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## **Persimmon Homes Severn Valley**

### **Agricultural Land Quality**

at

**Rectory Farm, Yatton, North Somerset**

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# 1 Introduction

- 1.1 Reading Agricultural Consultants Ltd (RAC) is instructed by Persimmon Homes Severn Valley to assess the Agricultural Land Classification (ALC) of land at Rectory Farm, Yatton, North Somerset, by means of a desk appraisal of soil and site characteristics.
- 1.2 Guidance for assessing the quality of agricultural land in England and Wales is set out in the Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land<sup>1</sup>, and summarised in Natural England's Technical Information Note 049<sup>2</sup>.
- 1.3 Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. The principal physical factors influencing grading are climate, site conditions and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.
- 1.4 Grade 1 is excellent quality agricultural land with very minor or no limitations to agricultural use. Grade 2 is very good quality agricultural land, with minor limitations which affect crop yield, cultivations or harvesting. Grade 3 land has moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield, and is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). Grade 4 is poor quality agricultural land with severe limitations which significantly restrict the range of crops and/or level of yields. Grade 5 is very poor quality land, with very severe limitations which restrict use to permanent pasture or rough grazing.
- 1.5 Land which is classified as Grades 1, 2 and 3a in the ALC system is defined in Annex 2 of the National Planning Policy Framework (NPPF<sup>3</sup>) as the best and most versatile (BMV) agricultural land.
- 1.6 In a national context, paragraph 174 of the NPPF indicates that planning policies and decisions should contribute to and enhance the natural and local environment by:

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<sup>1</sup> **MAFF (1988)**. *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. MAFF Publications.

<sup>2</sup> **Natural England (2012)**. *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition.

<sup>3</sup> **Ministry of Housing, Communities and Local Government (2021)**. *National Planning Policy Framework*.

- protecting and enhancing soils; and
- recognising, amongst other matters, the wider benefits from natural capital and ecosystem services, including the economic and other benefits of the BMV agricultural land.

1.7 Paragraph 175 goes on to state that plans should allocate land with the least environmental or amenity value, where consistent with other policies in the NPPF, and footnote 58 explains that where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.

## 2 Site and climatic conditions

### General features, land form and drainage

2.1 The site extends to approximately 13.5ha of agricultural grassland at the western edge of Yatton, North Somerset, as shown in the red line plan reproduced as Figure 1. The buildings of Rectory Farm are at the southern boundary and Strawberry Line bounds the site to the west. Other agricultural land is to the north.

Figure 1: Red line plan



2.2 The land is level and low-lying at an altitude of around 5m above Ordnance Datum (AOD).

2.3 Drainage of the site is via a network of ditches, drains and rhynes that connect with the River Yeo, ultimately draining westward into the mouth of the Severn.

## Agro-climatic conditions

2.4 Agro-climatic data for the site have been interpolated from the Meteorological Office’s standard 5km grid point data set at a representative altitude of 5m AOD, and are given in Table 1. The climate at the site is warm and wet. Moisture deficits are moderate. The number of Field Capacity Days (FCD) is larger than is typical for lowland England (150) and is unfavourable for agricultural land working. There is no climatic limitation to the agricultural land quality at the site.

**Table 1: Local agro-climatic conditions**

Parameter	Measurement
Grid Ref	ST 42483 65500
Average Annual Rainfall	822mm
Accumulated Temperatures >0°C	1,550 day°
Field Capacity Days	185 days
Average Moisture Deficit, wheat	100mm
Average Moisture Deficit, potatoes	92mm

## Soil parent material and soil type

- 2.5 The bedrock geology mapped by the British Geological Survey<sup>4</sup> belongs to the Mercia Mudstone Group and includes red or green-grey mudstones and siltstones.
- 2.6 Superficial tidal flat deposits overlie the bedrock across the site. Such deposits occur on marshy land in the intertidal zone and consist of mud and/or sand, or soft silty clay.
- 2.7 The Soil Survey of England and Wales soil association mapping<sup>5</sup> (1:250,000 scale) shows the Newchurch 2 association across the site, characterised by deep, stoneless, mainly calcareous clayey soils. The main component soils comprise silty clay throughout. Groundwater is controlled by ditches and pumps but there is still a risk of flooding in places. In Somerset, the soils are usually waterlogged for long periods, in Wetness Class (WC) IV<sup>6</sup>.

