

**MONKERTON, EXETER, DEVON  
AGRICULTURAL LAND CLASSIFICATION**

**REPORT OF SURVEY**

**1. Introduction**

Following a statutory planning consultation, a detailed Agricultural Land Classification (ALC) survey was carried out over 100.7 hectares around Monkerton on the north-eastern edge of Exeter, Devon, during November and December, 1988. The fieldwork was conducted by members of the Resource Planning Group, South West Region, and the results of the survey are outlined below in Table 1 and illustrated in the accompanying ALC map. The classification has been assessed using the Ministry's Revised Guidelines.

**Table 1: Distribution of Grades and Sub-grades**

Grade	Area (ha)	% of Survey Area	% of Agricultural Area
1	50.5	50.1	55.4
2	20.8	20.7	23.0
3A	14.0	13.9	15.4
3B	5.7	5.7	6.2
Non-Ag	1.0	1.0	-
Urban	7.7	7.6	-
Water	0.3	0.3	-
Farm Bldgs	0.7	0.7	-
	100.7 ha	100%	100%

**2. Climate**

Estimates of important climatic variables for two representative points in the site have been obtained by interpolation from a 5 km grid database, and are shown in Table 2 below. The main parameters in the assessment of overall climate are **accumulated temperature** (as a measure of the relative warmth of a locality) and **average annual rainfall** (as a measure of overall wetness). Together, on this particular site, these parameters suggest that overall climate is not a limiting factor.

**Table 2: Climate Interpolations**

	Location 1*	Location 2*
Altitude	: 40 m	20 m
Accumulated Temperature (ATO)	: 1553° days	1575
Average Annual Rainfall (AAR)	: 822 mm	796
Moisture Deficit, Wheat (MD Wheat)	: 109 mm	112
Moisture Deficit, Potatoes (MD Pots)	: 102 days	107
Field Capacity Days (FCD)	: 172	168

\* Location 1 in the higher land in the south-west; Location 2 in the lowlying land in the north-east. No evidence of exposure was found throughout the site.

### 3. Agricultural Land Classification

**Grade 1:** The western half of the site and the extreme north-east have been placed in this category. In the western section, soil pit No 3 is representative of the profiles that occur (see Appendix 2 for full description). The profiles contain adequate supplies of available water due to the combination of textures and structure. Soils are typically deep medium sandy loams with good subsoil structure and negligible stone content throughout. Some profiles exhibit an increasing clay content with depth and change from a sandy clay loam subsoil into a raw clay, often with weathered sandstone fragments. Despite these heavier subsoil textures, there is no evidence of a wetness limitation in this western section.

In the north-east, the Grade 1 land occupies the gentle slopes and level sites around the village of Monkerton, ranging between 20-40 metres. Here, soil pit No 4 represents the profiles found - a deep medium clay loam topsoil which grades into a heavy clay loam extending below 120 cm. The subsoil shows moderate structure with very small stone contents, providing good available water resources, and shows no signs of impeded drainage. Few profiles do show a drainage limitation caused by clay textures at depths around 80 cm, producing gleying within these heavier horizons or immediately above. As a result, these individual borings would be borderline Grade 1/2, but no Grade 2 map unit could be separately drawn.

**Grade 2:** Much of the central and eastern sections of the site have been placed in this grade. Pit No 1 is typical of the Grade 2 soils around Rock Gardens, where droughtiness is the single most limiting factor present.

Deep medium sandy loam topsoils distinctly overly a subsoil of loamy medium sand which extends below 120 cm. The profiles are typically stone-free and show no evidence of wetness. The presence of the loamy medium sand textures, at depths around 50 cm, reduces the available water in the profile, despite the good subsoil structures, and produces a droughtiness limitation. A storage pond has been created to provide irrigation water for part of the site, relying on the capture of water from the small catchment slopes in the west of the area. However, as a result of the very limited natures of the supply in summer months when most needed, the presence of the facility does not improve the grade of land over which the irrigation is applied. This water resource is only effective in helping crop establishment and is not sufficient to overcome the summer droughtiness limitation.

**Sub-grade 3A** These profiles where loamy medium sand subsoils occur at shallower depths than is typical for the Grade 2 soils or where overall depth is locally shallow suffer from an increased droughtiness limitation and are more appropriately graded as 3A.

Some sub-grade 3A areas have been mapped with gradient as the most limiting factor.

**Sub-grade 3B** These map units outline areas of steeper gradient.