AGRICULTURAL LAND CLASSIFICATION

SELBY DISTRICT LOCAL PLAN

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SELBY DISTRICT LOCAL PLAN
AGRICULTURAL LAND CLASSIFICATION SURVEY

SUMMARY

A total of 299.5ha of land was surveyed on 11 sites around Selby, Sherburn-in-Elmet and Eggborough during June and July 1993. 290.2ha of this is agricultural land.

Four main soil types occur. The first is a medium to heavy textured soil formed on clay. Soil profiles are moderately well drained (Wetness Class II) to poorly drained (Wetness Class IV) depending on depth to slowly permeable layers and climatic wetness. These soils are limited by wetness restrictions, falling into Grade 2, Subgrade 3a or Subgrade 3b depending on combinations of climatic wetness, wetness class and topsoil texture. The second soil type is largely restricted to an area of warp land near the River Ouse. Here soil profiles are well drained (Wetness Class I) consisting of medium textured topsoils overlying silt loam subsoils. These soils fall into ALC Grade 1.

A third soil type is restricted to a small area of land in the Sherburn area underlain by Magnesian Limestone. Soil profiles are well drained (Wetness Class I) consisting of medium to light textured topsoils and subsoils overlying weathered limestone bedrock. These soils are limited to Subgrade 3a or 3b by droughtiness. Other soils include well drained or moderately well drained light textured soils sometimes with heavy textured lower subsoils which are limited to Subgrade 3a or 3b by droughtiness.

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AGRICULTURAL LAND CLASSIFICATION REPORT

SECTION 1: INTRODUCTION

1.1 Survey Areas and Methods

Land covering an area of approximately 300ha was surveyed on sites around Selby, Sherburn-in-Elmet and Eggborough. These sites grouped according to their location are described in subsequent sections of this report.*

Survey work was carried out during June and July 1993 when soils were examined by hand auger borings at points predetermined by the National Grid. Density of borings varied from one to 4 per hectare depending on site size.

Land quality was assessed using methods outlined in "Agricultural Land Classification of England and Wales" (MAFF, 1988).

1.2 Climate

One common reference point, situated in the centre of Selby was used to derive climatic information for the sites located around Selby town (Sites 1, 2, 3, 4, 5, 8 and 9). Climatic information for these soils is presented in Table 1.

Climate data for sites at Sherburn-in-Elmet (Sites 20 and 21) was derived from a central reference point (Table 2).

One reference point was used to obtain climate data for sites 24 and 25 at Eggborough. This is given in Table 3.

1.3 Land Use and Relief

Most of the area is used to grow a range of arable crops, including cereals, sugar beet, oilseed rape and linseed. A small area of land was under grassland.

* Site numbers in the following reports are those used by RPT for identification purposes and may differ from those used by other organisations.

The Selby District is low lying, all sites being between 5 and 20m AOD. Relief is level or gently sloping.

1.4 Geology, Soils and Drainage

Most of the district is underlain by Bunter Sandstone, mantled by a variety of thick unconsolidated sediments. However, Lower Magnesian Limestone again covered by drift occurs under part of Site 21 at Sherburn-in-Elmet. Drift deposits of sand and clay are the most extensive, with alluvial silt (warp) close to the River Ouse on Site 1.

Four main soil types occur over the area and are described below:-

1. Medium to heavy textured topsoils overlying heavy textured subsoils. Soil profiles range from moderately well drained (Wetness Class II) to poorly drained (Wetness Class IV) depending on the depth to slowly permeable layers and climatic wetness. Soils at Sherburn-in-Elmet for example are at field capacity for a longer period per year than those at Selby. Agricultural quality of soils of this type is limited to varying degrees by wetness.

2. Medium textured silty topsoils overlying silt loam subsoils. These alluvial (warp) soils are well drained, falling within Wetness Class I and are often of Grade I and II quality.

3. Coarse loamy and sandy textured topsoils and upper subsoils overlying heavy textured lower subsoils. Soil profiles are well drained (Wetness Class I) or moderately well drained (Wetness Class II) and limited by droughtiness.

4. Coarse loamy or sandy topsoils and subsoils, sometimes overlying gravel within 1 metre depth. These soils are well drained, falling within Wetness Class I, and are subject to moderate or severe droughtiness limitation.

The distribution of Agricultural Land Classification Grades and Subgrades is described in the succeeding sections.

