

**ST ATHAN NORTHERN ACCESS
ROAD
ST ATHAN, VALE OF GLAMORGAN**

**AGRICULTURAL LAND
CLASSIFICATION SURVEY
RESULTS**

MARCH 2017





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1. INTRODUCTION

- 1.1 This report has been prepared by Kernon Countryside Consultants Limited (KCC) on the instructions of AECOM. It sets out the agricultural land classification (ALC) results for an area of land between the B4265 St Athan to Llantwit Major Road and Picketson. This report has been produced to accompany a planning application for the “St Athan Northern Access Road”.

2. THE STUDY AREA

- 2.1 The survey area is situated on the north western edge of RAF St Athan. The area is predominately permanent grassland however there is an area of arable land on the eastern edge of the area of interest.

3. METHODOLOGY

- 3.1 The Agricultural Land Classification Survey (ALC) system divides land into five grades according to the extent to which its inherent characteristics can be exploited for agricultural production. Grade 1 is described as being of excellent quality and Grade 5, at the other end of the scale, is described as being of very poor quality. ALC is based upon an assessment of limiting factors including soils, climate, and other physical limitations and the way in which these factors interact.
- 3.2 The published map is provisional and was designed to be used for areas larger than about 80 hectares in extent. Since the map was constructed there have been changes to the classification. The effects of the interaction between climate and soils are now more clearly stated, which puts the land quality more clearly into the local context.
- 3.3 As advised in Natural England’s Technical Information Note 049 (TIN049) “Agricultural Land Classification: protecting the best and most versatile agricultural land” the provisional maps **“are not sufficiently accurate for use in assessment of individual fields or development sites, and should not be used other than general guidance”**.
- 3.4 The majority of the study area was surveyed by Kernon Countryside Consultants Limited in December 2001 as part of a much larger survey which covered approximately 250 hectares in and around St Athan. The western end of the survey was covered as part of additional survey work which was completed between December 2007 and February 2008. Both surveys were carried out in accordance with the current MAFF guidelines and criteria (MAFF 1988).

3.5 Sites over the entire survey area were examined on a 100 m grid basis and as part of the 2001 survey a number of topsoil samples were analysed to determine the particle size class, which was critical in determining the ALC Grade. The location of auger sites followed the Ordnance Survey grid at 100m intervals to avoid bias in selection. However, where the grid point was very close to the Site boundary, hedges, tracks or other obstructions and disturbances or it helped to more accurately assess Grade boundaries it was relocated slightly.

4. SURVEY RESULTS

4.1 Factors affecting ALC grade are climate, site and soil characteristics and the important interactions between them.

Climate

4.2 Climate affects the grading of land through the assessment of overall climatic limitation and also through the interaction with soils.

4.3 The key climatic variables for the site are provided by the Met Office (1989), interpolated from the published 5km grid datasets. The figures for a point approximately 1 km to the north-west of the scheme, were used as representative of the larger survey area and are set out in the table below:

Table 1: Climate and altitude data

Grid reference	ST 000 700
Altitude	49 m AOD
Average annual rainfall	1038 mm
Accumulated temperature >0°C (Jan-June)	1508 degree days
Moisture deficit, wheat	82 mm
Moisture deficit, potatoes	69 mm
Field capacity period	211 days

4.4 The combination of rainfall and temperature at this site imposes no direct climatic limitation upon land quality.

4.5 Soil texture combined with high rainfall limita access over the predominately clayey soils covering the land and workability restrictions from early autumn until late spring are the principle limitation to land quality.

Geology and soils

- 4.6 Published geological information is available on the 1:50,000 scale geology map of the Bridgend District and shows rocks the Porthkerry Formation covering the length of the Scheme. The rocks weather to give mainly heavy textured soil parent materials and the bulk of the soils over the area are clayey with limestone at variable depth.
- 4.7 The detailed soil survey carried out in 2001 recognises limestone over the site. Soil information at a semi-detailed scale covering the entire site (SSEW 1969) is available and shows well-drained calcareous clayey soils over the site. The detailed soil survey broadly agrees with the published survey above, with well-drained clayey soils over limestone at variable depth covering much of the ground.

