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Ministry of
Agriculture
Fisheries
and Food

AGRICULTURAL LAND CLASSIFICATION
EASINGTON LOCAL PLAN
COUNTY DURHAM
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AGRICULTURAL LAND CLASSIFICATION, EASINGTON LOCAL PLAN

SUMMARY

A total of 140 ha of land was surveyed on five sites within Easington District. 133 ha of this was agricultural land of which 4.6 ha falls in Grade 2. Profiles are well drained, with very slightly to slightly stony medium-textured topsoils overlying slightly stony, light to medium-textured subsoils. This land is limited to Grade 2 by overall climate and, inplaces, by slight soil droughtiness and/or topsoil stoniness.

45.5ha of the land surveyed falls in Subgrade 3a. Profiles are generally moderately well or imperfectly drained, with medium to heavy-textured topsoils and upper subsoils overlying gleyed, slowly permeable lower subsoils. The lower subsoils typically begin at between 45cm and 70cm depth and the land is limited to Subgrade 3a by soil wetness and topsoil workability limitations.

80.7ha has been placed in Subgrade 3b. Profiles are generally imperfectly or poorly drained, with medium to heavy-textured topsoils (and, in places, upper subsoils) overlying gleyed, slowly permeable, heavy-textured subsoils at between 25cm and 45cm depth. This land is limited to Subgrade 3b by soil wetness and topsoil workability.

Grade 4 land occurs on two sites and covers a total of 1.8ha. On one site (Catlow Hall, Wingate) the presence of bricks and other debris makes regular ploughing impractical and on the other (North of Hawthorn Incline, Seaham) slopes of 12°-13° limit the land to Grade 4.

The remainder of the land surveyed consists of Urban land (0.6ha), Non Agricultural land (6.1ha), Agricultural Buildings (0.7ha) and Open Water (0.5ha)

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EASINGTON LOCAL PLAN: AGRICULTURAL LAND CLASSIFICATION REPORTS

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Survey Methods

Land covering an area of approximately 140 ha was surveyed on five sites within Easington District. The agricultural land quality on each of these sites is described in the following parts of this report.

Survey work was carried out in February 1994 when soils were examined by hand auger borings at 100m intervals predetermined by the National Grid. Extra borings were made where necessary to refine grade boundaries and a number of soil pits were dug in order to assess subsoil structure and depth to slowly permeable layers, and to collect samples for laboratory analysis.

All assessments of land quality 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).

1.2 Land Use and Relief

At the time of survey most of the agricultural land surveyed was in arable use (principally winter cereals), although much of Catlow Hall, Wingate was under ley and permanent grass.

Site altitudes vary from 45m AOD (North of Hawthorn Incline, Seaham) to 140m AOD (at Catlow Hall, Wingate) but most of the land surveyed lies at between 90m AOD and 125m AOD. Most of the land surveyed is gently to moderately sloping (typically 1-6°), with variable aspect.

1.3 Geology and Soils

All of the sites surveyed are underlain by deposits of Middle or Upper Magnesian Limestone, over which lie drift deposits of varying depth. Most of the land surveyed is overlain by boulder clay although the land east of Thorpe Road, Easington is overlain by glacial sand and gravel and there are, besides the boulder clay, significant areas of

lacustrine alluvium (at Thornley North) and morainic drift (at Catlow Hall, Wingate and at Lowhills Road, Peterlee).

Most of the soils on the sites surveyed correspond to the Dunkeswick and Escrick 2 Associations, as mapped by the Soil Survey and Land Research Centre.

2.1. EAST OF THORPE ROAD, EASINGTON

2.1.1 Location

The site lies around Grid Reference NZ 422433, on the south-eastern edge of the village of Easington. It covers a total area of 8.3 ha of which 6.7 ha was in agricultural use at the time of survey.

2.1.2 Climate

Grid Reference	: NZ 422 433
Altitude (m)	: 105
Accumulated Temperature above 0°C (January-June)	: 1247 day°C
Average Annual Rainfall (mm)	: 680
Climatic Grade	: 2
Field Capacity Days	: 167
Moisture Deficit (mm) Wheat	: 89
Moisture Deficit (mm) Potatoes	: 75

2.1.3 Soils and Drainage

The soils on this site are formed in deposits of glacial sand and gravel and profiles are well drained, falling in Wetness Class I. The soils are typically very slightly to slightly stony, containing between 5% and 15% hard stones, sandstones and limestones which vary in size between very small and large. Topsoils are generally medium-textured (sandy clay loam or medium clay loam) and subsoils light to medium-textured (medium sand, medium sandy loam or sandy clay loam).

