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AGRICULTURAL LAND CLASSIFICATION
MIDDLETON HALL

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AGRICULTURAL LAND CLASSIFICATION REPORT FOR MIDDLETON HALL

1 SUMMARY

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

Grade/Subgrade	ha	% of site
3a	15.9	42
3b	9.7	25
4	12.4	33

1.2 The main limitation to the agricultural use of land in Subgrade 3a include soil droughtiness and soil wetness.

1.3 The main limitations to the agricultural use of land in Subgrade 3b are soil wetness and topsoil stone content.

1.4 The main limitation to the agricultural use of land in Grade 4 is soil wetness.

2 INTRODUCTION

2.1 The site was surveyed by the Resource Planning Team in November 1994. An Agricultural Land Classification 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 38.0 hectare site is situated to the east of the A4091 road and south of Middleton Hall. The site is bounded on the west by the A4091 road, on the south by a minor road and sports field on the eastern boundary by the access road to the processing plant and in the north by agricultural land.

2.3 The survey was requested by MAFF in connection with an extension to the sand and gravel operations at Middleton Hall.

2.4 At MAFF Land Use Planning Unit's request this was a detailed grid survey at 1:10000 for 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 site was under grass and cereals.

2.6 Some land within the application area close to Coneybury Wood has been restored by imported construction infill and PFA.

3 CLIMATE

3.1 The following interpolated data are relevant for the site (SP 190 974):

Average Annual Rainfall (mm)	647
Accumulated Temperature above 0°C January to June (day °C)	1401

3.2 There is no overall climatic limitation on the site

3.3 Other relevant data for classifying land include:

Field Capacity Days (days)	149
Moisture Deficit Wheat (mm)	103
Moisture Deficit Potatoes (mm)	93

4 SITE

4.1 Three site factors of gradient, micro relief and flooding are considered when classifying land.

4.2 These factors do not impose any limitations on the agricultural use of the land.

5 GEOLOGY AND SOILS

5.1 On the undisturbed areas the solid geology of the area is comprised of Keuper Marl - British Geological Survey Sheet 154 & 168 Lichfield and Birmingham 1 Inch. This is overlain with deposits of Boulder clay.

5.2 The underlying geology influences the soils which either have a sandy loam texture or sandy clay loam texture.

6 AGRICULTURAL LAND CLASSIFICATION

6.1 Subgrade 3a - occupies 15.9 ha (42%) of the survey area and is found mainly on the western and southern parts of the site.

6.1.1 The soil has a sandy loam texture overlying loamy sand and sand to depth and is slightly stony throughout. Moisture balance places these soils into Subgrade 3a.

6.1.2 Occasionally there are soil profiles with sandy clay loam to depth overlying clay in particular at the north western corner of the site. Observations of gleying and the depth to the slowly permeable layer place these soils into Wetness Class III.

6.1.3. The main limitations to the agricultural use of this land are soil droughtiness and soil wetness.

6.2 Subgrade 3b - occupies 9.7 ha (25%) of the survey area and is found in several isolated blocks across the site.

6.2.1 The soil has either a sandy loam or loamy sand texture overlying loamy sand and occasionally sandy clay loam and sandy clay at depth. The main limitation to the agricultural use of this land is the topsoil stone content which exceeds 15% (stones greater than 2cm).

6.3 Grade 4 - occupies 12.4 ha (33%) of the survey area and is limited to the restore areas close to Coneybury Wood.

6.3.1 The soils have a range of topsoil textures which vary over a short distance and include sandy loams and sandy clay loams. At the time of the survey, November 1994, the land was wet on the surface and the soil often saturated by 10 cm. Over part of the field to the south of Coneybury Wood rushes were well established.

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

7. SOIL RESOURCES

7.1 Introduction

Following the Agricultural Land Classification survey soils have been grouped into soil units on the basis of soil textural characteristics. Three soil units are identified on the Middleton Hall site.

7.2 Soil Unit I

This unit covers 15.6 ha (41%) of the site and is mainly confined of the restored area. Soil textures are very variable over a short distance and includes sandy loam and sandy clay loam topsoils to depths of between 18 cm and 40 cm. Subsoil textures are also variable and indicate mixing within the profile for example sandy clay overlying medium sandy loam below 75 cms.

No soil pit was dug at the time of the survey because the soil was saturated and an assessment of soil structure and porosity could not be made.

7.3 Soil Unit II

This unit covers 18.4 ha (48%) of the site and includes typical profiles of medium sandy loam or loamy medium sand topsoils to about 40 cm overlying loamy medium sand or sand. In places the topsoil is slightly stony and subsoils have up to 20% stone present. Two soil pits were dug within this unit to record details such as soil structure and details are given below:

Pit 1
0-30 cm medium sandy loam; 10 YR 31 (very dark grey); 10% stones - hard rock.
30-52 loamy medium sand; 75 YR 32 (dark brown); weakly developed coarse and medium angular blocky structure; friable; 10% stones - hard rock.
52 - 75 cm loamy medium sand to sand; 10 YR 63 (pale brown); weakly developed fine subangular blocky; very friable; 20% stone - hard rock.
75 - 120 cm medium sand; 10 YR 54 (yellowish brown); single grain; saturated soil; 20% - rock hard; wet at 100 cm with water seeping into pit.

Pit 2
0-35 cm medium sandy loam; 10 YR 31 (very dark grey); common mottles (10 YR 66 brownish yellow); very friable; 5% stones - hard rock.
60-110 cm medium sand; 10 YR 62 (white brownish grey); patches of mottling (10 YR 66); weakly developed coarse angular blocky; very friable. Stony below 60 cm and content estimated to be about 20%.

7.4 Soil Unit III

This unit covers 4.0 ha (11%) of the site and is found at the north western corner. The topsoil has a sandy loam or sandy clay loam texture to about 38 cm overlying sandy clay loam or clay to depth. A soil pit was dug in this unit and is described below.

Pit 3
0-32 cm sandy clay loam; 10 YR 32 (very dark greyish brown); stone 11% common roots.
32 - 51 cm sandy clay loam; 10 YR 52 (greyish brown); common mottles (10 YR 66); moderately developed medium subangular blocky structure; friable; 10% stone - hard rock; roots common.
51 - 80 cm clay; 05 YR 44 (reddish brown); weakly developed coarse prismatic, firm low porosity; 3% stone - hard rock.
80- 100 cm sand and clay bands.