



Appendix 16.1

Agricultural Land Classification Report, MAFF (1996)

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MAFF 1996 Agricultural Land Classification

**ST ALBANS DISTRICT LP
SITE 2
Agricultural Land Classification
SEPTEMBER 1996**

**Resource Planning Team
Huntingdon Statutory Group
ADAS Cambridge**

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AGRICULTURAL LAND CLASSIFICATION REPORT

ST ALBANS DISTRICT LP SITE 2

Introduction

1. This report presents the findings of a detailed, Agricultural Land Classification (ALC) survey of 248.0 ha of land at Site 2 of the St Albans District Local Plan, to the east of Hemel Hempstead. The survey was carried out during September 1996.
2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) Land Use Planning Unit, Cambridge in connection with the Hertfordshire Structure Plan Review.
3. The work was conducted by members of the Resource Planning Team in the Huntingdon Statutory Group in ADAS. 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 use on the site was, standing cereals, beans and oil seed rape, post harvest stubble (cereal and oil seed rape), cultivated land and a small area of grass. Non agricultural land includes domestic dwellings, gardens and stables, farm buildings and areas of woodland.

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: Areas of grades and other land

Grade/Other land	Area (hectares)	% surveyed
2	13.4	5.4
3a	72.1	29.1
3b	144.2	58.1
Other land	18.3	7.4
Total agricultural land	229.7	92.6
Total survey area	248.0	100.0

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 237 borings and 8 soil pits were described.

8. Land mapped as grade 2 (very good agricultural quality) is confined to two small areas in the northern part of the site. Land mapped as subgrade 3a (good agricultural quality) occurs sporadically throughout the site and is restricted to this subgrade due to a moderate wetness and workability limitation. The remainder of the land is mapped as subgrade 3b (moderate agricultural quality) due to a combination of topsoil texture and slowly permeable subsoils, giving rise to a moderately severe wetness and workability limitation.

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

Parameter	Value
Grid reference	TL092087
Altitude (m, AOD)	130
Accumulated Temperature (day °C, Jan.–June)	1351
Average Annual Rainfall (mm)	694
Field Capacity Days	146
Moisture Deficit, Wheat (mm)	100
Moisture Deficit, Potatoes (mm)	89
Overall Climatic Grade	1

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

13. The combination of rainfall and temperature at this site mean there are no overriding climatic limitations, and therefore the climatic grade 1 is assigned.

Site

14. From a height of 120m AOD on the northern boundary the land slopes in a southerly direction into a broad valley to a height of 105m AOD. The land rises, from the valley, to a maximum of 135m AOD on a broad plateau, before gently falling away to the southern boundary to a height of approximately 130m AOD. The site is bounded in the east by the M1 motorway, in the south by the A414 road, and in the west by Green Lane and Cherrytree Lane. It is traversed by the Hemel Hempstead Road, Punch Bowl Lane and Hogg End Lane.

Geology and soils

15. The published 1:50 000 scale geology map (Geol. Survey 1990) shows the majority of the site to comprise Clay with Flints. Small areas in the northern part are mapped as Upper Chalk (soft white chalk with many flints).

16. The 1:250 000 reconnaissance soil survey map for the area (SSEW, 1983) shows the site to comprise soils of the Batcombe Association. These are briefly described as fine silty over clayey and fine loamy over clayey soils with slowly permeable subsoils. Some well drained clayey soils over chalk being variably flinty.

17. During the current detailed survey three main soil types were encountered.

Soil Type I

18. Soil Type I occurs in two discrete areas in the northern part of the site. Profiles typically comprise calcareous, very slightly/slightly stony heavy clay loam topsoil, over varying thickness heavy clay loam or clay upper subsoil. Lower subsoils comprise soft weathered chalk going to chalk rubble. The soils are well drained and assessed as Wetness Class I (q.v. Appendix II).

Soil Type II

19. Soil Type II occurs in two small discrete areas, one in the north and one in the central part of the site. Profiles typically comprise non-calcareous slightly/moderately stony, medium silty clay loam topsoil, over non-calcareous slightly/moderately stony heavy silty clay loam (occasionally clay) upper subsoil. Lower subsoils comprise slightly stony clay. Gleying occurs at 35/45 cm and the soils are assessed as Wetness Class III/IV dependant on the depth to the slowly permeable layer.

Soil Type III

20. Soil Type III occurs over the remainder of the site. Profiles typically comprise non-calcareous, very slightly/slightly stony, variably medium or heavy clay loam topsoil, over non-calcareous slightly/moderately stony clay (occasionally heavy clay loam) upper subsoil. Lower subsoils comprise very slightly/slightly stony clay. Gleying occurs at 30/45 cm and the soils are assessed as Wetness Class III/IV dependant on depth to a slowly permeable layer.

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.

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

Grade 2

23. Land mapped as grade 2 occurs in two discrete areas in the north of the site, and corresponds to the soils described in paragraph 18. The heavy clay loam topsoil gives rise to a slight wetness and workability restriction limiting the land to grade 2. The chalk/chalk rubble subsoils, although having a relatively high available water capacity do give rise to a slight droughtiness restriction, limiting the land to grade 2.

Subgrade 3a

24. Land mapped as subgrade 3a occurs sporadically throughout the site and corresponds to the soils described in paragraph 19 (medium silty clay loam topsoil, Wetness Class III) and paragraph 20 (medium clay loam topsoil, Wetness Class III).

With fine loamy topsoils and a slowly permeable layer below 40cm the land is restricted to this grade due to a moderate wetness and workability limitation.

Subgrade 3b

25. Land mapped as subgrade 3b occurs over the remainder of the site and corresponds to the soils described in paragraph 19 (medium silty clay loam topsoil, Wetness Class IV) and paragraph 20 (medium clay loam topsoil, Wetness Class IV, and heavy clay loam topsoil, Wetness Class III and IV). With clay loam topsoils, and a slowly permeable layer above 40cm, wetness and workability restrict the land to subgrade 3b, and hence care and timeliness with cultivations are required to avoid damage to soil structure.

Other Land

26. Other land comprises, dwellings and gardens, stables, farm buildings and areas of woodland.

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SOURCES OF REFERENCE

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