An area in the south-west of the site has been contaminated with ash and colliery shale, possibly from a disused pit adjoining the site in the north-west.

2.1.4 Agricultural Land Classification Grades

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2	4.6	55.4
3a	0.8	9.6
3b	1.3	15.7
4		
5		
(Sub total)	(6.7)	(80.7)
Urban		
Non Agricultural	1.6	19.3
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(1.6)	(19.3)
TOTAL	8.3	100

2.1.5 Grade 2

The eastern half of the site falls in Grade 2. Profiles are well drained (falling in Wetness Class I) with medium clay loam or sandy clay loam topsoils overlying sandy clay loam or medium sandy loam subsoils. Topsoils are generally very slightly to slightly stony, containing between 5% and 8% very small to medium-sized sandstones, limestones and hard stones. The subsoils tend to be slightly stonier than the topsoils, containing up to 15% stones.

The ALC grade of this land is limited by the overall climate of the area and, in places, by slight soil droughtiness and/or topsoil stoniness.

2.1.6 Subgrade 3a

Subgrade 3a land occurs in the west of the site. Profiles are well drained (falling in Wetness Class I) with sandy clay loam topsoils overlying medium sand subsoils. Topsoils are slightly stony (containing around 14% very small to large sandstones, limestones and hard stones) and subsoils slightly to moderately stony (containing between 6% and 20% very small to large sandstones, limestones and hard stones). The ALC grade of this land is limited by soil droughtiness and topsoil stoniness.

2.1.7 Subgrade 3b

Land in this subgrade occurs in the south-west of the site. Medium-textured topsoils (sandy clay loam or medium clay loam) and, in places, upper subsoils, overlie ash and colliery shale. Crop growth in this area is poor and samples of the soil have been sent for analysis in order to assess the level of phytotoxic and zootoxic elements. The poor crop growth suggests that this may be a problem and for that reason this area has been provisionally placed in Subgrade 3b.

2.1.8 Non Agricultural

This refers to an area of scattered scrub in the north-west of the site.

2.2 CATLOW HALL, WINGATE

2.2.1 Location

The site lies around Grid Reference NZ 416348, approximately 3½Km south-east of the village of Wingate. It covers a total area of 33 ha, of which 30.7 ha was in agricultural use at the time of survey.

2.2.2 Climate

Grid Reference	: NZ 416 348
Altitude (m)	: 130
Accumulated Temperature above 0°C (January-June)	: 1223 day°C
Average Annual Rainfall (mm)	: 689
Climatic Grade	: 2
Field Capacity Days	: 168
Moisture Deficit (mm) Wheat	: 86
Moisture Deficit (mm) Potatoes	: 71

2.2.3 Soils and Drainage

The soils on this site are formed in deposits of boulder clay and morainic drift. Profiles are generally poorly drained (Wetness Class IV) although well drained or moderately well drained profiles (Wetness Classes I and II) occur in places. The soils are typically very slightly to slightly stony, with between 2% and 8% very small to large hard stones. Topsoils are medium to heavy-textured (medium clay loam or heavy clay loam in most cases) and these generally overlie slowly permeable heavy-textured subsoils consisting of heavy clay loam or clay.

2.2.4 Agricultural Land Classification Grades

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	2.4	7.3
3b	27.7	83.9
4	0.6	1.8
5		
(Sub total)	(30.7)	(93.0)
Urban	0.6	1.8
Non Agricultural	0.5	1.5
Woodland - Farm		
- Commercial		
Agricultural Buildings	0.7	2.2
Open Water	0.5	1.5
Land not surveyed		
(Sub total)	(2.3)	(7.0)
TOTAL	33.0	100

2.2.5 Subgrade 3a

Land in this subgrade occurs in the east of the site. Profiles are well drained (falling in Wetness Class I) and slightly stony, containing between 8% and 12% hard stones. Typically medium clay loam topsoils overlie sandy clay loam subsoils which are gleyed but not slowly permeable. The ALC grade of this land is limited by topsoil stoniness and a pattern limitation.

