LAND NORTH AND SOUTH OF RAKE LANE, DUNHAM-ON-THE-HILL, CHESTER

AGRICULTURAL LAND QUALITY DESK-BASED ASSESSMENT

April 2025

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Authorised By APK 04/25

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CONTENTS

Appendices

1 INTRODUCTION

1.1 This is a desk-based assessment which considers the likely agricultural land quality and other relevant considerations of a site extending to approximately 77ha on land north and south of Rake Lane, Dunham-on-the-Hill, Chester.

1.2 The site is shown outlined in red on the aerial image below.

Insert 1. The Site (boundary approx.)

1.3 A detailed Agricultural Land Classification (ALC) survey is being undertaken across the site. The survey results are currently outstanding and will be shared with Cheshire West and Chester Council (CWCC) as soon as available.

1.4 This report has been prepared by Kernon Countryside Consultants Ltd (KCC), who specialise in assessing the effects of development proposals on agricultural land and businesses.

2 THE SITE AND LAND QUALITY

The Site

2.1 The site extends to approximately 77ha of agricultural land. To the north of the site runs the M56 and to the north-east lies the A5117. South of the site is agricultural land, a commercial unit and a farmstead. West of the site is further agricultural land.

Land Quality

2.2 The quality of agricultural land is determined by an Agricultural Land Classification (ALC). This considers the long-term physical limitations of land for agricultural use. Factors affecting the quality of agricultural land are climate (temperature, rainfall, aspects, exposure, etc.), site considerations (slope, micro-relief, flood risk) and soil (texture, structure, depth, stoniness, etc.) and the important interactions between them. These factors affect soil wetness and droughtiness, and influence the choice of crops that can be grown and the level of consistency of yields.

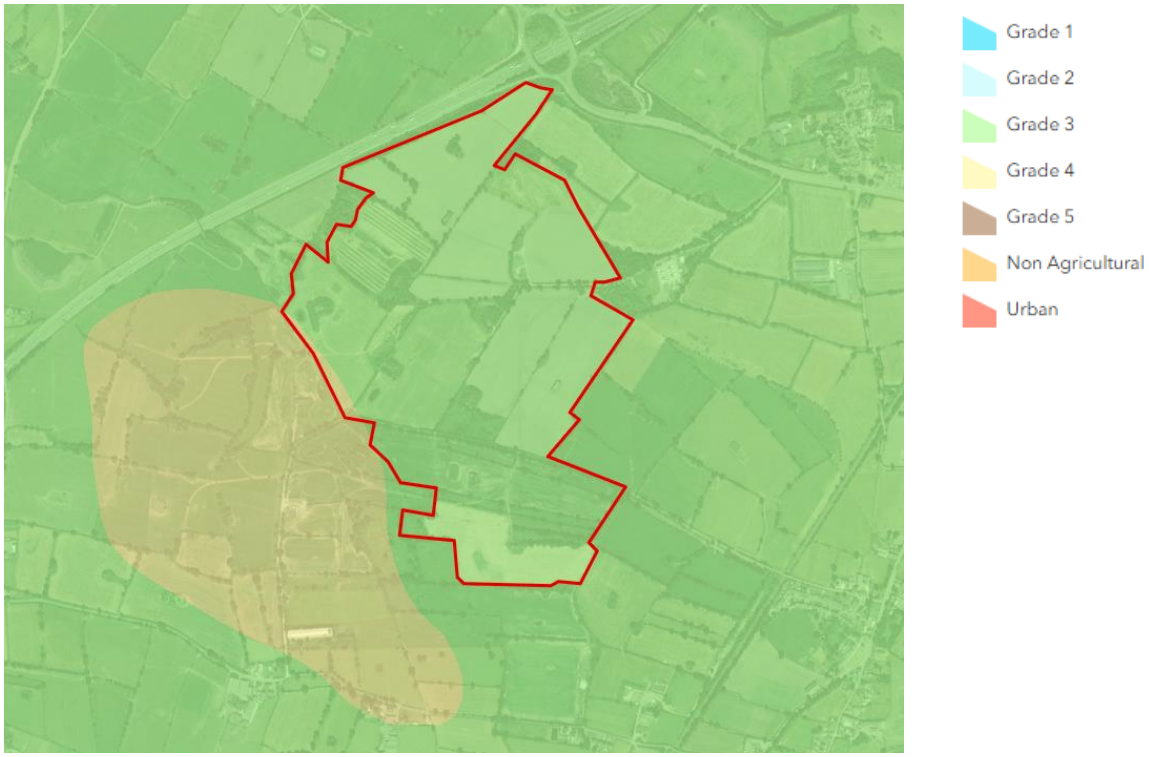
2.3 The ALC divides land into five Grades, from Grade 1 (excellent quality) to Grade 5 (very poor quality). The largest graded area is Grade 3, which is divided into subgrades of subgrade 3a “good quality” and subgrade 3b “moderate quality”. The National Planning Policy Framework (2024) defines the Best and Most Versatile Agricultural Land (BMV) as land in Grades 1, 2 and 3a of the ALC (NPPF, Annex 2).

