2011-047-94

A1

Swale Borough Local Plan
Site B, Sittingbourne
Agricultural Land Classification
Summary Report
March 1994

AGRICULTURAL LAND CLASSIFICATION REPORT

SWALE BOROUGH LOCAL PLAN
SITE B, SITTINGBOURNE

1. Summary

1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites around Sittingbourne and on the Isle of Sheppey in Kent. The work forms part of MAFF's statutory input into the preparation of the Swale Borough Local Plan.

1.2 Approximately 14 hectares of land to the east of Sittingbourne was surveyed in March 1994. The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 14 soil auger borings and one soil inspection pit were assessed in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on its use for agriculture.

1.3 The survey work was carried out by members of the Resource Planning Team in the Eastern Statutory Centre of ADAS.

1.4 At the time of survey, the land-use on the site was mainly orchards with the remainder being in arable cropping.

1.5 The distribution of the grades and subgrades is shown on the attached ALC map and the areas are given in the table below. The map has been drawn at a scale of 1:5,000. It is accurate at this scale, but any enlargement may be misleading. This map supersedes any previous ALC information for the site.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% Total Agricultural Land
1	5.0	38.5
2	8.0	61.5
Non-agricultural	0.8	100% (13.0 ha)
Total area of site	13.8	

1.6 A general description of the grades and land use categories identified in this survey is provided as an appendix. The grades are described in terms of the type of limitation that can occur, the typical cropping range, and the expected level and consistency of yield.

1.7 Land on this site has been classified as excellent to very good quality. Land assigned to Grade 1 comprises deep, well drained silt loam or silty clay loam soils developed in Brickearth deposits. The land is unaffected by soil wetness and has good reserves of available water. Where Grade 2 has been mapped, similar, but slightly heavier soils experience slightly imperfect drainage as a result

of slowly permeable lower subsoil horizons. The land may therefore be affected by slight soil wetness.

2. Climate

2.1 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.

2.2 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset (Met. Office, 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.

2.4 No local climatic factors such as exposure or frost risk affect the site. However, climatic and soil factors interact to influence soil wetness and droughtiness limitations. At this locality, the climate is relatively warm and dry in regional terms.

Table 2 :Climatic Interpolations

Grid Reference	TQ928636	TQ926633
Altitude, (m, AOD)	15	20
Accumulated Temperature (°days, Jan-June)	1482	1477
Average Annual Rainfall (mm)	622	630
Field Capacity Days	123	125
Moisture deficit, wheat (mm)	120	119
Moisture deficit, potatoes (mm)	116	116
Overall Climatic Grade	1	1

3. Relief

3.1 The site lies at an altitude of approximately 15-22m AOD, overall falling gently from south west to north east. However, directly to the north of the farm buildings in the centre of the site there is a short embankment to lower lying land in the north, representing an area from which brickearth has been extracted in the past. This area is not in agricultural use and as such does not affect the land classification. No other areas of microrelief or gradient affect land quality at this site.

4. Geology and Soils

4.1 The published geological information (BGS, 1977) shows approximately half of the site to be underlain by Thanet Beds. The remaining area being shown as head brickearth, a recent drift deposit overlying the Thanet Beds.

4.2 The published soil information (SSEW, 1983) shows the site to be comprise soils from the Hamble 1 Association. The more detailed publication (SSEW, 1980) denotes the site as having soils from Hamble, Bursledon, and Woodnesborough series, which it collectively describes as, "silty soils in brickearth associated with loamy soils in Thanet and Woolwich beds; free drainage, locally with slight impedance". Soils of this general nature were found at this site.

5. Agricultural Land Classification

5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points are shown on the attached sample point map.

Grade 1

5.3 Land of excellent quality has been mapped in two locations within the site, towards the north west and south east. Typically profiles comprise a very slightly stony non-calcareous silt loam or occasionally medium silty clay loam topsoil, over a stoneless medium silty clay loam upper subsoil. On the higher land towards the south east and west, the upper subsoil overlies a stoneless heavy silty clay loam, containing a few faint ochreous mottles, to depth. Towards the north west, where the land has been worked and is lower, the lower subsoil remains a medium silty clay loam or medium clay loam to depth, but with increasing quantities of fine sand derived from the underlying geology. These soils are free draining and easily worked. Available water is also high such that they will not suffer from drought, consequently this area has been assigned to Grade 1.

Grade 2

5.4 Land of very good quality has been mapped for the remainder of the agricultural land at this site. The principal limitation is soil wetness caused by deep slowly permeable horizons. Typically, profiles comprise a very slightly stony occasionally calcareous silt loam or medium silty clay loam topsoil over a slightly stony medium silty clay loam occasionally heavy silty clay loam or silty clay upper subsoil. Where the textures are heavier, gleying was evident. This passes to a stoneless gleyed and slowly permeable heavy silty clay loam and/or silty clay, between 55 and 70 cm to depth. Within this locality the depth to gleying and subsequent slowly permeable horizons lead to Wetness Class II being applied which, when combined with the topsoil workability status, leads to Grade 2 being most appropriate.

5.5 Towards the centre of the site, the area mapped as Stones Farm is shown as non-agricultural. Many of the buildings have been demolished and the area is now occupied by gypsy caravans. Towards the west of the site, a steep bank separating the area worked for brickearth from undisturbed land to the south is also included in the Non-agricultural category.

ADAS Ref : 2011/047/94
MAFF Ref : EL20/245

Resource Planning Team
Eastern Statutory Centre
ADAS

SOURCES OF REFERENCE

British Geological Survey (1971), Geology of the Country around Chatham (Explanation of Sheet 272).

British Geological Survey (1977), Sheet 272, Chatham, 1:50,000. Drift Edition.

MAFF (1988), Agricultural Land Classification of England and Wales : Revised guidelines and criteria for grading the quality of agricultural land.

Meteorological Office (1989), Climatic datasets for Agricultural Land Classification.

Soil Survey of England and Wales (1980), Soils of Kent, Bulletin No. 9.

Soil Survey of England and Wales (1983), Sheet No. 6, Soils of South-East England, 1:250,000, and Accompanying Legend.

Soil Survey of England and Wales (1984), Soils and their use in South-East England. Bulletin No. 15.