1584 Cambs 15/89

AGRICULTURAL LAND CLASSIFICATION
MILTON LANDFILL SITE EXTENSION

## 1. BACKGROUND

1.1 An Agricultural Land Classification was carried out at this site which covers approximately 8.0 ha and lies about 3 miles north of Cambridge. The site is bounded to the north by an existing landfill site to the by the A10, Ely road, to the south by the A45, Cambridge by-pass and to the west by field boundaries.

1.2 This site was surveyed in March 1989 using a Dutch soil aguer with inspections being taken at approximately 100 m intevals across the site, supplemented by further random samples where necessary. Soil pits were dug to assess the characteristics of the subsoil.

## 2. LANDUSE

2.1 This site has been restored from its former use as a Second World War army barracks. Despite considerable cleaning, there is still evidence of the old buildings and road that once existed on the site. At the time of the survey land use was predominently winter cereals with a small field of asparagus at the eastern end of the site.

## 3. PHYSICAL FACTORS AFECTING LAND QUALITY

### RELIEF

3.1 This site lies at an altitude of about 10 m AOD and is generally level. Slight undulations, (shallow dips, small ridges and humps) acros the site are probably due to disturbance caused during the restoration of the site from its former use. Altitude and gradient were not found to be limiting factors affecting land quality.

### CLIMATE

4.1 Climatic data for this site was calculated using the recently published Agricultural Climatic Dataset (Met Office, 1989). The site adjusted annual average rainfall is 564 mm with a slight summer maximum occurring between the months of April to September inclusive. There are 93 field

capacity days and the moisture deficits for wheat and potatoes are 120 mm and 116 mm respectively. Climate was found not to be a limiting factor affecting land quality at this site.

**GEOLOGY AND SOILS**

5.1 British Geological Survey sheet 188, Cambridge, scale 1:50,000 maps the area as Cretaceous Gault clay which consists of grey clay, commonly underlain by sandy and pebbly deposits.

5.2 The Soil Survey of England and Wales Sheet 4, scale 1:250,000 shows the site to consist mainly of the Evesham 3 Association (calcareous pelosols) with a small area of the Milton Association (gleyic brown calcareous earths) to the east of the site.

5.3 Two soil types over the site have typically been identified, exhibiting varying degrees of disturbance. Firstly at the eastern end of the site, soils principally comprise slightly stony, sandy loam topsoils which are often strongly calcareous. These typically overlie very slightly stony, sandy clay loam or heavy clay loam subsoils, chiefly underlain by fine sandy loams passing generally into strongly calcareous grey clay at depth. The principal soil restriction is a minor droughtiness limitation. Secondly across the majority of the site, soils chiefly consist of slightly to strongly calcareous heavy clay loam of clay or occasionally medium clay loam topsoils, which are very slightly to moderately stony; mainly overlying moderately to strongly calcareous clay or occasionally heavy clay loam subsoils, which are sometimes very slightly to moderately stony forming a compact soil layer. These lie chiefly above strongly calcareous grey clay at dpeth and contain many small weathered chalk fragments. The principal soil restriction is a drainage limiation indicated by the presence of gleying and a slowly permeable layer in the profile. Where these soils show clear evidence of disturbance, in the presence of large concrete, brick and clinker fragments and compact layers within the soil, this constitutes the main limitation to land quality.

## 6. AGRICULTURAL LAND CLASSIFICATION

6.1 This site has been graded using the Revised Guidelines for Agricultural Land Classification (MAFF, 1988). Land is graded according to the

degree to which physical or chemical properties impose long term limitations on agricultural use. Appendix A gives a generalised description of grades found in this classification.

**A BREAKDOWN OF GRADES FOUND IN THIS CLASSIFICATION**

| Grade | ha | % area |
|---|---|---|
| 3a | 3.5 | 43.8 |
| 3b | 3.7 | 46.3 |
| Non Ag | 0.8 | 10.0 |
| Total area | 8.0 | 100 |

**Grade 3a**

6.2 Grade 3a has been mapped over the central and eastern parts of the site and approximately 3.5 ha falls into this grade. Both soil types referred to above have been recognised and there is slight evidence of distrubance in the soil profiles reflectng the former use of the site. This disturbance has been taken into consideration when grading the site. The light textured, slightly stony soils at the eastern end of the site have been restricted to this grade due to a droughtiness limitation. The sandy textures and presence of hard stones, (small flints and fragments of concrete) contribute to reduce the available water capacity of the soil and in conjunction with the low rainfall will result in a drought stress most years. The heavy textured soils mapped in the central area of the site show evidence of gleying and the presence of a slowly permeable horizon in the subsoil. Consequently the heavy texture in conjunction with a drainage restriction will cause a workability limitation reducing soils to this grade.

**Grade 3b**

7.2 Grade 3b is mainly located along the southern and western parts of the site and approximately 3.7 ha falls in this grade. One soil type has generally been recognised. Topsoils mapped along the southern headland, abutting the A45, Cambridge by-pass have been disturbed by the construction of the road in 1980 when excess clay subsoil was dumped here. Soils in this grade have chiefly been distrubed resulting from the former use of the site. Subsoils principally consist of clays or heavy clay loams which are often strongly calcareous and moderately

stony forming a compact soil layer in the profile, overlying strongly calcareous clay to depth. The chief soil restriction is a disturbance limitation. The presence of clinker, bricks and large concrete fragments within the soil presents a hinderance to cultivation and increases wear of agricultural machinery. The compaction within the soil profile is also the result of disturbance and is effective in restricting the rooting depth of plants and the available water capacity of the soil. Althougth is site has been extensively cleared, evidence of old building masonary within the soil would present a long term limitation affecting land quality at this site.

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