Castle Morpeth District
Local Plan
Land at Newcastle Airport
Ref E2A

Agricultural Land Classification
ALC Map and Report

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Resource Planning Team
Northern Region
FRCA, Leeds

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AGRICULTURAL LAND CLASSIFICATION REPORT

Land at Newcastle Airport - Ref. E2A

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 22.5 ha of land north of Newcastle Airport.

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 proposal to expand the airport complex. Part of the site was examined by FRCA in July 1996 (ADAS Statutory at the time) to validate an ALC survey produced by Reading Agricultural Consultants.

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 the site was mostly in arable use. Small areas were in woodland and grass pasture and part of the site had already been developed as an airport car park.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:5,000. 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
1			
2			
3a			
3b	13.9	78	61.8
4	3.9	22	17.3
5			
Agricultural land not surveyed		N/A	-
Other land	4.7	N/A	20.9
Total surveyed area	17.8	100	-
Total site area	22.5	-	100

7. The fieldwork was conducted at an average density of one boring per hectare. A total of 22 borings and one soil pit were examined.

Subgrade 3b

8. Most agricultural land was Subgrade 3b. Soil wetness and workability limit the ALC grade of this land.

Grade 4

9. Land in the south west of the site was classed as Grade 4 because of a more severe soil wetness and workability limitation than on the Subgrade 3b land.

Other land

10. This comprises newly planted woodland in the west of the site and airport car parking adjacent to the airport.

FACTORS INFLUENCING ALC GRADE

Climate

11. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

12. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5 km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	NZ 186 720
Altitude	m, AOD	73
Accumulated Temperature	day°C (Jan-June)	1277
Average Annual Rainfall	mm	693
Field Capacity Days	days	178
Moisture Deficit, Wheat	mm	87
Moisture Deficit, Potatoes	mm	72
Overall climatic grade	N/A	Grade 2

13. 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.

14. 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.

15. The combination of rainfall and temperature at this site means there is an overall climatic limitation of Grade 2.

Site

16. The site is underlain by boulder clay drift below which is found Carboniferous Coal Measures (BGS 1977).

17. Soils reflect the parent material and contain medium to heavy clay loam topsoils over clayey, slowly permeable subsoils. Profiles are Soil Wetness Class IV.

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.

Subgrade 3b

19. Most agricultural land was Subgrade 3b. Topsoils are medium clay loam over clayey, slowly permeable subsoils. Profiles are Wetness Class IV. Soil wetness and workability limit the ALC grade of this land.

Grade 4

20. This land contains similar soils to the 3b area although topsoils are more typically heavy clay loam over clayey slowly permeable subsoils. Profiles are again Wetness Class IV and a more severe soil wetness and workability problem limits the ALC grade of this land.

Other land

21. This comprises newly planted woodland in the west and an area of airport car parking.

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SOURCES OF REFERENCE

British Geological Survey (1977) *Sheet No.14, Morpeth*
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.

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.