AGRICULTURAL LAND CLASSIFICATION

DARLINGTON DISTRICT LOCAL PLAN

LAND AT ROCKLIFFE, DARLINGTON

COUNTY DURHAM

MAFF
Leeds Regional Office

April 1992
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AL6.ROCKLIFF.DAR

CONTENTS

AGRICULTURAL LAND CLASSIFICATION REPORT

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:	NZ 295 088
Location Details:-	6km south of Darlington town centre, immediately south of the village of Hurworth Place.
Site Size:-	224 ha

1.2 Survey Methods

Date Surveyed:-	November 1991 and March 1992
Boring Density and Spacing Basis:-	One boring per hectare on the agricultural land at 100m intervals pre-determined by the National Grid
Sampling Method:-	By hand auger to a depth of 1.00m
Number of Borings:-	165

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:-	Mainly arable but with significant areas of woodland and parkland in the centre of the site and an area containing playing fields, allotments and scrubland to the west of the railway. Smaller areas of urban land also occur.
1.4	Climate and Relief	
	Average Annual Rainfall (AAR):-	604 mm
	Accumulated Temperature above 0°C (January-June):-	1345 day °C
	Field Capacity Days:-	152 days
	Moisture Deficit:	
	wheat:-	102 mm
	potatoes:-	92 mm
	Altitude average:-	40 m a.o.d.
	maximum:-	46 m a.o.d.
	minimum:-	30 m a.o.d.
	Climatic limitation based on interaction of rainfall and temperature values:-	None

Relief:-	Flat to gently sloping but with moderate to severe slopes in parts of the north-east.
Slopes (°):-	0° - 18°
Gradient Limitations:-	
Limiting gradient(s):-	8-11° and over 18°
Grades(s)/subgrade(s):-	8 - 11°:- Subgrade 3b >18°:- Grade 5
Occurrence on site:-	In the north-east

1.5 Geology and Soil

Solid Strata:-	Triassic Sherwood Sandstone
Depth of solid rock from surface:-	More than 1.0m across the whole site.
Drift types:-	Boulder clay, alluvium, river terrace deposits, and glacial sand and gravel.
Thickness of drift and distribution:-	Greater than 1.00m across the whole site with boulder clay in the north, river terrace deposits in the south and alluvium and sand and gravel alongside the River Tees.
Soil Types and Distribution:-	Light to medium-textured soils in the south of the site and medium to heavy textured soils in the north.

Soil Textures (topsoils and subsoils):- Typically medium clay loam or medium silty clay loam topsoils over similar or lighter textured (medium sandy loam or loamy medium sand) subsoils in the south with medium or heavy clay loam overlying clay on the higher land in the north.

Soil Series/Associations:-

On 1/250000 map:- Light soils:- Wick I Association

Identified on site:- Heavy soils:- Crewe I Association

Soil Limitations and type:- Soil droughtiness in the south, soil wetness in the north

1.6 Drainage

Soil type and wetness Class:- The light to medium-textured soils in the south are typically well to moderately-well drained (Wetness Classes I and II) The medium to heavy-textured soils in the north are imperfectly to poorly drained (Wetness Classes III and IV).

Drainage Limitations:-	The presence of slowly permeable layers beginning at depths of 30-50 cm limits most of the land in the north of the site to subgrades 3a and 3b

2.0 Agricultural Land Classification Grades

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

GRADE/SUBGRADE	HECTARES	PERCENTAGE OF AGRICULTURAL AREA	PERCENTAAGE OF TOTAL AREA
1			
2	112.0	63	50.0
3a	16.0	9.0	7.0
3b	49.0	27.6	22.0
4			
5	0.5	0.4	0.2
Non Agricultural	28.5		12.9
Agricultural Buildings	2.0		0.9
Urban	8.0		3.5
Ownership Unknown	8.0		3.5
TOTAL	224.0	100	100

Grade 2

Distribution on site:-	Most of the southern part of the site and a narrow strip along the river in the north east.
Soil Type(s) and Texture(s):-	Light to medium-textured soils typically consisting of medium sandy loam, medium clay loam or medium silty clay loam top soils overlying similar subsoils. Loamy sand and sand subsoils also occur in places.
Depth to Slowly Permeable Layers:-	No slowly permeable layers occur.
Wetness and Drainage Class:-	Soils are generally well-drained (Wetness Class I). Moderately well drained (Wetness Class II) soils occur in a few places.
Stone Percentage and Type:-	Topsoils and subsoils generally contain up to 5% hard stones but in places this rises to 10% in the topsoil and 25% in the subsoil.

Grade Limiting Factors:-

Slight soil droughtiness on the lighter soils and slight soil wetness locally. Flood risk, according to the NRA is occasional. Data supplied by the NRA suggests that frequency and duration of floods does not warrant downgrading most of the terrace and floodplain areas below Grade 2.

Subgrade 3a

Distribution on site:-	Three separate areas in the centre of the site and one in the south.
Soil Type(s) and Texture(s):-	Light to heavy-textured soils, generally medium sandy loam, medium clay loam or sandy clay loam topsoils overlying light to heavy-textured subsoils (usually loamy sand, sandy loam, heavy clay loam or clay).
Depth to Slowly Permeable Layers:-	Where present slowly permeable layers begin at depths of 45cm to 50cm.
Wetness and Drainage Class:-	Wetness Class I (well-drained) on light soils. Wetness Class III (imperfectly drained) on heavier soils.
Stone Percentage and Type:-	0-10% hard stones in the topsoils and 0.25% hard stones and standstones in the subsoil.
Grade Limiting Factors:-	Soil wetness on the heavier soils and droughtiness on lighter profiles.

Subgrade 3b

Distribution site:-	Land in this subgrade covers much of the northern part of the site.
Soil Type(s) and Texture(s):-	Medium to heavy-textured soils consisting of medium or heavy clay loam topsoils overlying heavy clay loam or clay subsoils.
Depth to Slowly Permeable Layers:-	Slowly permeable layers generally begin at around 35cm depth.
Wetness and Drainage Class:-	Most profiles fall into Wetness Class IV (poorly drained)
Stone Percentage and Type:-	0-5% small and medium hard stones.
Grade Limiting Factors:-	Soil wetness and workability problems.

Grade 5

Distribution on site:-	In the north-east.
Soil Type(s) and Texture(s):-	Medium to heavy-textured soils with medium silty clay loam topsoils overlying silty clay subsoils.
Depth to Slowly Permable Layers:-	Slowly permeable layers generally start at around 25cm depth.
Wetness and Drainage Class:-	Profiles are poorly drained, falling in Wetness Class IV.
Stone Percentage and Type:-	0-5% small and medium hard stones.
Grade Limiting Factors:-	Gradients of 19°-21° combined with complex microtopography limit this land to Grade 5.

Non Agricultural

Type and location of land included:-	Woodland and parkland in the centre of the site; a cricket pitch in the centre and a football pitch and scrub in the west.

Agricultural Buildings

Type and location of building included:-	The houses and outbuildings at High Rockliffe, Rockliffe Cottages, Rockliffe Farm and Low Rockliffe.

Urban

Type of land use included:-	The railway in the west of the site; a hospital in the centre, a health centre in the north along with houses and access roads.