SFES 4707A

65/92

WILTSHIRE MINERALS LOCAL PLAN
S66 EYSEY MANOR FARM, LATTON

AGRICULTURAL LAND CLASSIFICATION
REPORT OF SURVEY

Resource Planning Team
Taunton Statutory Unit

February 1993

ADAS

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Report of Survey

1. SUMMARY

One hundred and fifty three hectares of land at Eysey Manor Farm, Latton were graded using the Agricultural Land Classification (ALC) System in March 1992 and February 1993. The survey 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 121 auger borings and 8 soil profile pits were examined.

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

Distribution of ALC grades: Eysey Manor Farm

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
3a	67.1	43.8	45.3	
3b	39.0	25.4	26.4	
4	41.9	27.4	28.3	
Urban	1.6	1.1	100%	(148.0 ha)
Non Agric	3.5	2.3		
TOTAL	153.1	100%		

There are no climatic or site limitations for the survey area. The main limitations in the survey area are wetness, downgrading the land to Subgrade 3b, droughtiness downgrading land to Subgrade 3a and also flooding which limits part of the site to Grades 3a, 3b and 4.

2. INTRODUCTION

One hundred and fifty three hectares of land at Eysey Manor Farm, Latton were graded using the Agricultural Land Classification (ALC) System in March 1992 and February 1993. The survey 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 (approximately one sample point every hectare). The information is correct at this scale but any enlargement would be misleading. A total of 121 auger borings and 8 soil profile pits were examined.

The published Provisional 1" to the mile ALC map of this area (MAFF 1973) shows the site to be Grade 3. The area was surveyed in 1979 at a scale of 1:25,000 as part of the Cotswold Water park ALC survey and mapped the site as Subgrades 3a, 3b and 3c. The recent survey supersedes these maps 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 March 1992 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 Subgrade 3b and 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: Eysey Manor Farm

Grid Reference		SU 108 951	SU 120 948
Height (m		80	79
Accumulated Temperature (day deg)		1436	1437
Average Annual Rainfall (mm)		683	681
Overall Climatic Grade		1	1
Field Capacity (Days)		155	154
Moisture Deficit,	Wheat (mm)	104	105
	Potatoes (mm)	96	97

4. RELIEF

The site is virtually flat. None of the fields have microrelief limitations. The site is at 80m 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 east of the site to be of First Terrace River deposits and the west to be Alluvium.

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 three associations. Nearest the River Thames is the Thames Association. This soil is poorly drained. There is a small area of Evesham 2; slowly permeable calcareous clays. The rest of the site is of the Kelmscot Association, described as calcareous loamy soils over gravel.

Many of the soils examined in the recent survey are affected by groundwater and poor draineage. The soils in the eastern part of the site are stony and sandy. In the west the soils are heavier in texture and have clay subsoils which impede drainage.

6. AGRICULTURAL AND CLASSIFICATION

Subgrade 3a

Almost half of the site has been mapped as Subgrade 3a with moderate wetness, drought and flooding limitations. The soils are variable leading to a varied distribution of limitations. The droughty soils have a heavy clay loam topsoil over stony subsoils. They were assessed as Wetness Class I. The profiles at Pits 1 and 7 are typical of the area with loamy coarse sand subsoils containing 36% and 48%, and 42% and 51% hard rock.

Those profiles which have a less stony second horizon and show evidence of mottling were assessed as Wetness Class II with a moderate wetness limitation. These horizons have pale matrix colours and are gleyed. The large majority of the profiles were not slowly permeable. The water table was lower than in the Subgrade 3b area at the time of survey, measured at around 70 cm.

Subgrade 3b

Part of the area mapped as Subgrade 3b has soils as described above and below, but has been downgraded because of the risk imposed by flooding. This area also has winter flooding of several days duration but is slightly more frequent and the land is downgraded to Subgrade 3b.

For the majority of the area mapped as 3b wetness is the main limitation (although matched by flood risk in part). The water table was distinctly shallower in this area than in the 3a map unit at the time of survey, measured between 45-55cm in three soil pits. North of the canal the soils are groundwater gleys and Wetness Class III. The subsoils may contain clay horizons but these are often not thick enough to be called slowly permeable layers. There is evidence, however, of shallow gleying which suggests the profile is wet for significant periods of most years. Below these clay layers the subsoil is stony and sandy as described in the 3a map unit.

To the south of the canal the profiles are heavier. These surface water gleys experience a wetness limitation that is caused by the presence of slowly permeable layers. They are Wetnesss Class IV.

Grade 4

Part of the site experiences frequent long term flooding in winter. This seriously reduces the versatility of the land and it is downgraded to Grade 4.

Urban and Non Agricultural

The farm tracks and the disused canal have been marked as land in non agricultural use.

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