

AGRICULTURAL LAND CLASSIFICATION

RED HALL FARM,
CASTLE LEVINGTON
YARM, CLEVELAND

PROPOSED GOLF COURSE

MAFF
Leeds Regional Office

November 1990

2 FCS 5191

Lds.AL3.Red.Hall

CONTENTS

1. Introduction and General Site Characteristics
2. Agricultural Land Classification Grades

MAP

1. Agricultural Land Classification

AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AT RED HALL FARM, CASTLE
LEVINGTON, YARM

1. Introduction and General Site Characteristics

1.1 Location and Survey Method

The site is located around National Grid Reference NZ 448110, 3 km south east of Yarm in the deeply incised valley of the River Leven. It covers 72 hectares most of which is in agricultural or woodland use.

Survey work was carried out in November 1990 when soils were examined by hand auger borings at 100 metre intervals pre-determined by the National Grid.

All assessments of land quality were made 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

The site is mostly in agricultural production with cereals on the level or gently sloping land and grassland on the steep valley sides. There are also large areas of woodland on the valley sides and along the river banks.

1.3 Climate and Relief

Mean Annual Rainfall (AAR) is approximately 608 mm. Accumulated temperature above 0°C between January and June (ATO) is 1358 day °C and the field capacity period is about 153 days per year.

These figures indicate that there is no overall climatic restriction on ALC grade. Summer moisture deficits of 104 mm for winter wheat and 95 for potatoes, however, mean that droughtiness is limiting on the light sandy soils adjoining the river. Much of the site lies within the steep sided deeply incised valley of the River Leven. Slopes of up to 30° at a number of places

on the valley sides prevent the use of agricultural machinery and are thus severely limiting on ALC grade. Elsewhere on the site relief is flat or gently undulating. Altitude varies from 10 metre a.o.d on the flat river floodplain to 50 m on the gently undulating land above the valley at the southern end of the site.

1.4 Geology and Soils

Triassic sandstones underlie the site, but are rarely exposed at the surface. In the south and on many of the valley sides solid strata are overlain by boulder clay and locally derived drift. The valley floor is covered by coarse textured alluvial material.

Soils on the boulder clay consist of medium or heavy clay loam topsoils lying over gleyed slowly permeable heavy clay loam or clay subsoils. These soils are imperfectly or poorly drained falling within Wetness Classes III or IV. On the river floodplain soils are formed of freely drained (Wetness Class I) sandy loam topsoils over similar or sometimes lighter subsoils. River controls upstream from the site reduce the risk of flooding which is not a limitation on ALC grade except close to the river banks.

2. Agricultural Land Classification Grades

The ALC grades occurring on this site are as follows:

Grade	Hectares	Per Cent of Total Area
2	13.8	19
3a	17.4	24
3b	15.3	21
4	6.5	9
5	3.8	5
Woodland	13.6	19
Open Water	<u>2.2</u>	<u>3</u>
Total	72.6	100

2.1 Grade 2

Land in this grade occurs on the level ground along the river floodplain and is formed largely of freely drained sandy loams and medium silty clay loams. This land is limited to grade 2 by droughtiness on the coarser sandy soils and by a slight flood risk on some land close to the river.

2.2 Subgrade 3a

Subgrade 3a land occurs in two areas. Near the River Leven it consists of freely drained coarse sandy loams or loamy sands limited by droughtiness and to a lesser extent by a slight flooding risk. On the higher ground in the southern part of the site it occurs on boulder clay deposits. Here soils consist of medium clay loam topsoils over medium and heavy clay loam subsoils which are slowly permeable below about 50 cm depth. These soils fall within Wetness Class III and are limited to the subgrade by slight wetness and workability problems.

2.3 Subgrade 3b

This subgrade occurs on heavy boulder clay on the higher southern part of the site. Soils are formed over medium or heavy clay loam topsoils over gleyed slowly permeable heavy clay loam subsoils. Slowly permeable horizons often occur immediately below the topsoil placing most profiles within Wetness Class IV. Land in this subgrade is limited by topsoil wetness and workability problems which are more restricting than on the adjoining subgrade 3a land.

2.4 Grade 4

These areas on the valley sides are restricted to Grade 4 by slopes of between 11° and 18°.

2.6 Grade 5

These very steeply sloping parts of the valley sides are limited to Grade 5 by gradients of more than 18°.

2.7 Non Agricultural Land (Woodland)

This category includes all woodland on the valley sides along with that forming a narrow strip close to the river.

Resource Planning Group
Leeds Regional Office