MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION
GOLF COURSE AT HIGH HAINING,
HOUGHTON-LE-SPRING
TYNE AND WEAR
APRIL 1994

ADAS
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SUMMARY

An Agricultural Land Classification survey of 25.3 ha of land at High Haining, Houghton-le-Spring was carried out in April 1994. At the time of survey 23.2 ha of this was in agricultural use, of which 17.8 ha falls in Subgrade 3a and 5.4 ha falls in Subgrade 3b.

The land in Subgrade 3a is typically well drained, with medium textured topsoils and upper subsoils (when present) overlying heavy textured gleyed lower subsoils. The main restriction to land quality is the overall climatic limitation. Some areas are also limited by slight soil wetness or droughtiness.

The land to the east of the site falls in Subgrade 3b and typically profiles have medium textured topsoils overlying gleyed, slowly permeable subsoils. Profiles are imperfectly to poorly drained and gradient also limits the land to Subgrade 3b in places.

The remainder of the land consists of woodland (1.8 ha), Agricultural Buildings (0.2 ha) and Urban (0.1 ha).

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1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies around Grid Reference NZ 358511, approximately 1.5 km north-east of Houghton-le-Spring, and covers a total of 25.3 ha. A detailed ALC survey was carried out in April 1994, when soils were examined by hand auger borings at 100m intervals predetermined by the National Grid. Three soil profile inspection pits were dug to allow more detailed assessment of soil characteristics. 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 92% of the site was in agricultural use, all of which was under grass. Of the remaining land, 7.1% was Farm Woodland with 0.8% Agricultural Buildings and 0.4% Urban.

Site altitude varies between 130m AOD in the north-west, and 165m AOD in the south-east. The land is generally gently to moderately sloping (2-4°) but some land to the east of the site is strongly sloping (8°), and a small area to the north of the farm is level (0-1°).

Aspect is predominantly northerly.

1.3 Climate

Accumulated temperature and rainfall data indicate that the site lies on the climatic cutoff between Grade 2 and Subgrade 3a. However, the northerly aspect and elevated location suggest an overall climatic limitation of Subgrade 3a should apply across the whole site.

Grid Reference	: NZ 358511
Altitude (m)	: 155
Accumulated Temperature above 0°C (January-June)	: 1189 day°C
Average Annual Rainfall (mm)	: 686
Climatic Grade	: 2/3a
Field Capacity Days	: 168
Moisture Deficit (mm) Wheat	: 82
Moisture Deficit (mm) Potatoes	: 64

1.4 Geology, Soils and Drainage

The site is underlain by Middle Magnesian Limestone, and overlain by boulder clay in the north, with glacial sands and gravels in the south.

Profiles are well drained over much of the site (Wetness Class I) with medium textured topsoils overlying medium and heavy textured subsoils which are sometimes gleyed. Profiles towards the east of the site are imperfectly to poorly drained (Wetness Classes III and IV) and typically have medium textured topsoils overlying gleyed, slowly permeable, heavy textured subsoils or lower subsoils. Soils in the south of the site are very slightly stony, with sandier subsoils than in the north, reflecting the underlying geology.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	17.8	70.4
3b	5.4	21.3
4		
5		
(Sub total)	(23.2)	(91.7)
Urban	0.1	0.4
Non Agricultural		
Woodland - Farm	1.8	7.1
- Commercial		
Agricultural Buildings	0.2	0.8
Open Water		
Land not surveyed		
(Sub total)	(2.1)	(8.3)
TOTAL	25.3	100

2.1 Subgrade 3a

This subgrade covers 17.8 hectares. Most profiles are well or moderately well, or imperfectly drained with medium clay loam or sandy clay loam topsoils over similar textured upper subsoils. Lower subsoils are often gleyed and occasionally slowly permeable to the north of the site (Wetness Class I to III).

This land is limited to Subgrade 3a by the overall climatic limitation and in places a soil wetness limitation.

2.2 Subgrade 3b

Subgrade 3b land covers a total of 5.4 ha and is found mainly in the east of the site. Typically, profiles have medium clay loam topsoils over gleyed, slowly permeable sandy clay loam or clay subsoils and are imperfectly to poorly drained (Wetness Class III to IV). Soil wetness limitations restrict the land to Subgrade 3b. In part of this area, strongly sloping land (8°) restricts the use of agricultural machinery, thus also limiting the land to Subgrade 3b.

2.3 Woodland

This category includes 1.8 ha of mature and newly planted woodland at various locations on the site.

2.4 Agricultural Buildings

This category includes 0.2 ha of Agricultural Buildings in the north of the site.

2.5 Urban

This category covers 0.1 ha of land which forms part of the yard at High Haining.

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