SECTION 2: AGRICULTURAL LAND CLASSIFICATION: SITES AROUND BARLBY, SELBY (Sites 1, 2 and 3)

2.1 Location

Site 1 is located around National Grid Reference SE 636330 approximately 2km north east of Selby adjacent to Site 2 and the A19 York Road. Site 2 lies immediately north of the railway around National Grid Reference SE 632328 approximately 1½km north east of Selby centre adjacent to Site 1 and the A19 York Road. Site 3 is south of the railway around National Grid Reference SE 634322 1½km east of Selby centre.

2.2 Land Use and Relief

The three sites cover a total area of approximately 71.8 ha the majority of which is in agricultural use. Urban land consists of piggeries, a poultry farm and roads. A small area of non agricultural scrubland occurs at the eastern end of site 1 adjoining an electricity substation.

The 3 sites all lie at an altitude of approximately 10m AOD and are level to gently sloping.

2.3 Climate

Climate data is taken from one central point based on Selby railway station.

TABLE 1: CLIMATIC DATA FOR ALL SELBY SITES

Grid Reference	: SE 618324 (central point)
Altitude (m)	: 10
Accumulated Temperature above 0°C (January to June)	: 1400 day°C
Average Annual Rainfall (mm)	: 593
Climatic Grade	: 1
Field Capacity Duration (days)	: 124
Moisture Deficit Wheat	: 108
Moisture Deficit Potatoes	: 99

2.4 Geology, Soils and Drainage

Soils are formed mainly on warp deposits (marine alluvium) which forms a thick cover over the underlying Triassic Sherwood (Bunter) sandstone. Profiles vary from calcareous medium silty clay loam and heavy silty clay loam topsoils overlying well drained (Wetness Class I) silt loam subsoils near the river in the south of Site 3 to, more widely, moderately well drained (Wetness Class II) medium silty clay loam topsoils over slowly permeable heavy silty clay loam subsoils. Heavier imperfectly drained (Wetness Class III) soils occur on all three sites. These consist of medium silty clay loam topsoils over gleyed slowly permeable heavy silty clay loam at less than 40cm depth. The heaviest soils occur in the northern part of Site 3 where imperfectly drained (Wetness Class III) heavy silty clay loam topsoils overlie slowly permeable heavy silty clay loam subsoils.

2.5 Agricultural Land Classification Grades

The ALC grades on these sites are as follows:-

Grade/Subgrade	Hectares			Percentage of Total Land		
	Site 1	Site 2	Site 3	Site 1	Site 2	Site 3
1			7.0			16.9
2		1.8	6.2		23.4	15.0
3a	17.7	5.8	16.1	77.6	75.3	39.0
3b	2.1		12.0	9.2		29.1
Sub Total	(19.8)	(7.6)	(41.3)	(86.8)	(98.7)	(100.0)
Urban	2.5	0.1		11.0	1.3	
Non-Agricultural	0.5			2.2		
TOTAL	22.8	7.7	41.3	100	100	100

Grade 1

Land in this grade occurs in the southern part of Site 3. Soils consist of stoneless calcareous medium silty clay loam and silt loam topsoils overlying well drained (Wetness Class I) stoneless medium silty clay loam and silty loam subsoils to 120cm depth. There is no overall grade limitation over this area.

Grade 2

Land in this grade occurs on Sites 2 and 3. Soils consist of stoneless medium silty clay loam topsoils overlying moderately well drained (Wetness Class II) mottled slowly permeable heavy silty clay loam and silty clay subsoils. The slowly permeable layer occurs at or below 55cm depth. Slight soil wetness limits this area to Grade 2.

Subgrade 3a

Land in this subgrade occurs on all three sites. Soils are formed of stoneless medium silty clay loam topsoils over imperfectly drained (Wetness Class III) gleyed permeable heavy clay loam upper subsoils which in turn pass into gleyed slowly permeable heavy silty clay loam and silty clay lower subsoils. Profiles of this type are limited to Subgrade 3a by soil wetness.

Subgrade 3b

Land in this subgrade occurs on Site 1 and Site 3. Soils consist of stoneless non calcareous heavy silty clay loam topsoils directly overlying imperfectly drained (Wetness Class III) gleyed slowly permeable, stoneless, silty clay subsoils. They are limited to Subgrade 3b by soil wetness and workability problems.

Urban

Urban land occurs on Sites 1 and 2. On Site 1 this consists of a piggery and poultry farm with a road leading to the eastern edge of the site. On Site 2 it consists of a road. There is no urban land on Site 3.

