

**Tynedale District Local Plan
Site 14 Styford Roundabout, Bywell**

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

August 1998

**Resource Planning Team
Northern Region
FRCA, Leeds**

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AGRICULTURAL LAND CLASSIFICATION REPORT

Tynedale District Local Plan Site 14 Styford Roundabout, Bywell

INTRODUCTION

1. This report presents the findings of a detailed, Agricultural Land Classification (ALC) survey of 15.7 ha of land at Styford Roundabout, Bywell . The survey was carried out during August 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 a proposal to develop a HGV and car service area on the site.
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 all in agricultural use. Oilseed rape and barley had been harvested and oats were still be combined.

SUMMARY

5. The findings of the survey are shown on the attached 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 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
3a	6.3	40.1	40.1
3b	9.4	59.9	59.9
Total surveyed area	15.7	100	-
Total site area	15.7	-	100

7. The fieldwork was conducted at an average density of one boring per hectare. A total of 18 borings and 2 soil pits were described.
8. Subgrade 3a was mapped in the centre of the site. Soil wetness and workability limit the ALC grade of this land. Remaining land was Subgrade 3b. A more severe soil wetness and workability problem limit the ALC grade of this land.

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	NZ 026 638
Altitude	m, AOD	90
Accumulated Temperature	day°C (Jan-June)	1265
Average Annual Rainfall	mm	664
Field Capacity Days	days	173
Moisture Deficit, Wheat	mm	88
Moisture Deficit, Potatoes	mm	73
Overall climatic grade	N/A	Grade 2

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 limit the overall ALC to Grade 2.

Site

14. The site lies on the northern side of the Tyne valley. It has a south to south westerly aspect and slopes range from level to moderate (4°).

Geology and soils

15. Soils are derived from Till which overlies solid deposits of Carboniferous rock. These comprise the Millstone Grit or Namurian series (BGS Sheet 20 Newcastle drift, 1992). The till is probably derived from local deposits of sandstone and shale. Soils typically have a medium clay loam topsoil. Upper subsoils are similar in texture and usually gleyed. A clayey, gleyed, often stony, slowly permeable subsoil is found below this at depths of between 40cm and 70cm depth. Profiles are Wetness Class II to IV. Better drained Wetness Class II and III profiles are mostly found towards the centre of the site where the slowly permeable layer is deepest, with Class IV profiles else where. Soils on the site correspond to the Brickfield III association as mapped by the SSLRC (1984).

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.

18. Subgrade3a

This land is found in the centre of the site. Soils typically have a medium clay loam topsoil. Upper subsoils are similar in texture and usually gleyed. A clayey, gleyed, often stony, slowly permeable subsoil is found below this at depths of between 50 cm and 70cm depth. Profiles are Wetness Class II to III. Some land meets the criteria for ALC Grade 2, subject to soil wetness and workability limitations, but is not found in large enough areas to map out separately. Generally land with Wetness Class III profiles is most common and combined with a medium clay loam topsoil this land meets the criteria for ALC Subgrade 3a, subject to soil wetness and workability limitation.

19 Subgrade 3b

Remaining land is all Subgrade 3b. Profiles are Wetness Class IV and the land experiences a more severe soil wetness and workability limitation than on the 3a area. This is the grade limiting factor on this land.

RPT file 20401

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SOURCES OF REFERENCE

British Geological Survey (1992) *Sheet No. [20], Newcastle drift*.
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 (date 1983) *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.