

**STAFFORDSHIRE AND STOKE-ON-
TRENT STRUCTURE PLAN
Site 6: Anker Valley South**

**Agricultural Land Classification
ALC Map and Report
September 1998**

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**AGRICULTURAL LAND CLASSIFICATION REPORT
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Site 6: Anker Valley South**

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 141.3 hectares of land. The results of this survey supersede any previous ALC information for this land. The land is located between Amington and the River Anker, on the north eastern periphery of Tamworth. The survey was in connection with the Staffordshire and Stoke -on-Trent Structure Plan.
2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in July, August and September 1998 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 barley, wheat and grass.

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
1	-	-	-
2	-	-	-
3a	55.7	57	39
3b	15.3	16	11
4	26.1	27	19
5	-	-	-
Agricultural land not surveyed	21.7	N/A	15
Other land	22.5	N/A	16
Total surveyed area	97.1	100	-
Total site area	141.3	-	100

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

8. The area of good quality land is located in the centre of the site. The soils have either a clay loam topsoil overlying clay loam and clay or a sandy clay loam topsoil overlying loamy sand and sand. Sandy clay loam may be present in any of soil profiles described above.

9. The area of moderate quality land is in the south west and south east of the site. In the south west the soils have either a sandy loam topsoil over sandy loam and sand or a heavy clay loam texture over clay and sandy clay loam. The soils in the south east are similar to those described above but they are limited by topsoil stone content and soil droughtiness.

10. The area of poor quality land is mapped in the immediate floodplain of the River Anker. The soils have a silty clay loam topsoil texture over silty clay. This land is subject to flooding.

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

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SK 227 049
Altitude	m, AOD	65
Accumulated Temperature	day°C (Jan-June)	1402
Average Annual Rainfall	mm	643
Field Capacity Days	days	143
Moisture Deficit, Wheat	mm	105
Moisture Deficit, Potatoes	mm	96
Overall climatic grade	N/A	Grade 1

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 that there is no overall climatic limitation. The site is climatically Grade 1.

Site

16. The site lies at an altitude of 59 to 65 metres AOD and is enclosed within a large meander of the River Anker. The land rises from the periphery of the site towards the central dome around Royals Farm.

17. The three site factors of gradient, microrelief and flooding are considered when classifying the land. The area within the floodplain of the River Anker is susceptible to flooding. Information from the Environment Agency and Mr Gilman (Amington Old Hall) suggests that the season, duration and frequency of flooding over the land within the immediate floodplain, and under grass, limits the agricultural quality to Grade 4. The remainder of the floodplain is limited to Subgrade 3a.

18. The remaining factors do not impose any limitations on the agricultural use of this land.

Geology and Soils

19. The solid geology of the area is comprised of Carboniferous Upper Coal Measures. This is overlain with alluvium, first terrace and stratified sand and gravels - British Geological Survey (1954).

20. The soils that have developed on this geology are generally of a sandy loam or clay loam topsoil texture over sand or clay at depth.

Agricultural Land Classification

21. 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.

Subgrade 3a

22. Land of good quality occupies 55.7 hectares (39%) of the site area and is located in the centre of the site. The soils within this unit are of two main types.

23. Around Royals Farm the soil has a sandy loam topsoil texture over loamy sand and sand to depth with few to many stones within the profile. The moisture balance places these soils in Subgrade 3a. In the west of the site, near Moor Farm, sandy clay loam is present in the soil profile.

24. In the floodplain, the soil has a clay loam topsoil texture over clay loam and clay, with few to common stones within the soil profile. Lenses of sandy clay loam occasionally occur within the subsoil. The depths to gleying and the slowly permeable layer place these soils in Wetness Class III.

25. The season, duration and frequency of flooding over the low lying areas of this unit, limits the agricultural quality of this land to Subgrade 3a.

26. The main limitations to the agricultural use of this land include flooding, soil wetness and soil droughtiness.

Subgrade 3b

27. Land of moderate quality occupies 15.3 hectares (11%) of the site area and is found in the south west of the site and to the north of the caravan park in the south east of the site.

28. In the south west of the site the soils are of two types. On the higher ground adjoining the railway, soils have a sandy loam topsoil texture over sandy loam and sand, with common to many stones within the soil profile. The volume of topsoil stones greater than 2cm in size often exceeds 15%, limiting the agricultural land quality to Subgrade 3b. Evidence from the pit excavated in this area showed there to be an impenetrable layer of weathering sandstone and gravel below a depth of 80cm. The moisture balance places these soils in Subgrade 3b.

29. On the lower lying ground adjoining the land described in paragraph 28, the soils have a heavy clay loam topsoil texture over clay, heavy clay loam and sandy clay loam. Occasionally gravel is encountered in the lower subsoil. The depths to gleying and the slowly permeable layer place these soils in Wetness Class III.

30. To the north of the Caravan Park, the soils are similar in texture to those described for Subgrade 3a (paragraph 23). However, the volume of topsoil stones greater than 2cm in size is between 15% and 17%, limiting the agricultural land quality to Subgrade 3b. Frequently the volume of stones within the subsoil results in these soils having a Subgrade 3b moisture balance.

31. The main limitations to the agricultural use of this land include topsoil stone content, soil wetness and soil droughtiness.

Grade 4

32. Land of poor quality occupies 26.1 hectares (19%) of the site area and is found in the immediate floodplain of the River Anker.

33. The soil has a heavy silty clay loam topsoil texture over silty clay to depth. Occasionally gravel may be present in the lower subsoil. The depths to gleying and the slowly permeable layer place these soils in Wetness Class IV.

34. The season, duration and frequency of flooding in this area, limits the agricultural land quality to Grade 4.

35. The main limitation to the agricultural use of this land is flooding.

Agricultural Land Not Surveyed

36. Agricultural land not surveyed occupies 21.7 hectares (15%) of the site area and is found in the south west of the site on the common land associated with Warwickshire Moor.

37. The land appeared to consist mainly of ungrazed grass, with invading scrub and is likely to be of similar grades to those described above.

Other Land

38. Other land occupies 22.5 hectares (16%) of the site area and includes trackways sports fields, scrub, stables and farm buildings.

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SOURCES OF REFERENCE

British Geological Survey (1954) Sheet 154, Lichfield Solid and Drift Editions.
1:63 360 Scale.
BGS: London.

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