AGRICULTURAL LAND CLASSIFICATION

SELBY RURAL AREAS LOCAL PLAN

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SELBY RURAL AREAS LOCAL PLAN

AGRICULTURAL LAND CLASSIFICATION REPORTS

INTRODUCTION

A total of eight sites within the Selby District were surveyed for the Selby Rural Areas Local Plan. All survey work was carried out in March 1989 when soils were examined by hand auger borings at points predetermined by the National Grid at a density of at least one boring per hectare. Additional borings were made where necessary to check on and refine grade boundaries. Profile pits were dug at representative points to collect data on soil morphology and to obtain samples for laboratory analysis.

Land quality assessments were made using the revised guidelines published by MAFF in 1988.

Each site is described separately in the following reports. Site numbers are those used by RPG for identification purposes and may differ from those used by other organisations.

1. SITE 1 LAND AT BIRKIN

1.1 INTRODUCTION

A total of 2.0 hectares was surveyed around National Grid Reference SE 532 270 at Birkin. All of this land is in agricultural use except for a small playing field.

1.2 CLIMATE AND RELIEF

Average annual rainfall at Birkin is 612 mm and the accumulated temperature above $0^{o}C$ (January to June) is 1407 day ^{o}C. The site is at field capacity for 129 days a year.

Soil moisture deficits of 108 mm for wheat and 100 mm for potatoes indicate that light textured soils will be droughty.

Slopes do not limit the use of machinery and the average altitude is 8 m a.o.d.

1.3 GEOLOGY AND SOILS

Clayey glaciolacustrine deposits underlie most of the area around the village. These are overlain by a patchy cover of blown sandy drift of variable thickness.

Soils developed over the sandy deposits are well drained, although often droughty. The clayed material produces heavy textured, slowly permeable soils limited by soil wetness and workability problems.

1.4 AGRICULTURAL LAND CLASSIFICATION

Grade	Area (hectares)	% of Total Area
2	1.1	55%
3a	0.4	20%
3b	0.4	20%
Non Agricultural	0.1	5%
Total	2.0	100

1.4.1 Grade 2

Soils in the area graded 2 are developed on sandy drift. They are freely drained and within Wetness Class I, but are limited by slight droughtiness which is likely to restrict yields of crops such as potatoes.

1.4.2 Subgrade 3a

Towards the centre of the site, clayey deposits occur close to the surface and the veneer of sand is absent. Topsoils are medium in texture over a clayey slowly permeable subsoil at about 30 cm depth. This places this land within Wetness Class III thus limiting it, in this area, to subgrade 3a.

1.4.3 Subgrade 3b

The area placed within this subgrade contains similar soils to the 3a area. Topsoil textures however, are heavier making soil wetness and workability difficulties more severe and the area is restricted to subgrade 3b for these reasons.

1.4.4 Non Agricultural

A small playing field is included in this category.

2. SITES 2A AND 2B, KIRK SMEATON

2.1 INTRODUCTION

Two sites south of the village (National Grid References SE 515 166 and SE 518 163) were surveyed. Both are entirely in agricultural use growing cereals.

2.2 CLIMATE AND RELIEF

Annual average rainfall at Kirk Smeaton is 589 mm and the accumulated temperature above 0°C (January to June) is 1376 day °C. The mean duration of field capacity is 123 days. These factors indicate that there is no overall climatic limitation on land grade. Soil moisture deficits of 106 mm and 97 mm for wheat and potatoes respectively, however, suggest that light or shallow soils will be subject to a droughtiness limitation.

Relief is gentle on both sites and altitude averages 40 m a.o.d.

2.3 GEOLOGY AND SOILS

Soils on both sites are formed on Magnesian Limestone. Top and subsoils usually consist of unmottled medium clay loam or silty clay loam. At site A next to the Rectory, profiles are occasionally moderately stony and rarely more than 45 cm deep. These factors limit the available water capacity of the soil making it droughty for wheat and potatoes. At site B where soils are much deeper (over 65 cm) droughtiness is less of a problem.

2.4 AGRICULTURAL LAND CLASSIFICATION

Site	Grade	Area (Hectares)	% of Total Area of site
2A	3b	1.9	100
2B	2	1.2	86
	3a	0.2	14
		1.4	100

2.4.1 Grade 2

Most of site B falls within grade 2. Topsoils and subsoils consist of medium clay loam extending to more than 65 cm depth and profiles all fall within Wetness Class I. The only limitation on ALC grade is slight droughtiness.

