MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION
AND SOILS REPORT
PROPOSED SPORTING CLUB AT
WOOLSINGTON HALL,
NEWCASTLE UPON TYNE
TYNE & WEAR
FEBRUARY 1995

ADAS
Leeds Statutory Group

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SUMMARY

A detailed Agricultural Land Classification survey was carried out in 1991 by ADAS of the Newcastle Great Parks proposed development. Information from this survey which covers all the proposed sporting club development at Woolsington Hall was used to produce this report and maps.

Soils on the sports club site are developed from drift deposits, mostly boulder clay.

12.5 ha of Grade 2 land were identified. Soils are light textured and limited by the overall climate and slight soil wetness restrictions.

23.6 ha were Subgrade 3a. Topsoils and upper subsoils are medium textured over clayey, slowly permeable lower subsoils. Soil wetness limits this land to Subgrade 3a.

59.7 ha were Subgrade 3b. Soils were poorly drained and the land is limited by severe soil wetness problems.

4.2 ha were classed as Urban, 32.2 ha woodland and 1.7 ha open water.

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1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 7km north west of Newcastle upon Tyne city centre and is centred around grid reference NZ 200 705. Detailed survey work of the site was carried out in 1991 as part of MAFFs response to the proposed Newcastle Great Parks development within which the proposed sporting club site lies. Soils were examined with hand held auger borings at a density of one boring per hectare at locations predetermined by the National Grid. Soil pits were dug at representative points to describe the soil in greater detail. 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).

1.2 Land Use and Relief

At the time of survey most of the site was in arable use. Relief is level or gentle and the average altitude is 75m AOD.

1.3 Climate

Grid Reference	: NZ 200 705
Altitude (m)	: 75
Accumulated Temperature above 0°C (January - June)	: 1275 day °C
Average Annual Rainfall (mm)	: 686
Climatic Grade	: 2
Field Capacity Days	: 175
Moisture Deficit (mm) Wheat	: 87
Moisture Deficit (mm) Potatoes	: 72

1.4 Geology, Soils and Drainage

Soils are all developed from drift deposits. Solid Carboniferous Coal Measures are not exposed within a metre of the surface on the site. Drift deposits are mostly boulder clay producing medium to heavy textured soils with drainage limitations - soil Wetness Class III or IV. Profiles are typically medium or heavy clay loam over a slowly permeable clay subsoil. However towards the centre of the site drift deposits are lighter textured and soils better drained. Typical profiles consist of moderately well drained (Wetness Class II) deep sandy loams.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2	12.5	9
3a	23.6	18
3b	59.7	46
4		
5		
(Sub total)	(95.8)	(73)
Urban	4.2	3
Non Agricultural	32.2	24
Agricultural Buildings		
Open Water	1.7	
Land not surveyed		
(Sub total)	(38.1)	(27)
TOTAL	133.9	100

2.1 Grade 2

This land is found in the centre of the site. Profiles are typically a sandy loam topsoil over a similar or medium textured, often sandy clay loam, subsoil. Profiles are usually Wetness Class II.

Soil wetness and overall climatic restriction limit the ALC grade of this land.

2.2 Subgrade 3a

This subgrade is found in five separate areas although all contain similar soils. Top and upper subsoils are medium textured over a slowly permeable heavy textured subsoil. Profiles are typically Wetness Class III.

Soil wetness limits the ALC grade of this land.

2.3 Subgrade 3b

All remaining agricultural land is Subgrade 3b. Topsoils are medium or heavy textured over a heavy textured slowly permeable subsoil. These soils are poorly drained (Wetness Class IV). A severe soil wetness problem limits the ALC grade of this land.

2.4 Non Agricultural

This mostly consists of woodland on the site.

2.5 Urban

Roads and Woolsington Hall are classed as urban.

2.6 Open Water

This is found in the south of the site.

3.0 SOIL TYPES

Soil information is only available for the agricultural land on the site. Soil in the non agricultural land were not examined during the survey. On the agricultural land 3 soil types were identified.

i) Heavy textured topsoils over heavy textured subsoils

These soils are poorly drained (Wetness Class IV) with a heavy clay loam topsoil usually 30cm deep over a clayey, slowly permeable subsoil.

ii) Medium textured topsoil (and upper subsoil) over heavy textured subsoil

This is the most widely occurring soil type on the site. Topsoils are generally 30cm thick and typically a medium clay loam. Upper subsoils are occasionally present and are also usually medium clay loam. Lower subsoils are gleyed, slowly permeable and heavy textured, usually a clay.

iii) Light textured topsoils over light/medium textured subsoils

These soils are found in the south east of the site. Topsoils are on average 30cm deep and a medium sandy loam. The subsoil is generally similar textured or occasionally a sandy clay loam.

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MAPS