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Ministry of
Agriculture
Fisheries
and Food

AGRICULTURAL LAND CLASSIFICATION
LEEDS UDP, PARLINGTON BUSINESS PARK
(REVISED AREA)
WEST YORKSHIRE
SEPTEMBER 1995

ADAS
Leeds Statutory Group

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SUMMARY

A detailed Agricultural Land Classification survey of 72.7of land at Parlington ("Leeds U.D.P., Parlington Business Park") was carried out in three stages - in March 1992 and in February and June 1994.

In June 1994 67.2 ha of the site was in agricultural use of which 9.1 ha falls in Grade 2. Soil profiles on the Grade 2 land are either well drained, with medium-textured topsoils and subsoils overlying weathering limestone bedrock at between 55 and 100 cm depth (in which case soil droughtiness limits the land to Grade 2) or well to moderately well drained with medium-textured topsoils over medium to heavy-textured upper subsoils and heavy-textured lower subsoils. The lower subsoils sometimes form slowly permeable layers and this land is limited to Grade 2 by slight soil wetness and by a pattern limitation.

A total of 32.3 ha of Subgrade 3a land occurs on this site. Again two main soil types occur. The first consists of well drained profiles where medium-textured topsoils and subsoils overlie, weathering limestone bedrock at around 50 cm depth and the land is limited to Subgrade 3a by soil droughtiness. The second soil type consists of imperfectly drained profiles where medium textured topsoils overlie medium to heavy-textured upper subsoils and gleyed and slowly permeable heavy-textured lower subsoils which typically begin at around 50 cm depth. In this case soil wetness restricts the land to Subgrade 3a.

The remainder of the agricultural land on the site (25.8 ha) falls in Subgrade 3b. The land is limited to this subgrade by either soil droughtiness (where medium-textured topsoils overlie weathering limestone bedrock at between 30 and 40 cm depth) or by soil wetness (where medium-textured topsoils overlie gleyed and slowly permeable heavy-textured subsoils at around 30 cm depth). In a few areas in the north and west of the site slopes of 8° to 10° are the factor which limit the land to Subgrade 3b.

The remainder of the site consists of Woodland (5.5 ha).

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1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 9 km north-north-east of Leeds city centre and covers a total area of 72.7 ha. A detailed Agricultural Land Classification (A.L.C.) survey of most of the centre of the site had been carried out in March 1992 and a reconnaissance survey of the rest of the site was carried out in February 1994. Further survey work was carried out in June 1994 to give a detailed picture of the land quality in the area previously covered by the reconnaissance survey. The final boring density was one per hectare, at points predetermined by the National Grid, and a total of four soil pits were dug in order to allow the assessment of subsoil structure and to confirm stone content and depth to bedrock.

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 survey in June 1994 92% of the land was in agricultural use (principally under winter cereals or in Set Aside), with the remainder consisting of Woodland.

Site altitude varies from 52 m AOD in the north to 85 m AOD in the south and the land is generally gently to moderately sloping (3 - 6°) with variable aspect. However, slopes of 8 - 10° in parts of the north and west of the site restrict the A.L.C. grade to Subgrade 3b.

1.3 Climate

Grid Reference	:	SE 425 355
Altitude	:	75
Accumulated Temperature above 0°C (January - June)	:	1329 day°C
Average Annual Rainfall (mm)	:	685
Climatic Grade	:	1
Field Capacity Days	:	156
Moisture Deficit (mm) Wheat	:	96
Moisture Deficit (mm) Potatoes	:	84

1.4 Geology, Soils and Drainage

The north-west and south-west of the site are underlain by Carboniferous Coal Measures consisting of interbedded sandstones and shales, while the remainder of the site is underlain by deposits of Lower Magnesian Limestone. With the exception of locally derived Head deposits there is no drift cover.

The soils developed over the limestone are well drained (Wetness Class I) and typically overlie weathering bedrock at between 30 cm and 80 cm depth. Both topsoils and subsoils consist of medium clay loam or medium silty clay loam. Where the soils have developed over Carboniferous Coal Measures they are typically imperfectly or poorly drained (falling in Wetness Class III or Wetness Class IV) with medium clay loam topsoils overlying medium or heavy clay loam upper subsoils and heavy clay loam or clay lower subsoils.

The soils on this site correspond to the Aberford and Dale 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:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2	9.1	12.5
3a	32.3	44.4
3b	25.8	35.5
4		
5		
(Sub total)	(67.2)	(92.4)
Urban		
Non Agricultural		
Woodland	5.5	7.6
Agricultural Buildings	1.4	2.1
Open Water		
Land not surveyed		
(Sub total)	(5.5)	(7.6)
TOTAL	72.7	100

2.1 Grade 2

Grade 2 land occurs in two areas in the centre and south-west of the site. The area north-east of Park House Farm consist of medium clay loam or medium silty clay loam topsoils and subsoils overlying weathering limestone bedrock at between 55 cm and 90 cm depth. Soil profiles are well drained (Wetness Class I) and topsoils are very slightly stony, containing around 3% subangular limestones. Subsoils are very slightly to slightly stony, typically containing between 5% and 10% subangular limestones. This land is restricted to Grade 2 by a slight soil droughtiness limitation.

The Grade 2 land to the north-west of Park House Farm consists of well or moderately well drained profiles (Wetness Classes I and II) where medium clay loam topsoils overlie medium or heavy clay loam upper subsoils and heavy clay loam or clay lower subsoils. Where they occur, slowly permeable layers begin at between 60 and 70 cm depth and both

topsoils and subsoils are stoneless to very slightly stony, containing up to 2% sandstones or limestones. The A.L.C. grade of these areas of land is limited by a slight soil wetness restriction and by a pattern limitation.

2.2 Subgrade 3a

Land in this subgrade covers much of the centre of the site. Profiles are generally well drained, falling in Wetness Class I, with medium clay loam or medium silty clay loam topsoils and subsoils overlying weathering limestone bedrock at around 50 cm depth. The topsoils are very slightly to slightly stony, containing between 4% and 10% subangular limestones in most cases, while the subsoils are slightly to moderately stony, containing up to 254% subangular limestones. Soil droughtiness is the factor limiting the ALC grade of these areas.

In the north-west of the site the Subgrade 3a land consists of imperfectly drained (Wetness Class III) profiles where medium clay loam topsoils overlie medium or heavy clay loam upper subsoils and gleyed and slowly permeable heavy clay loam or clay lower subsoils. These slowly permeable lower subsoils typically begin at around 50 cm depth and soil wetness is the factor limiting the land to Subgrade 3a in this case.

2.3 Subgrade 3b

Subgrade 3b land occurs principally in the north and west of the site. Two main soil types occur within this subgrade. The first consists of very slightly to slightly stony medium clay loam or medium silty clay loam topsoils directly overlying weathering limestone bedrock at between 30 cm and 40 cm depth. Profiles are well drained (Wetness Class I) but soil droughtiness limits this land to Subgrade 3b. The second main soil type consists of poorly drained (Wetness Class IV) profiles where medium clay loam topsoils overlie gleyed and slowly permeable heavy clay loam or clay subsoils at around 30 cm depth. In this case soil wetness restrictions limit the land to Subgrade 3b.

In parts of the north and west of the site slopes of 8° to 10° restrict the use of some types of agricultural machinery and for that reason these areas have also been mapped as Subgrade 3b.

2.4 Woodland

Woodland covers a total area of 5.5 ha, principally in the east of the site.

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