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Rother District Local Plan
Land at North Bexhill
Agricultural Land Classification
ALC Map and Report
May 1995

AGRICULTURAL LAND CLASSIFICATION REPORT

ROTHER DISTRICT LOCAL PLAN
LAND AT NORTH BEXHILL

1. Summary

1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in the vicinity of Bexhill. This work was in connection with the Rother District Local Plan.

1.2 The site comprises approximately 43.0 ha of land on the northern side of Bexhill. The majority of the site was surveyed previously by ADAS in August and November 1992 at a detailed level of approximately 1 boring per hectare (ADAS 1992). The remaining western end of the site was surveyed in May 1995 at a detailed level of approximately one boring per hectare and on this area a total of 10 borings and 1 soil inspection pit were assessed in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). 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. A map and report covering the whole of the site has now been produced.

1.3 The work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.4 At the time of survey, the agricultural land was mainly in grass. The Non-agricultural land includes a number of small areas of woodland together with the grounds of Preston Hall, a track, and an area of rough land adjacent to the farm buildings of Preston Farm. The urban land comprises Preston Hall and Preston Lodge together with the access track. Agricultural buildings mapped comprise stables adjoining Buckholt Lane.

1.5 The distribution of the grades and subgrades is shown on the attached ALC map and the areas are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading. The map supersedes any previous survey information for this site.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Area
2	4.9	11.4	13.6
3a	17.0	39.6	47.1
3b	14.2	33.0	39.3
Non Agricultural	3.2	7.4	**100% (36.1 ha)**
Agricultural Bldgs	0.8	1.9	
Woodland	2.2	5.1	
Urban	0.7	1.6	
Total	**43.0 ha**	**100%**	

1.6 A general description of the grades, subgrades and land use categories is provided in Appendix I.. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.7 The agricultural land on the site has been graded as 2, 3a and 3b. Land graded 2 represents deep, well or moderately well drained soils developed over fine grained sandstones of the Tunbridge Wells and Ashdown Beds, which have minor droughtiness and wetness limitations. Grade 3a areas comprise silty and loamy soils some with slowly permeable subsoils, which may overlie fine grained sandstone, giving rise to both wetness and droughtiness limitations. Wetness limitations are the main factor influencing grading in the areas mapped as 3b, due to the occurrence of poorly drained heavy textured clayey soils. The more undulating nature of the land east of Buckholt Lane and at the western end of the site gives rise to moderately steep (7°-11°) localised areas, having a gradient limitation which also limits the land to subgrade 3b.

2. Climate

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

2.2 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature (day °C Jan-June), as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km grid point dataset (Met. Office, 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.

2.4 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. Although the area is relatively moist especially during the winter months, the proximity to the coast gives rise to comparatively high moisture deficits during the summer months, resulting in an increased risk of soil droughtiness.

2.5 No local climatic factors such as exposure or frost risk are believed to affect the site significantly.

Table 2 : Climatic Interpolations

Grid Reference	TQ 745 096
Altitude (m)	15
Accumulated Temperature (Day °C, Jan-June)	1510
Average Annual Rainfall (mm)	778
Field Capacity (Days)	162
Moisture Deficit, Wheat (mm)	121
Moisture Deficit, Potatoes (mm)	118
Overall Climatic Grade	1

3. Relief

3.1 The survey area has an overall north easterly aspect dissected by a number of small valleys. The highest land occurs along the southern boundary of the site at 25-30m AOD falling to approximately 10m AOD to the north. Gradients are generally gentle, but the sides of some of the small incised valleys lying east of Buckholt Lane and also at the western end of the site to the north of Preston Hall, have localised areas with gradients of 7-11° which limits these areas to a maximum of subgrade 3b.

4. Geology and Soil

4.1 The published geological map covering the area (BGS, 1980) shows the majority of the site to be underlain by Tunbridge Wells Sand, with Wadhurst Clay being mapped in the vicinity of the woodland east of Buckholt Lane, and Ashdown Beds further to the south and east. A small strip of recent alluvial deposits has been identified along Coombe Haven to the northwest of the site.

4.2 The published Soil Survey map at 1:250,000 scale (SSEW, 1983) shows the soils on the site to belong to the Curtisden association. These soils are described in the accompanying legend as 'silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging, with some similar well drained coarse loamy soils'.

4.3 Detailed field examination of the soils with the survey area indicates that the majority of the soils have medium silty clay loam or medium clay loam topsoils. These may become increasingly clayey with depth or pass into soft fine grained sandstone. Clayey subsoil horizons are frequently gleyed and slowly permeable with the in situ sandstone often being dense and difficult to auger. Localised springlines are evident in some areas. Both wetness and droughtiness limitations operate, either singly or in combination.