2.4 The current guidelines and criteria for the ALC were published by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1988. The ALC system is described in Natural England’s Technical Information Note TIN049, reproduced in **Appendix KCC1**.

Published Land Quality Data for the Site and Surrounding Area

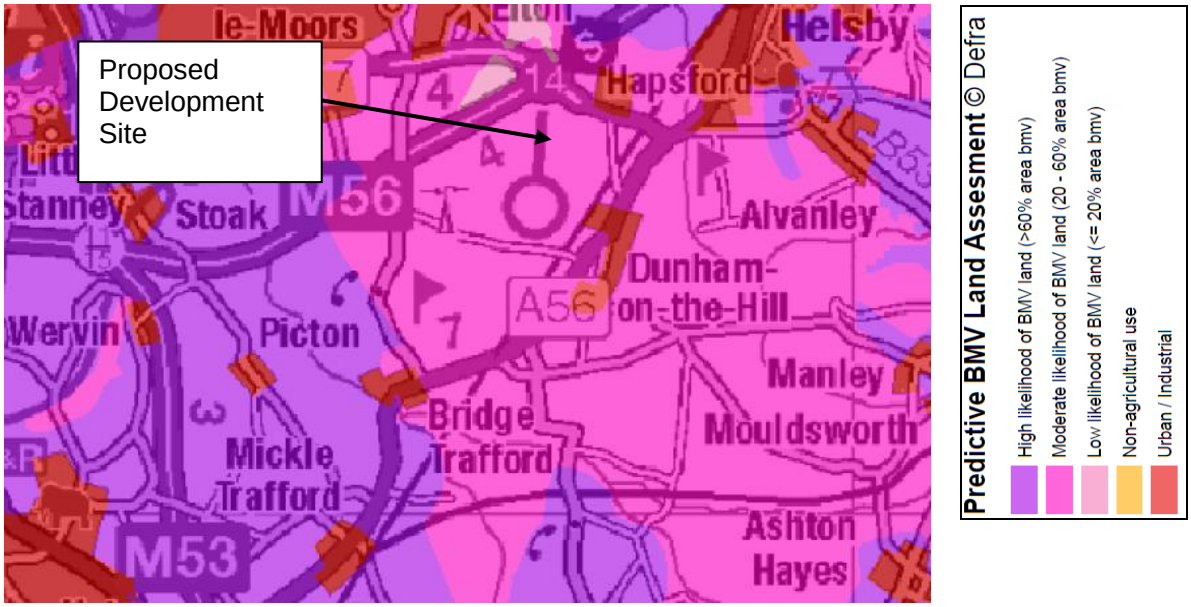
2.5 The site is shown on “provisional” ALC maps from the 1970s as land of undifferentiated Grade 3 being “good” to “moderate” land quality and a small area of Grade 4 being “poor” land quality.

Insert 2. Provisional ALC Mapping



2.6 There are limitations with the provisional maps which are described in TIN049 (**Appendix KCC1**). In 2017 Natural England produced predictive best and most versatile maps which estimate the proportion of land within an area that could be of BMV quality. There are three categories: low (<20% area BMV), moderate (20-60% area BMV), and high (>60% area BMV). For this area the map shows a moderate likelihood of BMV land, meaning Natural England predict between 20 and 60% of land in the site could be classified as of BMV quality.

Insert 3. Predictive Mapping



2.7 Part of the site was surveyed in 2015 for a planning application (15/01724/FUL). The plan, technical ALC record and report are reproduced at **Appendix KCC2**. The whole of the area shown below was Subgrade 3b.

Insert 4. Area Previously Surveyed as Grade 4

3 AGRICULTURAL LAND CLASSIFICATION (ALC) SURVEY

3.1 An ALC survey is underway. The fieldwork was carried out in March 2025 in accordance with MAFF (1988) Agricultural Land Classification guidelines.

3.2 The ALC survey results are currently outstanding, awaiting particle size distribution analysis to validate hand texturing, and will be submitted to CWCC once available.

