



AGRICULTURAL LAND CLASSIFICATION
DURHAM MINERALS LOCAL PLAN
LAND SOUTH EAST OF CORNFORTH
COUNTY DURHAM
MARCH 1994

ADAS
Leeds Statutory Group

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SUMMARY

A semi-detailed Agricultural Land Classification survey of 291.6 ha of land to the south-east of Cornforth, Co. Durham, was carried out in March 1994. At the time of survey 97% of the site was in agricultural use of which 56.4 ha falls in Grade 2. Soils are well drained with medium-textured topsoils overlying medium or heavy-textured subsoils. Weathering limestone bedrock occurs in places at between 60 cm and 100 cm depth and the land is limited to Grade 2 by the overall climate of the area and, in places, by slight soil droughtiness.

71.6 ha of the site falls in Subgrade 3a. The soils in this case are either well drained with medium-textured topsoils and medium to heavy textured subsoils overlying weathering limestone at around 40 cm depth (in which case soil droughtiness restricts the land to Subgrade 3a), or imperfectly drained with medium-textured topsoils and upper subsoils overlying slowly permeable medium to heavy-textured subsoils at between 45 cm and 60 cm depth (in which case soil wetness limits the A.L.C. grade).

Subgrade 3b land covers total of 150.0 ha. Again, two main soil types occur - the first is a well-drained shallow, medium-textured soil overlying weathering limestone at between 20 cm and 30 cm depth (where soil depth and, in some cases, soil droughtiness limit the land to Subgrade 3b) and the second is poorly drained with medium-textured topsoils over slowly permeable medium to heavy-textured subsoils (where soil wetness restricts the land to Subgrade 3b).

4.6 ha of Grade 4 land occurs in the south east of the site. Profiles are poorly drained and heavy clay loam topsoils overlie slowly permeable clay subsoils at around 30 cm depth. Soil wetness and topsoil workability restrictions are the factors limiting this land to Grade 4.

The remainder of the site consists of Urban and Non Agricultural land which cover 5.3 ha and 3.6ha respectively.

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CORNFORTH (DURHAM MINERALS LOCAL PLAN)

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 11 km south-east of Durham City centre, between the A1(M) and the village of Trimdon. It covers a total area of 291.6 ha and lies around National Grid Reference NZ341339. A detailed A.L.C survey of the south-western corner of the site had been carried out in December 1992 and a semi-detailed survey of the remaining area was carried out in March 1994 when soils were examined by hand auger borings at a density of one every two hectares at points predetermined by the National Grid. A number of soil inspection pits were dug in order to confirm depth to bedrock and to allow the assessment of stoniness and subsoil structure. 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 97% of the site was in agricultural use, most of the land being in "set-aside" or sown to oilseed rape or winter cereals. The remainder of the site consists of Urban and Non-Agricultural land. Site altitude varies from 125m A.O.D. in the north-eastern corner to 170 m A.O.D. in the south-eastern corner, and the land is generally gently to moderately sloping (2 - 6°) with variable aspect.

1.3 Climate

| | | |
|---|---|-------------|
| Grid Reference | : | NZ341339 |
| Altitude | : | 150m |
| Accumulated Temperature above 0°C (January - June) | : | 1202 day °C |
| Average Annual Rainfall (mm) | : | 695 |
| Climatic Grade | : | 2 |
| Field Capacity Days | : | 177 |
| Moisture Deficit (mm) Wheat | : | 83 |
| Moisture Deficit (mm) Potatoes | : | 66 |

1.4 Geology, Soils and Drainage

The site is underlain by deposits of Magnesian Limestone, which outcrop to within one metre of the soil surface over much of the area. In some parts of the site, particularly to the west of the A177, the Magnesian Limestone is overlain by deposits of boulder clay, and localised Head deposits also occur in places.

The soils on the site closely reflect the geology. Soils formed in weathering limestone are well drained (Wetness Class I) with medium-textured topsoils overlying medium to heavy-textured subsoils. Weathering limestone bedrock often occurs at depths of between 30 cm and 100 cm. Soils formed in the deposits of boulder clay are moderately well (Wetness Class II) to poorly drained (Wetness Class IV) with medium or heavy-textured topsoils overlying similar subsoils.

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 | 56.4 | 19.3 |
| 3a | 71.6 | 24.6 |
| 3b | 150.0 | 51.4 |
| 4 | 4.6 | 1.6 |
| 5 | | |
| (Sub total) | (282.6) | (96.9) |
| Urban | 5.3 | 1.8 |
| Non Agricultural | 3.7 | 1.3 |
| Woodland - Farm | | |
| - Commercial | | |
| Agricultural Buildings | | |
| Open Water | | |
| Land not surveyed | | |
| (Sub total) | (9.0) | (3.1) |
| | | |
| TOTAL | <u>291.6</u> | <u>100</u> |

2.1 Grade 2

Grade 2 land covers a total area of 56.4 ha on this site. Profiles are well drained (falling in Wetness Class I) with sandy clay loam, medium clay loam or medium silty clay loam topsoils overlying similar or heavier textured (heavy clay loam) subsoils. Topsoils and subsoils are very slightly to slightly stony, containing between 3% and 6% sandstones or limestones in most cases. Slowly permeable layers are absent but weathering limestone bedrock occurs in places at between 60 cm and 100 cm depth. The A.L.C. grade of this land is limited by the overall climate of the area and, in places, by slight soil droughtiness.

2.2 Subgrade 3a

Subgrade 3a land covers 71.6 ha and 24.6% of the total area. Land in this subgrade occurs in a number of areas across the site. Most of this land consists of well drained (Wetness Class I) soils where *medium clay loam* or *medium silty clay loam* topsoils overlie *medium clay loam*, *medium silty clay loam* or *heavy clay loam* subsoils. Both topsoils and subsoils are very slightly to slightly stony (containing 4 - 6% limestones in most cases) and weathering limestone bedrock typically occurs at around 40 cm depth. Soil droughtiness limits this land to Subgrade 3a.

A smaller area of the Subgrade 3a land consists of imperfectly drained soils (falling in Wetness Class III) which typically consist of *medium clay loam* topsoils and upper subsoils overlying *gleyed, slowly permeable heavy clay loam* lower subsoils at between 45 cm and 60 cm depth. In this case the land is limited to Subgrade 3a by a soil wetness restriction.

2.3 Subgrade 3b

Subgrade 3b land covers 51.4% of the site and 150.0 ha. In most cases the soils are poorly drained (falling in Wetness Class IV) with *medium clay loam* or *sandy clay loam* topsoils overlying *gleyed, slowly permeable sandy clay loam*, *heavy clay loam* or *clay* subsoils at between 30 cm and 40 cm depth. Soil wetness restricts this land to Subgrade 3b.

In a number of areas in the west of the site the soils are well drained (Wetness Class I) but *medium clay loam* or *medium silty clay loam* topsoils directly overlie weathering limestone at between 20 cm and 30 cm depth. In this case the land is restricted to Subgrade 3b by soil depth and, in some cases, by soil droughtiness.

2.4 Grade 4

Grade 4 land covers 4.6 ha in the south east of the site. Profiles are poorly drained (falling in Wetness Class IV) with *heavy clay loam* topsoils overlying *gleyed, slowly permeable clay* subsoils at around 30 cm depth. This land is restricted to Grade 4 by severe soil wetness and topsoil workability limitations.

2.5 Urban

This category includes the A177 road and adjoining buildings in the west of the site.

2.6 Non Agricultural

This category includes the abandoned quarry in the south-west of the site.

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MAPS