READING AGRICULTURAL CONSULTANTS

July 2021

Melton Borough Council

Application 20/01182/FUL
Technical Review of an Agricultural Land Classification Report submitted on behalf of the Applicant on Land east of Jericho Covert, Jericho Lane, Barkestone Le Vale

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1 Introduction

1.1 Reading Agricultural Consultants Ltd (RAC) is instructed by Melton Borough Council to undertake a technical review an Agricultural Land Classification (ALC) survey report submitted on behalf of the applicant in support of application 20/01182/FUL for:

> *"Installation of a solar farm comprising ground mounted solar PV panels with a net installed generating capacity (AC) of up to 49.9MW, including mounting system, battery storage units, inverters, underground cabling, stock proof fence, CCTV, internal tracks and associated infrastructure, landscaping and environmental enhancements for a temporary period of 40 years and a permanent grid connection hub on Land East Of Jericho Covert, Jericho Lane, Barkestone Le Vale".*

1.2 The ALC report accompanying the application has been prepared by Land Research Associates Ltd, and is dated 15 July 2020 and entitled "Agricultural Quality of Green Farm." The report indicates that the site was first surveyed in semi-detail in November 2019 at a density of one observation per 5 hectares and subsequently surveyed in detail at one observation per hectare in July 2020. The report concludes that all agricultural land at the site is of moderate quality in Subgrade 3b, based upon the profiles having clay topsoil and imperfectly drained subsoils.

1.3 The report comprises:

- Section 1, Introduction: ½ page describing the size, topography and mapped geology and soils of the site;
- Section 2, Soils: 1 page, describing the typical soil profiles found during the site survey;
- Section 3, Agricultural land quality (although paragraph numbers in this section are also 2.x): 1½ pages describing the agro-climatic factors at the site and the factors leading to the classification of the site as Subgrade 3b;
- Appendix: 2 pages of the soil profile data for the 72 points observed;
- Map 1 showing the location of observations and Map 2 showing the classification of Subgrade 3b within the site;
- Lab results confirming clay textures at three observation points.

2 Background to Agricultural Land Classification

2.1 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[1], and summarised in Natural England's TIN049[2].

2.2 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 and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.

2.3 Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown, and yields are high and less variable than on land of lower quality.

2.4 Grade 2 is very good quality agricultural land, with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but there may be reduced flexibility due to difficulties with the production of the more demanding crops. The level of yield is generally high but may be lower or more variable than Grade 1.

2.5 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).

2.6 Subgrade 3a land is capable of consistently producing moderate to high yields of a narrow range of arable crops or moderate yields of a wide range of crops. Subgrade 3b is land capable of producing moderate yields of a narrow range of crops or lower yields of a wider range of crops or high yields of grass.

2.7 Grade 4 land is poor quality agricultural land with severe limitations which significantly restrict the range of crops and/or level of yields.

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[1] **MAFF (1988).** *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. http://publications.naturalengland.org.uk/publication/6257050620264448

[2] **Natural England (2012).** *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition. http://publications.naturalengland.org.uk/file/4424325

2.8 Grade 5 is very poor quality land, with severe limitations which restrict use to permanent pasture or rough grazing.

2.9 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[3] (NPPF) as best and most versatile (BMV) agricultural land.

2.10 As explained in Natural England's TIN049, the whole of England and Wales was mapped from reconnaissance field surveys in the late 1960s and early 1970s, to provide general strategic guidance on agricultural land quality for planners. This Provisional Series of maps was published on an Ordnance Survey base at a scale of One Inch to One Mile (1:63,360). The Provisional ALC map shows the site undifferentiated Grade 3. However, TIN049 explains that:

> *"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 …"*

2.11 TIN049 goes on to explain that a definitive ALC grading should be obtained by undertaking a detailed survey according to the published guidelines, at an observation density of one boring per hectare. The site has not been surveyed previously and there are no records on magic.gov.uk of any detailed ALC surveys having been undertaken in the locality. The closest survey results are over 6km from the site.

