AGRICULTURAL LAND CLASSIFICATION REPORT

SHROPSHIRE STRUCTURE PLAN
OSWESTRY, LAND AT OAKHURST

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 11.5 ha of land at Oakhurst, north west of Oswestry. The survey was carried out during April 1999.

2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). The survey was in connection with MAFF's statutory input to the Shropshire Structure Plan. This survey supersedes any previous ALC information for this land. FRCA (then ADAS Statutory) previously surveyed land immediately to the south of this site in 1995 for the Oswestry Local Plan.

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 site was permanent grassland used for grazing sheep. Non-agricultural land included farm buildings, a drain in the south of the site, a small area of woodland in the centre of the site and a driveway.

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.

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. In total 14 borings and 3 soil pits were described.

[1] FRCA is an executive agency of MAFF and the Welsh Office

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
1	-	-	-
2	1.3	12	11
3a	6.1	56	53
3b	3.0	28	26
4	0.4	4	4
5	-	-	-
Agricultural land not surveyed	-	N/A	-
Other land	0.7	N/A	6
Total surveyed area	10.8	100	
Total site area	11.5	-	100

8. Grade 2 (very good quality) land occurs as a single unit in the south of the site. Soil wetness is the main limitation to the agricultural use of this land.

9. Subgrade 3a (good quality) land occurs throughout the site. Soil wetness is the main limitation to the agricultural use of this land.

10. Subgrade 3b (moderate quality) land occurs in the northern part of the site and in a strip through the centre. Soil wetness and gradient are the main limitations to the agricultural use of this land.

11. Grade 4 (poor quality) land occurs on higher ground close to the northern site boundary. Gradient is the main limitation to the agricultural use of this land.

FACTORS INFLUENCING ALC GRADE

Climate

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

13. 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).

14. Climatic criteria are considered first when classifying land. Climate can be overriding in the sense that severe limitations will restrict land to low grades, irrespective of favourable site or soil conditions.

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SJ 288 308
Altitude	m, AOD	150
Accumulated Temperature	day°C (Jan-June)	1316
Average Annual Rainfall	mm	899
Field Capacity Days	days	207
Moisture Deficit, Wheat	mm	78
Moisture Deficit, Potatoes	mm	62
Overall climatic grade	N/A	2

15. 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.

16. The combination of rainfall and temperature at the site means that the site is climatically limited to Grade 2.

Site

17. The topography of the site is undulating in nature. In the north and centre of the site the land is steeply sloping. Where slopes exceed 7° this results in a gradient limitation to the agricultural use of the land.

18. Microrelief and flooding do not pose any limitation to the agricultural use of the land.

Geology and soils

19. The solid geology is composed of Middle and Lower Carboniferous Coal Measures in the north west of the site and Upper Carboniferous Coal Measures (Ruabon Marl) in the south east of the site - British Geological Survey (1972). The drift geology is composed entirely of Glacial and Post-glacial Boulder Clay - British Geological Survey (1975).

20. The soils that have developed over this geology are shown by the Soil Survey of England and Wales (1983) to be Wick Series. Soils of the Wick Series have either sandy loam or sandy silt loam topsoils, over loamy sand and sand subsoils.

AGRICULTURAL LAND CLASSIFICATION

21. 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

22. Land of very good quality occupies 1.3 ha (11 %) of the site and is found in as a single small unit in the south of the site. The soils typically comprise a medium clay loam topsoil, overlying either a medium clay loam or a sandy clay loam subsoil with common to many stones. No gleying was observed above 70 cm from the surface and there was no slowly permeable layer, resulting in Wetness Class I. With 207 field capacity days and a medium clay loam topsoil these profiles are Grade 2. The main limitation to the agricultural use of this land is soil wetness. The relatively high number of field capacity days at this location and clay loam topsoil textures will combine to adversely affect plant growth or impose restrictions on cultivations or grazing by livestock.

Subgrade 3a

23. Land of good quality occupies 6.1 ha (53 %) of the site and is found throughout the site. The profiles typically comprise either a medium clay loam or medium silty clay loam topsoil. This overlies either a medium clay loam, medium silty clay loam or a sandy clay loam upper subsoil with common stones. This passes to a heavy clay loam or clay lower subsoil at around 70 cm from the surface that contains many stones. The depths to gleying and a slowly permeable layer give Wetness Class III and Subgrade 3a. The main limitation to the agricultural use of this land is soil wetness. The relatively high number of field capacity days at this location and clay loam topsoil textures will combine to adversely affect plant growth or impose restrictions on cultivations or grazing by livestock.

Subgrade 3b

24. Land of moderate quality occupies 3.0 ha (26 %) of the site and is found either on steeply sloping land or in damp hollows. In the damp hollows found in the north of the site, the soil profile typically comprises a medium clay loam topsoil, overlying a medium clay loam upper subsoil passing to clay or silty clay at around 30 cm from the surface. The depths to gleying and a slowly permeable layer give a Wetness Class of IV and Subgrade 3b. The main limitation to the agricultural use of this land is soil wetness. The relatively high number of field capacity days at this location and clay loam topsoil textures will combine to adversely affect plant growth or impose restrictions on cultivations or grazing by livestock.

25. On the steeper slopes in the north of the site and in a strip through the centre of the site, gradients of between 7° and 11° were recorded. The main limitation to the agricultural use of this land is gradient. Gradient has a significant effect on mechanical farm operations and the safe and efficient use of machinery.

Grade 4

26. Land of moderate quality occupies 0.4 ha (4 %) of the site and is found on very steeply sloping land in the north of the site where gradients of between 11° and 18° were recorded. The main limitation to the agricultural use of this land is gradient. The main limitation to the agricultural use of this land is gradient. Gradient has a significant effect on mechanical farm operations and the safe and efficient use of machinery.

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SOURCES OF REFERENCE

British Geological Survey (1972) 1:50,000 scale, *Sheet No 137, Oswestry, Solid Edition.* BGS: London.

British Geological Survey (1975) 1:50,000 scale, *Sheet No 137, Oswestry, Drift Edition.* 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) *Soils and their Use in Midland and Western 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, cultivation 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.