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<sup>4</sup> **British Geological Survey (2022)**. *Geology Viewer*, <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>

<sup>5</sup> **Soil Survey of England and Wales (1984)**. *Soils of South West England (1:250,000), Sheet 5*.

<sup>6</sup> **Findlay et al (1984)**. *Soils and Their Use in South West England. Soil Survey of England and Wales Bulletin 14, Harpenden*.

### 3 Agricultural land quality

#### Existing data

- 3.1 Provisional ALC mapping shows the site as undifferentiated Grade 3, which is good to moderate quality agricultural land and described in the ALC guidelines as:

*“Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or level of yield. Where more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.”*

- 3.2 Grade 3 is further subdivided into good quality Subgrade 3a and moderate quality Subgrade 3b, described as:

*“Subgrade 3a – 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 – 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.”*

- 3.3 However, the provisional ALC maps are not suitable for assessing the quality of individual sites, as explained in Natural England's TIN049:

*“These maps are not sufficiently accurate for use in assessment of individual fields or development sites, and should not be used other than as general guidance. They show only five grades: their preparation preceded the subdivision of Grade 3 and the refinement of criteria, which occurred after 1976. They have not been updated and are out of print. A 1:250 000 scale map series based on the same information is available. These are more appropriate for the strategic use originally intended ...”*

- 3.4 TIN049 goes on to say:

*“Since 1976, selected areas have been resurveyed in greater detail and to revised guidelines and criteria. Information based on detailed ALC field surveys in accordance with current guidelines (MAFF, 1988) is the most definitive source. Data from the former Ministry of Agriculture, Fisheries and Food (MAFF) archive of more detailed ALC survey information (from 1988) is also available on <http://magic.defra.gov.uk/>.”*

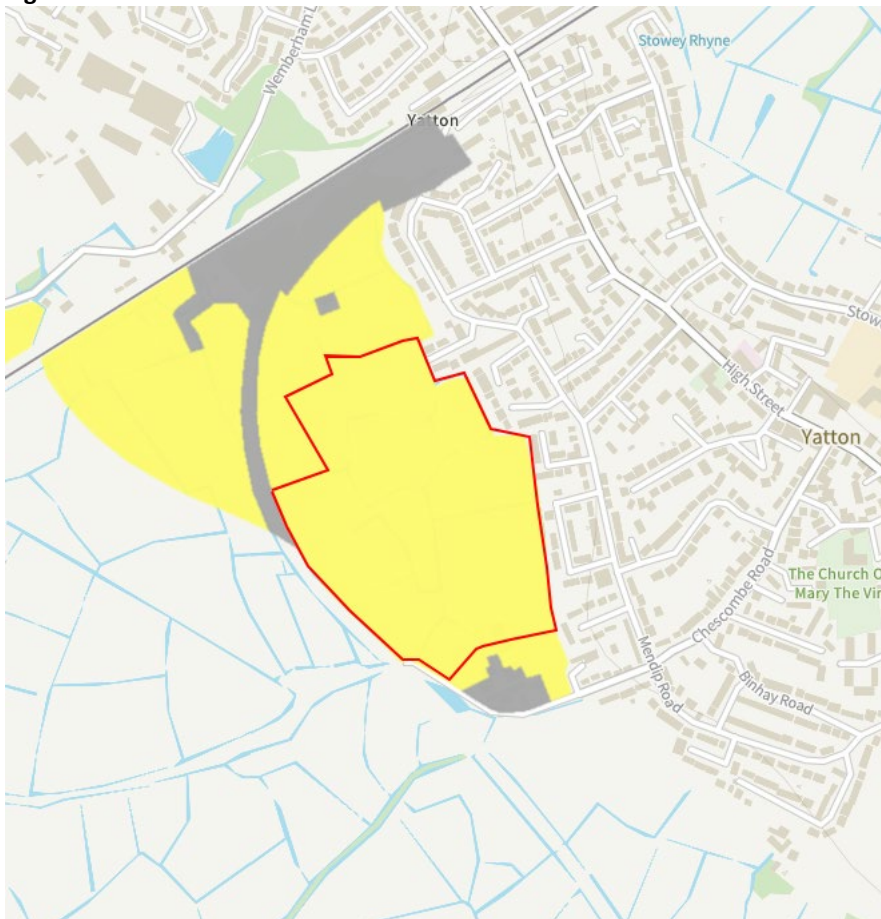
3.5 The site was surveyed in detail by MAFF in 1990<sup>7</sup>. Maps showing the locations of observations and the classification of the whole site as Grade 4 are available from the Natural England website, as attached at Appendix 1, although there is no corresponding report available.

