

# AGRICULTURAL LAND CLASSIFICATION REPORT FOR SWETTENHAM HALL, NR CONGLETON

## 1. SUMMARY

1.1 The Agricultural Land Classification (ALC) Survey for this site shows that the following proportions of ALC Grades are present:

Grade 2	14.7 ha	(22.2% of the site)
Sub-Grade 3a	31.0 ha	(46.8% of the site)
Sub-Grade 3b	8.5 ha	(12.8% of the site)
Grade 4	4.0 ha	(6.0% of the site)
Woodland	5.8 ha	(8.7% of the site)
Non-Agricultural	1.0 ha	(1.5% of the site)
Open Water	1.0 ha	(1.5% of the site)
Agricultural Buildings	0.3 ha	(0.5% of the site)

1.2 The Grade 2 and Sub-grade 3a soils are limited in the main by droughtiness and topsoil stone content. The moderate and poor quality land are limited by wetness and gradient respectively.

## 2. INTRODUCTION

2.1 The site was visited by the Resource Planning Team in June 1993. An Agricultural Land Classification (ALC) survey was undertaken according to the guidelines laid down in the "Agricultural Land Classification of England and Wales - Revised Guidelines and Criteria for Grading the Quality of the Land" (MAFF 1988).

2.2 The 66.3 ha site is situated to the North and South of The River Dane North West of Congleton at NGR SJ 810 600. The survey was requested by MAFF in connection with an ad hoc development for a golf course. The need for this survey arose because there was insufficient "post 1988 guidelines" data available for this area.

2.3 At LUPU's request this was a "detailed grid survey" at 1:10000 with a minimum auger boring density of 1 per hectare. It should be stressed that the attached map is only accurate at the base map scale, any enlargement would be misleading.

2.4 At the time of the survey the site was under permanent grass and potatoes. Surrounding land was also predominantly in agricultural use.

## 3. CLIMATE

3.1 "Climate has a major, and in places overriding influence on land quality irrespective of favourable soil or site conditions" (MAFF 1988). Therefore, climate should be considered first.

- 3.2 "Metdata" computer programs were used to obtain climatic data for the site. These programs carry out the same functions as the LandIS climatic interpolations. The following information was obtained for the site:

Average Annual Rainfall (AAR)	768 mm
Accumulated Temperature above 0°C January to June (ATO)	1382 day °C
Field Capacity Days (FCD)	188 days
Moisture Deficit Wheat	89 mm
Moisture Deficit Potatoes	77 mm

- 3.3 From this information it can be established that there is no overall climatic limitation.

#### 4. SITE LIMITATIONS

- 4.1 The assessment of site factors is primarily concerned with the way in which topography influences the use of agricultural machinery. These include gradient, microrelief and flooding.
- 4.2 Gradient is a limiting factor in the centre of the site where land falls sharply into the valley of the River Dane.
- 4.3 Whilst surveying the site there was no sign of any major flood inundation upon the valley floor. As there are no other reliable sources of information to suggest that flooding is a problem it has not been taken into account when grading this land.
- 4.4 Microrelief did not impose any limitations.

#### 5. GEOLOGY AND SOILS

- 5.1 The soil geology of this site consists of Mercia Mudstone (Middle Keuper Marl) - BGS Sheet 110 Macclesfield 1:50000 1990). This is overlain in places with drift deposits of Boulder Clay and Fluvioglacial sands.
- 5.2 All of these factors have contributed to soils which are in the main sand rich ie. the Newport Series. However, there are some heavier soils in the close proximity of the River Dane.

#### 6. AGRICULTURAL LAND CLASSIFICATION

- 6.1 Grade 2 - occupies 14.7 ha (22.2%) of the survey area. It is found mainly in the North of the site.
- 6.1.1 Typical profiles within this grade are of a sandy loam topsoil which overlies sandy loam, loam sand and sand to depth. There are few or no stones throughout the profile.
- 6.1.2. These free draining soils are limited by droughtiness.

- 6.2 Sub-grade 3a - occupies 31.0 ha (46.8%) of the survey area. It is found to the South of the River Dane and in two distinct pockets North of the river.
- 6.2.1 Profiles within this grade are of two types. Firstly there are the lighter soils which are found in the main to the South of the river. Typical profiles are of a sandy loam topsoil with common stones which overlies a subsoil of loamy sand and sand to depth. Occasionally clay may be found below 85 cm. These profiles are limited by droughtiness and in places topsoil stone content.
- 6.2.2 Secondly there are the heavier soils which are found immediately either side of the River Dane. These profiles are typified by a medium clay loam topsoil with few stones which overlies a porous subsoil of clay loam. As these soils are often gleyed they are of wetness class II and are thus limited by wetness to this grade.
- 6.2.3 It should be stated that there are occasional auger borings of Grade 2 quality within this grade but they are of an insufficient area to map separately.
- 6.3 Subgrade 3b - occupies 8.5 ha (12.8%) of the survey area. It is found to the South West of the site near Dingle Wood.
- 6.3.1 Profiles within this grade are typified by a medium clay loam topsoil which overlies a clay subsoil which acts as a slowly permeable layer. Thus the soils are of wetness class IV and are limited to this grade by wetness.
- 6.4 Grade 4 - occupies 4.0 ha (6.0%) of the survey area. It is found in the centre of the site where land falls sharply into the valley of the River Dane.
- 6.4.1. As the gradient of these slopes is between 11° and 18° soils within this grade are thus limited by gradient.
- 6.5 Woodland - occupies 5.8 ha (8.7%) of the survey area. It is found at various locations throughout the site.
- 6.6 Non-Agricultural - occupies 1.0 ha (1.5%) of the survey area. It is found in the vicinity of Swettenham Hall itself.
- 6.7 Open Water - occupies 1.0 ha (1.5%) of the survey area. It is found at various locations throughout the site.
- 6.8 Agricultural Buildings - occupies 0.3 ha (0.5%) of the site at Lightwood Farm in the South.

6.9 Summary of Agricultural Land Classification Grades.

Grade	Area in Hectares	% of Survey Area	% of Agricultural Area
2	14.7	22.2	25.3
3a	31.0	46.8	53.2
3b	8.5	12.8	14.6
4	4.0	6.0	6.9
Woodland	5.8	8.7	-
Non-Agricultural	1.0	1.5	-
Open Water	1.0	1.5	-
Farm Buildings	0.3	0.5	-
Total	<u>66.3</u>	<u>100.0</u>	<u>    </u>

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