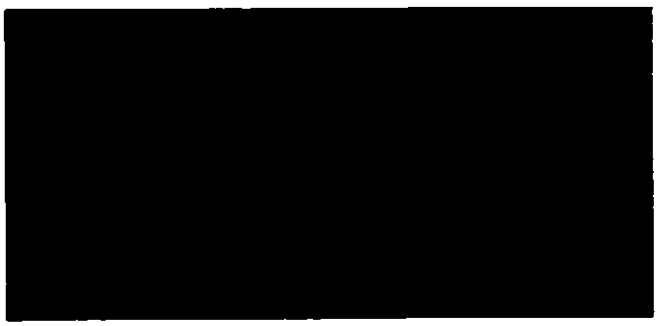

MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION
SUNDERLAND U.D.P.
(LAND NORTH OF BURDON LANE)
TYNE AND WEAR
OCTOBER 1995

ADAS
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SUMMARY

A detailed Agricultural Land Classification (ALC) survey of 114.7 ha of land on the south side of Sunderland ("Sunderland UDP, Land North of Burdon Lane") was carried out in September 1995. At the time of the survey 89% of the site was in agricultural use and 11% consisted of Urban land, Woodland, Non Agricultural land and Land not surveyed.

40.6 ha of the agricultural land falls in Grade 2. The soils are well or moderately well drained with light to medium-textured topsoils overlying light to heavy-textured subsoils. Where they occur, slowly permeable layers begin at or below 60 cm depth. This land is limited to Grade 2 by the climate of the area and in places by slight soil wetness.

33.9 ha falls in Subgrade 3a. In most cases the soils are imperfectly drained with medium clay loam topsoils and upper subsoils overlying gleyed and slowly permeable heavy clay loam or clay lower subsoils at around 50 cm depth. Soil wetness limits the ALC grade in this case. In a few places the soils are well drained but weathering limestone occurs at between 40 cm and 60 cm depth. In these areas soil droughtiness limits the ALC grade.

Subgrade 3b land covers 27.7 ha. In most cases medium or heavy-textured topsoils overlie gleyed and slowly permeable heavy-textured subsoils at around 30 cm depth. A more severe soil wetness problem further limits the ALC grade of these areas to Subgrade 3b. In a few places the soils are well drained but overlie weathering limestone at between 30 cm and 40 cm depth, in which case severe soil droughtiness restricts the ALC grade.

The remainder of the site consists of Urban land (8.2 ha), Non-Agricultural land (0.1 ha), Woodland (0.4 ha) and Land not surveyed (3.8 ha).

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AGRICULTURAL LAND CLASSIFICATION (ALC) REPORT ON LAND NORTH OF BURDON LANE, SUNDERLAND U.D.P.

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies 4½ Km south of Sunderland city centre and covers 114.7 ha around Grid Reference NZ391525. A reconnaissance ALC survey had previously been carried out in 1977 ("Sunderland South Periphery L.P.", Reference 57/84) which showed all of the agricultural land to be of Subgrade 3b quality. The detailed ALC survey carried out in September 1995 consisted of examining the soils at 100 m intervals predetermined by the National Grid, using hand augers, and digging three soil pits to allow full profile descriptions to be made.

The land quality was assessed 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 the most recent survey, 102.2 ha of the site was in agricultural use (winter cereals, cereal stubble, ley grass and set-aside) while 8.7 ha consisted of Urban land, Woodland and Non-Agricultural land. 3.8 ha in the centre of the site was left unsurveyed as the owner/tenant could not be identified.

Site altitude varies from 123 m AOD in the south-west to 70 m AOD in the east. Generally the land is level to moderately sloping (0-4°) but land in the east of the site is strongly sloping (8-11°) and is limited by its gradient to Subgrade 3b. Aspect is variable but is northerly or easterly in most cases.