4 CONCLUSIONS

4.1 The site extends to approximately 77ha of agricultural land.

4.2 Part of the site has been surveyed with results showing the land as Subgrade 3b. The provisional maps indicate that the site comprises undifferentiated Grade 3 land with a small area of Grade 4 land. The predictive Likelihood of BMV maps show the site as a moderate likelihood of BMV (20 – 60% area will be BMV).

4.3 A detailed Agricultural Land Classification (ALC) survey has been undertaken at the site and the survey results will follow as an addendum to this desk-based assessment once available.

Appendix KCC1
Natural England's Technical Information Note TIN 049

Natural England Technical Information Note TIN049

Agricultural Land Classification: protecting the best and most versatile agricultural land

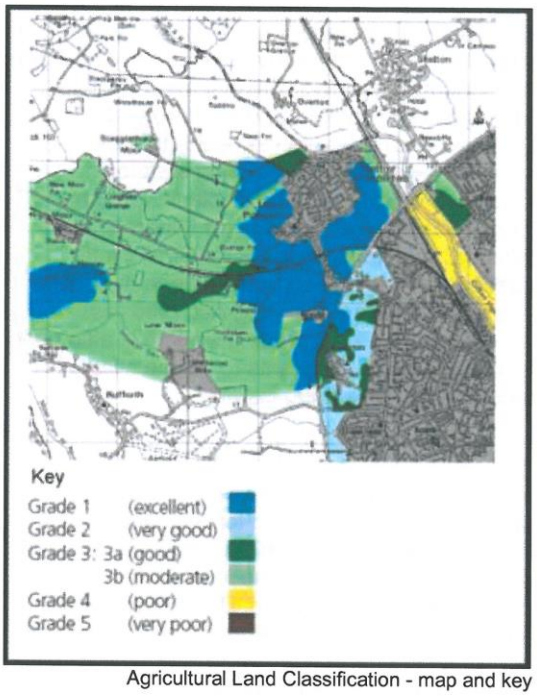
Most of our land area is in agricultural use. How this important natural resource is used is vital to sustainable development. This includes taking the right decisions about protecting it from inappropriate development.

Policy to protect agricultural land

Government policy for England is set out in the National Planning Policy Framework (NPPF) published in March 2012 (paragraph 112). Decisions rest with the relevant planning authorities who should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of higher quality. The Government has also re-affirmed the importance of protecting our soils and the services they provide in the Natural Environment White Paper The Natural Choice:securing the value of nature (June 2011), including the protection of best and most versatile agricultural land (paragraph 2.35).

The ALC system: purpose & uses

Land quality varies from place to place. The Agricultural Land Classification (ALC) provides a method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system. It helps underpin the principles of sustainable development.



Agricultural Land Classification - map and key

Second edition 19 December 2012
www.naturalengland.org.uk

NATURAL ENGLAND

Agricultural Land Classification: protecting the best and most versatile agricultural land

The ALC system classifies land into five grades, with Grade 3 subdivided into Subgrades 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a by policy guidance (see Annex 2 of NPPF). This is the land which is most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non food uses such as biomass, fibres and pharmaceuticals. Current estimates are that Grades 1 and 2 together form about 21% of all farmland in England; Subgrade 3a also covers about 21%.

The ALC system is used by Natural England and others to give advice to planning authorities, developers and the public if development is proposed on agricultural land or other greenfield sites that could potentially grow crops. The Town and Country Planning (Development Management Procedure) (England) Order 2010 (as amended) refers to the best and most versatile land policy in requiring statutory consultations with Natural England. Natural England is also responsible for Minerals and Waste Consultations where reclamation to agriculture is proposed under Schedule 5 of the Town and Country Planning Act 1990 (as amended). The ALC grading system is also used by commercial consultants to advise clients on land uses and planning issues.

Criteria and guidelines

The Classification is based on the long term physical limitations of land for agricultural use. Factors affecting the grade are climate, site and soil characteristics, and the important interactions between them. Detailed guidance for classifying land can be found in: *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988):

- **Climate:** temperature and rainfall, aspect, exposure and frost risk.
- **Site:** gradient, micro-relief and flood risk.
- **Soil:** texture, structure, depth and stoniness, chemical properties which cannot be corrected.

The combination of climate and soil factors determines soil wetness and droughtiness. Wetness and droughtiness influence the choice of crops grown and the level and consistency of yields, as well as use of land for grazing livestock. The Classification is concerned with the inherent potential of land under a range of farming systems. The current agricultural use, or intensity of use, does not affect the ALC grade.

