

LAND AT HARLINGTON

**Agricultural Land Classification and
Statement of Physical Characteristics**

November 1988

**Resource Planning Team
FRCA Reading**

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AGRICULTURAL LAND CLASSIFICATION

LAND AT HOLLOWAY LANE, HARLINGTON

Background

The site covers approximately 44.3 ha and lies at Holloway Lane, Harlington. The site lies to the north of Heathrow Airport between junctions 4 and 4b of the M4 motorway.

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

Land use

At time of survey (November 1988), all the survey area was under oil seed rape.

Physical Factors Affecting Land Quality

Relief

The site lies at approximately 26m 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 651mm. The number of field capacity days for the area is 132/annum. The area is not likely to be frost prone or exposed. The median accumulated temperature above 0 degrees C for January to June is 1485 degree days. Moisture deficits adjusted for wheat and potatoes are 117mm and 112mm respectively (Meteorological Office 1988).

Geology and Soils

The British Geological Survey Sheet 269 (British Geological Survey 1983), shows all of the site to be underlain by Tertiary Bracklesham Beds - river terrace sands and gravels, covered by aeolian silty drift deposited during the Quaternary period. The soils which have developed subsequently are in the Hamble 2 Association: typical argillic brown earths.

The detailed survey of the site indicates soils are deep, predominantly well drained (Wetness class I), very fine sandy silt loams and silt loams over very fine sandy clay loam and silty clay loam, frequently over silty clay at depth. At the east and west of the site small areas of soil with less well drained subsoils were identified (Wetness class II). Occasional profiles were also found to be droughtly as gravel lay under the subsoil at relatively shallow depths.

Agricultural Land Classification

Appendix 1 gives a generalised description of the grades mentioned in this report.

Grade 1

This grade occupies 33.23ha (75%) of the total agricultural area surveyed. Profiles are typically composed of silt loam/ very fine sandy silt loam topsoils passing to silty clay loam in the subsoil, which commonly passes to silty clay at depth. On occasions the subsoil may be lighter textured - sandy silt loam, silt loam or silty clay loam extending to depth. Profiles of this nature fall into wetness class I although occasional profiles are wetness class II due to less well drained subsoils. Coupled with their topsoil textures in this range of field capacity days these soils are allocated to this grade.

Grade 2

This grade occupies a smaller area of the site at 11.07ha. Profiles are typically composed of very fine sandy silt loam/silt loam top soils overlying silt loam and sandy silt loam subsoils passing into silty clay. These profiles most typically fall into wetness class II as the lower subsoil is slowly permeable. This, coupled with the topsoil texture and field capacity days for the area lead to the soils being allocated to this grade. Occasionally, the subsoil remains lighter textured - fine sandy silt loam or silt loam. However, these soils are down graded as the presence of gravel at relatively shallow depths means they are likely to be droughty.

Summary of Grades and Land Use

Grade 1	33.23ha (75% total agricultural land)
Grade 2	11.07ha (25% total agricultural land)
Total Agricultural Area	44.3 ha
Total Area of site	44.3 ha

STATEMENT OF PHYSICAL CHARACTERISTICS

LAND AT HOLLOWAY LANE, HARLINGTON

Soil resources: consideration for restoration

Overlays accompanying the A.L.C. map illustrate the pattern of topsoil and subsoil resources on the site. It should be emphasised that this is NOT a soil stipping map but merely an illustration of soil resources available for resoration on the site.

A single topsoil unit was identified and is composed of an average of 37cm of dominantly very fine sandy silt loam and silt loam textures.

Two subsoil units have been identified. Unit 1 occupies the greatest area on the site and is composed of a minimum of 52cm silty clay loam and silt loam textures over silty clay in most cases. Unit 2 lies at the south of the site and is composed of lighter textured subsoils: 61cm very fine sandy silt loam, often over silt loams or silty clay loam textures. These units have been identified on the grounds of textural variation.

It should be noted that subsoil depths represent an average depth value for the unit. As such, some variation in subsoil depth will exist within them and it is possible that depths could extend below the values given.

When considering these details it is important to remember that:

- 1) Soils were only sampled to a depth of 1m during the survey. In some cases soil reserves may extend below this depth.
- 2) There will naturally be some wastage of soil resources (at least 10 %) during earth movement and storage.

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APPENDIX I

DESCRIPTIONS 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 or horticultural crops can usually be grown but on some land of this 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 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When 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 the level of yields. It is mainly suited to grass with occasional arable crops (e.g. 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 severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.