Cambs 10/92

[redacted]

MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION

LAND ADJOINING A47 ROUNDABOUT

WITTON NORFOLK

1/10/92

AGRICULTURAL LAND CLASSIFICATION

LAND ADJACENT TO ROUNDABOUT ON A47, WITTON, NORFOLK

1. BACKGROUND

1.1 The site, an area of 2.2 hectares, is the subject of an application for a motorist service area adjacent to the A47 in Norfolk. MAFF surveyed the site in April 1992 to assess the agricultural land quality.

1.2 On the published Agricultural Land Classification Map sheet 126 (Provisional, scale 1:63360 [MAFF 1972]) the survey area is shown as grade 1. The current survey was undertaken to provide a more detailed ALC of this small site.

1.3 A total of 7 soil inspections were made on site supplemented by observations from 1 soil pit.

2. PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climate data for the site was obtained from the published agricultural climatic dataset (Met Office, 1989). This indicates that the site's annual average rainfall is 630 mm (24.8"). This also shows that field capacity days are 120.

2.2 The accumulated temperature for this area is approximately 1404 Day degrees Celsius. This parameter indicates the cumulative build-up of warmth available for crop growth and in conjunction with rainfall has an influence on the development of soil moisture deficits (SMD)* and susceptibility to drought; soil moisture deficits of 118 mm and 113 mm are recorded for wheat and potatoes respectively.

---

* SMD represents the balance between rainfall and potential evapotranspiration occurring during the growing season. For ALC purposes the soil moisture deficits developing under a winter wheat and maincrop potato cover are considered. These 'reference' crops have been selected because they are widely grown, and in terms of their susceptibility to drought, are representative of a wide range of crops.

2.3 These climatic characteristics do not constitute a limitation to the ALC grade.

2.4 The site lies at an altitude of 20 m AOD and forms part of the shoulder of the Witton brook valley which falls gently to the north east. Neither gradient nor altitude are limitations to the ALC grade.

Geology

2.5 The published 1:250,000 reconnaissance scale drift edition geology map 12 (Geological Survey of England and Wales, 1971) shows the survey area to comprise loam deposits.

Soils

2.6 The Soil Survey of England and Wales have mapped the survey area on two occasions, both times at a small scale. The larger scale map of 1:100,000 (Soil Survey 1973) shows the area to comprise Brown Earths which corresponds with the light textured series of Hall, Sheringham, Wickmere and Burlingham. During the current survey a more detailed inspection of the soils on this small site indicated the predominance of a loamy soil.

2.7 Profiles typically comprise fine sandy loam or medium sandy silt loam topsoils over similar upper subsoils which merge into lower subsoils of interbedded sandy clay loams and sandy clays at depths below 55/60 cms. Adjacent to the A47 a narrow strip of decalcified, heavier soils, derived from boulder clay deposits, predominate.

3. AGRICULTURAL LAND CLASSIFICATION

3.1 The definitions of the Agricultural Land Classification (ALC) grades are included in Appendix 1.

3.2 The site has been mapped as mainly grade 2 with a narrow strip of 3a adjacent to the A47 road. The table below shows the breakdown of the ALC grades in hectares and percentage terms.

AGRICULTURAL LAND CLASSIFICATION

Grade	Ha	%
2	2.0	91
3a	0.2	9
TOTAL	2.2	100

Grade 2

3.3 The majority of the site has been graded 2. The soils are loamy and freely draining and are described in full in paragraph 2.7. The presence of heavier textures at depth (55/60 cms^{+}) slightly reduces the water holding capacity of the soil profiles. Consequently minor droughtiness imperfections restrict the land to grade 2 (very good quality agricultural land).

Subgrade 3a

3.4 In association with the narrow pipeline construction area heavy textured, decalcified soils predominate. Field observations indicate that these soils are slowly permeable at depth and therefore have a wetness class of II. The fine topsoil texture, decalcified nature of the upper horizons and slow permeability at depth combine to exclude the land from a higher grade.

April 1992

S ESCOTT
Resource Planning Team
ADAS, Cambridge

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.

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND & WALES 1971. Drift edition Geology Map 12, 1:250,000 scale.

MAFF, 1972. Agricultural Land Classification Map 126, 1:63360 scale.

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 climatic dataset.

SOIL SURVEY OF ENGLAND AND WALES, 1973. Soils of Norfolk, 1:100,000 scale.

SOIL SURVEY OF ENGLAND AND WALES, 1983. Soils of Eastern England sheet 4, 1,250,000 scale.

LAND ADJOINING A47 ROUNDABOUT

WITTON NORFOLK

Map 1: Agricultural Land Classification