3.6 However, as indicated above in TIN049, these detailed surveys remain the definitive source because the ALC is concerned with the long-term inherent physical properties of land and soil, rather than with short-term use or management.

### Agricultural land quality

3.7 The site is classified as poor quality Grade 4 land, as shown in Figure 2, which is an extract from [magic.defra.gov.uk](http://magic.defra.gov.uk).

**Figure 2: Detailed ALC**



3.8 The mapped soil type has silty clay topsoil over slowly permeable silty clay subsoil horizons. Drainage is poor (WC IV). Under the climatic conditions of the site, with 185 FCD, such profiles are limited by wetness to Grade 4, as highlighted in Appendix 2.

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<sup>7</sup> MAFF (1990). *Woodspring Rural Areas Local Plan – Yatton*. Ref. No.: 5/90  
<http://publications.naturalengland.org.uk/publication/5930027030937600>

- 3.9 Allowing for local variation, profiles in WC IV with heavy loam topsoil or profiles in WC III with (silty) clay topsoil, would all also be limited by wetness to Grade 4.
- 3.10 Aerial imagery shows ridge and furrow across the site which can be indicative of downward drainage issues. Land with this relic feature is not ordinarily suitable for cultivation. Describing land of Grade 4 quality, the MAFF ALC guidelines note that *“In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation”*. Given the climate, mapped soil type and landscape context, this definition seems applicable to the land at Rectory Farm, and the 1990 classification to Grade 4 remains valid.

## **4 Summary**

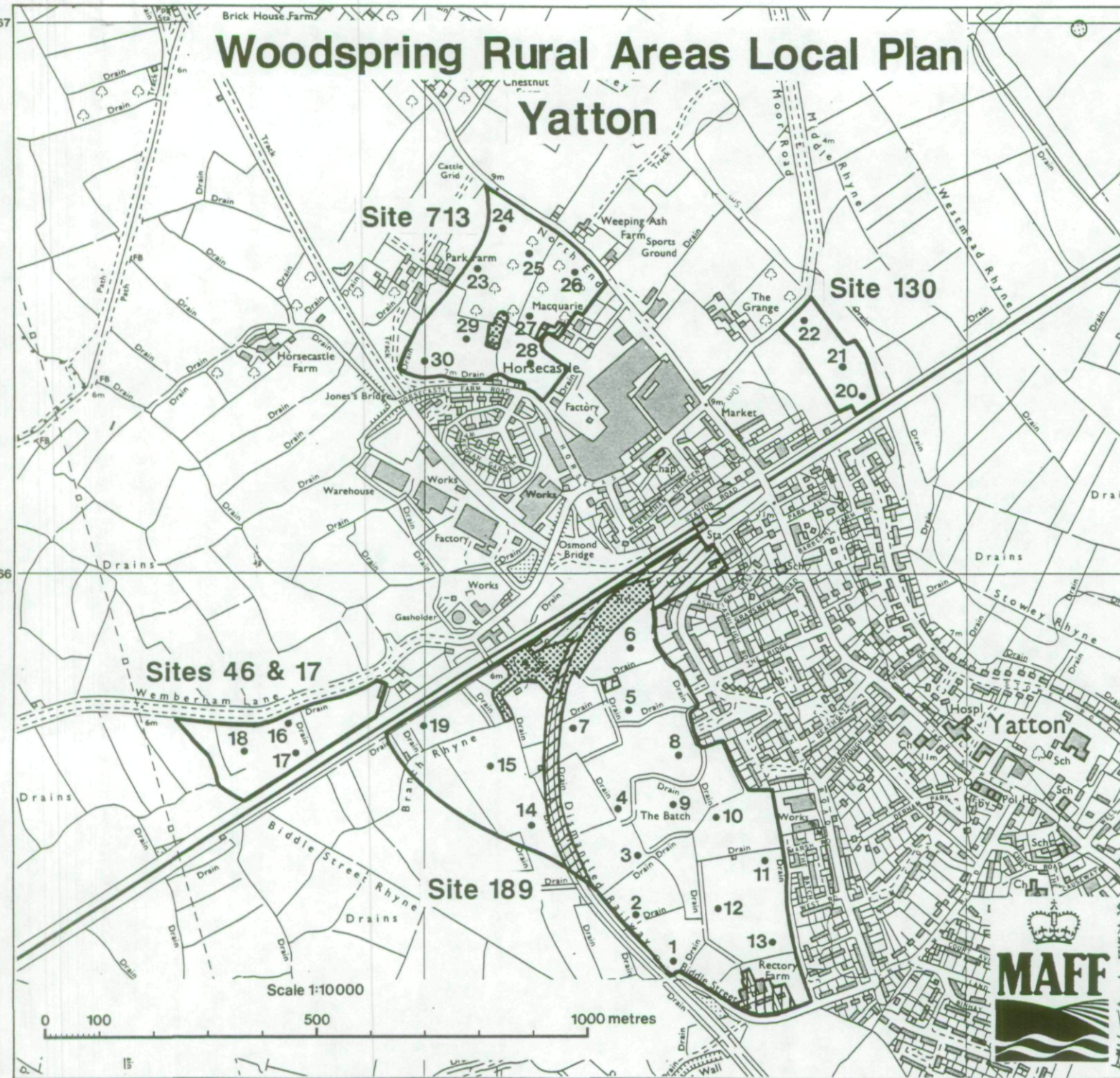
- 4.1 The site at Rectory Farm, Yatton, extends to around 13.5ha of agricultural grassland.
- 4.2 The site is provisionally mapped as Grade 3. However, detailed survey has classified the site as Grade 4 land, which is the definitive classification.
- 4.3 Even though the survey report is not available, it is apparent from the wet climate, the mapped soil type of poorly drained silty clay and the land use and microtopography that Grade 4 is an accurate and appropriate assessment of the site’s agricultural land quality, and that the original detailed survey results are still valid.