Agricultural Land Classification

- 4.8 The provisional agricultural land classification map (MAFF 1977) shows Grade 2 land over this area, as attached at **Appendix KCC 1**. At the time that the provisional maps were produced clay content in topsoils (i.e. the workability of soils) was not a ALC consideration. However the workability of soils became a limitation when the revised ALC guidelines were introduced in 1988. Accordingly much of the land within the Vale of Glamorgan has, when subjected to a post 1988 ALC survey, been downgraded to sub-Grade 3b due it's topsoil clay content.
- 4.9 The detailed agricultural land classification carried out across the majority of the site in 2001 identified sub-Grade 3b agricultural land. The western end of the Scheme was surveyed in 2008 and the survey found predominately Grade 3b land with one auger point identifying Grade 3a land. This sample fell into the sub-Grade 3a category as the topsoil was classified as a Heavy Silty Clay Loam rather than a Clay, which would have fallen into the sub-Grade 3b category along with the rest of the area.
- 4.10 The distribution of Grades along the route is shown as Figure KCC 2.

5. REFERENCES

B.G.S. (1989). 1:50,000 scale geology map. Sheet 262 - Bridgend.

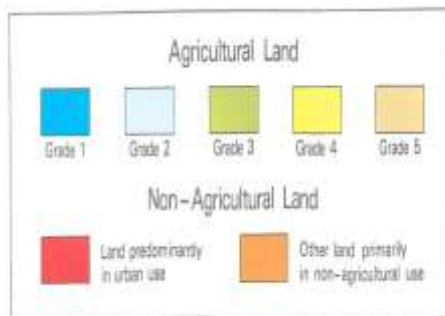
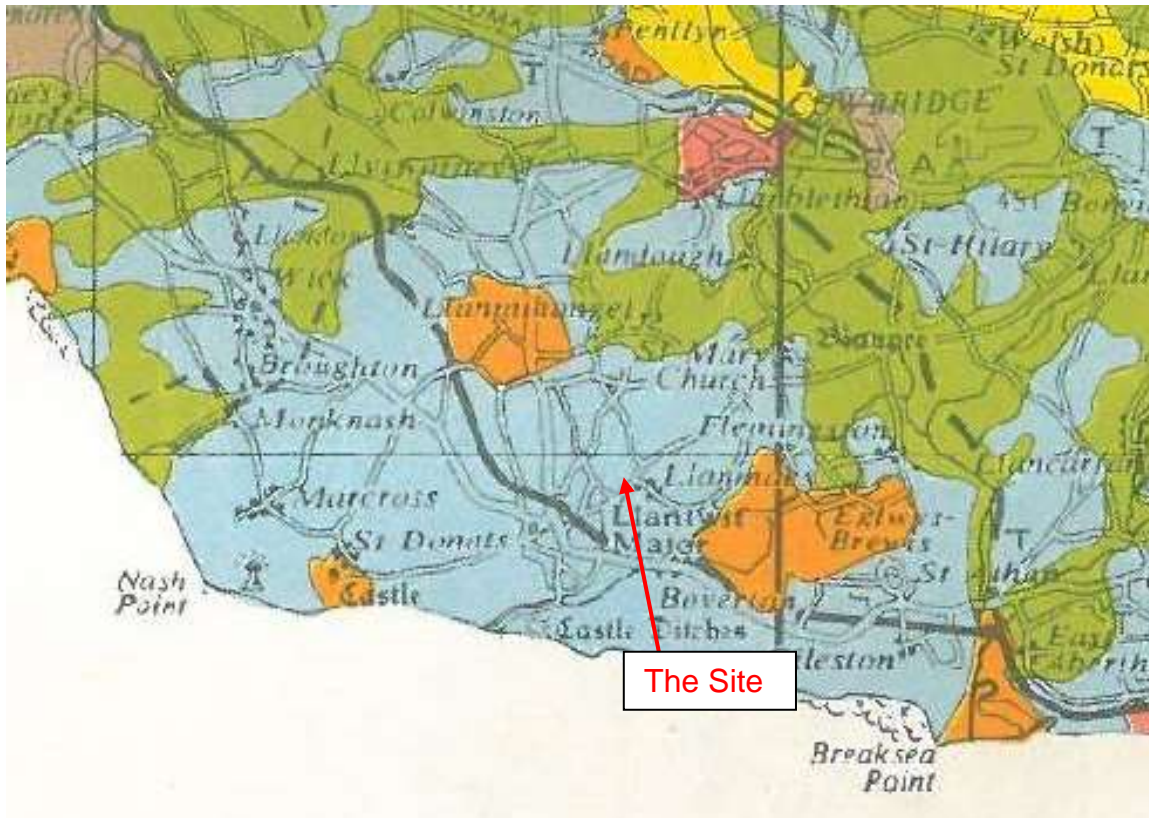
MAFF (1977). 1:25,000 series Agricultural Land Classification - Wales

