

AGRICULTURAL LAND CLASSIFICATION

A63 WEST OF THE A1

WEST YORKSHIRE ,

PROPOSED ROAD IMPROVEMENT

SEPTEMBER 1992

ADAS

LEEDS STATUTORY GROUP

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AGRICULTURAL LAND CLASSIFICATION

A63 WEST OF THE A1

PROPOSED ROAD IMPROVEMENT

SUMMARY

A total of 76 ha. of land was surveyed between the Hilton Hotel at Garforth and the Boot and Shoe Public House on the A1 south of New Micklefield. 57 ha. of this is agricultural land of which 30 ha. falls in Subgrade 3a and 27 ha. in Subgrade 3b.

Two main soil types occur. The first is a medium-textured soil overlying limestone bedrock at between 30 cm. and 60 cm. depth; this land is restricted to either Subgrade 3a or Subgrade 3b (depending on depth to bedrock) by soil droughtiness. The second is a medium to heavy-textured soil typically consisting of a medium clay loam topsoil overlying a heavy clay loam subsoil. These profiles are imperfectly or poorly drained (Wetness Class III or IV) and the land is restricted to Subgrade 3a or Subgrade 3b (depending on whether the profiles are imperfectly or poorly drained) by soil wetness and workability.

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1. AGRICULTURAL LAND CLASSIFICATION.

AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND WITHIN THE CORRIDOR OF INTEREST FOR
THE PROPOSED IMPROVEMENT OF THE A63 WEST OF THE A1, WEST YORKSHIRE

INTRODUCTION AND SITE CHARACTERISTICS

The corridor of interest measuring approximately 100 metres wide, runs between Garforth Roundabout (Grid Reference SE393323) in the west to the A1 south of New Micklefield (Grid Reference SE453316) in the east. In the western half of the corridor (between Grid References SE404319 and SE415318) it splits into a northerly "Green" route and a southerly "Purple" route, both running west to east between the villages of Garforth and Kippax. In the eastern part of the corridor (between Grid References SE426317 and SE435316) it splits again into a northerly "Yellow" route and a southerly "Red" route. These run north and south respectively of the roundabout where the A63 crosses the A656.

The far east of the corridor had been surveyed in late 1991 as it is also affected by the proposed upgrading of the A1. The remaining survey work was carried out in August 1992 when soils were examined by hand auger borings to a depth of 1 m. Boring density is approximately one per hectare but further borings were made, where necessary, to refine grade boundaries. In addition, two soil pits were dug in order to assess subsoil structure. All land quality assessments were made using the methods described in "Agricultural Land Classification of England and Wales: Revised Guidelines for Grading the Quality of Agricultural Land" (MAFF, 1988).

Land Use and Relief

At the time of survey most of the agricultural land along the route was in arable use, but there were some small areas of permanent pasture. There were also significant areas of urban and non agricultural land.

The land in the east of the corridor is generally flat while the land in the west is generally gently to moderately sloping.

Climate

One Grid Reference was used to provide the climatic information for the corridor of interest.

Grid Reference:	SE415317
Altitude (m):	80
Accumulated Temperature Above 0°C (January - June):	1325 day °C
Average Annual Rainfall (mm):	671
Climatic Grade:	1
Field Capacity Days	150
Moisture Deficit (mm) Wheat:	97
Moisture Deficit (mm) Potatoes:	86

Geology and Soils

The western half of the corridor is underlain by Carboniferous Coal measures and the eastern half by Magnesian Limestone. There is a narrow outcrop of Permian Marl lying to the east of Garforth which separates these two rock types.

Soils generally consist of a medium sandy loam or medium clay loam topsoil overlying a medium clay loam or heavy clay loam subsoil. Limestone and sandstone bedrock occur close to the surface at a number of points, especially in the eastern half of the corridor of interest. Profiles vary from well drained (Wetness Class I) to poorly drained (Wetness Class IV).

AGRICULTURAL LAND CLASSIFICATION

(i) The A.L.C. grades occurring in the 100 m corridor of interest as a whole are as follows:-

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
3a	28.96	34.1
3b	25.99	30.5
(Sub total)	(54.95)	(64.6)
Non Agricultural	6.97	8.2
Urban	13.14	15.4
Agricultural Buildings	0.44	0.5
Not Surveyed	9.58	11.3
	_____	_____
TOTAL	85.08	100
	_____	_____

The A.L.C. grades occurring on the Common and alternative "Green", "Purple", "Yellow" and "Red" routes are as follows:

(ii) Common parts of the Route

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
3a	12.20	27.7
3b	16.16	36.7
(Subtotal)	(28.36)	(64.4)
Non Agricultural	6.24	14.2
Urban	6.26	14.2
Agricultural Buildings	0.08	0.2
Not Surveyed	3.08	7.0
TOTAL	44.02	100

(iii) "Green" Route

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
3a	4.49	38.5
3b	1.69	14.5
(Subtotal)	(6.18)	(53.0)
Non Agricultural	0.35	3.0
Urban	2.44	20.9
Not Surveyed	2.6	23.1
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TOTAL	11.66	100
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(iv) "Purple" Route

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
3a	4.27	42.9
3b	1.02	10.2
(Subtotal)	(5.29)	(53.1)
Non Agricultural	0.38	3.8
Urban	0.48	4.8
Not Surveyed	3.81	38.3
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TOTAL	9.96	100
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(v) "Yellow Route"

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
3a	1.35	15.3
3b	7.12	80.8
(Subtotal)	(8.47)	(96.1)
Urban	0.34	3.9
TOTAL	<u>8.81</u>	<u>100</u>

(vi) "Red Route"

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
3a	6.65	62.6
Urban	3.62	34.1
Agricultural Buildings	0.36	3.3
	_____	_____
TOTAL	10.63	100
	_____	_____

Subgrade 3a

Land in this subgrade occurs in a number of areas along the corridor. Soils consist of either a medium clay loam topsoil overlying limestone bedrock at around 50 cm. depth or a medium clay loam topsoil overlying a heavy-textured subsoil (typically heavy clay loam) which is slowly permeable below around 50 cm. depth. The former is typically well-drained (Wetness Class I) but limited to Subgrade 3a by soil droughtiness and the latter is typically imperfectly drained (Wetness Class III) and limited to this subgrade by soil wetness.

Subgrade 3b

Land in this subgrade is also found in a number of areas along the corridor. Two main soil types occur. The first consists of medium clay loam topsoil overlying limestone or sandstone bedrock at around 40 cm. depth. This soil type is well-drained (Wetness Class I) but the land is limited to Subgrade 3b by soil droughtiness. The second soil type typically consists of a medium clay loam topsoil overlying a slowly permeable heavy clay loam or clay subsoil at around 35 cm. depth. These soils are poorly drained (Wetness Class IV) and the land is restricted to Subgrade 3b by soil wetness and soil workability.

Non Agricultural Land

Non Agricultural land is found mainly in the eastern half of the corridor where there are significant areas of woodland.

Urban

The existing A63 road makes up most of the urban land in the corridor but other areas include a number of houses, part of the Hilton Hotel at Garforth, a number of minor roads and a dismantled railway.

Agricultural Buildings

This category includes a number of farmhouses and outbuildings, principally in the east of the corridor.

Not Surveyed

This refers to land where access was refused or where no ownership details are available.

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