**Appendix 1: MAFF ALC Survey Mapping**

# Woodspring Rural Areas Local Plan

## Yatton



### Auger Sample Points

- 1-30 Location of sample points  
(Details contained in separate schedule)
  - Urban Agricultural buildings
  - Non-agricultural Open water
  - Woodland Not surveyed
- \* Grade/Category not present within survey area

The information is accurate at the base map scale but any enlargement would be misleading.

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Surveyed by the Resource Planning Group Apr. 1990. Map produced by the Cartographic Unit, Farm and Countryside Service, M.A.F.F. Bristol. Ref.no. 5/90

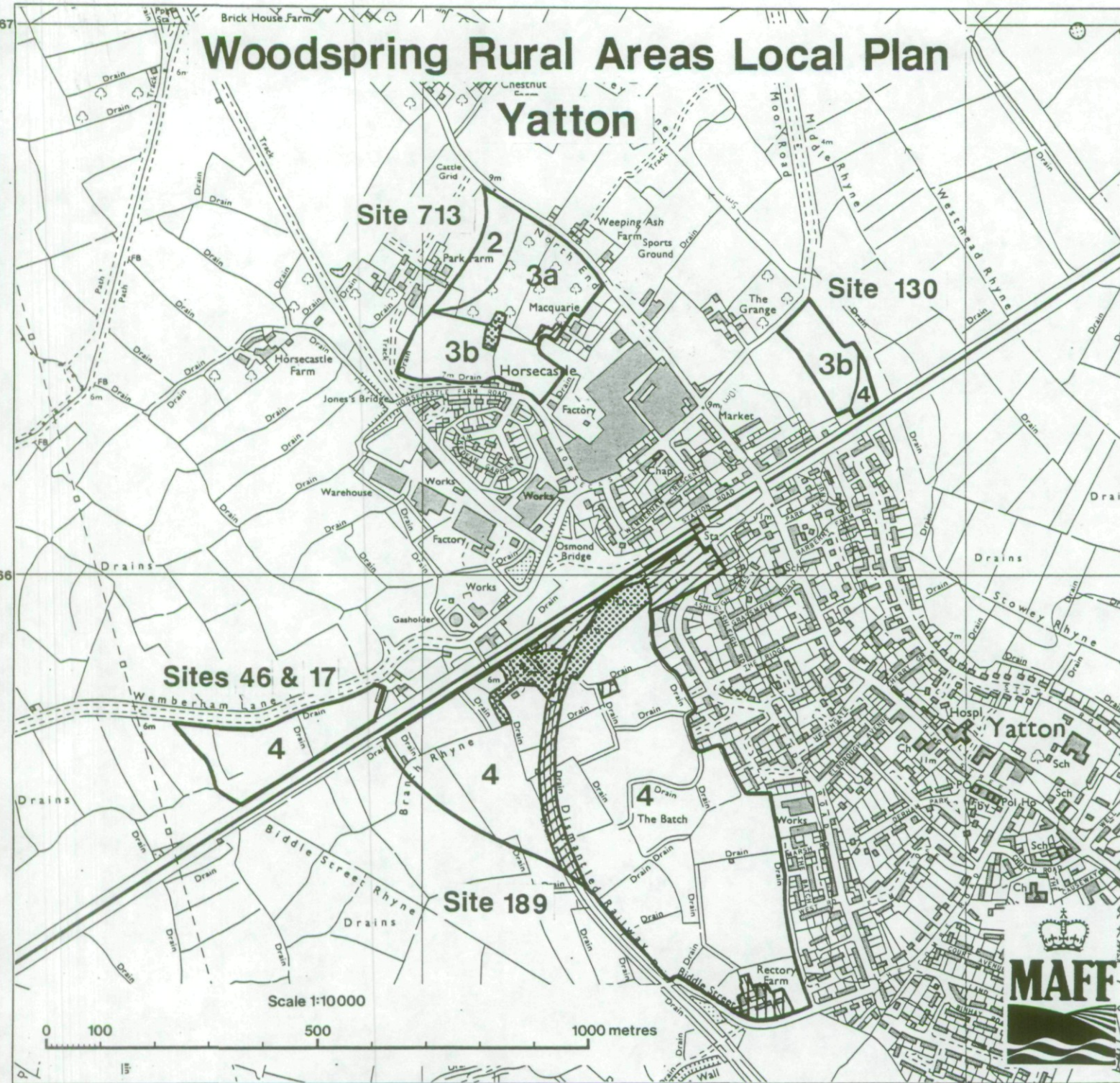
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# Woodspring Rural Areas Local Plan

## Yatton



### Ministry of Agriculture, Fisheries and Food Agricultural Land Classification

Agricultural Land			
ALC grade	Agricultural land quality	Degree of limitation	
Grade 1	Excellent	None or very minor	
Grade 2	Very good	Minor	
Grade 3a	Good	Moderate	
Grade 3b	Moderate	Moderate to severe	
Grade 4	Poor	Severe	
Grade 5	Very poor	Very severe	

Other Land Categories			
