



Ministry of
Agriculture
Fisheries
and Food

STATEMENT OF PHYSICAL CHARACTERISTICS
AND AGRICULTURAL LAND CLASSIFICATION
WESTON PARK, BURLEY-IN-WHARFEDALE
NORTH YORKSHIRE
PROPOSED BORROW PIT
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ADAS
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SUMMARY

An Agricultural land Classification and Statement of Physical Characteristics Survey was carried out on 4.9ha of land north-east of Burley-in-Wharfedale in November 1993.

At the time of the survey, most of this was in agricultural use. 0.3 ha had been covered with stone and topsoil stripped from 0.7 ha of the site.

Grade 2 land covers 3.8 ha, including 0.7 ha of stripped land. Soils are well drained (Wetness Class I) and deep. Topsoils and upper subsoils are medium textured and stoneless to slightly stony. Lenses of heavy textured material occur in places in the subsoil. Very stony light textured lower subsoils occur at variable depths below the upper subsoil. This land is limited to Grade 2 by slight soil wetness and workability restrictions.

Subgrade 3a land covers 0.8 ha of the site. Soils are similar to those on the Grade 2 land, but are subject to occasional medium duration winter floods and therefore limited to Subgrade 3a by flood risk.

0.3 ha of land covered with stone was not surveyed.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED BORROW PIT AT WESTON PARK, BURLEY-IN-WHARFEDALE, NORTH YORKSHIRE

1. INTRODUCTION AND STATEMENT OF PHYSICAL CHARACTERISTICS

1.1 Location and Survey Methods

The site is located approximately 1 km north-east of Burley-in-Wharfedale, north of the River Wharfe. It is centred around Grid Reference SE 173466 and covers 4.9 ha; 3.9 ha of the site was in agricultural use at the time of the survey.

Survey work was carried out in November 1993. Soils were examined by hand auger borings at a density of 2 borings per hectare at points predetermined by the National Grid. One soil inspection pit was dug to assess soil structure and soil stoniness. 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

The site lies on the flood plain of the River Wharfe. Altitude varies between 59 and 63m and the land is level to very gently sloping. (0 to 3°). At the time of the survey, most of the site was under permanent grass. Topsoil had been stripped from a small part of the site and a covering of stone placed on the remaining land.

1.3 Climate

Grid Reference	: SE 173466
Altitude (m)	: 60
Accumulated Temperature above 0°C (January-June)	: 1341 day°C
Average Annual Rainfall	: 819
Climatic Grade	: 1
Field Capacity Days	: 207
Moisture Deficit (mm) Wheat	: 89
Moisture Deficit (mm) Potatoes	: 75

1.4 Geology, Soils and Drainage

The site is underlain by Millstone Grit over which there is a thick covering of drift deposits. These consist mostly of fluvial loams, sand and coarse gravel, although isolated clay lenses are also present. Topsoils are stoneless to very slightly stony, generally consisting of medium clay loam, medium silty clay loam or sandy clay loam. Subsoils are generally similar, although lenses of heavy textured material occur in places. Stony, light textured (loamy coarse sand and coarse sand) lower subsoils occur at varying depths in places across the site. Soil profiles are well drained (Wetness Class I)

1.5 Soil Properties

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

- a. Soil Type 1: Medium textured soils over very stony, light textured lower subsoils
(Unit T1/U1/S1)
(Full Profile Description Table 1)

This soil formed on alluvium overlying fluvial sand and gravel occurs over the whole of the site. It is characterised by medium textured topsoils and upper subsoils of variable thickness. Silty clay lenses occur locally within the upper subsoil.

1.6 Soil Resources

Unit T1 occurs over most of the site. Topsoils have been stripped from part of the east of the site and a temporary cover of stone placed over another small area. This unit consists of medium textured material, typically medium clay loam or sandy clay with medium silty clay loam patches. The soils are stoneless to very slightly stony, containing 0-5% small and medium rounded and subrounded hardstones. The topsoil has a mean thickness of 30cm.

ii. Upper Subsoils

Unit U1

Unit U1 occurs over most of the site. Soils could not be examined in the stone covered area in the east. This unit is medium textured and generally consists of medium clay loam or sandy clay loam textured material. Occasional layers of silty clay occur at depth. Upper subsoils are stoneless to slightly stony, containing 0-10% small, medium and large rounded and subrounded hardstones. Structure is moderately developed coarse prismatic. This unit varies in thickness around a mean value of 65cm.

Unit S1

Unit S1 occurs over most of the site including presumably the stone covered area in the east which could not be surveyed. Soils are light textured, generally consisting of loamy coarse sand or coarse sand containing variable quantities of small medium and large rounded and subrounded hardstones. This unit is variable in thickness, having a mean value of 25cm.

2. Soil Profile Description

Table 1: Medium textured soil over very stony, light textured lower subsoil (Unit T1/U1/S1)
Profile Pit: (Near auger boring 13)
Slope: Level
Land Use: Permanent Pasture
Weather: Cool, overcast and dry.

Depth cm	Horizon Description
0-30	Dark brown 10YR 3/3 medium clay loam; no mottles; stoneless; moist; weakly developed coarse subangular blocky structure; friable; moderately porous; slightly sticky; slightly plastic; abundant fine and very fine fibrous roots in top 10cm, many fine fibrous roots from 10-30cm; non calcareous; abrupt wavy boundary.
30-80	Dark yellowish brown 10yr 4/4 medium clay loam; no mottles; stoneless; becoming moderately stony (approximately 20% small medium and large hardstones) in lower 5cm moist; moderately developed coarse prismatic structure; firm soil strength, moderately porous; common distinct worm channels >5mm; slightly sticky; slightly plastic; common very fine fibrous roots; non calcareous; abrupt wavy boundary.
80-120	Light olive brown 2.5Y 5/4 silty clay; few faint strown brown 7.5YR 5/6 mottles; stoneless; moderately developed very coarse platy to coarse prismatic structure; moist; very firm soil strength; moderately porous; very sticky; very plastic; few fine fibrous roots; non calcareous.
120+	Impenetrable gravel.

3. 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	3.8*	77.7*
3a	0.8	16.3
3b		
4		
5		
(Sub total)	(4.6)	(94.0)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed	0.3	6.0
(Sub total)	(0.3)	(6.0)
	_____	_____
TOTAL	4.9	100
	_____	_____

* Includes 0.7 ha of land stripped of topsoil

Grade 2

Land in this grade covers the north of the site. This includes a small area of the site within which topsoil had been stripped and placed in storage mounds. Topsoils consist of stoneless, to very slightly stony, medium textured material (typically medium clay loam, medium silty clay loam or sandy clay loam). Upper subsoils consist of similar textured material, which is stoneless to slightly stony. Lenses or heavy textured material (typically silty clay) occur at depth in places. In some places, very stony, light textured (loamy coarse sand or coarse sand) subsoils are present. These soils are well drained, falling within Wetness Class I. This land is limited to Grade 2 by slight soil wetness and workability restrictions resulting from the high annual average rainfall received in the area.

Subgrade 3a

Land in this subgrade occurs across the southern part of the site. Soils are similar to those occurring on the Grade 2 land. This area is subject to occasional medium duration floods in winter. It is limited to Subgrade 3a by the risk of flooding.

Land Not Surveyed

A small area of land in the south of the site had been covered with stones and could not be surveyed.

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