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AGRICULTURAL LAND CLASSIFICATION AND SOIL PHYSICAL CHARACTERISTICS

Report for Spout Bank, Heywood Sand & Gravel Site

Resource Planning Team
ADAS Statutory Group
WOLVERHAMPTON

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REPORT FOR SPOUT BANK, HEYWOOD SAND AND GRAVEL SITE

1 SUMMARY

1.1 The Agricultural Land Classification (ALC) Survey for this site shows that the following proportions of ALC grades are present:

Subgrade 3a	5.2 ha	(33.3% of the site)
Subgrade 3b	10.4 ha	(66.7% of the site)

1.2 The main limitation to the agricultural use of land in Subgrade 3a and 3b is soil wetness, although some 3b land is limited by microrelief and gradient.

1.3 The site can be split into two main soil units.

2 INTRODUCTION

2.1 The site was surveyed by the Resource Planning Team in July 1993. An Agricultural Land Classification (ALC) survey was undertaken according to the guidelines laid down in the "Agricultural Land Classification of England and Wales - Revised Guidelines and Criteria for Grading the Quality of Agricultural Land" (MAFF 1988).

2.2 The 15.6ha site is situated west of Heywood, bounded to the north by the Bury to Heywood railway and to the west by the M66 motorway. The land immediately to the east of the survey area is being worked for sand and gravel.

2.3 The survey was requested by MAFF in connection with extending the sand and gravel workings.

2.4 MAFF's Land Use Planning Unit requested that this was a "detailed grid survey" at 1:10000 with a minimum auger boring density of 1 per hectare. The attached map is only accurate at the base map scale and any enlargement would be misleading.

2.5 At the time of the survey the agricultural land of the site was under permanent grass.

3 CLIMATE

3.1 The following interpolated data are relevant for the site:

Average Annual Rainfall	1089 mm
Accumulated Temperature above 0°C January to June	1318 day °C
Field Capacity Days	249 days
Moisture Deficit Wheat	61 mm
Moisture Deficit Potatoes	41 mm

3.2 There is an overall climate limitation on the site of Grade 2, except in the west of the site where the altitude increases above 107 mm resulting in a climate limitation of sub-grade 3a.

4 SITE

4.1 The assessment of site factors is primarily concerned with the way in which topography influences the use of agricultural machinery. These include gradient, microrelief and flooding.

4.2 Gradient imposes a limitation of sub-grade 3b to the west of the stream in the east and south of the site. Microrelief imposes a limitation of sub-grade 3b in the north east of the site. Flooding does not impose any limitations on the agricultural use of the land.

5 GEOLOGY AND SOILS

5.1 The solid geology of the area is comprised of the Lower Coal Measures - British Geological Survey Sheet 85 Manchester 1 Inch. These are overlain by deposits of Quaternary glacial sands and gravels.

5.2 The underlying geology influences the soils which are either sandy loams over sands in the north of the site or clay loams and clays in the south.

6 AGRICULTURAL LAND CLASSIFICATION

6.1 Subgrade 3a - occupies 5.2ha (33.3%) of the survey area and is found mainly in the north of the site.

6.1.1 These soils typically have a sandy loam texture overlying sandy loams, loamy sands and sands to depth, with few or common stones within the profile.

6.1.2 The main limitation to the agricultural use of this land is soil wetness.

6.2 Subgrade 3b - occupies 10.4ha (66.7%) of the survey area and is found in the south and north east of the site.

6.2.1 The main limitation to the agricultural use of this land is soil wetness, gradient and microrelief.

6.2.2 The soils limited by wetness are typically sandy loams or clay loam over clay loam over clays, with few stones within the profile.

6.2.3 The soils limited by gradient or microrelief are typically clay loams or sandy loam over sands to depth, with few or no stones within the profile.

6.3 SUMMARY OF AGRICULTURAL LAND CLASSIFICATION GRADES

Grade	Area in Hectares	% of Survey Area	% of Agricultural Land
3a	5.2	33.3	33.3
3b	10.4	66.7	66.7
Totals	**15.6**	**100.0**	**100.0**

7. SOIL UNITS

Soils have been classed into two soil units reflecting differences in their soil textural characteristics. These units identify soils with similar handling and storage needs.

7.1 Unit 1

7.1.1 This is mapped mainly in the north and centre of the site and accounts for 7.0 ha and 44.9% of the area. The soils are typically 25-38 cm deep and have very dark grey (10 YR 3/1) medium sandy loam texture overlying brown (10 YR 4/3) sandy loam or pink (75 YR 7/3, 6/3) common mottled (7.5 YR 5/8) sands to depths of between 40 and 55 cm. Below this depth the lower subsoil texture varies from brown (10 YR 4/2) sandy loam, brown (75 YR 4/2 or 5/3) loamy sand and brown to strong brown (75 YR 4/2 or 5/6) sand. Common strong brown (75 YR 5/6 to 5/8) mottles occur in some profiles. Stone content throughout the profile is generally less than 5% except in the north west of the site where common rounded hard stones are present in the topsoil.

7.1.2 A profile for this soil unit type is given below.

0-23 cm 10 YR 3/1	medium sandy loam, moderately well developed fine subangular blocky, firm consistence, common rounded hard stones and many roots.
23-67 cm 7.5 YR 4/3	medium sandy loam, weakly developed medium subangular blocky, firm consistence, porous, few hard rounded stones and common roots.
67-92 cm 75 YR 5/4	medium sand, moderately developed medium angular blocky, firm consistence, porous, few hard rounded stones and few roots.
92-120 cm 75 YR 5/6	medium sand, loose single grained, porous, few rounded hard stones.

7.2 Unit 2

7.2.1 This unit is mapped in the west, east and south of the site accounting for 8.6 ha and 55.1% of the area. These soils are typically 23-35 cm deep and have a very dark grey (10 YR 3/1) medium sandy loam or sandy clay loam overlying 45-76 cm of yellowish brown (10 YR 5/4) or brown (75 YR 4/3) clay loam with common strong brown (75 YR 4/6) mottles. These overlie pale to yellowish brown (10 YR 6/3 or 5/6) or brown to strong brown (7.5 YR 4/3 to 5/6) common mottled clay which occursin most profiles at depths below 42 cm. Mottle colours are strong brown to reddish yellow (7.5 YR 4/6 to 6/8). Occasional brown (10 YR 4/2) sandy loam and strong brown (7.5 YR 5/6) sand textures occur at depths below 58 cm.

7.2.2 A profile for this soil unit type is given below:-

0-23 cm 10 YR 3/1	sandy clay loams, friable, few rounded hard stones.
23-55 cm 10 YR 5/4	sandy clay loam, moderately developed medium prismatic, friable, porous, few rounded hard stones, many mottles (7.5 YR 5/6)
55-71 cm 10 YR 6/3	clay, weakly developed coarse angular blocky, firm, low porosity, no stones, many mottles (7.5 YR 5/8)

8. SUMMARY

Of the site 33.3% is classified as sub-grade 3a and 66.6% as sub-grade 3b.

Two soil units are identified with unit 1 covering 44.9% and unit 2 55.1% of the site.

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Wolverhampton
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