Urban		Agricultural buildings	
Non-agricultural		Open water	
Woodland		Not surveyed	

\* Grade/Category not present within survey area

Further details contained in revised  
Agricultural Land Classification, M.A.F.F. 1988.

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**Appendix 2: ALC grade according to wetness – Table 6 of the ALC guidelines**

Wetness Class	Texture <sup>1</sup> of the top 25 cm	Field Capacity Days				
		<126	126-150	151-175	176-225	>225
I	S <sup>2</sup> LS <sup>3</sup> SL SZL	1	1	1	1	2
	ZL MZCL MCL SCL	1	1	1	2	3a
	HZCL HCL	2	2	2	3a	3b
	SC ZC C	3a(2)	3a(2)	3a	3b	3b
II	S <sup>2</sup> LS <sup>3</sup> SL SZL	1	1	1	2	3a
	ZL MZCL MCL SCL	2	2	2	3a	3b
	HZCL HCL	3a(2)	3a(2)	3a	3a	3b
	SC ZC C	3a(2)	3b(3a)	3b	3b	3b
III	S <sup>2</sup> LS SL SZL	2	2	2	3a	3b
	ZL MZCL MCL SCL	3a(2)	3a(2)	3a	3a	3b
	HZCL HCL	3b(3a)	3b(3a)	3b	3b	4
	SC ZC C	3b(3a)	3b(3a)	3b	4	4
IV	S <sup>2</sup> LS SL SZL	3a	3a	3a	3b	3b
	ZL MZCL MCL SCL	3b	3b	3b	3b	3b
	HZCL HCL	3b	3b	3b	4	4
	SC ZC C	3b	3b	3b	4	5
V	S LS SL SZL	4	4	4	4	4
	ZL MZCL MCL SCL	4	4	4	4	4
	HZCL HCL	4	4	4	4	4
	SC ZC C	4	4	4	5	5
Soils in Wetness Class VI - Grade 5						