Babergh District Local Plan
Sudbury, Suffolk. Site 3

Agricultural Land Classification
ALC Map and Report

June 1999

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RPT Job Number: 25/99
FRCA Ref: EL38/00130
LURET Ref: MLAG00130A

AGRICULTURAL LAND CLASSIFICATION REPORT

Babergh District Local Plan, Sudbury, Suffolk. Site 3.

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 68.4 ha of land at Site 3 (west of Tye Farm, Great Cornard) in the Babergh District Local Plan. The survey was carried out during June 1999.

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 the Babergh District Local Plan. This survey supersedes previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Eastern 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 under cereals, beans and permanent pasture. The areas mapped as 'Other' include private dwellings, water tower and covered reservoir,woodland, a newly planted tree belt and hard tracks.

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.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	10.2	17	15
3a	25.8	42	38
3b	20.4	34	30
4	4.0	7	6
Other land	8.0	N/A	11
Total surveyed area	60.4	100	89
Total site area	68.4	-	100

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 65 borings and 5 soil pits was described.

8. Land mapped as grade 2 (very good quality agricultural land) occurs in the northwest, southeast, and a small area in the southwest and is restricted to this grade due to a minor droughtiness limitation.

9. Land mapped as subgrade 3a (good quality agricultural land) occurs on the eastern side of the site and in small areas in the north and west and is restricted to this subgrade due to a moderate droughtiness limitation.

10. Land mapped as subgrade 3b (moderate quality agricultural land) occurs in the central and western parts of the site and a small area in the south, and is restricted to this subgrade due to a more severe droughtiness limitation and in some areas due to slopes being in excess of 7°.

11. Land mapped as grade 4 (poor quality agricultural land) occurs in the south of the site and is restricted to this grade due to slopes being in excess of 11°.

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).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	TL 894 412
Altitude	m, AOD	70
Accumulated Temperature	day°C (Jan-June)	1387
Average Annual Rainfall	mm	599
Field Capacity Days	days	106
Moisture Deficit, Wheat	mm	119
Moisture Deficit, Potatoes	mm	114
Overall climatic grade	N/A	Grade 1

15. 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.

16. 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.

17. The combination of rainfall and temperature impose no overall limitation to land quality and hence the site has a climatic grade of 1.

Site

18. The site lies to the east of Sudbury and northeast of Great Cornard. It is bounded in the north by the A134 road, the east by open farmland, the west by Northern Road and private dwellings and the south by Canhams Road. From a plateau on the eastern boundary at a height of 74 m AOD the land slopes in all directions and falls to a height of 50 m AOD on the northern and western boundaries and 45 m AOD on the southern boundary. These slopes are incised with re-entrants which particularly in the south are moderately steeply sloping.

Geology and soils

19. The 1:50 000 scale geology map (BGS, 1991) shows a complex geological pattern across the site, with head material in the east, west and a small area in the north, boulder clay over Crag in the east central part and small areas in the north and south of the site. Glacial sands and gravel (Kesgrave) outcrop in the northwest and two small areas in the centre of the site.

20. The 1:250 000 scale reconnaissance soil map (SSEW, 1983) shows the majority of the site to comprise soils of the Hornbeam 3 Association. These are briefly described as deep fine loamy over clayey, and clayey soils with slowly permeable subsoils, calcareous in places. In the west soils of the Melford Association are mapped, these being briefly described as fine loamy over clayey soils, coarse loamy over clayey and fine loamy soils some with calcareous clayey subsoils.

21. During the current survey three main soil types were encountered.

22. The first soil type occurs in small areas in the north and the east with profiles typically comprising variably calcareous, very slightly stony sandy clay loam topsoils over non-calcareous, slightly stony sandy clay loam upper subsoil. Lower subsoils comprise slightly stony permeable clay. These profiles are well drained.

23. The second soil type occurs in the eastern part of the site with profiles typically comprising variably calcareous, very slightly stony medium clay loam or sandy clay loam topsoils over non-calcareous, slightly stony sandy clay loam upper subsoils. Lower subsoils comprise slightly stony sandy clay loam or occasionally sandy clay. These profiles are well drained.

24. The third soil type occurs in the western part of the site with profiles typically comprising variably calcareous, very slightly stony medium sandy or loamy medium sand topsoils over non-calcareous, slightly stony loamy medium sand or medium sandy loam upper subsoils. Lower subsoils comprise very slightly/slightly stony, loamy medium sand or medium sand. These profiles are free draining.

25. Several borings were impenetrable to auger at 35/40 cm especially on the high land, near the water tower and along the western boundary. Not only were soil conditions extremely dry but pit information indicated a very hard compacted layer at this depth.

AGRICULTURAL LAND CLASSIFICATION

26. 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.

27. The location of the auger borings and pits is shown on the attached sample location map.

Grade 2

28. Land mapped as grade 2 occurs in the northwest, southeast, and a small area in the southwest and corresponds to the soils described in paragraph 22. These soils are well drained (Wetness Class I) and hold moderately good reserves of available water for crop growth. However the dry climate in this area results in a minor droughtiness limitation which restricts the land to this grade.

Subgrade 3a

29. Land mapped as subgrade 3a occurs occurs on the eastern side of the site and in small areas in the north and west and corresponds to the soils described in paragraph 23. The soils are well drained (Wetness Class I) and the combination of fine and coarse loamy textures and low rainfall in the area gives rise to a moderate drougtiness limitation which restricts the land to this subgrade.

Subgrade 3b

30. Land mapped as subgrade 3b occurs in the central and western parts of the site and corresponds to the soils described in paragraph 24. The soils are free draining (Wetness Class I) and the combination of coarse loamy and medium sandy textures and low rainfall in the area gives rise to a more severe droughtiness limitation which restricts the land to this subgrade. In addition some of this area is restricted to this subgrade due to slopes being in excess of 7° which reduces the safe and effective use of machinery.

Grade 4

31. Land mapped as grade 4 occurs in the south of the site . It is restricted to this grade due to slopes being in excess of 11°. This land can only be used as permanent pasture.

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SOURCES OF REFERENCE

British Geological Survey (1991) *Sheet No. 206, Sudbury. Solid and Drift.Scale 1:50 000.* 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) *Sheet 4. Eastern England. Scale 1:250 000.* SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Eastern 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.