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Oxfordshire Minerals Local Plan
Caversham Site
Agricultural Land Classification
Report of Survey

Resource Planning Team
Guildford Statutory Group
ADAS

OXFORDSHIRE MINERALS LOCAL PLAN CAVERSHAM SITE

Report of Survey

1 Introduction

In September 1992 a detailed Agricultural Land Classification (ALC) survey was carried out on 40 hectares of land at Play Hatch on the eastern edge of Caversham in Oxfordshire ADAS was commissioned by MAFF to determine the land quality affected by the inclusion of this site in the Draft Oxfordshire Minerals Local Plan

The work was conducted by members of the Resource Planning Team within the Guildford Statutory Group using MAFF s revised guidelines and criteria for grading the quality of Agricultural Land These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on its use for agriculture

The distribution of the grades and subgrades is shown on the attached ALC map and the area of each grade is given in the Table below A map has been drawn at a scale of 1 10 000 the information is accurate at this level but any enlargement would be misleading

The majority of the site has been classified as Subgrade 3B with smaller pockets of Grade 2 land The poor quality of the land is related to the presence of layers of clay below the topsoil which are poorly structured and significantly affect the drainage of water causing waterlogging and restricting the flexibility of the land The higher quality land identifies a second soil type with a wetness limitation at a greater depth in the profile and an overall droughtiness limitation The site contains <20 hectares of best and most versatile land

Table 1 Distribution of Grades and Subgrades

Grade	Area (ha)	% of Agricultural Area
2	10 5	29 6
3B	25 0	70 4
Non Agric	0 4	100% (35 5 ha)
Urban	1 1	
Total	37 0 ha	

2 Climate

The climatic criteria are considered first when classifying land Climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable soil or site conditions

The main parameters used in the assessment of the climatic limitation are average annual rainfall as a measure of overall wetness and accumulated temperature as a measure of the relative warmth of a locality

A detailed assessment of the prevailing climate has been made by interpolation from a 5 km gridpoint dataset Details of the interpolation are given in the table below These show that there is no overall climatic limitation affecting the site the area is climatically Grade 1 No local climatic factors such as exposure or frost are significant

Table 2 Climatic Interpolations

Grid Reference	SU747766	SU738756
Altitude (m)	35	36
Accumulated Temperature (days)	1482	1481
Average Annual Rainfall (mm)	669	669
Field Capacity (days)	141	141
Moisture Deficit Wheat (mm)	116	116
Moisture Deficit Potatoes (mm)	110	110

3 Agricultural Land Classification

3 1 Grade 2 Pit 1 is typical of the Grade 2 soils which occur in the southwest of the survey area Gleying in poorly structured clay horizons occurs at approximately 55 cm which places the profile in Wetness Class II (ie the soil profile is wet within 70 cm depth for 31 90 days in most years) The soil resource extends to at least 1 2 m with slightly stony horizons from approximately 75 cm As well as a wetness problem the profile experiences a droughtiness limitation the amount of available water in the profile is sufficient to allow these soils to be graded no higher than Grade 2

The Grade 2 soils that occur in the central map unit are often gleyed within 40 cm but there is no evidence of a slowly permeable layer within 80 cm The calcareous nature of these soils allows them to be placed in this Grade even with heavy clay loam topsoil textures

The Grade 2 map unit in the north of the survey area pinpoints a small area of peaty soils with organic heavy clay loam topsoil textures These profiles also qualify for Wetness Class II and this in combination with the topsoil texture and the prevailing field capacity level (141 days) limits these soils to Grade 2

3 2 Subgrade 3B Pit 2 is typical of these heavier soils which often exhibit heavy clay loam or clay topsoil textures with slowly permeable clay horizons immediately below the topsoil and clear evidence of wetness at shallow depths These features place these profiles in Wetness Class IV (ie the soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years) This degree of wetness reduces the range of crops that can tolerate such conditions and also reduces the number of days when the soil is in a suitable condition for cultivation trafficking by machinery or grazing by livestock

