STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION HOWDEN CLOUGH ROAD, BIRSTALL WEST YORKSHIRE PROPOSED EXTENSION TO LANDFILL SITE JANUARY 1993

ADAS

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SUMMARY

A Statement of Physical Characteristics and Agricultural Land Classification of 2.38ha of land at Howden Clough Road, Birstall, was carried out in January 1993.

1.98ha of this falls in Grade 4. Soils are restored and consist of a thin topsoil (which is absent in places) of medium clay loam or heavy silty clay loam overlying structureless shale overburden. Soil wetness and workability restrictions are the factors limiting the ALC grade of the land.

0.22ha falls within Grade 5. Soils are similar to those described above but slopes of greater than 18° further limit the ALC grade of the land.

The remainder of the site consists of 0.18ha of urban and non-agricultural land in the south.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED LANDFILL EXTENSION AT HOWDEN CLOUGH ROAD, BIRSTALL, WEST YORKSHIRE

1. INTRODUCTION AND STATEMENT OF PHYSICAL CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 9 Km south west of Leeds City centre, on the south side of the M62 at Junction 27. It centres on Grid Reference SE 241274 and covers a total area of 2.38ha. Survey work was carried out in January 1993 when soils were examined by hand auger borings at 50m intervals predetermined by the National Grid. One soil pit was dug to allow a detailed profile description to be made and samples taken for laboratory analysis.

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 most of the land was in rough grazing while the remainder was urban (a small car park) and non-agricultural (a small wood and cycle track).The site lies at an altitude of approximately 115m AOD and is gently to moderately sloping (typically 2-6°) with a south easterly aspect.

1.3 Climate

Grid Reference	:	SE 241274
Altitude (m)	:	115
Accumulated Temperature above 0°C (January-June)	:	1291 day°C
Average Annual Rainfall (mm)	:	753
Climatic Grade	:	2
Field Capacity Days	:	184
Moisture Deficit (mm) Wheat	:	87
Moisture Deficit (mm) Potatoes	:	73

1.4 Geology, Soils and Drainage

The site is underlain by Carboniferous coal measures and overlain by restored soils derived from coal measure shale overburden.

Soils are generally heavy-textured (consisting of heavy silty clay loam or silty clay) and contain large amounts of colliery overburden below about 15cm. In places there is no topsoil and profiles are generally poorly drained, falling in Wetness Class IV.

1.5 Soil Properties

One main soil type occurs on this site, a description of which is given below. Topsoil and subsoil resources are also shown on the accompanying maps along with soil thickness and volume information.

(a) Soil Type 1:- Restored soils (Unit T1/S1)
(Full Profile Description, Table 1)

This soil type is derived from coal measure overburden and is characterised by thin medium to heavy-textured topsoils (generally medium clay loam or heavy silty clay loam) overlying massively structured colliery overburden.

1.6 Soil Resources

(i) Topsoils

Unit T1 occurs over most of the site, although in places it is absent and the subsoil (Unit S1) occurs at the soil surface. It is medium to heavy textured and consists of medium clay loam or heavy silty clay loam which is very slightly to slightly stony (typically containing 2-8% small shales). Unit T1 has a weakly developed medium subangular blocky structure and a median thickness of 15cm.

(ii) Subsoils

Unit S1 occurs over the whole site with the exception of the urban land in the far south. It consists of heavy-textured colliery overburden (typically heavy silty clay loam or silty clay) containing 8-12% small and medium sized fragments of shale. Unit S1 is structureless and compacted with a mean thickness of 85cm.

2. SOIL PROFILE DESCRIPTIONS

Table 1 Restored soil, T1/S1

Profile Pit 1 (Near auger boring 3)

Slope:- 4°E
Land Use:- Rough grazing
Weather:- Mild and overcast

Depth cm	Horizon	Description
0-15		Brown (10YR4/3) heavy clay loam; few dark yellowish brown (10YR4/4) and very dark grey (10YR3/1) mottles; slightly stony (approximately 6% small and medium subangular shales); very moist; weakly developed medium subangular blocky structure; firm soil strength; very slightly porous; abundant fine and medium fibrous roots; moderately sticky; moderately plastic; non-calcareous; clear irregular boundary.
15-50		Grey (7.5YR6/0) silty clay overburden; few indistinct greyish brown (10YR5/2) and distinct reddish yellow (7.5YR6/8) mottles; slightly stony (8-20% small and medium subangular shales); moist; massive; firm soil strength; common fine and medium fibrous roots; moderately sticky; moderately plastic; non-calcareous.

3. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:-

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a		
3b		
4	1.98	83.2
5	0.22	9.2
(Subtotal)	(2.20)	(92.4)
Urban	0.09	3.8
Non Agricultural	0.09	3.8
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Subtotal)	(0.18)	(7.6)
TOTAL	2.38	100

3.1 Grade 4

Most of the agricultural land on the site falls in Grade 4. Topsoils are thin or absent (consisting of medium clay loam or heavy silty clay loam where they do occur) and overlie structureless heavy textured colliery overburden consisting of heavy silty clay loam or silty clay. These soils may be subject to severe waterlogging after heavy rain thus soil workability and wetness limitations restrict this land to Grade 4.

3.2 Grade 5

Grade 5 land occurs in the south of the site, on the edges of a spoil heap. Soils are similar to those described above but slopes of more than 18° provide an additional limitation which restricts the land to Grade 5.

3.3 Urban

This refers to part of a small car park in the southern part of the site.

3.4 Non Agricultural

This category includes a small area of deciduous woodland and a cycle track also in the south.

MAPS