LAND AT MAES MAWR

Agricultural Land Classification Report

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Land at Maes Mawr
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Quality Management

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1. INTRODUCTION

1.1 This report presents as assessment of the agricultural characteristics of the proposed solar farm site at Maes Mawr, to the east of Church Village, south west of Pontypridd. The agricultural resources considered in the report include:

- The quality of the agricultural land, according to the 1988 Ministry of Agriculture Revised Agricultural Land Classification (ALC) System.

1.2 Section 2 of the report considers the National and Local Planning Policy context relevant to consideration of the potential effects of the proposed development on agricultural land quality.

1.3 The methodology for data collection is presented in Section 3 of the report. Section 4 describes the location, topography and climatic characteristics of the Site and Section 5 contains a review of published information relevant to the ALC of the Site.

1.4 Section 6 describes the soils and agricultural land quality of the Site and conclusions are provided in Section 7. References are contained in Section 8.

2. POLICY BACKGROUND

Planning Policy Context

National Policy – Planning Policy Wales (Edition 11 Feb 2021)

2.1 Policy for the protection of the Best and Most Versatile Agricultural Land is stated at Paragraph 3.58 as follows:

3.58 Agricultural land of grades 1, 2 and 3a of the Agricultural Land Classification system (ALC) is the best and most versatile, and should be conserved as a finite resource for the future.

3.59 When considering the search sequence and in development plan policies and development management decisions considerable weight should be given to protecting such land from development, because of its special importance. Land in grades 1, 2 and 3a should only be developed if there is an overriding need for the development, and either previously developed land or land in lower agricultural grades is unavailable, or available lower grade land has an environmental value recognised by a landscape, wildlife, historic or archaeological designation which outweighs the agricultural considerations. If land in grades 1, 2 or 3a does need to be developed, and there is a choice between sites of different grades, development should be directed to land of the lowest grade.

Local Planning Policy Rhondda Cynon Taf – Local Development Plan (March 2011)

2.2 Policy AW 12 - Renewable & Non-Renewable Energy states:

"Development proposals which promote the provision of renewable and non-renewable energy such as schemes for energy from biomass, hydro-electricity, anaerobic digestion, on-shore oil and gas and small / medium sized wind turbines, will be permitted where it can be demonstrated that there is no unacceptable effect upon the interests of soil conservation, agriculture, nature conservation, wildlife, natural and cultural heritage, landscape importance, public health and residential amenity. Development proposals should be designed to minimise resource use during construction, operation and maintenance."

3. METHODOLOGY

3.1 The methods used to collect data for the appraisal of soils, agricultural land classification and farm holdings on the Site are described below.

Agricultural Land Classification

3.2 The assessment of the effects on agricultural land quality and soil resources is based on a desk top assessment of relevant published information.

Desk Top Study

3.3 The desk top study included the following information:

- Climatic data from the Met Office's standard 5km grid point data set for a representative point near the centre of the Site. This information is relevant to the assessment of key criteria within the Agricultural Land Classification system;
- Geological Information from British Geological Survey Internet Portal at www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html, consulted 2020;
- Soil Information from the National Soil Map published by the Soil Survey of England and Wales (1:250,000), specifically Sheet 2 (Wales) and accompanying Bulletin 11(1984);
- MAFF (1977) 1:250,000 series Agricultural Land Classification (Wales);
- Welsh Government Predictive Agricultural Land Classification at http://lle.gov.wales/map/alc2; and
- Detailed Welsh Government and commercial ALC survey information for sites with a similar geology and soil pattern in the general area.

4. LOCATION, LAND USE, TOPOGRAPHY AND CLIMATE

Location and Land Use

4.1 The Site is centred approximately 0.5km to the east of Church Village with the A473 Church Village bypass forming part of the western boundary to the Site and the railway line from Cardiff to Pontypridd forming part of the eastern boundary. The Site comprises agricultural grassland fields together with blocks of woodland mainly situated on the eastern side.

Topography

4.2 The highest land on the Site runs through the central part from south of Maes Mawr running south towards Maes Bach where heights range between 130 and approximately 139m AOD. The land falls from this central spine to the west (100m), north (65m) and eastern (60m) parts of the Site.

4.3 The land on the eastern side, much of which is associated with the woodland areas is relatively steeply sloping with the Welsh Government predictive ALC viewer indicating this to be mainly limited to Grade 4 (in excess of 11°) according to gradient.

Climate

4.4 The following climatic data relevant to the assessment of specific limitations within the ALC system has been obtained from the Meteorological Office's standard 5km grid point data set for representative points in the north, centre and south of the Site.

