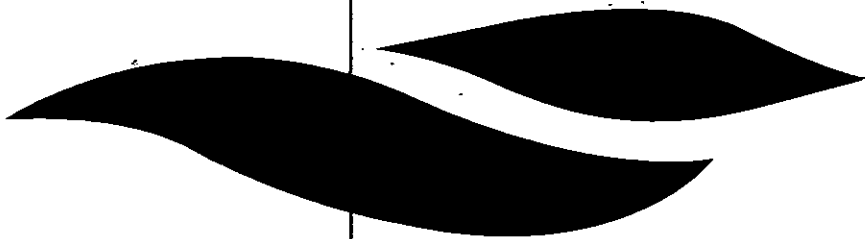


FRCA



FARMING AND RURAL CONSERVATION AGENCY
An Executive Agency of the Ministry of Agriculture, Fisheries and Food and the Welsh Office

**PROPOSED SERVICE AREA
JUNCTION 20, M1, LUTTERWORTH,
LEICESTERSHIRE.**

**Agricultural Land Classification
ALC Map and Report**

JUNE 1997

**Resource Planning Team
Eastern Region
FRCA Cambridge**

**RPT Job Number: 27/97
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AGRICULTURAL LAND CLASSIFICATION REPORT

PROPOSED SERVICE AREA, JUNCTION 20, M1, LUTTERWORTH, LEICESTERSHIRE.

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 16.6 ha of land adjacent to junction 20 of the M1. The survey was carried out during May 1997.
2. The survey was carried out by the Farming and Rural Conservation Agency (FRCA) for the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with a planning application for a new motorway service area. This survey supersedes previous ALC information for this land.
3. The work was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.
4. At the time of survey the land use on the site was almost entirely oil seed rape with the northern field under linseed.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10 000; it is accurate at this scale but any enlargement would be misleading.
6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	16.6	100	100
Total surveyed area	16.6	100	-
Total site area	16.6	-	100

7. The fieldwork was conducted at an average density of one boring per hectare. A total of 16 borings and 2 soil pits was described.
8. The whole site has been graded 2 (very good quality agricultural land). The main limitation on the land is one of slight droughtiness with topsoil stone content also occasionally being an additional limitation.

FACTORS INFLUENCING ALC GRADE

Climate

9. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.
10. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

	Parameter	Value
Grid reference	N/A	SP554835
Altitude	m, AOD	125
Accumulated Temperature	day°C (Jan-June)	1335
Average Annual Rainfall	mm	678
Field Capacity Days	days	158
Moisture Deficit, Wheat	mm	97
Moisture Deficit, Potatoes	mm	86
Overall climatic grade	N/A	Grade 1

11. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.
12. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.
13. The combination of rainfall and temperature at this site mean there is no overall climatic limitation on this land.

Site

14. The site is bounded by the M1 to the west and the A427 to the north. Open farmland lies to the east and south. The site slopes very gently in a northerly direction with a shallow valley feature in the northern part of the site. The maximum altitude of 129m AOD occurs at the south eastern corner with the lowest land of approximately 124 m AOD occurring adjacent to the M1 junction. Neither gradient or altitude impose any agricultural limitation on this site.

Geology and soils

15. The 1: 63 360 solid and drift geology map (sheet 170) shows the whole site to be covered by glacial boulder clay.

16. The reconnaissance scale 1: 625 000 soils map maps the whole site as the Wick 1 Association. These are derived from glaciofluvial or river terrace drift. This soil association is briefly described as deep well drained coarse loamy and sandy soils, locally over gravel. Some soils may be affected by groundwater and there is a slight risk of water erosion. During the detailed survey one soil type was identified which broadly correlates with the above mentioned soil association.

17. The soils on the site typically comprise very slightly stony (occasionally slightly stony), non calcareous medium sandy loam. Subsoils typically comprise similar textures with occasional horizons of loamy medium sand or sandy clay loam at depth. Stone content is variable in the subsoils, typically ranging from 5-20%, with the stonier horizons typically occurring at depth.

AGRICULTURAL LAND CLASSIFICATION

18. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

19. The location of the auger borings and pits is shown on the attached sample location map.

Grade 2

20. The whole site has been graded 2 (very good quality agricultural land). The main limitation on the land is minor droughtiness. The combination of coarse loamy textures and profile stone content slightly reduces the amount of available water for crop growth. Locally where topsoil stone content is slightly higher (6-7% >2 cm) this acts as a slight impediment to cultivation, harvesting and crop growth, thus acting as a equal limiting factor. Soils are typically freely draining and have been assessed as Wetness Class I. Occasionally where heavier textured horizons occur at depth, there is evidence of some impedance of water and in these instances these profiles have been assessed as Wetness Class II. However wetness and workability are not limiting factors on this land.

21. Within the site some excellent quality profiles (grade 1) were recorded, but these do not occur in discrete areas and cannot be delineated separately at the scale of survey

Roger Orpin
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SOURCES OF REFERENCE

British Geological Survey (1969) *Sheet No.170, Market Harborough*. BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land*. MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification*.
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 3, Midland and Western England*. SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Midland and Eastern England*. SSEW: Harpenden

APPENDIX I

DESCRIPTIONS 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 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 or horticultural crops can usually be grown but on some land of this 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 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the 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.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. 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 severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.