Non-Agricultural

Non-agricultural land occurs on Site 1. This consists of a small scrubland area adjoining the electricity sub-station immediately east of the site.

SECTION 3: AGRICULTURAL LAND CLASSIFICATION: SITES AROUND CROSSHILLS LANE, SELBY (Sites 4 and 5)

3.1 Location

Sites 4 and 5 are located approximately 2km north-west of Selby town centre between Flaxley Road and Selby Dam. Site 4 is centred around National Grid Reference SE 601327 and Site 5 around National Grid Reference SE 601322.

3.2 Land Use and Relief

The two sites cover a total of 34.9 ha, almost all of which is in agricultural use. A small area of Site 4 is occupied by East Farm and is classified as agricultural buildings. The area lies between 5 and 10m AOD and is level to gently sloping.

3.3 Climate

See Table 1 containing data for one central point applicable to all Selby Sites.

3.4 Geology, Soils and Drainage

The area is underlain by Triassic Sherwood (Bunter) Sandstone over which there are thick drift deposits of sand and clay. Topsoils are light textured being medium sandy loam over most of Site 4 and loamy medium sand over most of Site 5. Subsoils are light textured, generally loamy medium sand or medium sand although heavier textured material occurs below 50cm in places. Profiles are well drained (Wetness Class I) or occasionally moderately well drained to imperfectly drained (Wetness Class II-III)

3.5 Agricultural Land Classification Grades

Grade/Subgrade	Area (ha)		Percentage of Total Land	
	Site 4	Site 5	Site 4	Site 5
3a	13.2	1.4	92.3	6.8
3b	0.8	19.2	5.6	93.2
Sub Total	(14.0)	(20.6)	(97.9)	(100.0)
Agricultural Buildings	0.3		2.1	
TOTAL	14.3	20.6	100	100

Subgrade 3a

Most of Site 4 and a small area in the south of Site 5 falls within Subgrade 3a. Soil profiles consist of light topsoils, generally of medium sandy loam overlying more variable subsoils including horizons of light (loamy medium sand or medium sand textures) and heavy material (sandy clay loam, silty clay or sandy clay). These soils are generally well drained (Wetness Class I), but may fall within Wetness Class II or Wetness Class III where a slowly permeable layer is present. They are limited to Subgrade 3a by soil droughtiness.

Subgrade 3b

Land in this subgrade covers most of Site 5 and a small area in the south of Site 4. Soil profiles are deep and well drained (Wetness Class I) consisting of light textured material (loamy medium sand or medium sand) throughout the profile. These soils are limited to Subgrade 3b by early summer droughtiness.

Agricultural Buildings

East Farm on Site 4 is classified as agricultural buildings.

SECTION 4: AGRICULTURAL LAND CLASSIFICATION: ABBOTS ROAD, SELBY (Site 8)

4.1 Location

Site 8 is located around National Grid Reference SE 620308, approximately 1km south of Selby town centre on the A1041 Bawtry Road.

4.2 Land Use and Relief

The site covers approximately 25ha, almost all of which is in arable use (cereals, linseed and sugar beet). A small area taken by a hard surfaced road is classified as being in urban use.

The site lies at an altitude of approximately 10m OD and is level.

4.3 Climate

See Table 1 containing data for one central point applicable to all Selby sites.

4.4 Geology, Soils and Drainage

Silty clay and sandy drift form a thick covering over the underlying Triassic Sherwood (Bunter) Sandstones.

Three main soil types occur on the site:

i. *Well drained profiles (Wetness Class I) composed entirely of light textured* material typically loamy medium sand and medium sand;

ii. Well drained profiles (Wetness Class I) with light textured topsoils and upper subsoils, over heavy textured lower subsoils;

iii. Imperfectly drained soils (Wetness Class III) with heavy topsoils and heavy textured, slowly permeable subsoils.

4.5 Agricultural Land Classification Grades

Grade/Subgrade	Area (ha)	Percentage of Total Land
3a	12.2	44.5
3b	15.1	55.1
Urban	0.1	0.4
TOTAL	27.4	100

Subgrade 3a

Subgrade 3a occurs in the north and west of the site. Soil profiles are well drained, falling within Wetness Class I. Light textured topsoils, typically medium sandy loam or loamy medium sand overlie upper subsoils of loamy medium sand or medium sand. Lower subsoils are heavier textured consisting of sandy clay loam, silty clay or clay. These soils are limited to Subgrade 2a by soil droughtiness.

