AGRICULTURAL LAND CLASSIFICATION

DURHAM WESTERN BYPASS

ADAS
Leeds Regional Office

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AGRICULTURAL LAND CLASSIFICATION REPORT:

DURHAM WESTERN BYPASS

SECTION 1. INTRODUCTION AND CHARACTERISTICS OF THE SURVEY AREA

1.1 LOCATION

The proposed alternative routes of the Durham Western Bypass were surveyed in September 1990. Both run to the west of the present A167 on the western side of the city between Pity Me (NZ 264 458) in the north and North Lodge (NZ 265 392) near Sunderland Bridge in the south.

1.2 SURVEY METHOD

Survey work was carried out along a 100 metre wide corridor centred over the route. Records were made at 100 metre intervals in two parallel traverses, 50 metres apart using a 1 metre Dutch auger. In all, 132 observations were made giving a boring density of about 1.3 borings per hectare.

All land quality assessments 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).

1.3 LAND USE

Most agricultural land along the route is in arable use.

1.4 CLIMATE*

Average Annual Rainfall (AAR) is approximately 677 mm. Accumulated temperature (ATO) above 0°C between January and June is 1257 day °C and land is at field capacity for 170 days a year.

The above combination of rainfall and temperature imposes an overall climatic limitation of Grade 2 on all land along the proposed routes.

* All climatic factors used in determining ALC grades are calculated using the data and methodology in "Climatological data for Agricultural Land Classification" (The Met Office 1988).

1.5 RELIEF

The routes are moderately to strongly undulating, with variations in altitude from 60 to 110 m above Ordnance Datum.

1.6 GEOLOGY AND SOILS

Soils are formed mainly on boulder clay or glaciofluvial sand which form a thick cover over the underlying Coal Measures along much of the two proposed routes. Glaciofluvial sand deposits are widespread in the central and northern parts of the route where soils typically consist of stoneless medium loamy sand or medium sandy loam topsoils over similar or slightly heavier subsoils. Boulder clay is more common in the south. Here soils consist of medium clay loam topsoils over gleyed and slowly permeable heavy clay loam subsoils.

SECTION 2. AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on the 100 m route corridor are as follows.

GRADE	HECTARES (100 m corridor)	PERCENTAGE OF TOTAL SURVEY AREA (100 m corridor)
2	14.1	38.5
3a	18.0	16.9
3b	5.6	5.2
4	4.0	3.7
5	0.3	0.3
Non Agric	14.7	13.8
Urban	22.2	2.8
Open water	0.9	0.8
TOTAL	106.8	100.0

GRADE 2

The main area of grade 2 occurs along the westernmost route running through Moorsley Banks Farm and Relly Farm. Other smaller areas are scattered along both routes. Most soils fall within Wetness Classes I or II and consist of stoneless sandy loam to sandy clay loam topsoils over similar subsoils which occasionally pass into heavy clay loam at depth. Land of this type is limited to Grade 2 by the over-riding climatic limitation and by slight summer droughtiness.

SUBGRADE 3A

Land in this subgrade is common in the south, near Quarry House on the eastern route option and to the north of Whitesmocks.

Soils consist mainly of stoneless sandy clay loam topsoils over sandy clay loam or medium to heavy clay loam subsoils. These soils fall within Wetness Class III and soil wetness and workability problems are the main restrictions on ALC grade.

SUBGRADE 3B

Land in this subgrade has a patchy distribution along the whole length of the route. Soils consist mainly of medium clay loam topsoils over heavy clay loam to clay subsoils. Soils fall within Wetness Class III and IV and wetness and workability are the main restrictions on ALC grade. In some locations gradient is also restricting.

GRADE 4

Land in this grade occurs only on the eastern route option near Arbour house. Soils are usually formed of sandy loam throughout but may pass to loamy sand at depth in a few places. Gradients are in the range of 11-18° and are the main restriction on ALC grade.

GRADE 5

This area near Redhills is restricted to Grade 5 by gradients of more than 18°.

NON AGRICULTURAL LAND

Land in this grade consists at woodland, sports fields and derelict permanent pasture.

URBAN

This category includes public highways, housing estates factories and railways crossing the route.

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