

## AGRICULTURAL LAND CLASSIFICATION

### LAND AT NORTH BERSTED, BOGNOR

#### Background

The site covers approximately 21.3 ha and lies at North Bersted in West Sussex. The site is bounded to the south and west by the outskirts of North Bersted, to the east by Berry Lane and partly to the north by a footpath.

The site was surveyed using a 110 cm Dutch auger, with samples being taken at approximately 100 m intervals.

#### Land use

At time of survey (November 1988), all of the survey area was under cereal cultivation.

#### Physical Factors Affecting Land Quality

##### Relief

The site lies at approximately 4 m O.D. Gradient was not a significant factor in relation to agricultural land quality at this site.

##### Climate

The average annual rainfall for this area is approximately 746 mm of which approximately 325 mm falls in the summer months of April to September inclusive. The average length of growing season is c.295 days/annum and the area is not likely to be frost prone or exposed. Soils are at field capacity for 152 days/annum. The median accumulated temperature above 0 degrees C for January to June, 1545 degree days.

##### Geology and Soils

British Geological Survey Sheet 332 shows all of the site to be underlain by Recent and Pleistocene Brickearth deposits. The Soil Survey of Great Britain "Soils of the West Sussex Coastal Plain" shows the site to be composed of two broad soil types. On the higher land at the north and south of the site the Hook Series is dominant, with a small area of the Hamble series at the south east. On the lower lying land between the two drains at the centre of the site, a strip of the Arundel Complex is shown to exist. The Hook Series soils are described as Brown earths (Sols lessives) with gleying, whilst the Hamble series are described as Brown earths (sols lessives). Both series are indicative of land with high agricultural potential. However, the Arundel Complex are ground-water gley soils developed in estuarine alluvium.

Field examination of the soils found profiles to fall into two broad groups. Group 1 occurs on the higher level land, typically composed of silt loam topsoils overlying borderline silt loam/silty clay loam or light silty clay loam in the subsoil, commonly grading into medium silty clay loam at depth. Group 2 occurs on the lower lying land between the two drains and profiles are typically composed of silt loam topsoils overlying a shallow layer of clay loam in the immediate subsoil before grading into clay to depth. Profiles in both groups are chiefly limited (where significant limitations existed) by drainage status - ie the presence of distinct mottling at varying depths from the soil surface.

## Agricultural Land Classification

Appendix 1 gives a generalised description of the grades used in this classification.

### Grade 1

This grade is dominant across the site, occupying c. 85% of the total agricultural area surveyed. Profiles are typically composed of silt loam topsoils overlying medium (quite commonly light) silty clay loams in the subsoil, which occasionally grade into heavy silty clay loams with depth. Profiles of this nature fall into soil wetness class 1, which coupled with their topsoil textures in this range of field capacity days, has resulted in their allocation to this grade.

### Grade 3b

A small area of this grade occurs on the most lowlying land at the site, occupying c.15% of the total agricultural area surveyed. Profiles are typically composed of silt loam topsoils overlying a shallow layer of medium clay loam before grading into clay to depth. Owing to the poor structural conditions and evidence of wetness present at shallow depth in the subsoil, such profiles fall into soil wetness class 4. This, coupled with their topsoil textures in this range of field capacity days has resulted in their allocation to this grade on the grounds of relatively difficult workability.

### Areas of Grades

Total area of site		21.3 ha
Areas primarily in non agricultural usage		0.98 ha
Total agricultural area		20.32 ha
Grade 1	17.45 ha	(85% total)
Grade 3b	2.87 ha	(15% total)

## References

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

Meteorological Office 1969, Meteorological survey of West Sussex  
and South East Hampshire (OS map 181)

Meteorological Office (publication due 1989) Climatological data  
for Agricultural Land Classification.

British Geological Survey 1975, Sheet 332 (Bognor) 1:50 000

Soil Survey of Great Britain 1967, Soils of the West Sussex  
Coastal Plain 1:25 000, plus accompanying memoir

Soil Survey of England and Wales 1983, Soils of South-East  
England, Sheet 6 1:250 000, plus accompanying memoir.

RESOURCE PLANNING GROUP  
NOVEMBER 1988

Ref: 0202/49/88

## APPENDIX 1

### DESCRIPTION OF THE GRADES AND SUBGRADES

#### **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 includes 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 can 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.