1983, at a reconnaissance scale of 1:250,000. These maps show the occurrence of the Burlingham 1 Association (*1). During the current survey a more detailed inspection of the soils was carried out.

Two main soil types occur over the site.

2.4.1 The most extensively occurring soil type is a coarse textured soil which is freely draining (wetness class I) and significantly droughty. Typical profiles comprise loamy sand(or occasionally sandy loam) topsoils over loamy sand or sand upper subsoils which overlie medium sand. Surface and profile stone content varies from 0-10%* small and medium subangular flints. Stony variants of these soils occur in the vicinity of the wood (GR:TG185070) where profiles often overlie gravelly horizons below 60cm depth.

2.4.2 The second soil type is better bodied, occurs in isolated pockets and may coincide with areas of boulder clay drift. This soil has a wetness class of I or occasionally II, and typically comprises sandy loam topsoils over sandy loam, loamy sand or sandy clay loam subsoils which may overlie loamy sand, sand or clays at depth. Surface and profile stone content generally varies from 0-10%* small and medium sub-angular flints.

(*1) Burlingham 1 Association: Deep coarse and fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging. Some deep well drained coarse loamy and sandy soils.

* Occasionally isolated patches, too small to delineate at this scale, of 10-20% surface and/or subsoil stone content can occur.

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

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

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Grade	ha	%
2	3.2	1.5
3a	72.2	35.0
3b	117.2	57.0
Urban	1.0	0.5
Non Agricultural	6.9	4.0
Agricultural Buildings	4.3	2.0
TOTAL	204.8	100.0

3.3 Irrigation

The central part of the site around Newfound Farm is regularly irrigated; this irrigation significantly enhances the potential of the light textured soils which characterise the site. The ALC grade assigned to this area takes into account the reduction in drought risk afforded by irrigation.

3.4 Grade 2

A small area of land, to the south west of Newfound Farm, has been mapped as Grade 2. This land is associated with slightly droughty variants of the soils described in paragraph 2.4.2. The regular irrigation water this area receives could significantly enhance the potential of these soils, however, topsoil stone ranges from 5-10%;

as a result these flints act as a slight impediment to cultivation, harvesting and crop growth. It is this slight topsoil stone limitation which excludes the land from a higher grade.

3.5 Subgrade 3a

Two main situations occur.

3.5.1 In the vicinity of Newfound Farm, land has been mapped as subgrade 3a, where significantly droughty coarse textured soils occur. (refer paragraph 2.4.1) Regular irrigation enhances the water holding capacity of these soils; as a result the land has been graded 3a.

3.5.2 In the remaining areas of land graded 3a the moderately droughty variants of soils described in paragraph 2.4.2 occur. The coarse soil textures have a moderate limiting effect on the available water holding capacity of these soil profiles. As a result moderate droughtiness imperfections exclude this land from a higher grade.

3.6 Subgrade 3b

The majority of the survey area has been mapped as 3b. This land is associated with the soils described in paragraph 2.4.1. These coarse textured sandy soils are freely draining and only hold low reserves of available water. As a result droughtiness is the chief limitation ** to the ALC grade.

3.7 Non Agricultural

Woodland scrub, vacant land and recreational areas have been mapped as non agricultural.

3.8 Urban

Residential buildings have been mapped as urban.

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** Occasionally the soils may also be limited to subgrade 3b by surface stone content (15%+).

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 which affect the choice of crops, 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.

References

GEOLOGICAL SURVEY OF ENGLAND AND WALES (1975) Solid and Drift Edition Geology Map No 161. Scale 1:50,000

INSTITUTE OF GEOLOGICAL SCIENCES, (1972) 1: 25,000 scale, Sand and Gravel Resources of the country around Hethersett sheet TG10, Mineral Assessment Report No 73/4 HMSO, London.

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