Subgrade 3b

Most of the agricultural land on this site falls within this subgrade. Soil profiles are either well drained (Wetness Class I) or imperfectly drained (Wetness Class III). Well drained profiles consist of light textured topsoils (usually loam medium sand), overlying medium sand or loam medium sand subsoils. They are restricted to Subgrade 3b by severe soil droughtiness limitations.

Imperfectly drained profiles (Wetness Class III) consist of heavy clay loam topsoils overlying similar textured subsoils which are slowly permeable within 60cm depth. These soils are restricted to Subgrade 3b by soil wetness and workability limitations.

Urban

This consists of a short length of hard-surfaced road in the north east corner of the site.

SECTION 5: AGRICULTURAL LAND CLASSIFICATION: DENISON ROAD, SELBY (Site 9)

5.1 Location

Site 9 is located around National Grid Reference SE 631315 approximately 1½ km south east of Selby town centre.

5.2 Land Use and Relief

The site covers 16.3ha the majority of which is in agricultural use (cereals, hay and ploughed ground). An area of urban land consisting of a depot and car park occurs on the western edge of the site. Altitude is approximately 10m AOD and the land is level.

5.3 Climate

See Table 1 containing data for one central point applicable to all Selby sites.

5.4 Geology, Soils and Drainage

Drift deposits mainly of sand with some silt and clay in the south form a thick cover over the underlying Triassic Sherwood (Bunter) Sandstones.

Two main soil types occur on the site. Well drained (Wetness Class I) profiles occur over the majority of the area. These consist of loamy medium sand or occasionally medium sandy loam topsoils over loamy medium sand and sand subsoils. Heavier soils occur around the drain in the south, due probably to contamination with material excavated during cleaning operations. Here medium sandy loam topsoils overlie silty clay subsoils.

5.5 Agricultural Land Classification Grades

Grade/Subgrade	Area (ha)	Percentage of Total Area
3a	3.5	21.5
3b	10.9	66.9
Sub total	(14.4)	(88.4)
Urban	1.9	11.6
TOTAL	16.3	100

Subgrade 3a

There are two areas of Subgrade 3a land on this site. The northern area consists of stoneless medium sandy loam and loamy medium sand topsoils over subsoils of either well drained stoneless loamy medium sand and medium sand or moderately well drained (Wetness Class II) silty clay loam subsoils. Both soils are limited to Subgrade 3a by droughtiness.

The southern area immediately around the drain consists of disturbed stoneless imperfectly drained (Wetness Class III) medium sandy silt loam topsoils overlying stoneless silty clay subsoils. Further south away from the drain soils consist of medium sandy silt loam topsoils overlying moderately well drained (Wetness Class II) loamy medium sand upper subsoils and at depth, silty clay lower subsoils. Soils in this area are limited to Subgrade 3a by droughtiness and variability.

Subgrade 3b

The remainder of agricultural land on the site falls within Subgrade 3b. Profiles are formed of stoneless medium loam sand topsoils over well drained (Wetness Class I) stoneless medium sand subsoils. These soils are limited to Subgrade 3b by severe soil droughtiness.

Urban

The urban land on the western edge of the site consists of a depot and car parks.

SECTION 6: AGRICULTURAL LAND CLASSIFICATION: SITES AROUND SHERBURN-IN-ELMET (Sites 20 and 21)

6.1 Location

Sites 20 and 21 are located between Sherburn-in-Elmet and Lenmerton Airfield, south of the B1222. Site 20 is centred on National Grid Reference SE 515330 and Site 21 on National Grid Reference SE 502334.

6.2 Land Use and Relief

The two sites cover an area of 93.3ha. At the time of survey 96.2% of this was in agricultural production, all of which was in arable use. A small area of Site 20 is covered by a road (Urban) and some waste ground (Non Agricultural).

The two sites lie at an altitude of 10m AOD and both are level to very gently sloping.

6.3 Climate

See Table 2 containing data for one central point applicable to both Sherburn sites.

TABLE 2

CLIMATIC DATA FOR SITES AROUND SHERBURN-IN-ELMET

Grid Reference	: SE 506330
Altitude (m)	: 10
Accumulated Temperature above 0°C (January-June)	: 1402 day°C
Average Annual Rainfall (mm)	: 632
Climatic Grade	: 1
Field Capacity Days	: 138
Moisture Deficit (mm) Wheat	: 106
Moisture Deficit (mm) Potatoes	: 98

6.4 Geology, Soils and Drainage

Site 20 is underlain by Permian Marl and Triassic Sandstone and Site 21 by the Permian Magnesian Limestone and Marl. On both sites there is a thick cover of superficial drift (mainly silt and clay) over the solid strata. Soil types fall into two main groups. The dominant group consists of poorly drained (Wetness Class IV) medium to heavy textured soils. The second group of soils are predominantly light to medium textured and are well to imperfectly drained (Wetness Classes I, II and III).