2.4.2 Subgrade 3a

This consists of a small area near Pinfold Cross on site B. Soils are similar in texture to those on the adjoining Grade 2 land, but overlie rock at a shallower depth and are thus limited to a greater extent by droughtiness.

2.4.3 Subgrade 3b

All of site A falls within this subgrade. Soils are shallow and stony and consist of medium clay loam or silty clay loam top and subsoils overlying rock at less than 40 cm depth. Droughtiness is very limiting for both wheat and potatoes and restricts the whole site to subgrade 3b.

3. SITE 3 LAND AT BALNE

3.1 INTRODUCTION

An area of about 0.4 hectares was surveyed on the southern side of Park Lane, Balne (National Grid Reference SE 5865 1900). All of it is in arable use.

3.2 CLIMATE AND RELIEF

Average annual rainfall around Balne is about 587 mm. Accumulated temperature above 0°C (January to June) is approximately 1411 day °C and the Mean Duration of Field Capacity is approximately 121 field capacity days. These factors indicate that there is no overall climatic limitation on ALC grade.

Soil Moisture Deficits of 112 mm for winter wheat and 106 mm for potatoes, however, mean that soil droughtiness will be limiting on light, textured soils in the area.

Slopes are level and do not limit the use of agricultural machinery. Average altitude is about 6 m a.o.d.

3.3 GEOLOGY AND SOILS

Soils are all formed on light textured drift which gives sandy loam top and subsoils. These soils have no slowly permeable horizons and thus fall within Wetness Class I.

3.4 AGRICULTURAL LAND CLASSIFICATION

3.4.1 Grade 2 (0.4 hectares; 100% of the site)

Although the soils are mottled available water calculations suggest that the light texture will make them slightly droughty for potatoes, thus limiting the whole site to Grade 2.

4. SITE 4 EGGBOROUGH NORTH

4.1 INTRODUCTION

An area of 8.2 hectares was surveyed to the north of Eggborough (Grid Reference SE 564 239). All the land is in a semi derelict state and not currently used for agriculture.

4.2 CLIMATE AND RELIEF

Average annual rainfall around Eggborough is about 608 mm. Accumulated temperature above 0°C (January to June) is approximately 1400 day °C and the Mean Duration of Field Capacity is approximately 127 field capacity days. These factors indicate that there is no overall climatic limitation on ALC grade.

Summer Moisture Deficits of 108 mm for winter wheat and 100 mm for potatoes, however, mean that soil droughtiness will be limiting on light soils in the area.

Relief is gentle and does not limit the use of agricultural machinery. Altitude is approximately 14 m a.o.d.

4.3 GEOLOGY AND SOILS

Glaciofluvial sandy drift deposits underlie most of the area north of Eggborough. The soils formed on these deposits are coarse loamy or sandy and mainly well drained, but subject to a droughtiness limitation.

4.4 AGRICULTURAL LAND CLASSIFICATION

Grade	Area (hectares)	% of Total Area
3a	2.7	33
3b	5.5	67
Total	8.2	100

4.4.1 Subgrade 3a

This subgrade is restricted to the northern part of the site. Topsoils consist of medium sandy loam over a similar or lighter textured subsoil. Clay occurs occasionally below about 80 cm depth.

Although well drained these soils are droughty for both wheat and potatoes and are restricted to subgrade 3a for this reason.

4.4.2 Subgrade 3b

Most of the site falls within this subgrade. Topsoils are usually formed of loamy medium sand over a similar or lighter subsoil. The very light textures mean that the droughtiness limitation is more severe than on the adjoining subgrade 3a land and this part of the site is downgraded to 3b for this reason.

5. SITES AROUND TADCASTER

INTRODUCTION

5.1 Three separate sites were surveyed around Tadcaster. These were at Wighill Lane to the north east (Grid Reference SE 490 445), Smaws Farm to the west, (Grid Reference SE 475 436) and Garnet Lane to the south west of the town (Grid Reference SE 475 424). All agricultural land surveyed was in arable production. A number of other non agricultural and urban uses were also identified on some sites.

5.2 CLIMATE AND RELIEF

Average annual rainfall around Tadcaster is about 648 mm. Accumulated temperature above $0^{o}C$ (January to June) is approximately 1392 day ^{o}C and the Mean Duration of Field Capacity is approximately 150 field capacity days. These factors indicate that there is no overall climatic limitation on ALC grade.