1.3 Climate

Grid Reference	: NZ 391525
Altitude	: 95
Accumulated Temperature above 0°C (January - June)	: 1256 day° C
Average Annual Rainfall (mm)	: 660
Climatic Grade	: 2
Field Capacity Days	: 160
Moisture Deficit (mm) Wheat	: 91
Moisture Deficit (mm) Potatoes	: 77

1.4 Geology, Soils and Drainage

The area is underlain by Middle Magnesian Limestone, with thick barrier reef underlying the centre of the site. Most of the site is overlain by till deposits although small isolated outcrops of limestone occur in parts of the east of the site and deposits of glacial sand and gravel occur around Tunstall Lodge, in the west. The soils developed over the limestone outcrops are well drained (Wetness Class I), with medium clay loam topsoils and, in places, heavy clay loam subsoils, overlying weathering limestone at between 30 cm and 60 cm depth.

The soils formed in the glacial sand and gravel are also well drained (Wetness Class I) with medium sandy loam or sandy clay loam topsoils and subsoils.

The soils formed in the till deposits are more variable, falling in Wetness Classes I to IV (well to poorly drained). In most cases medium clay loam topsoils overlie medium clay loamy, sandy clay loam, heavy clay loam or clay subsoils.

Most of the soils on the site belong to the Nercwys Association as mapped by the Soil Survey and Land Research Centre.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2	40.6	35.4
3a	33.9	29.6
3b	27.7	24.2
4		
5		
(Sub total)	(102.2)	(89.2)
Urban	8.2	7.1
Non Agricultural	0.1	0.1
Woodland	0.4	0.3
Agricultural Buildings		
Open Water		
Land not surveyed	3.8	3.3
(Sub total)	(12.5)	(10.8)
TOTAL	114.7	100

2.1 Grade 2

Grade 2 land covers much of the centre of the site and occurs in smaller areas elsewhere. The soils are well or moderately well drained, falling in Wetness Classes I and II, and consist of medium clay loam or medium sandy loam topsoils overlying medium sandy loam, sandy clay loam, medium clay loam or heavy clay loam subsoils. Horizons of clay occur in some places below 60 cm depth and slowly permeable layers, although often absent, begin in some places at between 60 cm and 80 cm depth. This land is limited to Grade 2 by the overall climate of the area and, in places, by slight soil wetness.

2.2 Subgrade 3a

Much of the centre and east falls in Subgrade 3a. Two main soil types occur, the most widespread of which consists of imperfectly drained profiles (Wetness Class III) where medium clay loam topsoils overlie medium clay loam upper subsoils and gleyed and slowly permeable heavy clay loam or clay lower subsoils. The slowly permeable layers begin at between 45 cm and 60 cm depth in most cases and soil wetness is the factor which limits these areas to Subgrade 3a. The second soil type consists of medium clay loam topsoils and heavy clay loam subsoils overlying weathering limestone at between 40 cm and 60 cm depth. In this case soil droughtiness is the factor which restricts the ALC grade.

2.3 Subgrade 3b

Land in this subgrade occurs in a number of pockets across the site. Most of the soils are poorly drained (Wetness Class IV), with medium clay loam or heavy clay loam topsoils overlying gleyed and slowly permeable heavy clay loam or clay subsoils at around 30 cm depth, and soil wetness limits the land to Subgrade 3b. In a few places the soils are well drained (Wetness Class I) and medium-textured, but overlie weathering limestone bedrock at between 30 cm and 40 cm depth. In this case a severe soil droughtiness limitation restricts the land to Subgrade 3b. In parts of the east of the site slopes of 8° to 11° provide an additional limitation, as the use of agricultural machinery will be restricted.

2.4 Urban

Urban land on the site consists of three new areas of housing (around Tunstall Lodge, in the south-west and in the north-east), Melwood Lodge (in the east), and the two minor roads which run through the site.

2.5 Non Agricultural

A small area of Non-Agricultural land consisting of scrub is found in the centre of the site.

2.6 Woodland

A belt of woodland adjoining a new housing development occurs in the south-west.

2.7 Land Not Surveyed

Land in this category covers 3.8 ha in the east, where the owner/tenant could not be identified.

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