

AGRICULTURAL LAND CLASSIFICATION
A1(M) BRAMHAM TO WETHERBY
NORTH YORKSHIRE
PROPOSED ROAD WIDENING
MARCH 1994

ADAS
Leeds Statutory Group

Job No:- 33/94
MAFF Ref:- EL 10282
Commission No:- 969

SUMMARY

An Agricultural Land Classification survey of land adjoining the A1(T) between Bramham and Wetherby was carried out in March 1994. Of the total area surveyed, 6.0 ha falls in Grade 2. Profiles are well to moderately well drained with light to medium textured topsoils and subsoils. Weathering limestone bedrock occurs at depth in places and the ALC grade of the land is restricted by either slight soil wetness or slight soil droughtiness.

16.0 ha falls in Subgrade 3a. Profiles are either well drained with light or medium-textured topsoils and subsoils, which are either slightly to very stony or overlie weathering limestone bedrock at around 50cm depth (in which case soil droughtiness limits the ALC grade) or imperfectly drained with medium-textured topsoils and, in places, upper subsoils overlying gleyed, slowly permeable heavy clay loam or clay (in which case soil wetness limits the land to Subgrade 3a).

8.7 ha falls in Subgrade 3b. Profiles are either well drained, with medium-textured topsoils directly overlying weathering limestone bedrock at around 35cm depth (in which case soil droughtiness limits the land to Subgrade 3b), or imperfectly to poorly drained with heavy clay loam topsoils overlying slowly permeable clay subsoils at between 35cm and 40cm depth (in which case soil wetness and workability limit the ALC grade).

1.1 ha of land falls in Grade 4. These soils have been disturbed and are impenetrable by soil auger below about 25cm depth. Very severe soil droughtiness limits this land to Grade 4.

The remainder of the land surveyed consists of Urban land (8.4 ha), Non Agricultural land (4.3 ha) and Woodland (2.0 ha).

4.6 ha of land was not surveyed because the tenant/owner could not be identified.

CONTENTS

1. INTRODUCTION AND SITE CHARACTERISTICS
2. AGRICULTURAL LAND CLASSIFICATION GRADES

MAP

AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AFFECTED BY THE
WIDENING OF THE A1 BETWEEN BRAMHAM AND WETHERBY, NORTH
YORKSHIRE

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The land affected lies alongside the A1(T) between Spen Farm, south of Bramham in the south (Grid Reference SE 432 409) and Wetherby in the north (Grid Reference SE 412 488). Survey work was carried out in March 1994 when soils were examined by hand auger borings at a density of approximately one per hectare, and a number of soil pits were dug in order to confirm depth to bedrock 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 62% of the land surveyed was in agricultural use, principally as arable land but with significant areas of ley and permanent grass. The remainder consists of Urban land (principally the existing A1(T)), Non Agricultural land and Woodland. The land is generally gently to moderately sloping (2° - 7°) with variable aspect and altitude varies between 15m A.O.D. (where the route crosses the River Wharfe outside Wetherby) and 65m A.O.D. (south of Bramham).

1.3 Climate

Grid Reference	: SE 410 458
Altitude (m)	: 45
Accumulated Temperature above 0°C (January-June)	: 1359 day°C
Average Annual Rainfall (mm)	: 677
Climatic Grade	: 1
Field Capacity Days	: 169
Moisture Deficit (mm) Wheat	: 98
Moisture Deficit (mm) Potatoes	: 87

1.4 Geology, Soils and Drainage

Most of the land surveyed is underlain by deposits of Lower Magnesian Limestone but between Boston Spa and Wetherby some areas are underlain by Middle Permian Marl. For the most part drift deposits are absent although there are areas of glacial sand and gravel, particularly around Bramham.

The soils closely reflect the solid and drift geology with well drained (Wetness Class I) medium-textured soils overlying limestone bedrock and imperfectly drained (Wetness Class III) medium to heavy-textured soils developed in the Permian Marl. The soils developed in the deposits of glacial sand and gravel are generally light to medium-textured (typically medium sandy loam or sandy clay loam topsoils and subsoils) and well or moderately well drained, falling in Wetness Classes I or II. The principal soils on this land correspond to the Aberford, Worcester and Escrick 2 Associations as mapped by the Soil Survey and Land Research Centre.

