



AGRICULTURAL LAND CLASSIFICATION
LEEDS UDP
TOPIC 877, PARK HILL FARM
WETHERBY
WEST YORKSHIRE
MAY 1995

ADAS
Leeds Statutory Group

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SUMMARY

A detailed Agricultural Land Classification survey of 95.9 ha of land at Park Hill Farm, Wetherby (Leeds UDP, Topic 877) was carried out in May 1995.

At the time of the survey 82 ha of this was in agricultural use and 16.4 ha falls in Grade 2. The soils are well or moderately well drained with medium-textured topsoils overlying medium to heavy-textured subsoils. The topsoils are slightly stony and the subsoils are slightly to very stony. The ALC grade of this land is limited by topsoil stoniness, slight soil wetness, or slight soil droughtiness. 25.3 ha of the site has been mapped as Subgrade 3a. The land consists of imperfectly drained soils where medium-textured topsoils overlie medium to heavy-textured subsoils and slowly permeable layers begin at around 50cm depth (in which case soil wetness limits the ALC grade), or well to moderately well drained soils with slightly stony medium-textured topsoils and slightly to very stony medium to heavy-textured subsoils (in which case topsoil stoniness and/or soil droughtiness limit the ALC grade). The Subgrade 3a land alongside the River Wharfe is limited by flood risk.

Subgrade 3b land covers 40.3 ha. In most cases the soils are poorly drained with medium to heavy-textured topsoils overlying slowly permeable heavy-textured subsoils at around 35cm depth. Soil wetness and topsoil workability restrictions limit this land to Subgrade 3b. At the top of Crowcroft Bank the soils are shallow over limestone and soil droughtiness limits the ALC grade, while in the south-east of the site slopes of around 10° are the limiting factor.

The remainder of the area surveyed consists of Urban land (6.2 ha), Woodland (6.3 ha) and Agricultural Buildings (1.4 ha).

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WETHERBY (LEEDS UDP, TOPIC 877)

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

This site lies approximately 1½ km south-east of Wetherby town centre, to the east of the A1 (T) and north of the River Wharfe. A small part of the west of the site had been surveyed in March 1994 in connection with the proposed widening of the A1 (T), and the remainder of the site was surveyed in May 1995. In both cases the soils were examined by hand auger borings at a density of one per hectare. Four soil pits were dug to allow profiles to be described in greater detail. The 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 most recent survey 85.5% of the site was in agricultural use, principally under cereals or ley grass, or in Set-Aside. The remainder consists of Urban land, Agricultural Buildings and Woodland.

Site altitude varies from 15m AOD alongside the River Wharfe to 44m AOD at the top of Crowcroft Bank. The land is typically level to gently sloping (0-3°) with variable aspect, but slopes of around 10° in parts of the south of the site limit the land to Subgrade 3b.

1.3 Climate

Grid Reference	: SE 415 475
Altitude (m)	: 35
Accumulated Temperature above 0°C (January - June)	: 1370 day°C
Average Annual Rainfall (mm)	: 679
Climatic Grade	: 1
Field Capacity Days	: 166
Moisture Deficit (mm) Wheat	: 100
Moisture Deficit (mm) Potatoes	: 89

1.4 Geology, Soils and Drainage

The site is underlain by Middle Permian Marl in the west and south, and by Upper Magnesian Limestone in the north-east. There is also an outcrop of limestone in the south-western corner.

There is little or no drift cover in the area south of Park Hill Farm and west of Watersole Lane (which runs from the north to the south of the site), with the exception of alluvial deposits alongside the River Wharfe. Most of the north and east of the site is covered by deposits of boulder clay and morainic drift and there is an area of fluvio-glacial terraces to the north-west of the sewage works.

Where the Permian Marl outcrops the soils are poorly drained, falling in Wetness Class IV, with medium to heavy-textured topsoils overlying slowly permeable heavy-textured subsoils. The soils over the limestone are well drained (Wetness Class I) with medium-textured topsoils and subsoils over weathering limestone at between 30cm and 80cm depth.

The soils formed in deposits of boulder clay and morainic drift vary between well drained and poorly drained (Wetness Classes I to IV) depending on the nature of the drift, with medium to heavy-textured topsoils and subsoils. The soils developed in the fluvio-glacial terraces are generally well drained (Wetness Class I) with slightly stony sandy clay loam topsoils overlying moderately to very stony sandy clay loam or heavy clay loam subsoils.

The soils on this site correspond to the Wighill Series (developed in morainic drift), Huddleston Series (developed in reddish till), Wetherby Series (developed over limestone), Saxton Complex (developed over Permian Marl), Wothersome Series (also derived from reddish till), the alluvial Wharfe Series and the Castley Complex (loamy or clayey soils developed from river terrace deposits).

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	16.4	17.1
3a	25.3	26.4
3b	40.3	42.0
4		
5		
(Sub total)	(82.0)	(85.5)
Urban	6.2	6.4
Non Agricultural		
Woodland	6.3	6.6
Agricultural Buildings	1.4	1.5
Open Water		
Land not surveyed		
(Sub total)	(13.9)	(14.5)
	—	—
TOTAL	95.9	100
	—	—

2.1 Grade 2

Grade 2 land occurs in the north and south of the site, in three separate areas. The soils are well or moderately well drained, falling in Wetness Classes I and II, and consist of medium clay loam or sandy clay loam topsoils overlying medium clay loam, sandy clay loam or heavy clay loam subsoils. The topsoils are typically slightly stony, containing around 7% stones greater than 2cm in size, while the subsoils are slightly to very stony, containing up to 50% total stones. The ALC grade of this land is limited by slight soil droughtiness, topsoil stoniness and/or slight soil wetness.

2.2 Subgrade 3a

Subgrade 3a land covers much of the north of the site and also occurs alongside the River Wharfe. The soils alongside the river are well drained (Wetness Class I), with medium clay loam topsoils overlying medium or heavy clay loam subsoils. This land is limited to Subgrade 3a by flood risk. Elsewhere the Subgrade 3a land consists of either imperfectly drained soils (Wetness Class III) where medium-textured topsoils overlie medium to heavy-textured subsoils and slowly permeable layers begin at around 50cm depth, or well to moderately well drained soils (Wetness Classes I to II) where slightly stony medium-textured topsoils overlie slightly to very stony medium to heavy-textured subsoils. In the case of the former, the ALC grade is limited by soil wetness while in the case of the latter it is limited by topsoil stoniness and, in some cases, by soil droughtiness.

2.3 Subgrade 3b

Much of the west and south of the site fall in Subgrade 3b. In most cases medium clay loam or heavy clay loam topsoils overlie slowly permeable heavy clay loam or clay subsoils at around 35cm depth. Soil wetness and topsoil workability restrictions limit these areas to Subgrade 3b. Where the Magnesian Limestone outcrops in the south-west, the soils are shallow (around 35cm deep) and the land is limited to this subgrade by soil droughtiness. In a small area in the south-east of the site it is slopes of around 10° which are the factor limiting the ALC grade.

2.4 Urban

This category includes the metalled roads on the site, the sewage works in the south-east, and a timber warehouse and house in the north.

2.5 Woodland

This occurs in the south, alongside the River Wharfe.

2.6 Agricultural Buildings

This includes the farmhouse and outbuildings at Park Hill Farm.

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MAP