



AGRICULTURAL LAND CLASSIFICATION
COMMON FARM, THORPE AUDLIN
WEST YORKSHIRE
PROPOSED GOLF COURSE
APRIL 1994

ADAS
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SUMMARY

An Agricultural Land Classification survey of 98.0 ha of land at Thorpe Audlin was carried out in March 1994. At the time of survey 89.5 ha of this was in agricultural use, of which 26.6 ha falls in Subgrade 3a.

Two main soil types occur on the Subgrade 3a land. The first consists of imperfectly drained profiles where medium-textured topsoils overlie medium to heavy-textured upper subsoils and gleyed, slowly permeable heavy-textured lower subsoils. The slowly permeable lower subsoils typically begin at around 50cm depth and soil wetness limits the ALC grade to Subgrade 3a. The second soil type consists of well drained profiles where light to medium-textured topsoils and upper subsoils overlie either very light-textured lower subsoils or weathering sandstone bedrock. In this case soil droughtiness restricts the land to Subgrade 3a.

The remainder of the agricultural land on the site (62.9 ha) falls in Subgrade 3b. Again, two main soil types occur. The first consists of poorly drained profiles with medium to heavy-textured topsoils overlying gleyed and slowly permeable heavy-textured subsoils at between 30cm and 40cm depth. This land is restricted to Subgrade 3b by soil wetness and topsoil workability limitations. The second soil type consists of light or medium-textured soils overlying either weathering sandstone or limestone at around 40cm depth. This land is restricted to Subgrade 3b by soil droughtiness. Some land in the south of the site is limited to Subgrade 3b by slopes of 8°.

The remainder of the land on the site consists of Non Agricultural land (1.0 ha) and Woodland (7.5 ha).

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THORPE AUDLIN: PROPOSED GOLF COURSE

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies around Grid Reference SE 476 147, to the south of the village of Thorpe Audlin, and covers a total of 98.0 ha. A detailed ALC survey was carried out in March 1994 when soils were examined by hand auger borings at 100m intervals predetermined by the National Grid. Four soil profile pits were dug to allow the assessment of subsoil structure, to confirm depth to bedrock and to allow samples to be taken for laboratory analysis. Land quality was assessed using the methods described in "Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land" (MAFF, 1988).

1.2 Land Use and Relief

At the time of survey 91.3% of the site was in agricultural use, being either arable or in set aside. The remainder of the site consists of Woodland and Non Agricultural land.

Site altitude varies between 30m AOD in the north and 94m AOD in the south. The land is generally gently to moderately sloping (2-6°) but some parts of the south of the site are strongly sloping (8°). Aspect varies but is typically northerly or north-easterly.

1.3 Climate

Grid Reference	: SE 476 147
Altitude (m)	: 60
Accumulated Temperature above 0°C (January - June)	: 1354 day°C
Average Annual Rainfall (mm)	: 626
Climatic Grade	: 1
Field Capacity Days	: 133
Moisture Deficit (mm) Wheat	: 102
Moisture Deficit (mm) Potatoes	: 92

1.4 Geology, Soils and Drainage

Most of the site is underlain by Carboniferous Coal Measures consisting of interbedded sandstones and shales, but in the south there are deposits of Lower Magnesian Limestone and Basal Permian Sands. With the exception of localised Head deposits, drift cover is absent and the soils on the site closely reflect the solid geology.

Typically, the soils formed in weathering shale are imperfectly or more often poorly drained, falling in Wetness Classes III or IV. In most cases medium clay loam or heavy clay loam topsoils (which are silty in places) overlie gleyed slowly permeable heavy silty clay loam or silty clay subsoils.

Where the soils have formed in weathering Coal Measures sandstone the profiles are typically well or moderately well drained, falling in Wetness Classes I or II, with sandy loam or sandy clay loam topsoils overlying similar or lighter-textured (loamy sand) subsoils. Weathering sandstone bedrock occurs at depths of between 40cm and 100cm. In the south of the site, where the limestone and Permian Sands outcrop, profiles are generally well drained (Wetness Class I), consisting of either medium-textured topsoils and subsoils overlying weathering limestone at variable depth, or light to medium-textured topsoils and subsoils overlying weathering red sandstone at variable depth.

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		
3a	26.6	27.1
3b	62.9	64.2
4		
5		
(Sub total)	(89.5)	(91.3)
Urban		
Non Agricultural	1.0	1.0
Woodland - Farm	7.5	7.7
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(8.5)	(8.7)
TOTAL	98.0	100

2.1 Subgrade 3a

Subgrade 3a land covers a total of ha in the south and west of the site. Two main soil types occur on this land. The first consists of imperfectly drained profiles (Wetness Class III) where medium clay loam or sandy clay loam topsoils overlie medium clay loam, sandy clay loam or heavy clay loam upper subsoils and gleyed slowly permeable heavy clay loam or silty clay lower subsoils. The slowly permeable layers generally begin at around 50cm depth and soil wetness limits this land to Subgrade 3a. The second soil type consists of well drained (Wetness Class I) profiles where sandy loam, medium clay loam or sandy clay loam topsoils overlie similar or lighter (loamy sand) subsoils. Weathering sandstone bedrock often occurs at between 60cm and 80cm depth and in this case the land is limited to Subgrade 3a by moderate soil droughtiness.

2.2 Subgrade 3b

The remainder of the agricultural land on the site falls in Subgrade 3b. Most profiles are poorly drained, falling in Wetness Class IV, with medium clay loam or heavy clay loam topsoils (which are often silty) overlying gleyed and slowly permeable heavy silty clay loam or silty clay subsoils at around 30cm depth. This land is restricted to Subgrade 3b by soil wetness and topsoil workability limitations.

In the south of the site some light or medium-textured soils overlie weathering sandstone or limestone respectively at around 40cm depth. In this case the land is restricted to Subgrade 3b by soil droughtiness. To the south of Beacon Covert some land is restricted to Subgrade 3b by slopes of 8°, which restrict the use of agricultural machinery.

2.3 Non Agricultural

This category includes a paddock for exercising horses and associated buildings in the south-east of the site.

2.4 Woodland

Two blocks of woodland occur in the south of the site, at Beacon Covert and Coal Pit Plantation.

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MAPS.