Climate Data			
Grid Reference	ST 104 855	ST 105 860	ST 108 869
Altitude (m)	120	135	65
Accumulated Temperature ATO (day degrees)	1418	1401	1480
Average Annual Rainfall AAR (mm)	1426	1441	1389
Climatic Grade	3b	3b	3a
Field Capacity Duration (days)	275	277	271
Moisture Deficit for wheat (mm)	52	50	63
Moisture Deficit for potatoes (mm)	32	30	47

4.5 The climatic data points indicate that the majority of the Site is limited by a climatic limitation to Subgrade 3b, with only limited areas on the lower lying part of the Site eligible for Subgrade 3a.

5. PUBLISHED GEOLOGICAL AND SOIL INFORMATION

Geology

5.1 The local bedrock is identified on the British Geological Survey web viewer http://mapapps.bgs.ac.uk/geologyofbritain/home.html as Carboniferous Sandstone, Grovesend Formation across the majority of the Site with a small area of Hughes Member to in the northernmost part. This is overlain by Devensian Till (ice age deposits) across most of the Site except for on the highest land through the central part of the Site and to the west where there is a limited area of sand and gravel glaciofluvial deposits.

Soils

5.2 The National Soils Map (1:250,000) shows the Site comprise predominantly soils of the Withnell 1 (611d) Association or grouping of soils. These comprise mainly loamy, typical brown podzolic soils over sandstone. The soils are predominantly coarse loamy (Withnell series) but fine loamy profiles (Loxhore series) also occur where there are thin beds of shale or the sandstone contains an appreciable proportion of silt and clay. Typical descriptions of these soil series from the Association are described below:

Withnell Soil Series Description
0 – 15cm Dark brown, slightly stony sandy loam or sandy silt loam
20 – 50cm Strong brown, moderately stony sandy loam or sandy sitl loam; moderate fine subangular blocky or granular structure
50+ Hard sandstone or extremely stony sandy loam

Luxhore Soil Series Description
0 – 5cm Dark brown, stoneless humose clay loam
5 – 50cm Strong brown, slightly stony clay loam; fine granular or subangular blocky structure
50 – 60cm Brownish yellow, very stony sandy loam; single grain structure
60+ Shattered sandstone

5.3 The Brickfield 2 Association may also be present on the western fringe of the Site. This association consists of fine loamy soils in till or Head mainly derived from Carboniferous shale and sandstone. A typical description of the predominant Brickfield Series from the Association is provided below:

Brickfield Soil Series Description
0 – 20cm Very dark greyish brown, slightly stony clay loam
20 – 50cm Greyish brown, with many ochreous mottles, slightly stony clay loam; moderate medium subangular blocky structure
50 – 100cm Grey, mottled, moderately stony clay loam; weak coarse angular blocky or prismatic structure; high packing density

6. AGRICULTURAL LAND CLASSIFICATION OF THE SITE

6.1 Figure 1 shows the location of the Site overlain with the output from the Welsh Government predictive ALC viewer.

6.2 The analysis of the Grades of land identified by the predictive viewer within the Site are as follows:

ALC Grade	Area(ha)	%
Subgrade 3a	0.1	0.3
Subgrade 3b	35.4	89
Grade 4	0.3	0.7
Grade 5	2.6	6
Non Agricultural	1.6	4
Total	**40**	**100**

6.3 The lowest quality land on the Site is situated on the steeply sloping areas of the Site where gradients are in excess of 11° and are either Grade 4 or where the land is steepest, Grade 5. Virtually all of the remaining area of the Site is limited to Subgrade 3b by an overall climatic limitation, as the data in Section 4.4 of this report identifies.

6.4 The interpretation of this data from the predictive viewer leaves a small slither of land (0.1ha) along the temporarily affected cable route in the north of the Site that could potentially comprise Subgrade 3a land.

6.5 The Site therefore comprises almost entirely lower quality agricultural land, with some areas of very poor Grade 4 and 5 land.

7. ANALYSIS AND CONCLUSIONS

7.1 The published desk top geological, soils and climatic information provided in this report together with the Welsh Government ALC predictive viewer tool identify that the Site is almost entirely lower quality Subgrades 3b, 4 and 5 land. The development of this Site as a solar farm would therefore not be in conflict with the policy for the protection of “best and most versatile” land as laid out in PPW 11.

7.2 Similarly, in terms of local policy on AW12 Policy, there would be no unacceptable effect on soil conservation or agriculture. No high quality best and most versatile soils would be permanently lost as the soils would remain in situ on site during the lifetime of the proposed solar farm development.

