



AGRICULTURAL LAND CLASSIFICATION
EASINGTON DISTRICT LOCAL PLAN
(LAND AT SEAHAM NORTH)
COUNTY DURHAM
JUNE 1994

ADAS
Leeds Statutory Group

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SUMMARY

A detailed Agricultural Land Classification survey of 170.6 ha of land north of Seaham was carried out in May 1994. The site was the subject of a reconnaissance survey by ADAS in February 1994.

Of the total site area, 145 ha is in agricultural use and 21 ha falls in Grade 2. The soils are well or moderately well drained, with medium clay loam or sandy clay loam topsoils and subsoils; slowly permeable heavy clay loam lower subsoils occur at depth in places. Topsoils contain up to 6% stones and subsoils up to 20% stones, and the ALC grade of the land is limited by slight exposure and, in places, by slight soil droughtiness or slight soil wetness.

26 ha of the agricultural land falls in Subgrade 3a. Soil profiles are imperfectly drained, with medium clay loam topsoils and upper subsoils overlying gleyed and slowly permeable heavy clay loam lower subsoils at between 45 cm and 60 cm depth. This land is limited to Subgrade 3a by soil wetness restrictions.

The remainder of the agricultural land (98 ha) falls in Subgrade 3b. Profiles are generally poorly drained, with medium clay loam topsoils overlying gleyed and slowly permeable heavy clay loam or clay subsoils at between 25 cm and 40 cm depth. In this case soil wetness limits the land to Subgrade 3b.

An area in the east of the site consists of around 30 cm of topsoil over colliery overburden. In this case soil droughtiness limits the land to Subgrade 3b.

The remainder of the site consists of Urban land (21.8 ha), Non Agricultural land (2.8 ha) and Agricultural Buildings (0.7 ha).

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AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AT SEAHAM NORTH
COUNTY DURHAM

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 2 km NNW of the village of Seaham and covers a total area of 170.6 ha. A reconnaissance Agricultural Land Classification (A.L.C.) survey was carried out in February 1994 when soils were examined by hand auger borings at a density of one every four hectares. This was followed up in May 1994 with a detailed survey when additional borings were carried out. The final boring density (on which this report is based) was one per hectare, at points predetermined by the National Grid. Extra borings were made where necessary to refine grade boundaries and a total of seven soil profile pits were dug across the site in order to allow the assessment of topsoil/subsoil stoniness and subsoil structural condition, 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 the detailed survey, 85% of the site was in agricultural use (principally in Set Aside or under oilseed rape or winter cereals). The remainder consists of Agricultural Buildings, Urban land and Non Agricultural land.

Site altitude varies between 75 m in the south-west and 25 m in the north-east. The land is generally level to moderately sloping (1 - 4°) but in some areas slopes of around 10° limit the land to Subgrade 3b.

1.3 Climate

| | | |
|---|---|-------------|
| Grid Reference | : | NZ 414510 |
| Altitude | : | 45 |
| Accumulated Temperature above 0°C (January - June) | : | 1313 day °C |
| Average Annual Rainfall (mm) | : | 645 |
| Climatic Grade | : | 1 |
| Field Capacity Days | : | 158 |
| Moisture Deficit (mm) Wheat | : | 97 |
| Moisture Deficit (mm) Potatoes | : | 85 |

Because this site adjoins the coast in the east, wind speeds may be above average. However, there is no sign of wind pruning of the trees in the area although it is likely that the range of crops which can be grown will be slightly reduced by the risk of exposure. The agricultural land lies at least 20 metres above sea level in this area and the risk of crops being damaged by excessive salt deposition is therefore considerably reduced. Localised climatic conditions are, therefore, considered to limit the ALC grade of the land next to the coast to Grade 2.

1.4 Geology, Soils and Drainage

The site is underlain by Upper Magnesian Limestone over which lie deposits of boulder clay (in the west) and glacial sand and gravel (in the east).

