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WILTSHIRE MINERALS LOCAL PLAN
S62 SOUTH WEST OF A419, LATTON

AGRICULTURAL LAND CLASSIFICATION
REPORT OF SURVEY

Resource Planning Team
Taunton Statutory Unit

February 1993

ADAS

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1. SUMMARY

Sixty five hectares of land south west of the A419 at Latton were graded using the Agricultural Land Classification (ALC) System in November 1991 and the risk from flooding assessed in 1993. The subsequent work was carried out on behalf of MAFF as part of its statutory role in the preparation of the Wiltshire Minerals Local Plan.

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000. The information is correct at this scale but any enlargement would be misleading. A total of 8 soil profile pits were examined to assess the results of work carried out by Reading Agricultural Consultants. The field survey by RAC took the form of boring descriptions at a density of one per hectare, but did not include detailed soil structural descriptions through pit examinations. This was done by ADAS and adjustments were made to the RAC results.

The distribution of ALC grades identified in the survey area is detailed below and illustrated on the accompanying map.

Distribution of ALC grades: South west of A419, Latton

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	40.9	63.2	64.8	
3a	4.0	6.2	6.4	
3b	15.6	24.1	24.7	
4	2.6	4.0	4.1	
Urban	1.6	2.5	100%	(63.1 ha)
TOTAL	64.7	100%		

There are no climatic or site limitations for the survey area. The main limitation in the survey area is droughtiness and wetness. The majority of the site is Grade 2. There is a small area that is downgraded to Grade 4 on the basis of flood risk.

2. INTRODUCTION

Sixty five hectares of land south west of the A419 at Latton were graded using the Agricultural Land Classification (ALC) System in November 1991 and the risk from flooding assessed in 1993. The subsequent work was carried out on behalf of MAFF as part of its statutory role in the preparation of the Wiltshire Minerals Local Plan.

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000. The information is correct at this scale but any enlargement would be misleading. A total of 8 soil profile pits were examined to assess the results of work carried out by Reading Agricultural Consultants. The field survey by RAC took the form of boring descriptions at a density of one per hectare, but did not include detailed soil structural descriptions through pit examinations. The survey by ADAS took the form of a field check of the consultants information by locating soil profile pits in each of their main ALC and soil resource map units.

There is broad agreement for many of the RAC map units, but ADAS has recognised a greater amount of higher quality land (Grade 2). This difference is related to the incorrect assessment of subsoil stone contents by RAC. None of the eight pits contain gravel deposits (ie >70% stone). The soil resource therefore extends to depth as a stony sandy matrix which contains adequate moisture reserves to be placed in Grade 2 in terms of soil droughtiness.

The published Provisional 1" to the mile ALC map of this area (MAFF 1973) shows the site to be Grade 2. The recent survey supersedes this map and the 1979 1:25,000 survey having been carried out at a more detailed level and using the Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988).The results of the survey carried out in November 1991 have been previously published but at that time information was not available to take account of the risk imposed by flooding on the site. This has now been assessed and the results incorporated into this report. This has resulted in the downgrading of some land to Grade 4.

The ALC provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The grading takes account of the top 120cm of the soil profile. A description of the grades used in the ALC System can be found in Appendix 2.

3. CLIMATE

The grade of the land is determined by the most limiting factor present. The overall climate is considered first because it can have an overriding influence on restricting land to lower grades despite other favourable conditions.

Estimates of climatic variables were obtained for the site by interpolation from the 5km grid Meteorological Office Database (Meteorological Office 1989) and are shown in Table 1.

The parameters used for assessing overall climatic limitation are accumulated temperature, (a measure of the relative warmth of a locality) and average annual rainfall, (a measure of overall wetness). The values shown in Table 1 reveal that there is no overall climatic limitation.

No locally limiting climatic factors such as exposure were noted in the survey area. Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat (MDW) and potatoes (MDP) are also shown. These data are used in assessing the soil wetness and droughtiness limitations referred to in Section 6.

Table 1 Climatic Interpolations: South west of A419, Latton

Grid Reference		SU 082 965
Height (m)		84
Accumulated Temperature (day deg)		1432
Average Annual Rainfall (mm)		709
Overall Climatic Grade		1
Field Capacity (Days)		162
Moisture Deficit,	Wheat (mm)	102
	Potatoes (mm)	93

4. RELIEF

The site is virtually flat. None of the fields have microrelief limitations. The site is at about 84m AOD.

5. GEOLOGY AND SOILS

The published one inch scale solid and drift geology map, sheet 252 (Geological Survey of England and Wales 1974) shows the majority of the site to be of First Terrace River deposits. Beside the old canal there is an area of Alluvial deposits.

The Soil Survey of England and Wales mapped the soils of the area in 1983, at a reconnaisance scale of 1:250,000. This map shows the soils at the site to be of two associations. Beside the A419 Badsey 1 Association is found. This is described as well drained calcareous fine loamy soils over limestone gravel. The rest of the site is mapped as the Kelmscot Association, a calcareous fine loamy soil over gravel.

The soils found in the recent survey show evidence of high water tables for part of the year. Many of the soils are also stony and this imposes a limitation on the available water for crop growth.

6. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades identified in the survey area is detailed below and illustrated on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 2 Distribution of ALC grades: South west of A419, Latton

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	40.9	63.2	64.8	
3a	4.0	6.2	6.4	
3b	15.6	24.1	24.7	
4	2.6	4.0	4.1	
Urban	1.6	2.5	100%	(63.1 ha)
TOTAL	64.7	100%		

Grade 2

The majority of the site has been classified as Grade 2. These soils show evidence of high water tables for part of the year and on the basis of the definitions of Wetness Classes in Appendix 3 they are Wetness Class II. The topsoils are mainly medium clay loams. These soils are also droughty with light textured lower subsoils with stone contents of about 30%. The soils are sometimes limited to Grade 2 by the limited available water as a result of this.

Subgrade 3a

A small part of the site has been downgraded because it is more droughty than the soils described above. The lighter textures are higher in the profile.

Subgrade 3b

These soils are downgraded because they are poorly drained. The heavier textures in the subsoil are slowly permeable and the soils are Wetness Class IV.

Grade 4

A small area has been mapped as Grade 4 because it experiences frequent winter flooding of long duration. This reduces the versatility of the land.

APPENDIX 1

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES (1974) Solid and drift edition. Sheet 252 Swindon, 1:63,360 scale

MAFF (1973) Agricultural Land Classification Map sheet 157 Provisional 1:63,360 scale

MAFF (1988) Agricultural Land Classification of England and Wales (Revised *guidelines and criteria for grading the quality of agricultural land*) Alnwick

METEOROLOGICAL OFFICE (1989) Published climatic data extracted from the agroclimatic dataset, compiled by the Meteorological Office

SOIL SURVEY OF ENGLAND AND WALES (1983) Sheet 5 Soils of South West England 1:250,000