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.

APPENDIX KCC 1

EXTRACT FROM THE PROVISIONAL ALC PLAN (1977)



NORTH



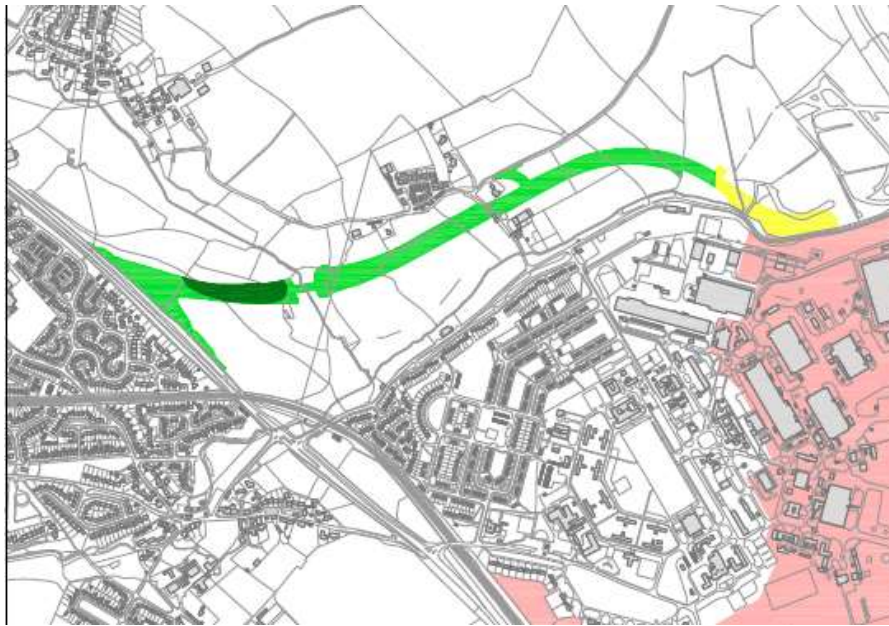
PLAN	KCC 1		
TITLE	Extract from the Provisional ALC Plan (1977)		
SITE	St Athan Northern Access Road		
CLIENT	AECOM		
NUMBER	KCC2370/01 03/17 vmd		
DATE	March 2017	SCALE	NTS

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APPENDIX KCC 2

AGRICULTURAL LAND CLASSIFICATION SURVEY RESULTS



Key

Agricultural Land Quality

- Grade 1
- Grade 2
- Grade 3a
- Grade 3b
- Grade 4
- Grade 5
- Non-agricultural
- Urban

NORTH



PLAN	KCC 2		
TITLE	ALC Survey results along the Scheme		
SITE	St Athan Northern Access Road		
CLIENT	AECOM		
NUMBER	KCC2370/02 03/17 vmd		
DATE	March 2017	SCALE	NTS

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