The soils formed in the boulder clay deposits are generally imperfectly or poorly drained (falling in Wetness Classes III or IV) with medium or heavy clay loam topsoils and upper subsoils overlying heavy clay loam or clay lower subsoils. Both topsoils and subsoils in this case are stoneless to very slightly stony, containing up to 3% hard stones and sandstones.

The soils formed in the deposits of glacial sand and gravel are generally well or moderately well drained (falling in Wetness Classes I or II) with medium clay loam or sandy clay loam topsoils and subsoils. Heavy clay loam lower subsoils occur at depth in places. Topsoils in this case are very slightly to slightly stony (containing between 2% and 6% hard stones and sandstones) and subsoils are very slightly to moderately stony (containing between 3% and 20% hard stones and sandstones).

The soils on this site correspond to the Dunkeswick and Escrick 2 Associations, as mapped by the Soil Survey and Land Research Centre.

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 | 21.0 | 12.3 |
| 3a | 26.0 | 15.2 |
| 3b | 98.3 | 57.6 |
| 4 | | |
| 5 | | |
| (Sub total) | (145.3) | (85.1) |
| Urban | 21.8 | 12.8 |
| Non Agricultural | 2.8 | 1.6 |
| Woodland - Farm | | |
| - Commercial | | |
| Agricultural Buildings | 0.7 | 0.5 |
| Open Water | | |
| Land not surveyed | | |
| (Sub total) | (25.3) | (14.9) |
| | <hr/> | <hr/> |
| TOTAL | 170.6 | 100 |
| | <hr/> | <hr/> |

2.1 Grade 2

Three areas of Grade 2 land occur in the east of the site. Profiles are well or moderately well drained (falling in Wetness Classes I or II) with medium clay loam or sandy clay loam topsoils overlying similar subsoils in most cases. Horizons of sandy loam or heavy clay loam occur at depth in places. Slowly permeable layers begin at between 60 cm and 80 cm depth where they are present, and topsoils are very slightly to slightly stony (containing between 3% and 6% small and medium-sized sandstones and hard stones) and subsoils very slightly to moderately stony (containing up to 20% sandstones and hard stones).

The A.L.C. grade of this land is limited by a possible exposure risk and, in places, by either slight soil wetness or soil droughtiness.

2.2 Subgrade 3a

A total of 26 ha of Subgrade 3a land occurs in the east of the site. Profiles are imperfectly drained, falling in Wetness Class III, with medium clay loam topsoils and upper subsoils overlying gleyed and slowly permeable heavy clay loam lower subsoils at between 45 cm and 60 cm depth in most cases. Both topsoils and subsoils are very slightly stony, typically containing around 2% hard stones and sandstones, but soil wetness is the factor limiting this land to Subgrade 3a.

2.3 Subgrade 3b

The remainder of the agricultural land on the site falls in Subgrade 3b. Profiles are generally poorly drained, falling in Wetness Class IV, with medium clay loam topsoils overlying gleyed and slowly permeable heavy clay loam or clay subsoils at between 25 cm and 40 cm depth. Soil wetness is more limiting than on the adjoining Subgrade 3a land and it is this factor which restricts these areas to Subgrade 3b.

An area of disturbed land north of Hough Foot Plantation also falls in Subgrade 3b. In most cases a medium clay loam topsoil overlies colliery overburden at around 30 cm depth. The topsoil is slightly to moderately stony, containing between 8% and 15% hard stones and sandstones, and this land is limited to Subgrade 3b by soil droughtiness.

In some areas slopes of around 10° limit the use of some types of agricultural machinery and for that reason these areas have also been mapped as Subgrade 3b.

2.4 Urban

This category includes a minor road in the east of the site, the house and gardens at Grange Mount, and an industrial estate in the south-west.

2.5 Non Agricultural

This includes an area of scrub in the centre of the site and a narrow belt of land above the cliffs in the east.

2.6 Agricultural Buildings

This refers to the houses and outbuildings at Seaham Grange, in the west of the site.

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MAP