

AGRICULTURAL LAND CLASSIFICATION

WHITWELL HOUSE FARM

LINTON, WETHERBY

PROPOSED GOLF COURSE

FEBRUARY 1993

ADAS

Leeds Statutory Group

Job No:- 49/93

MAFF Ref:- EL 48/075

SUMMARY

An Agricultural Land Classification survey of approximately 119ha of land at Linton was carried out in February 1993.

109.7ha of this land was in agricultural use of which 7.6ha falls within Grade 2. Soils in this grade are well drained and consist of sandy clay loam or medium sandy loam topsoils over medium, silty clay loam or sandy clay loam subsoils. They are limited to Grade 2 by slight droughtiness.

Subgrade 3a land covers 51.9ha. Soils within this subgrade vary from well drained to imperfectly drained. The well drained soils are widespread and consist of either sandy clay loam topsoils over shallow, extremely stony subsoils over limestone, or medium clay loam or medium sandy loam topsoils over loamy medium sand subsoils. In both cases land is limited to Subgrade 3a by soil droughtiness. Soils which are moderately well or imperfectly drained are characterised by reddish clay horizons within the subsoil and limited to Grade 3a by slight wetness even though limestone occurs at depth.

Subgrade 3b land covers 47.8ha. Soils within this subgrade are either well drained consisting of medium sandy loam topsoils over thin extremely stony subsoils and limestone bedrock, or are poorly drained consisting of medium clay loam topsoils over slowly permeable heavy clay loam or clay subsoils. The well drained soils are limited by droughtiness; the poorly drained soils are limited by wetness and workability problems.

Grade 4 land covers 2.4ha. This land is restricted to Grade 4 by gradient (slopes of approximately 12°).

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LINTON. PROPOSED GOLF COURSE

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site is located 1 Km north west of Collingham and is centred on Grid Reference SE 375465. Survey work was carried out in February 1993 when soils were examined by hand auger borings at a density of one per hectare at points predetermined by the National Grid. Land quality was assessed using the methods described in "Agricultural Land Classification of England and Wales: Revised criteria for grading the quality of agricultural land" (MAFF 1988).

1.2 Land Use and Relief

At the time of survey 92.6% of the site was in agricultural production, most of which was arable use. The remainder consists of urban, non-agricultural land, farm buildings and farm woodland. Site altitude varies between 25 and 70m AOD. Much of the northern part of the site is level to moderately sloping. Strongly sloping (8-11°) and moderately steeply sloping (12-15°) land, is common, however, in the southern part of the site where the land drops down into the Wharfe Valley.

1.3 Climate

Grid Reference	:	SE 375465
Altitude (m)	:	50
Accumulated Temperate above 0°C (January-June)	:	1354 day °C
Average Annual Rainfall (mm)	:	704
Climatic Grade	:	1
Field Capacity Days	:	179
Moisture Deficit (mm) Wheat	:	96
Moisture Deficit (mm) Potatoes	:	84

1.4 Geology, Soils and Drainage

The site is underlain by Millstone Grit and Magnesian limestone. On the lower ground adjoining the River Wharfe this is overlain by river terrace and alluvial deposits. Soils formed on these materials are predominately light textured and well drained (Wetness Class I), consisting of medium sandy loams over similar or lighter, often stony subsoils.

Elsewhere, on the higher ground away from the river, soils are formed over Magnesian Limestone or on boulder clay which forms a thin patchy cover over the limestone, in some parts of the site. The limestone soils consist largely of well drained (Wetness Class I) medium sandy loam or sandy clay loam sometimes stony topsoils over similar textured subsoils which in turn pass into weathering limestone bedrock at varying depths.

In the small areas containing soils formed on boulder clay, profiles consist of sandy clay loam topsoils over slowly permeable sometimes reddish heavy clay loam or clay upper subsoils. Although limestone often occurs at depths of 60-70cm, profiles can in places extend to more than 1m from the surface. Soils of this type vary from moderately well drained (Wetness Class II) where limestone is relatively close to the surface, to poorly drained (Wetness Class IV) on the deeper profiles.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:-

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
1		
2	7.6	6.5
3a	51.9	43.8
3b	47.8	40.3
4	2.4	2.0
5		
(Sub total)	(109.7)	(92.6)
Urban	1.7	1.4
Non Agricultural	3.3	2.8
Woodland - Farm	3.2	2.7
- Commercial		
Agricultural Buildings	0.6	0.5
Open Water		
Land not surveyed		
(Sub total)	(8.8)	(7.4)
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TOTAL	118.5	100
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2.1 Grade 2

Grade 2 land occurs mainly in the north eastern part of the site. Soils consist of medium sandy loam or sandy clay loam topsoils over sandy clay loam or occasionally medium silty clay loam subsoils. Most profiles are stoneless or very slightly stony and are well drained (Wetness Class I). Slight soil droughtiness is the main factor limiting this land to Grade 2.

2.2 Subgrade 3a

Much of the agricultural land on the site falls within this subgrade. Soils vary from well drained (Wetness Class I) to imperfectly drained (Wetness Class III). Most of the well drained soils consist either of slightly stony sandy clay loam topsoils over thin very to extremely stony sandy clay loam subsoils and weathering limestone bedrock or stoneless medium clay loam topsoils over stoneless loamy medium sand subsoils. Both profile types are restricted to Subgrade 3a by soil droughtiness. The moderately well drained and imperfectly drained soils consist of medium clay loam or sandy clay loam topsoils over reddish sometimes slowly permeable heavy clay loam or clay subsoils, followed at depth of about 65cm by weathering limestone bedrock. Profiles of this type are limited to Subgrade 3a by slight wetness.

Also included within this subgrade are the terraces and floodplain adjoining the River Wharfe. Here soils are light or medium textured and vary from stoneless to stony. They are well drained (Wetness Class I), but generally limited to Subgrade 3a by flood risk on the floodplain and by stoniness on the terraces.

2.3 Subgrade 3b

Subgrade 3b land is widespread on the limestone. Most soils are freely drained (Wetness Class I) and consist of slightly to moderately stony medium sandy loam or medium clay loam topsoils over very to extremely stony medium sandy loam or sandy clay loam

subsoils. Weathering limestone bedrock is common at about 50cm depth. These soils are limited to Subgrade 3b by droughtiness and, in places, topsoil stone content. Where soils are formed on boulder clay profiles consist of medium clay loam topsoils over slowly permeable heavy clay loam or clay subsoils. These profiles are poorly drained (Wetness Class IV) and are limited to Subgrade 3b by soil wetness and workability problems.

2.4 Grade 4

These two small areas are limited to Grade 4 by gradients of 12°.

2.5 Urban

This consists of roads, houses and the Wood Hall Hotel.

2.6 Non Agricultural

This includes the wooded river banks and the hotel grounds.

2.7 Agricultural Buildings

This consists of Whitwell House Farm

2.8 Farm Woodland

Cow Wood is placed within this category.

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MAP