2. AGRICULTURAL LAND CLASSIFICATION

WETHERBY BYPASS (OPTION 2)

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	1.8	9.9
3a	7.0	38.4
3b	2.4	13.2
4		
5		
(Sub total)	(11.2)	(61.5)
Urban	1.2	6.6
Non Agricultural	2.0	11.0
Woodland	0.7	3.8
Agricultural Buildings		
Open Water		
Land not surveyed	3.1	17.1
(Sub total)	(7.0)	(38.5)
TOTAL	<u>18.2</u>	<u>100</u>

WETHERBY BYPASS (OPTION 3)

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	0.8	5.8
3a	6.0	43.5
3b	0.2	1.4
4		
5		
(Sub total)	(7.0)	(50.7)
Urban	1.0	7.2
Non Agricultural	2.0	14.5
Woodland	0.7	5.1
Agricultural Buildings		
Open Water		
Land not surveyed	3.1	22.5
(Sub total)	(6.8)	(49.3)
TOTAL	<hr/> 13.8 <hr/>	<hr/> 100 <hr/>

THORNER ROAD TO A659 (EAST OPTION)

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	0.7	4.8
3a	4.4	29.9
3b	1.8	12.2
4	1.1	7.5
5		
(Sub total)	(8.0)	(54.4)
Urban	3.9	26.5
Non Agricultural		
Woodland	1.3	8.8
Agricultural Buildings		
Open Water		
Land not surveyed	1.5	10.3
(Sub total)	(6.7)	(45.6)
TOTAL	14.7	100

THORNER ROAD TO A659 (WEST OPTION)

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	3.6	14.2
3a	5.4	21.3
3b	4.5	17.7
4	1.1	4.3
5		
(Sub total)	(14.6)	(57.5)
Urban	6.9	27.2
Non Agricultural	2.4	9.4
Woodland		
Agricultural Buildings		
Open Water		
Land not surveyed	1.5	5.9
(Sub total)	(10.8)	(42.5)
TOTAL	25.4	100

2.1 Grade 2

Most of the Grade 2 land surveyed lies between Bramham and the A1(T)/A659 junction, although there is also an area east of Wetherby. The soils are well or moderately well drained (falling in Wetness Classes I or II) and consist of either medium clay loam or medium silty clay loam topsoils and subsoils overlying weathering limestone bedrock (in which case slight soil droughtiness limits the land to Grade 2), or medium sandy loam or sandy clay loam topsoils over similar subsoils which are gleyed but not slowly permeable (in which case slight soil wetness or a pattern limitation limit the land to Grade 2).

2.2 Subgrade 3a

Subgrade 3a land occurs at a number of points along the line surveyed. Three principal soil types occur within this subgrade, the first of which consists of well drained (Wetness Class I) medium clay loam or medium silty clay loam topsoils and subsoils overlying weathering limestone at around 50cm depth. This land is limited to Subgrade 3a by moderate soil droughtiness. The second soil type consists of imperfectly drained profiles (Wetness Class III) where sandy clay loam or medium clay loam topsoils and, in places, upper subsoils, overlie gleyed and slowly permeable heavy clay loam or clay. This land is limited to Subgrade 3a by soil wetness restrictions. The third soil type consists of well drained (Wetness Class I) profiles with slightly stony medium sandy loam, medium clay loam or sandy clay loam topsoils overlying similar-textured but moderately to very stony subsoils. This land is limited to Subgrade 3a by moderate soil droughtiness.

2.3 Subgrade 3b

Approximately 8.7 ha of Subgrade 3b land was mapped between Bramham village and Wetherby. Most of this land consists of well drained (Wetness Class I) profiles where medium clay loam or medium silty clay loam topsoils directly overlie weathering limestone bedrock at around 35cm depth. This land is limited to Subgrade 3b by severe soil droughtiness. To the south-east of Wetherby the Subgrade 3b land consists of imperfectly and poorly drained (Wetness Classes III and IV) soils where heavy clay loam topsoils overlie slowly permeable clay subsoils at between 35cm and 40cm depth. This land is, therefore, restricted to Subgrade 3b by soil wetness and workability limitations.

2.4 Grade 4

A small area of Grade 4 land occurs to the south of Bramham village, where the soils have been disturbed. Profiles are moderately to very stony and impenetrable by auger below about 25cm depth. This land is limited to Grade 4 by very severe soil droughtiness.

2.5 Urban

Most of the urban land surveyed consists of the existing A1(T) and recently constructed farm access tracks south of Bramham.

2.6 Non Agricultural

This category includes parts of Wetherby racecourse, allotments west of Bramham and gallops south of Wetherby.

2.7 Woodland

Two small areas of woodland occur to the south-east of the A1(T)/A659 junction.

2.8 Land Not Surveyed

Two small areas of land (one to the south of Wetherby and one to the south of Bramham) were not surveyed because the tenant/landowner could not be identified.

RPT File: 2 FCS 6840
Leeds Statutory Centre

MAPS