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# AGRICULTURAL LAND CLASSIFICATION
NORTHUMBERLAND MINERALS LOCAL PLAN
LAND AT HAUGHTON STROTHER

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ADAS
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## SUMMARY

A detailed Agricultural Land Classification (ALC) survey of 33.7 ha of land at Haughton Strother was carried out in February 1996 for the Northumberland Minerals Local Plan. Most of the site is on the flood plain of the River North Tyne.

Soils on the site are mostly derived from alluvium or river terrace gravels. Ground water affects the drainage of much of the flood plain.

Subgrade 3a occupies 10.8 ha. Medium to light textured soils with gleyed subsoils are limited to this Subgrade by soil wetness and workability problems.

Subgrade 3b comprises 11.1 ha and is limited to this Subgrade by either a complex pattern of soil drainage or poorly drained soils with a soil wetness limitation.

Remaining land (11.8 ha) is Grade 4. Either slope and microrelief or severe soil wetness caused by a high water table limits ALC grade.

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# AGRICULTURAL LAND CLASSIFICATION REPORT ON NORTHUMBERLAND MINERALS LOCAL PLAN, LAND AT HAUGHTON STROTHER

## 1. INTRODUCTION AND SITE CHARACTERISTICS

### 1.1 Location and Survey Methods

A detailed Agricultural Land Classification (ALC) survey was carried out on 33.7 ha of land at Haughton Strother in February 1996. The site lies mostly in the flood plain of the River North Tyne around grid reference NY896 740.

Soils were examined by hand auger borings at locations predetermined by the OS National Grid. Supplementary borings were used to check upon and refine grade boundaries. The overall density of borings was one per hectare. Two soil profile pits were dug to examine representative soils in greater detail. 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

Land on the flood plain is mostly level at an altitude of 75m A.O.D. This area does however contain several depressions and other features probably associated with former river channel courses. Towards the south west of the site the land starts to rise above the flood plain with strong and often irregular slopes, up to 14° in places. Maximum altitude occurs in the extreme south east of the site at 100m A.O.D. Presently the whole site is under grass.

### 1.3 Climate

| | |
|---|---|
| Grid Reference | : NY896 740 |
| Altitude (m) | : 75m |
| Accumulated Temperature above 0°C (January - June) | : 1280 day °C |
| Average Annual Rainfall (mm) | : 767 |
| Climatic Grade | : 2 |
| Field Capacity Days | : 201 |
| Moisture Deficit (mm) Wheat | : 83 |
| Moisture Deficit (mm) Potatoes | : 67 |

1.4 Geology, Soils and Drainage

The whole site is underlain with lower carboniferous sandstones and limestones. However these deposits are covered with thick deposits of drift.

On the flood plain alluvium and river terrace deposits are found. These have produced stoneless medium to light textured topsoil over similar textured subsoils often gleyed and occasionally slowly permeable. Gravel is often found below 80cm depth. Soils tend to be lighter textured closer to the river and more stony on the terraces towards Haughton Strother. The flood plain contains numerous depressions and old river channel courses which lie below the water table and are wet for much of the year. Away from these features soils are mostly imperfectly drained, soil Wetness Class III subject to a soil wetness and workability problem. Flooding of this part of the site is unlikely to limit ALC grade to worse than Subgrade 3a and peak flows of the river are controlled by Kielder Reservoir.

Away from the flood plain soils are derived from heavier drift probably boulder clay. Topsoils are medium textured over clayey slowly permeable subsoils. Soils are Wetness Class IV.

## 2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

| Grade/Subgrade | Hectares | % of Total Area |
|---|---|---|
| 1 | | |
| 2 | | |
| 3a | 10.8 | 32 |
| 3b | 11.1 | 33 |
| 4 | 11.8 | 35 |
| 5 | | |
| (Sub total) | (33.7) | (100) |
| Other Land | - | - |
| **TOTAL** | **33.7** | **100** |

### 2.1 Subgrade 3a

This Subgrade is found on the flood plain and river terraces. Soils are generally medium to light textured and imperfectly to moderately well drained (Wetness Class II or III) usually with gleyed subsoils. The land is sufficiently high above the water table to be less affected by ground water than elsewhere on the site.

### 2.2 Subgrade 3b

Much of the 3b land in the east and centre of the site on the flood plain is affected by a soil pattern limitation. Soil drainage changes rapidly across this area from imperfectly drained to poorly drained depressions. This complex pattern limits the land to Subgrade 3b. Elsewhere on the site poorly drained land with slowly permeable subsoils is limited to Subgrade 3b by soil wetness and workability problems.

2.3 Grade 4

Grade 4 land is found on the steep slopes in the extreme south west of the site. Slopes over 11° and complex microrelief limit ALC grade.

Remaining Grade 4 land is found in wet hollows on the flood plain where prolonged waterlogging due to a high water table limits ALC grade.

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MAP