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AGRICULTURAL LAND CLASSIFICATION
HOLLYBUSH FARM, RAMSDELL, HANTS

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Resource Planning Team
ADAS Statutory Group
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AGRICULTURAL LAND CLASSIFICATION SURVEY AT HOLLYBUSH FARM, RAMSDELL, HAMPSHIRE

1.0 INTRODUCTION

1.1 An Agricultural Land Classification survey was carried out at Hollybush Farm, Ramsdell, Hampshire in connection with a planning application for a proposed golf course complex. The site is located approximately 1 km to the north-west of the village of Ramsdell and forms part of the agricultural holding of Hollybush Farm.

1.2 The site extends to approximately 80.3 ha and a total of 77 observations were made using a spade and dutch auger to a depth of 1.1 m unless prevented by impermeable material. In addition 5 soil pits were dug to assess the subsoil conditions in more detail.

1.3 The cropping on the site was principally oilseed rape and winter wheat with a very small area of potatoes.

1.4 On the published Agricultural Land Classification (ALC) Map Sheet 168 (MAFF, 1974) the survey area is shown as Grade 3.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climatic information for the site has been interpolated from the 5 km grid dataset produced by the Meteorological Office (Met Office, 1989) using the mid altitude of the site. The average annual rainfall is 756 mm and the number of days that the soils are likely to be at field capacity is 162.

2.2 The accumulated temperature for this site is approximately 1430 degrees Celsius. This parameter indicates the cumulative build up of warmth available for crop growth and in conjunction with rainfall has an influence on the development of soil moisture deficits and susceptibility to drought. The moisture deficits for wheat and potatoes on this site was 101 and 91 mm respectively.

2.3 The climatic characteristics referred to above do not impose any climatic limitation on the ALC grading of the site.

Relief

2.4 The altitude of the site ranges from approximately 85 m AOD at the western end to approximately 105 m AOD in the north-east corner. The land is moderately undulating over the majority of the site with slopes generally within the range of 3 to 7° although in the field immediately to the north of Hollybush Farm the land is only very gently sloping.

2.5 Altitude and relief therefore do not constitute a limitation to the ALC grading of the site.

Geology

2.6 The published 1:50,000 scale geology map (Geol Surv, 1981) shows that the north-eastern part of the site is underlain by the Tertiary Bracklesham Beds, whilst most of the remainder of the site is mapped as Tertiary Bagshot Beds. A narrow band of Recent and Pleistocene Low Level Deposits (Valley gravel) is shown in the low lying area at the extreme south-western edge of the site.

Soils

2.7 The published 1:250,000 scale soils map "Soils of South East England" (Soil Surv, 1983) shows the area to comprise soils of the Wickham 3 and Wickham 4 Associations and also the Bursledon Association. The current survey broadly confirms the presence of these Associations although the distribution is somewhat different.

2.8 The current survey identified two distinct mapping units, which correlate with the Bursledon Association and the Wickham 4 Association.

Wickham 4 Association

2.9 On the lower lying land which runs along the south-western side of the site and up a minor valley formation to the north-east of Moyglare Farm, heavy textured soils predominate. These soils have a non calcareous grey brown heavy clay loam topsoil to approximately 30 cm overlying a strongly mottled pale grey brown clay becoming a greenish grey colour with depth. Subsoil structures are generally coarse prismatic and the soils are generally stoneless throughout.

2.10 A narrow band of very stony clayey soils were identified adjacent to Povey's Cottage at the south west of the site, with topsoil and upper subsoil stone contents in the order of 15 to 30%, although at depth the soils became a stoneless sandy clay.

2.11 All these heavy textured soils have been assessed as Wetness Class IV, due to the slowly permeable subsoils.

Bursledon Association

2.12 Over the remainder of the site a complex of soils has been identified, ranging from fine loamy profiles to coarse loamy over clayey profiles, with areas of sandy soils.

