AGRICULTURAL LAND CLASSIFICATION

MICKLEFIELD, LEEDS
WEST YORKSHIRE

MAFF
Leeds Regional Office

April 1992
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lds.AL6.Mickl.cls

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AGRICULTURAL LAND CLASSIFICATION REPORT

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:-	SE 435 335
Location Details:-	The site lies between the A656 in the west and the A1 in the east. The Leeds-York mainline railway forms the southern boundary.
Site Size:-	183 ha

1.2 Survey Methods

Date Surveyed:-	March - April 1992
Boring Density and Spacing Basis:-	1 boring per hectare on a grid basis, at 100m intervals predetermined by the National Grid.
Sampling Method:-	Hand auger borings to a depth of 1m
Number of Borings:-	184
Number of Soil Pits (used for):-	2 pits were dug to examine soil structure and profile features.

All land quality assessments were made 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)".

This detailed survey supersedes the previous "1" to one mile" survey of the area.

1.3	Land Use:-	The majority of land is in arable use, predominantly winter and spring cereals with isolated patches of vegetables (mainly potatoes). The other main land use is urban particularly around Micklefield. In the east permanent grassland can be found between Micklefield and the A1
1.4	Climate and Relief	
	Average Annual Rainfall (AAR):-	690 mm
	Accumulated Temperature above 0°C (January-June):-	1312 day °C
	Field Capacity Days:-	153 days
	Moisture Deficit:	
	wheat:-	94 mm
	potatoes:-	82 mm
	Altitude average:-	75 m a.o.d.
	maximum:-	90 m a.o.d.
	minimum:-	50 m a.o.d.
	Climatic limitation (based on interaction of rainfall and temperature values:-	ALC grade 1/2

Relief:-	Over much of the site the topography is gently undulating. There is one distinct hill around St Helens well.
Slopes (°):-	0 - 5°
Gradient Limitations:-	None

1.5 Geology and Soil

Solid Strata:-	Permian Magnesian Limestone and associated marls.
Depth of solid rock from surface:-	Between 50 and 100cm over almost all of the site.
Drift types:-	Thin loamy often stony material derived from weathering of the underlying limestone.
Soil Types and Distribution:-	Light to medium textured soils over the whole site, typically medium topsoils and subsoils over soft weathering limestone to depth.
Soil Textures (topsoils and subsoils):-	Topsoils are typically medium clay loam or sandy clay loam, subsoils often consist of soft weathering limestone. Other subsoil types include isolated patches of heavy clay loam or clay associated with the Permian marls.
Soil Series/Associations:-	
On 1/250000 map:-	Aberford

Identified on site:-	Yes
Soil Limitations and type:-	Light/medium soils - soil stoniness, depth and droughtiness Medium/heavy soils soil wetness and workability.

1.6 Drainage

Soil type and Wetness Class:-	Light/medium textured soils - Wetness Classes I & II (well/moderately well drained) Medium/heavy textured soils - Wetness Classes III & IV (imperfectly to poorly drained).
Drainage Limitations:-	Slowly permeable subsoils in some areas.

2.0 Agricultural Land Classification Grades

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

Grade/Subgrade	Hectares	Percentage of Agricultural Area	Percentage of Total Area
1			
2	48.3	31.8	26.4
3a	74.1	48.8	40.4
3b	27.9	18.4	15.2
4	1.6	1.0	0.9
5			
Non Agricultural	5.2		2.8
Agricultural Buildings	0.9		0.5
Urban	25.3		13.8
Other			
Total	183.3	100	100

Grade 2

Distribution on site:-

Land of this grade occurs mainly in the northern part of the site. There is also an area between Grange Farm and Manor House Farm in the east; an area long the southern edge of Old Micklefield and a strip running from Sheep Dike in the centre of the site to Church Lane in the west

Soil Type(s) and Texture(s):-

Light to medium textured soils. Typically medium clay loam, over medium clay loam or heavy clay loam subsoils to depth

Depth to Slowly Permeable Layers:-

Greater than 70cm

Wetness and Drainage Class:-

Wetness Classes I and II (well to moderately well drained)

Stone Percentage and Type:-

0 - 10% soft angular limestones

Grade Limiting Factors:-

(i) Soil droughtiness, particularly in summer months on the light/medium soils

(ii) Soil wetness on medium textured soils containing slowly permeable layers at depth

Subgrade 3a

Distribution on site:-
Widespread, especially in the southern half of the site.

Soil Type(s) and Texture(s):-
Light to medium textured, typically medium clay loam topsoils over similar or heavier subsoils passing into weathering limestone between 50-60cm depth.

Depth to Slowly Permeable Layers:-
42-70cm.

Wetness and Drainage Class:-
Wetness Classes I - III (well to imperfectly drained).

Stone Percentage and Type:-
0-15% small and medium angular limestones.

Grade Limiting Factors:-
Profiles with heavy subsoils:- Soil wetness and workability problems.
Profiles with medium textured subsoils or overlying bedrock: Soil droughtiness

Subgrade 3b

Distribution on site:-
Mainly along the eastern and southern edges of the site.

Soil Type(s) and Texture(s):-
Medium clay loam topsoils over weathering limestone between 30cm and 50cm or medium clay loam over heavy clay loam or clay to depth.

Depth to Slowly Permeable Layers:-
25-42cm only on the deep heavy soils.

Wetness and Drainage Class:-
Shallow stony soils:- Wetness Class I (well drained).
Deep medium over heavy soils:- Wetness Class IV (poorly drained).

Stone Percentage and Type:-
0-35% small, medium and large angular limestones.

Grade Limiting Factors:-
Shallow soils:- Soil stoniness and droughtiness.
Deep medium over heavy soils:- Soil wetness and workability problems.

Grade 4

Distribution on site:-
To the east of St Helen's Wall in the centre of the site where limestone occurs close to the surface.

Soil Type(s) and Texture(s):-
Medium clay loam topsoils over weathering limestone at between 20 and 30cm.

Depth to Slowly Permeable Layers:- None present

Wetness and Drainage Class:-
Wetness Class I - well drained.

Stone Percentage and Type:-
35-50% small medium and very large angular limestones.

Grade Limiting Factors:-
Soil stoniness and a severe drought risk in the summer months.

Non Agricultural

Type and location of land included:-

Small plantations in the centre of the site, a school, playing field to the south of Micklefield, and land used for storing straw bales adjacent to Well House Farm.

Agricultural Buildings

Type and location of building included:-

Well House Farm in the west of the site.

Urban

Type of land use included:-

The village of Old Micklefield in the east and Church Lane running westwards across the site from Old Micklefield.

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