2.2.6 Subgrade 3b

Most of the agricultural land on the site falls in Subgrade 3b. Profiles are poorly drained (falling in Wetness Class IV) with medium or heavy clay loam topsoils overlying gleyed,

slowly permeable heavy clay loam or clay subsoils at around 30cm depth. This land is, therefore, limited to Subgrade 3b by soil wetness and workability restrictions.

A small area of well drained (Wetness Class I) soils occurs in the north of the site, where the soil profiles meet the requirements for Grade 2. However, some areas have been disturbed and in others the hummocky nature of the soil surface prevents this land from being mapped as a separate unit.

2.2.7 Grade 4

A small area of Grade 4 land occurs in the north-west of the site. The area is under permanent grass but has been the site of dumping of brick and other debris. Regular ploughing of this land is, therefore, impractical, and for that reason it has been placed in Grade 4.

2.2.8 Urban

This category includes the house and gardens in the north of the site and the access track to Catlow Hall Farm.

2.2.9 Non Agricultural

This category includes soil mounds in the centre of the site.

2.2.10 Agricultural Buildings

This refers to the farmhouse and outbuildings at Catlow Hall Farm, in the south of the site.

2.2.11 Open Water

This includes a number of small ponds in the south of the site.

2.3 NORTH OF HAWTHORN INCLINE, SEAHAM

2.3.1 Location

The site lies around Grid Reference NZ 417 478, approximately 2 Km south-west of the village of Seaham. It covers a total area of 49ha of which 45ha was in agricultural use at the time of survey.

2.3.2 Climate

Grid Reference	: NZ 417 478
Altitude (m)	: 85
Accumulated Temperature above 0°C (January-June)	: 1268 day°C
Average Annual Rainfall (mm)	: 655
Climatic Grade	: 2
Field Capacity Days	: 161
Moisture Deficit (mm) Wheat	: 73
Moisture Deficit (mm) Potatoes	: 79

2.3.3 Soils and Drainage

The soils on this site are formed in deposits of boulder clay. Most profiles are imperfectly or poorly drained, falling in Wetness Classes III or IV, although a few well and moderately well drained profiles (Wetness Classes I and II) also occur. The soils are generally very slightly stony, containing around 3% hard stones. The topsoils generally consist of medium clay loam or heavy clay loam and these overlie heavy clay loam or clay subsoils in most cases.

2.3.4 Agricultural Land Classification Grades

The ALC grades occurring on this site (rounded to the nearest tenth of a hectare) are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	15.6	31.8
3b	28.2	57.6
4	1.2	2.4
5		
(Sub total)	(45.0)	(91.8)
Urban		
Non Agricultural	4.0	8.2
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(4.0)	(8.2)
TOTAL	49.0	100

2.3.5 Subgrade 3a

Four separate areas of Subgrade 3a land occur on the site. In most cases profiles are moderately well or imperfectly drained (falling in Wetness Classes II or III) with medium or heavy clay loam topsoils overlying similar upper subsoils and heavy clay loam or clay lower subsoils. The lower subsoils form slowly permeable layers, typically beginning at between 45cm and 70cm depth. This land is, therefore, restricted to Subgrade 3a by soil *wetness and topsoil workability limitations.*

A few soil profiles in these areas meet the requirements for Grade 2, being well or moderately well drained (Wetness Classes I or II), but a pattern limitation prevents this land being mapped as a separate unit.

2.3.6 Subgrade 3b

Most of the agricultural land on this site falls in Subgrade 3b. Profiles are generally imperfectly or poorly drained (falling in Wetness Classes III or IV) with medium clay loam or heavy clay loam topsoils overlying gleyed, slowly permeable heavy clay loam or clay subsoils at between 25cm and 45cm depth. The ALC grade of this land is limited by soil wetness and topsoil workability restrictions, which are more severe than on the adjoining Subgrade 3a land. This subgrade also includes land in the north of the site where slopes of between 8 to 11° limit ALC grade.

2.3.7 Grade 4

Two small areas of Grade 4 land occur in the west of the site. The soils are similar to those described above but in this case slopes of 12°-13° restrict the use of agricultural machinery and the land is limited to Grade 4.

2.3.8 Non Agricultural

This category includes a strip of land in the north of the site, adjoining a stream.

2.4 THORNLEY NORTH

2.4.1 Location

This site lies around Grid Reference NZ 367 401, on the north-western edge of the village of Thornley. It covers a total area of 12.8 ha, all of which was in agricultural use at the time of survey.