2.13 The fine loamy soils predominate in the north-west corner of the site and generally have a medium clay loam topsoil over a faintly mottled clay loam subsoil which becomes greyer and more strongly mottled with depth. The soils generally have slightly stony topsoils but are stoneless in the subsoils. The degree of gleying and mottling is variable and the soils have been assessed as ranging from Wetness Classes I to III.

2.14 Over the eastern half of the site the soils are very variable with profiles similar to those described in paragraph 2.13 with coarse loamy over clayey as well as sandy profiles. The former have a brown

medium sandy loam topsoil over a grey brown mottled sandy loam or loamy sand upper subsoil, which at depth becomes a greenish grey sandy clay loam or sandy clay. They have been assessed at Wetness Class II due to the slowly permeable horizons at depth.

2.15 The sandy profiles are generally found on the upper slopes or tops of knolls and have a dark brown sandy loam, loamy sand or sand topsoil over a brown or grey brown loamy sand or sand subsoil. In some profiles there is distinct ochreous mottling whilst in others the soils are mottle free. This would indicate that in some areas the sands are underlain at a relatively shallow depth by impermeable horizons. An area of very sandy free draining soils was identified to the east of Colliers Copse, whilst the other profiles were found in a more scattered pattern to the north-east of the site.

3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The land has been graded according to the guidelines contained in the "Revised Guidelines and Criteria for grading the Quality of Agricultural Land" (MAFF, 1988). A breakdown of the ALC grades for the survey area in hectares and % terms is given below:

Grade	Area (ha)	% Agricultural Area
2	12.09	16
3a	36.00	49
3b	21.00	29
4	4.26	6
Woodland/non-agricultural	6.95	
Total	80.30	100

Grade 2

3.2 Two areas of Grade 2 land have been identified at the north-eastern and north-western corners of the site. These areas have soils, similar to those described in paragraph 2.13, which have medium clay loam or sandy loam topsoils that have been assessed as wetness class II. Slight wetness and workability imperfections are therefore the overriding limitation to the grade of these soils.

Grade 3a

3.3 The majority of the northern and eastern part of the site has been mapped as Grade 3a, due mainly to the variability of the soils. The area comprises all the soils described in the Bursledon Association above and as such individual profiles of Grades 2, 3a and 3b have been identified in this area, but not in significant parcels to allow them to be mapped individually. The soils in this area therefore have a number of limitations restricting them to the various grades, with some profiles having a wetness/workability restriction where slowly permeable fine loamy subsoils occur, whilst the sandy soils are restricted by drought.

3.4 The variability in the soils was reflected in the condition of the standing oilseed rape crop, with poor crops on the very sandy soils and better quality crop on the deeper well drained soils.

Grade 3b

3.5 The heavy textured soils of the Wickham Association have been classified as Grade 3b. These soils have been assessed as Wetness Class IV and due to their medium and heavy clay loam topsoil texture are restricted to this grade. As a result of their poor drainage, these soils will suffer from structural damage if they are trafficked and worked during the wetter periods of the year and consequently the cropping will be restricted to winter sown crops.

3.6 An area to the east of Colliers Copse has also been mapped as Grade 3b on account of the very sandy soils found in this area. This area is restricted to Grade 3b on account of the sand topsoil textures, and also due to droughtiness. The moisture balance figures calculated for these soils reveal a moderately severe droughtiness limitation.

Grade 4

3.7 The low lying land adjacent to Moyglare Farm has been mapped as Grade 4 due to a severe wetness limitation. The area is affected by a shallow groundwater table and at the time of survey, water was already ponding in some areas despite the relatively dry conditions of the summer. The heavy textured soils that predominate in this area will therefore suffer from a severe wetness and workability restriction, making them more difficult to cultivate than the surrounding area.

3.8 A further limitation in the area of Povey's Cottages is the very stony nature of the soils, which will cause considerable wear and tear to equipment during cultivations.

Woodland

3.9 Three areas of mature broadleaf woodland have been mapped.

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