STAFFORDSHIRE & STOKE ON TRENT MINERALS LOCAL PLAN WILLOUGHBRIDGE WELLS MARKET DRAYTON

Agricultural Land Classification
ALC Map and Report
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AGRICULTURAL LAND CLASSIFICATION REPORT
STAFFORDSHIRE & STOKE ON TRENT MINERALS LOCAL PLAN
WILLOUGHBRIDGE WELLS, MARKET DRAYTON

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 9.8 hectares of land. The results of this survey supersede any previous ALC information for this land. The land is located south of the A51, two kilometres north of Ashley Heath in Staffordshire. The survey was in connection with the Staffordshire Mineral Local Plan.

2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in September/October, 1997 by the Resource Planning Team of the Farming and Rural Conservation Agency (FRCA)- Northern region of FRCA.

3. The land has been graded in accordance with the publication "Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land" (MAFF 1988) .

4. At the time of survey the agricultural land on this site was under recently sown cereals.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10000 with an average auger boring density of 1 per hectare. The ALC map is only accurate at this base map scale and 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	2.1	22	21
3a	1.8	19	19
3b	5.0	53	51
4	0.6	6	6
Other land	0.3	N/A	3
Total surveyed area	9.5	100	-
Total site area	9.8	-	100

7. The agricultural land on this site has been classified as Grade 2 (very good quality) Subgrade 3a (good quality), Subgrade 3b (moderate quality) and Grade 4 (poor quality). The key limitations to the agricultural use of this land are climate, gradient, soil wetness and soil droughtiness.

8. The area of very good quality land is located in the south and centre of the site. The soils commonly comprise a clay loam topsoil overlying a sandy clay loam upper subsoil passing to either heavy clay loam or loamy sand and sand at depth.

9. The area of good quality land is mapped towards the east of the site. The soils in this area comprise a sandy clay loam topsoil overlying sandy loam and loamy sand subsoils onto sandstone at varying depths.

10. The area of moderate quality land is mapped towards the north and west of the site. The soils in this area comprise a clay loam topsoil overlying a gleyed and slowly permeable clay subsoil.

11. The area of poor quality land is mapped along a steep slope in the east of the site.

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 5 km grid datasets using standard interpolation procedures (Meteorological Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SJ 746 392	SJ 742 392
Altitude	m, AOD	140	120
Accumulated Temperature	day°C (Jan-June)	1312	1335
Average Annual Rainfall	mm	806	795
Field Capacity Days	days	189	188
Moisture Deficit, Wheat	mm	79	82
Moisture Deficit, Potatoes	mm	64	68
Overall climatic grade	N/A	Grade 2	Grade 1

14. 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.

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 (ATO, January to June), as a measure of the relative warmth of a locality.

16. The site straddles a climatic boundary. The combination of rainfall and temperature at this site means that the majority of the site is climatically Grade 2. However, the western fringe of the site, approximately below the 120 m contour, is climatically Grade 1.

Site

17. The site lies at an altitude of 115 to 148 metres AOD. The land rises from the west of the site towards the east, with a ridge running north to south in the east.

18. The three site factors of gradient, microrelief and flooding are considered when classifying the land.

19. Gradient imposes limitations to the agricultural use of land where the slope steepens in the east of the site.

20. Microrelief and flooding do not impose any limitations on the agricultural use of this land.

Geology and Soils

21. The solid geology of the area is comprised of Coal Measures Red Sandstone and Marl, with Triassic Keuper Sandstone and Conglomerate underlying the higher land in the east of the site - British Geological Survey (1902). There is no drift geology.

22. The soils that have developed on this geology are generally of either a medium clay loam or sandy clay loam texture over either clay or sandy loam and sand at depth.

Agricultural Land Classification

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

Grade 2

21. Land of very good quality occupies 2.1 hectares (21 %) of the site area and occurs in the south and centre of the site where soils in this area represent a transition from the heavier soils in the west of the site and the lighter soils in the east.

22. Towards the eastern side of the area the soil has a sandy clay loam topsoil texture over loamy sand and sand to depth, with few to common stones within the profiles.

23. Towards the western side of this area the soil has either a sandy clay loam or medium clay loam topsoil texture over sandy clay loam with bands of lighter and heavier material within in to depth.

24. These soils are placed in Wetness Class I and with a field capacity figure of 189 combined with a sandy clay loam topsoil, are limited to Grade 2.

25. The main limitations to the agricultural use of this land are climate and wetness.

Subgrade 3a

26. Land of good quality occupies 1.8 hectares (19 %) of the site area and occurs above the steep slope in the east of the site.

27. The soil has a sandy clay loam texture over sandy loam and loamy sand with common stones within the profile. This directly overlies sandstone at depths varying between 50 and 100 cm. The moisture balance places these soils in Subgrade 3a.

28. The main limitation to the agricultural use of this land is soil droughtiness.

Subgrade 3b

29. Land of moderate quality occupies 5.0 hectares (51 %) of the site area and occurs mostly in the west of the site.

30. The soil has either a medium clay loam or sandy clay loam topsoil texture over either a medium clay loam or sandy clay loam upper subsoil over gleyed and slowly permeable clay to depth. The depths to gleying and the slowly permeable layer place these soils in Wetness Class IV.

31. In the east a small area of land is limited to Subgrade 3b due to gradient, with slopes of between 7^{0} and 11^{0}.

32. The main limitations to the agricultural use of this land are soil wetness and gradient.

Grade 4

33. Land of poor quality occupies 0.6 hectares (6 %) of the site area and occurs along the steep slope running roughly north to south in the east of the site. Gradients of between 11^{0} and 18^{0} occurring across the land.

34. The main limitation to the agricultural use of this land is gradient.

Other Land

35. Other land occupies 0.3 hectares (3 %) of the site area and is found as a pond and surrounding scrubby woodland close to the northern edge of the site.

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SOURCES OF REFERENCE

British Geological Survey (1902) Sheet 123, Stoke-on-Trent, Solid Edition.
1:63 360 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.

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