

AGRICULTURAL LAND CLASSIFICATION

GREEN ROYD FARM, DARRINGTON,
WEST YORKSHIRE

PROPOSED GOLF COURSE

MAFF
Leeds Regional Office

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1. Agricultural Land Classification

AGRICULTURAL LAND CLASSIFICATION REPORT: LAND NEAR GREENROYD FARM,
DARRINGTON, WEST YORKSHIRE

1. INTRODUCTION AND SITE CHARACTERISTICS

The site is located around grid reference SE 494211 approximately 2½ km south of Knottingley. It covers 55.8 hectares, 51.4 ha of which is in agricultural use.

Survey work was carried out in August 1990 when soils were examined by hand auger borings at 100 metre intervals pre-determined by the national grid. Soil profile pits were also dug at representative locations to assess soil structural characteristics and stone content and to collect samples for laboratory analysis. All land quality assessments were made using the methods described in the "Revised Guidelines and Criteria for grading the quality of Agricultural Land" (MAFF 1988).

LAND USE

Almost all of the site was in arable use. In some areas in the south east of the site, preparations had already begun for golf course construction with soil having been shifted and bunkers dug out.

CLIMATE

Average Annual Rainfall (AAR) is approximately 599 mm. Accumulated temperature above 0°C between January and June (ATO), is 1374 day °C and the land is at field capacity for 125 days a year. The rainfall and temperature figures for this site indicate that there is no overall climatic restriction on ALC grade. Although there is no overall climatic limitation, moisture deficits of 105 for wheat and 96 for potatoes indicate a slight drought limitation on the thin soils over limestone, which are common on parts of the site.

RELIEF

Altitude varies between 25 and 50 m above Ordnance Datum and overall relief is gently undulating at a mean altitude of 40 m aod. Slopes of 6-7° occur in the south western corner of the site but are not generally steep enough to restrict the use of agricultural machinery.

GEOLOGY AND SOILS

Site geology consists largely of Lower Magnesian Limestone, although toward the northern and eastern boundaries of the site clay deposits overlie the limestone and form a separate parent material for soil development.

Soils formed on the limestone consist usually of clay loam, sandy clay loam, or occasionally loamy sand topsoils over varying depths of similar textured subsoil. These pass into weathering limestone between 40 and 50 cm, although much deeper profiles of 80 cm were sometimes observed in hollows, probably as a result of downslope movement of material. There are no soil wetness limitations and all soils fall into Wetness Class I. Droughtiness, however, is limiting on the shallower and stonier soils.

Soils formed over the clayey material are much heavier and consist of medium or heavy clay loam topsoils over heavy clay loam or clay subsoils. Optimum thickness is usually 1 metre. These gleyed and mottled subsoils are slowly permeable and as a result soils suffer from wetness and workability problems and fall into Wetness Class II or III depending on depth to the slowly permeable layer.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades on this site are as follows:

GRADE	HECTARES	PERCENTAGE OF TOTAL AREA
2	0.7	1.2%
3a	38.5	69.0%
3b	12.2	22.0%
Woodland	<u>4.4</u>	<u>7.8%</u>
Total	55.8	100

Grade 2

Land in this grade occurs as a small pocket to the east of Bickering Wood. Soils consist of medium clay loam topsoils over similar textured upper subsoils which pass into slowly permeable gleyed clay at depth. These soils fall into Wetness Class II and are limited to Grade 2 by slight wetness problems.

Subgrade 3a

This subgrade is the dominant land class, and is widespread over most of the site. Soils consist of two main types. The first is formed over the magnesian limestone in the western and southern parts of the site and usually consists of clay loam or sandy clay loam topsoils over similar textured subsoils to depths of around 50-70 cm. Profiles are often slightly stony and fall into Wetness Class 1. They are limited to subgrade 3a by slight droughtiness.

The remaining 3a land consists of soil development over clayey parent material. Medium clay loam topsoils overlie slowly permeable heavy clay loam or clay subsoils which fall into Wetness Class III. The main limitations restricting this area to subgrade 3a are wetness and workability problems.

Subgrade 3b

Subgrade 3b land is restricted to four main parcels of land. The area adjacent to Hodgewood Lane consists of medium or heavy clay loam topsoils over slowly permeable clay subsoils. These soils fall into Wetness Class III or IV. They are limited to subgrade 3b by wetness and workability problems.

The remaining areas of 3b land consist of medium clay loam or sandy clay loam topsoils over similar textured subsoils. Such profiles are shallow with weathered limestone occurring within 30 or 40 cm of the surface. Although these soils are freely drained (Wetness Class 1) they are restricted to subgrade 3b by overriding droughtiness and topsoil stoniness limitations.

Woodland

Farm woodland accounts for a total of 4.4 ha, or 7.8% of land on this site.

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