8. REFERENCES

MAFF (1988) Agricultural Land Classification of England and Wales Revised Guidelines and

Criteria for grading the quality of agricultural land

MET OFFICE (1989) Climatological Data for Agricultural Land Classification Meteorological Office Bracknell

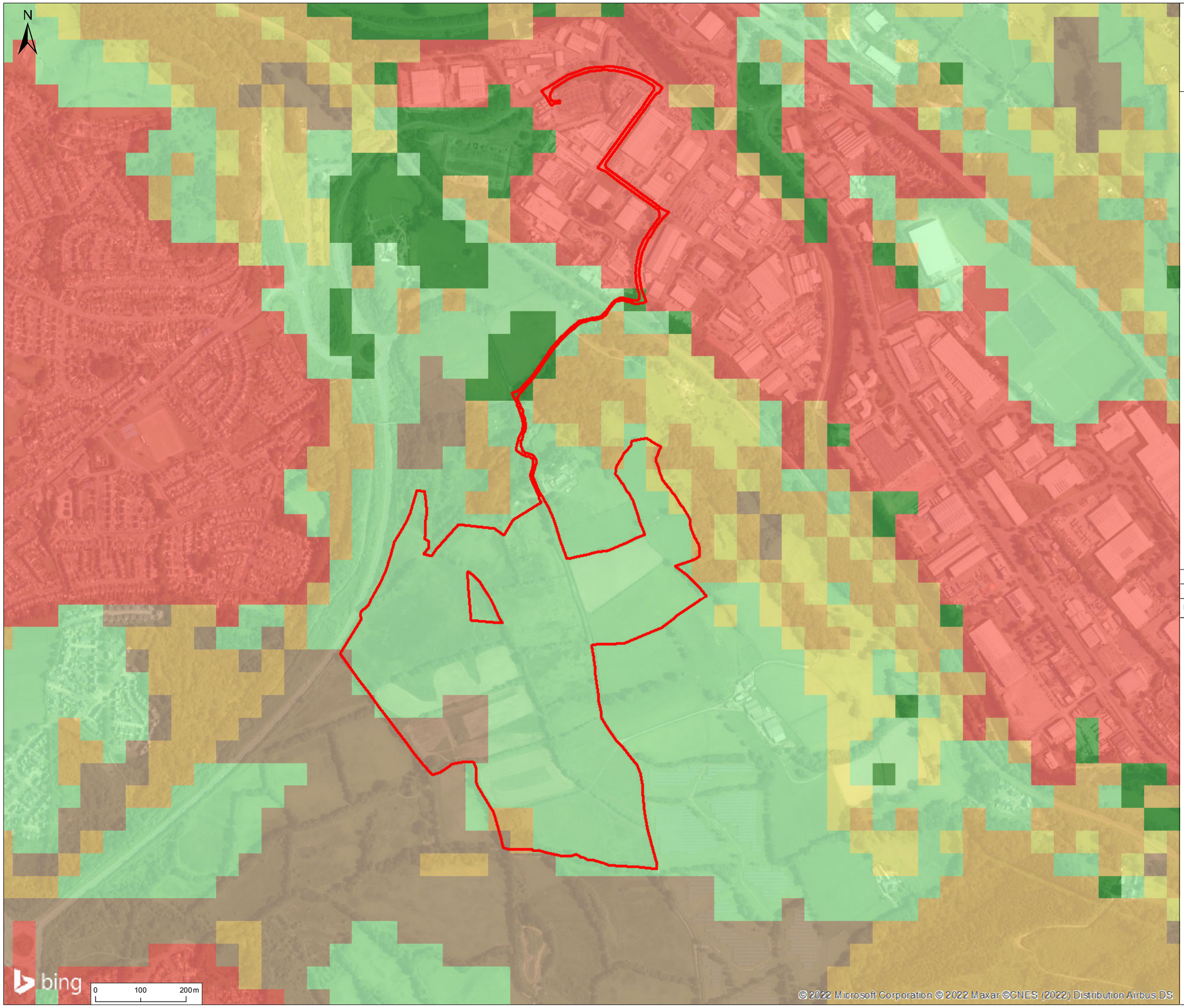
SOIL SURVEY OF ENGLAND AND WALES (1984) Soils and Their Use in Wales

England Bulletin No 11 SSEW Harpenden

British Geological Survey Viewer: http://mapapps.bgs.ac.uk/geologyofbritain/home.html

Welsh Government Predictive Agricultural Land Classification at http://lle.gov.wales/map/alc2

FIGURE 1



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Legend

- Site Boundary
- Grade 3a
- Grade 3b
- Grade 4
- Grade 5
- NA
- U

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