4.4 An area of poorly drained heavy clay soils is associated with the areas of Wadhurst Clay and alluvium. These soils have heavy clay loam or clay topsoils over gleyed and slowly permeable clay or silty clay subsoil horizons.

5. Agricultural Land Classification

5.1 Land within the survey area is graded predominantly 3a and 3b with some grade 2 land mainly restricted toward the eastern end of the site. A number of areas of non-agricultural land have been identified which comprise mainly areas of woodland, together with the grounds surrounding Preston Hall and a rough area of land adjacent to the agricultural buildings of Preston Farm. A further area of agricultural buildings has been identified on the southern boundary of the site alongside Buckholt Lane which represents a stable block and associated yard. A small area of urban land has been mapped to include to the residential houses and access road that occur on the site. The location of the soil observation points are shown on the attached sample point map.

Grade 2

5.2 Land graded 2 occurs in 3 separate blocks within the survey area. Soils in these areas are derived from Tunbridge Wells Sands or Ashdown Beds and are of two main types. Firstly, are deep soils resting over fine grained soft, but relatively dense, sandstones from 85-100 cm depth. These typically comprise medium silty clay loam or medium clay loam topsoils and upper subsoils, passing to fine sandy loam, fine sandy silt loam or fine sand as the sandstone is approached. Although some soil variants exhibit gley characteristics they are permeable and well or moderately well drained (wetness class I or II). These soils are included in grade 2 due to a slight drougtiness or wetness limitation.

5.3 The second group of soils comprise deep medium to heavy textured soils. These have medium clay loam or medium silty clay loam topsoils over permeable heavy clay loam or heavy silty clay loam upper subsoils. These pass to gleyed and slowly permeable clays below about 60 cm, occasionally resting over sandstone layers toward the base of the soil profile. These soils are assigned to wetness class II and are principally limited by minor wetness limitations.

Subgrade 3a

5.4 Land graded 3a is associated with similar soils to those described for grade 2 but where droughtiness and/or wetness limitations are slightly more severe. Firstly, are shallower soils developed over dense fine grained sandstone. These comprise well drained (wetness class I) profiles having medium clay loam topsoils over similar or slightly coarser fine sandy loam upper subsoils which rest over fine sandy loam, sandy loam or loamy fine sand. These pass to dense, but rootable, fine grained sandstones from about 60-70 cm. Droughtiness exacerbated by the relatively high moisture deficits of this coastal location, is the main limitation of such land.

5.5 Due to the 'banded' nature of the geological deposits, some profiles contain clayey horizons giving rise to gleyed slowly permeable fine loamy or clayey layers below about 45 cm. Typical profiles comprise medium clay loam or occasionally heavy clay loam topsoils over heavy clay loam upper subsoils. These may pass to slowly permeable clays as described above. Such profiles are assigned to wetness class III and graded 3a on the basis of imperfect drainage. In some profiles either sandstone or lighter textured horizons are encountered at depth. The sandstone may be sufficiently dense at some locations to produce slowly permeable horizons (see pit 1).

Subgrade 3b

5.6 Land of this quality is associated with the lower lying alluvial soils in the valley of Coombe Haven, and also occurs on higher ground to the east of the site on the soils derived from the Wadhurst Clay. In both cases, soils typically comprise heavy clay loam or heavy silty clay loam topsoils (occasionally medium clay loam/silty clay loam or clay) overlying gleyed and slowly permeable clay or silty clay subsoils. The majority of such soils are wetness class IV due to slow permeability. Coupled with the generally heavy texture of the topsoil which gives rise to workability restrictions, this land is appropriately placed in subgrade 3b.

5.7 Some areas of land can be graded no higher than subgrade 3b due to gradient limitations. These are associated with the moderately steep slopes found at the north west of the site to the north of Preston Hall, and within the small incised valley features to the east of Buckholt Lane where gradients of 7-11° were measured.

REFERENCES

ADAS, (1992), North Bexhill Strategic Framework. Survey carried out by Resource Planning Team, Guildford Statutory Group for MAFF. Survey Ref: 4106/61/92.

British Geological Survey (1980), Sheet No 320/321, Hastings and Dungeness, 1:50,000 Series (solid and drift edition).

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

Meteorological Office (1989), Climatological Data for Agricultural Land Classification.

Soil Survey of England and Wales (1983), Sheet 6, Soils of South East England, 1:250,000 and accompanying legend.