

**NORTH LINCOLNSHIRE  
LOCAL PLAN  
LAND NORTH OF A18  
(DONCASTER ROAD)**

**Agricultural Land Classification (ALC)  
Map and Report**

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Northern Region  
FRCA, Leeds**

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# AGRICULTURAL LAND CLASSIFICATION REPORT

## NORTH LINCOLNSHIRE LOCAL PLAN LAND NORTH OF THE A18 (DONCASTER ROAD)

### INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 83.5 ha of land north of the A18 at Scunthorpe. The survey was carried out during October 1998.

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 North Lincolnshire Local Plan. Previous surveys on this and adjacent sites have found substantial proportions of best and most versatile agricultural land (Grades 1, 2 and Subgrade 3a) (Job Nos. 14/79, 37/80, 40/88 and 8/90).

This report supersedes any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Northern 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 on most of the site was ploughed or sown with an arable crop, an area of land in the east of the site was set aside and a small area in the west was non-agricultural.

### SUMMARY

5. The findings of the survey are shown on the attached 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 areas 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	20.5	36.5	24.6
3a	29.8	53.1	35.7
3b	5.8	10.4	6.9
Other land	27.4	N/A	32.8
Total surveyed area	56.1	100	-
Total site area	83.5	-	100

7. The fieldwork was conducted at an average density of one boring per hectare. A total of 51 borings and 4 soil pits were described.

8. Four separate areas of Grade 2 land are distributed across the north, west and south of the site, totalling 20.5 ha. The soils consist mainly of medium silty clay loam topsoils overlying medium sand, with occasional peaty loam upper subsoils. Profiles fall into Wetness Classes I and II. Grade is restricted by soil texture or by soil wetness. The largest proportion of the site falls into Subgrade 3a (29.8 ha), mostly comprising stoneless medium or heavy clay loam or heavy silty clay loam topsoils over mainly medium sand or occasional peaty loam subsoils, with soil droughtiness forming the main limitation. Two small areas (5.8 ha total) of Subgrade 3b have also been identified on the site, being limited by soil droughtiness and sand topsoils.

## 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

Factor	Units	Values
Grid reference	N/A	SE 869 118
Altitude	m, AOD	4
Accumulated Temperature	day°C (Jan-June)	1410
Average Annual Rainfall	mm	613
Field Capacity Days	days	132
Moisture Deficit, Wheat	mm	110
Moisture Deficit, Potatoes	mm	102
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 means that there is no limitation in terms of climate.

## Site

14. The site lies north of the A18 and to the east of the A1077 at Scunthorpe. It is level, with some small undulations within the site.

## Geology and soils

15. The site is underlain by Mercia Mudstones, including some of the Penarth Group in the far west. This is overlain by alluvium and, in the north and east, blown sand. (BGS Sheets 80 (Hull), and 89 (Brigg))

16. The area has a history of artificial warping, producing fine, stoneless, silty topsoils of varying thickness over sandy or sometimes peaty subsoils. These have been mapped as Blacktoft association by the Soil Survey of England and Wales (Soils of England and Wales, Sheet 1).

## AGRICULTURAL LAND CLASSIFICATION

17. 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.

### *Grade 2*

18. Land falling into Grade 2 (20.5 ha) is located in the north, west and south of the site. For the most part this comprises stoneless heavy clay loam or heavy silty clay loam topsoils over mainly medium sand or occasional peaty loam subsoils. Profiles fall into Wetness Classes I or II. Grade is mainly limited by soil texture or by soil wetness.

### *Subgrade 3a*

19. The largest part of the site falls into Subgrade 3a, being found across most of the central part of the site with a small area located at the northern tip (29.8 ha in total). Most of the profiles are made up of medium to heavy textured topsoils overlying medium sand subsoils, with occasional occurrences of silty or organic upper subsoils. Soil droughtiness forms the main grade limitation.

### *Subgrade 3b*

20. Two small areas totalling 5.8 ha of Subgrade 3b land are found on the site. These comprise fine sand or medium sand topsoils over fine or medium sand subsoils. Grade is limited by topsoil texture and in many cases by soil droughtiness.

*Other land*

21. There are three areas of non-agricultural land on the site. An area in the east of the site is occupied by industrial units. The southern end of the site is agriculturally derelict, while a small area in the west is occupied by scrub and natural vegetation.

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## SOURCES OF REFERENCE

British Geological Survey (1983) *Sheet No. 80, Hull (Solid and Drift) 1:50,000 scale.*  
BGS: London.

British Geological Survey (1981) *Sheet No. 89, Brigg (Solid) 1:50,000 scale.*  
BGS: London.

British Geological Survey (1983) *Sheet No. 89, Brigg (Drift) 1:50,000 scale.*  
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 (date1983) *Sheet 1 Northern England.*  
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Northern 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.