SOIL PIT DESCRIPTION

Site Name : CAVERSHAM MINERALS OXON Pit Number : 1P

Grid Reference: SU73857565
Average Annual Rainfall : 669 mm
Accumulated Temperature : 1462 degree days
Field Capacity Level : 141 days
Land Use : Cereals
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR42 00	0	2		MCSAB
30- 55	C	10YP44 00	0	1	C	MCSAB
55- 75	C	10YR42 00	0	0	M	MCP
75- 90	C	10YR44 00	0	12	C	
90-120	SCL	10YR54 00	0	7		

Wetness Grade : 2
Wetness Class : II
Gleying :055 cm
SPL :055 cm

Drought Grade : 2
APW : 141mm MBW : 25 mm
APP : 112mm MBP : 2 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CAVERSHAM MINERALS OXON Pit Number : 2P

Grid Reference: SU74807630
Average Annual Rainfall : 669 mm
Accumulated Temperature : 1462 degree days
Field Capacity Level : 141 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 20	HCL	10YR32 00	0	1		MDMSAB
20- 35	C	25Y 52 00	0	0	M	MDCP
35- 55	C	25 Y52 00	0	0	M	MDCP

Wetness Grade : 3B
Wetness Class : IV
Gleying :020 cm
SPL :035 cm

Drought Grade :
APW : 000mm MBW : 0 mm
APP : 000mm MBP : 0 mm

FINAL ALC GRADE : 3B

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DESCRIPTION OF THE GRADES AND SUB-GRADES

Grade 1 - excellent quality agricultural land

Land with no or very minor limitations to agricultural use A very wide range of agricultural and horticultural crops can be grown and commonly include top fruit soft fruit salad crops and winter harvested vegetables Yields are high and less variable than on land of lower quality

Grade 2 - very good quality agricultural land

Land with minor limitations which affect crop yield cultivations or harvesting A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops The level of yield is generally high but may be lower or more variable than Grade 1

Grade 3 - good to moderate quality agricultural land

Land with moderate limitations which affect the choice of crops timing and type of cultivation harvesting or the level of yield Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2

Subgrade 3a - good quality agricultural land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops especially cereals or moderate yields of a wide range of crops including cereals grass oilseed rape potatoes sugar beet and the less demanding horticultural crops

Subgrade 3b - moderate quality agricultural land

Land capable of producing moderate yields of a narrow range of crops principally cereals and grass or lower yields of a wider range of crops or high yields of grass which an be grazed or harvested over most of the year

Grade 4 - poor quality agricultural land

Land with severe limitations which significantly restrict the range of crops and/or level of yields It is mainly suited to grass with occasional arable crops (eg cereals and forage crops) the yields of which are variable In moist climates yields of grass may be moderate to high but there may be difficulties in utilisation The grade also includes very droughty arable land

Grade 5 - very poor quality agricultural land

Land with very severe limitations which restrict use to permanent pasture or rough grazing except for occasional pioneer forage crops

Descriptions of other land categories used on ALC maps

Urban

Built-up or hard uses with relatively little potential for a return to agriculture including housing industry commerce education transport religious buildings cemeteries Also hard-surfaced sports facilities permanent caravan sites and vacant land all types of derelict land including mineral workings which are only likely to be reclaimed using derelict land grants

Non-agricultural

Soft uses where most of the land could be returned relatively easily to agriculture including golf courses private parkland public open spaces sports fields allotments and soft-surfaced areas on airports/airfields Also active mineral workings and refuse tips where restoration conditions to soft after-uses may apply

Agricultural buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses Temporary structures (eg polythene tunnels erected for lambing) may be ignored

Open water

Includes lakes ponds and rivers as map scale permits

Land not surveyed

Agricultural land which has not been surveyed

Where the land use includes more than one of the above land cover types eg buildings in large grounds and where map scale permits the cover types may be shown separately Otherwise the most extensive cover type will usually be shown