6.5 Agricultural Land Classification Grades

The ALC grades occurring on these sites are as follows:

Grade/Subgrade	Area (ha)		Percentage of Total Area	
	Site 20	Site 21	Site 20	Site 21
3a	23.4	24.3	47.4	55.4
3b	22.5	19.6	45.5	44.6
Sub total	(45.9)	(43.9)	(92.9)	(100.)
Urban	0.9		1.8	
Non Agricultural	2.6		5.3	
Sub total	(3.5)		(7.1)	
TOTAL	49.4	43.9	100	100

Subgrade 3a

Subgrade 3a land occurs in the north of Site 20 and the centre of Site 21. Soils within this subgrade fall into two main types. The first is imperfectly drained (Wetness Class III) and typically consists of medium clay loam topsoils over sandy clay loam to heavy clay loam upper subsoils and slowly permeable heavy clay loam lower subsoils. This land is restricted to Subgrade 3a by soil wetness problems. The second soil type within the Subgrade 3a area is well drained (Wetness Class I). Profiles consist usually of very slightly stony medium sandy loam or medium clay loam topsoils and upper subsoils over very stony (>36%) medium sandy loam or medium clay loam lower subsoils. This land is limited to Subgrade 3a by soil droughtiness problems.

Subgrade 3b

Subgrade 3b land occurs in the southern part of Site 20 and in the north and west of Site 21. Profiles are generally poorly drained (Wetness Class IV) and consist typically of medium or heavy clay loam topsoils over slowly permeable heavy clay loam or clay subsoils. Soils of this type are limited to Subgrade 3b by soil wetness problems.

Urban

This consists of a hard surfaced road on Site 20.

Non Agricultural

Non Agricultural land (Site 20) consists of derelict agricultural land and soil storage mounds.

SECTION 7: AGRICULTURAL LAND CLASSIFICATION: SITES AROUND EGGBOROUGH (Sites 24 and 25)

7.1 Location

Sites 24 and 25 are located approximately 1km south of Eggborough on the A19 around National Grid Reference points SE 571236 (Site 24) and SE 568245 (Site 25).

7.2 Land Use and Relief

The two sites cover approximately 56ha. At the time of survey most of this area was in agricultural use, mainly cereal crops, sugar beet, linseed and ley grassland. A small area of Site 25 was occupied by an un-metalled farm track and classified as being in urban use.

The area lies at an altitude of around 10m OD and both sites are level to very gently sloping.

7.3 Climate

One climatic data point was used for both sites.

TABLE 3: CLIMATIC DATA FOR EGGBOROUGH

Grid Reference	: SE 571236
Altitude (m)	: 10
Accumulated Temperature above 0°C (January-June)	: 1405 day°C
Climatic Grade	: 1
Field Capacity Days	: 126
Moisture Deficit Wheat (mm)	: 109
Moisture Deficit Potatoes (mm)	: 101

7.4 Geology, Soils and Drainage

The area is underlain by Bunter Sandstone, with a discontinuous covering of glacial sand and gravel. Soils are light textured: slightly stony loamy medium sand or medium sand textured subsoils overlie similar, but stonier, subsoils. Soil profiles are well drained, falling within Wetness Class I.

7.5 Agricultural Land Classification Grades

The ALC grades occurring on these sites are as follows:

Grade/Subgrade	Area (ha)		Percentage of Total Land	
	Site 24	Site 25	Site 24	Site 25
3b	25.0	30.4	98.4	100.0
Subtotal	(25.0)	(30.4)	(98.4)	(100.0
Urban	0.4		1.6	
TOTAL	25.4	30.4	100	100

Subgrade 3b

All agricultural land on both sites falls within Subgrade 3b. Slightly stony light textured topsoils, typically medium sand or loamy medium sand overlie similar textured subsoils which become very stony with increasing depth. Soil profiles are well drained, falling within Wetness Class I. Soil droughtiness constitutes the major factor limiting all of this land to Subgrade 3b.

Urban

This consists of a length of farm track on Site 24.

MAPS