[3] **Ministry of Housing, Communities & Local Government (2021).** *National Planning Policy Framework.* https://www.gov.uk/government/publications/national-planning-policy-framework--2

3 Technical Review of the Survey Report

3.1 The data, report and conclusions have been reviewed, as summarised in the table below. The review has concentrated on the methodology and approach used in the survey, the quality and consistency of data with published data, and the interpretation of the data in the light of the ALC guidelines.

Review Item	Y/N	Explanation and Comments
Have the correct ALC guidelines been referenced and used?	Y	The report makes reference to the MAFF 1988 ALC guidelines, and follows the methodology within the guidelines.
Has the survey been undertaken at the correct observation density?	Y	The original survey of November 2019 was at a semi-detailed density of one observation per five hectares. This was supplemented by a detailed survey in July 2020 at a density of one observation per hectare.
Is the site description correct?	Y	Correct, although brief.
Has the correct geology been identified?	Y	Yes, although the report does not specify that the recorded geology is bedrock and that there are no superficial deposits recorded across most of the site. There is an additional strip of superficial alluvium deposit at the northern edge of the site.
Has the correct mapped soil association been identified, and the correct map referenced?	Y	The site is shown on the map Soils of Eastern England as having soils of the Evesham 2 association which are mainly calcareous clayey soils with impeded subsoil drainage.
Has the correct climate data been used?	Y	Climate data as checked is similar although not identical (as the grid reference of the climate data point used is not given in the report). However, the very slight variability in climate data is no consequence for the grading.
Does the soil identified on site correspond with the mapped data?	Y	The soils identified on site are generally consistent with the mapped soil data. Soils are described as clay throughout the profile. Two variants are identified: one with calcareous topsoil, upper subsoil and lower subsoil; and one with non-

Review Item	Y/N	Explanation and Comments
		calcareous topsoil and upper subsoil, and calcareous lower subsoil.
Are the full soil profile logs available and described?	Y	72 profile logs are appended to the report, representing one observation per hectare.
Do the soil profile logs look credible?	Y	There is variability between the profiles, as would be expected in a natural soil. The descriptions are generally consistent with the mapped soil descriptions.
Were any soil pits dug?	Y	Two pits are shown to have been dug on Map 1 and are described in paragraphs 2.3 and 2.4 (in Section 2).
Has the correct Wetness Class (WC) been identified?	Y	Profiles in which there is a slowly permeable layer within 59cm of the surface are correctly identified as WC III.
Has the topsoil texture been verified with laboratory analysis?	Y	Three samples, evenly distributed across the site.
Has the correct grade been allocated?	Y	Although calcareous clay topsoil can lead to an improved grade in drier climates (as identified in the report at 2.5 in Section 3), the laboratory analysis confirms clay contents of between 59% and 68% in the topsoils analysed. These soils are therefore not upgraded as a result of their calcareousness.
Have photographs been included in the report?	N	For completeness, photographs should be included, particularly of the structures identified from soils dug from the pits. However, the laboratory analysis, the soil descriptions and the descriptions of the mapped soil types all correspond.
Is there any reason to doubt the robustness of the survey and/or report conclusions?	N	There is no cause for concern over the results of the survey.

4 Conclusions

4.1 The application site on land east of Jericho Covert, Jericho Lane, Barkestone Le Vale has subject to two ALC surveys. The first, undertaken in November 2019, was a semi-detailed survey at one observation per 5 hectares. The second, undertaken in July 2020, was a detailed survey, carried out in accordance with the established ALC guidelines at a density of one observation per hectare.

4.2 The survey has been carried out by an experienced and qualified soil scientist, and the correct approaches and methodologies have been used in the survey and analysis of data.

4.3 The soil descriptions and logs have been reviewed in the light of the ALC guidelines. There is no reason to doubt the robustness of the findings and the conclusion that all of the agricultural land at the site is of Subgrade 3b quality.