2.4.2 Climate

Grid Reference	: NZ 367 401
Altitude (m)	: 130
Accumulated Temperature above 0°C (January-June)	: 1222 day°C
Average Annual Rainfall (mm)	: 695
Climatic Grade	: 2
Field Capacity Days	: 175
Moisture Deficit (mm) Wheat	: 86
Moisture Deficit (mm) Potatoes	: 70

2.4.3 Soils and Drainage

The soils on this site are formed in deposits of boulder clay (in the west and south) and lacustrine alluvium (in the north-east). Profiles are generally poorly drained, falling in Wetness Class IV, with medium or heavy clay loam topsoils overlying slowly permeable clay subsoils. Two small areas of moderately well drained (Wetness Class II) soils occur, one in the south-western corner and one to the south of the drain running through the centre of the site. In these areas medium or heavy clay loam topsoils overlie gleyed, permeable sandy clay loam subsoils.

2.4.4 Agricultural Land Classification Grades

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	1.8	14.1
3b	11.0	85.9
4		
5		
(Sub total)	(12.8)	(100)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)		
TOTAL	12.8	100

2.4.5 Subgrade 3a

Two small areas of Subgrade 3a land occur on this site, one in the south-western corner and one to the south of the drain running through the centre of the site. Profiles are moderately well drained (falling in Wetness Class II) with medium or heavy clay loam topsoils overlying gleyed, permeable sandy clay loam subsoils. The ALC grade of this land is limited by the combination of soil wetness and topsoil workability restrictions.

2.4.6 Subgrade 3b

Most of this site falls in Subgrade 3b. Profiles are poorly drained (falling in Wetness Class IV) with medium or heavy clay loam topsoils overlying gleyed and slowly permeable clay

subsoils at around 25cm depth. Soil wetness and workability limitations are the factors restricting this land to Subgrade 3b.

2.5 LOWHILLS ROAD, PETERLEE

2.5.1 Location

This site lies around Grid Reference NZ 419 423, approximately 2Km north-west of Peterlee town centre. It covers a total area of 37.4ha, all of which was in agricultural use at the time of survey.

2.5.2 Climate

Grid Reference	: NZ 419 423
Altitude (m)	: 120
Accumulated Temperature above 0°C (January-June)	: 1231 day°C
Average Annual Rainfall (mm)	: 691
Climatic Grade	: 2
Field Capacity Days	: 169
Moisture Deficit (mm) Wheat	: 87
Moisture Deficit (mm) Potatoes	: 72

2.5.3 Soils and Drainage

The soils on this site are formed in deposits of boulder clay (in the east) and morainic drift (in the west). Profiles are usually imperfectly or poorly drained, falling in Wetness Classes III or IV, with medium or heavy clay loam topsoils overlying heavy clay loam upper subsoils and heavy clay loam or clay lower subsoils.

2.5.4 Agricultural Land Classification Grades

The ALC grades occurring on this site (rounded to the nearest tenth of a hectare) are as follows:

Grade/Subgrade	Hectare	Percentage of Total Area
1		
2		
3a	24.9	66.6
3b	12.5	33.4
4		
5		
(Sub total)	(37.4)	(100)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)		
TOTAL	37.4	100

2.5.5 Subgrade 3a

The north of this site falls within Subgrade 3a. Profiles are moderately well or imperfectly drained, falling in Wetness Classes II or III. Typically medium clay loam or heavy clay loam topsoils overlie heavy clay loam upper subsoils (some of which are gleyed) and gleyed slowly permeable heavy clay loam or clay lower subsoils. The slowly permeable lower subsoils typically begin at between 50cm and 70cm depth and soil wetness and topsoil workability restrictions limit the land to Subgrade 3a.

2.5.6 Subgrade 3b

Subgrade 3b land covers the south of this site. Profiles are imperfectly to poorly drained (falling in Wetness Classes III and IV) with medium clay loam or heavy clay loam topsoils and, in places, heavy clay loam upper subsoils, overlying gleyed, slowly permeable heavy clay loam or clay. Subsoils are gleyed within 35cm depth and the slowly permeable layers generally begin at between 30cm and 50cm depth. The ALC grade of this land is limited by soil wetness and topsoil workability restrictions, which are more severe than on the adjoining Subgrade 3a land.

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