Summer Moisture Deficits of 105 mm for winter wheat and 96 mm for potatoes, however, mean that soil droughtiness will be limiting on light textured soils in the area.

All three sites contain some slopes steep enough to prevent the safe use of some agricultural machinery. Land affected by this limitation has been downgraded. Altitude ranges from about 15 m a.o.d. at Wighill Lane to a maximum of 30 m a.o.d. at Smaws farm.

5.3 GEOLOGY AND SOILS

Soils on the higher land on all three sites are formed on Magnesian Limestone. These soils are generally fine loamy, freely drained and not subject to any soil wetness limitation. Shallowness (less than 50 cm depth) and stoniness however, tend to reduce the available water capacity of these soils and many are limited to some extent by droughtiness.

Elsewhere on the three sites, soils are developed on post glacial drift of various types. Drift is most widespread around Wighill Lane and west of Broad Acres where it is often clayey giving rise to gleyed slowly permeable soils. Further east in this area coarse loamy and sandy drift has produced freely drained soils subject to slight summer droughtiness.

5.4 AGRICULTURAL LAND CLASSIFICATION

Site	Agricultural Land Classification Grade	Area (hectares)	% of Total Site
5A Wighill Lane	2	18.2	36
	3a	16.4	32
	3b	13.4	26
	Non Agricultural	3.1	6
	Total	51.1	100
5B Smaws Farm	2	5.5	39
	3a	2.2	16
	3b	2.5	18
	Non Agricultural	0.2	2
	Urban	3.8	25
		14.0	100
5C Garnet Lane	2	1.7	23
	3a	1.9	26
	3b	3.8	51
		7.4	100

5.4.1 SITE 5A, WIGHILL LANE

Grade 2

In most of the area east of Broad Acres sandy and fine loamy drift, occasionally over clay, has produced freely drained soils with no wetness limitation. Droughtiness calculations, however, suggest that droughtiness is likely to be slightly limiting for potatoes, thus restricting these soils to Grade 2.

Subgrade 3a

All five areas of land within this subgrade contain fine loamy topsoils with gleyed slowly permeable subsoils occurring below about 50 cm depth. Soil wetness limits this land to no better than 3a in the Tadcaster area.

Subgrade 3b

The area of land graded 3b contains similar soils to the 3a land. Topsoil textures, however, are heavier (often heavy clay loam) and soil wetness more limiting. This restricts the land to 3b. Also included in this subgrade is land near Broad Acres with slopes of more than 7^{o}.

Non Agricultural

A disused quarry behind Brickyard Farm and a small marsh at Broad Acres are included in this category.

5.4.2 SITE 5B SMAWS FARM

Grade 2

This grade is widespread south of the disused railway and consists of fine loamy soils over Magnesian Limestone. Soil wetness is not limiting and the land is easy to work. Some profiles, however, are just under 100 cm deep and consequently subject to a slight droughtiness limitation for wheat.

Subgrade 3a

The subgrade 3a land contains similar but shallower soils to the Grade 2 areas. This further depth restriction reduces the available water capacity of the soil making it droughty for both wheat and potatoes and limiting it to this subgrade.

Subgrade 3b

Several areas contain slopes of around 11°. Land with these gradients is restricted to subgrade 3b because of problems with the use of certain types of agricultural machinery. Also included within this subgrade are very shallow stony soils on the eastern edge of the agricultural area.

Non Agricultural

Two small areas of woodland are included in this category.

Urban

This consists of the new housing development adjoining the Tower Brewery.

5.4.3 SITE 5C GARNET LANE

Grade 2

Freely drained fine loamy soils with Magnesian Limestone at about 90 cm depth occur on the southern edge of the site. Because of the slight depth restriction droughtiness is slightly limiting.

Subgrade 3a

Although similar in drainage and soil texture to the grade 2 land, profiles are frequently shallower and slightly stony. These factors restrict the available water capacity of the soil and downgrade it to 3a on droughtiness.

Subgrade 3b

The area of 3b land next to Garnet Lane contains heavy clay loam topsoils over clayey slowly permeable subsoils. These soils are limited to subgrade 3b by Wetness and workability problems.

The remaining areas of land graded as 3b contain shallow stony soils which are droughty for both wheat and potatoes.

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