Versatility and yield

The physical limitations of land have four main effects on the way land is farmed. These are:

- the range of crops which can be grown;
- the level of yield;
- the consistency of yield; and
- the cost of obtaining the crop.

The ALC gives a high grading to land which allows more flexibility in the range of crops that can be grown (its 'versatility') and which requires lower inputs, but also takes into account ability to produce consistently high yields of a narrower range of crops.

Availability of ALC information

After the introduction of the ALC system in 1966 the whole of England and Wales was mapped from reconnaissance field surveys, to provide general strategic guidance on 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 in the period 1967 to 1974. 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 and can be downloaded from the Natural England **website**. This data is also available on 'Magic', an interactive, geographical information website **http://magic.defra.gov.uk/**.

Since 1976, selected areas have been re-surveyed 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/**. Revisions to the ALC guidelines and criteria have been limited and kept to the original principles, but some assessments made prior to the most recent revision in 1988 need to be checked against current criteria. More recently, strategic scale maps showing the likely occurrence of best and most versatile land have been prepared. Mapped information of all types is available from Natural England (see *Further information* below).

New field survey

Digital mapping and geographical information systems have been introduced to facilitate the provision of up-to-date information. ALC surveys are undertaken, according to the published Guidelines, by field surveyors using handheld augers to examine soils to a depth of 1.2 metres, at a frequency of one boring per hectare for a detailed assessment. This is usually supplemented by digging occasional small pits (usually by hand) to inspect the soil profile. Information obtained by these methods is combined with climatic and other data to produce an ALC map and report. ALC maps are normally produced on an Ordnance Survey base at varying scales from 1:10,000 for detailed work to 1:50 000 for reconnaissance survey

There is no comprehensive programme to survey all areas in detail. Private consultants may survey land where it is under consideration for development, especially around the edge of towns, to allow comparisons between areas and to inform environmental assessments. ALC field surveys are usually time consuming and should be initiated well in advance of planning decisions. Planning authorities should ensure that sufficient detailed site specific ALC survey data is available to inform decision making.

Consultations

Natural England is consulted by planning authorities on the preparation of all development plans as part of its remit for the natural environment. For planning applications, specific consultations with Natural England are required under the Development Management Procedure Order in relation to best and most versatile agricultural land. These are for non agricultural development proposals that are not consistent with an adopted local plan and involve the loss of twenty hectares or more of the best and most versatile land. The land protection policy is relevant to all planning applications, including those on smaller areas, but it is for the planning authority to decide how significant the agricultural land issues are, and the need for field information. The planning authority may contact Natural England if it needs technical information or advice.

Consultations with Natural England are required on all applications for mineral working or waste disposal if the proposed afteruse is for agriculture or where the loss of best and most versatile agricultural land agricultural land will be 20 ha or more. Non-agricultural afteruse, for example for nature conservation or amenity, can be acceptable even on better quality land if soil resources are conserved and the long term potential of best and most versatile land is safeguarded by careful land restoration and aftercare.

Other factors

The ALC is a basis for assessing how development proposals affect agricultural land within the planning system, but it is not the sole consideration. Planning authorities are guided by the National Planning Policy Framework to protect and enhance soils more widely. This could include, for example, conserving soil resources during mineral working or construction, not granting permission for peat extraction from new or extended mineral sites, or preventing soil from being adversely affected by pollution. For information on the application of ALC in Wales, please see below.

Further information

Details of the system of grading can be found in: *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

Please note that planning authorities should send all planning related consultations and enquiries to Natural England by e-mail to **consultations@naturalengland.org.uk**. If it is not possible to consult us electronically then consultations should be sent to the following postal address:

Natural England
Consultation Service
Hornbeam House
Electra Way
Crewe Business Park
CREWE
Cheshire
CW1 6GJ

ALC information for Wales is held by Welsh Government. Detailed information and advice is available on request from Ian Rugg (**ian.rugg@wales.gsi.gov.uk**) or David Martyn (**david.martyn@wales.gsi.gov.uk**). If it is not possible to consult us electronically then consultations should be sent to the following postal address:

Welsh Government
Rhodfa Padarn
Llanbadarn Fawr
Aberystwyth
Ceredigion
SY23 3UR

Natural England publications are available to download from the Natural England website: **www.naturalengland.org.uk**.

For further information contact the Natural England Enquiry Service on 0300 060 0863 or e-mail **enquiries@naturalengland.org.uk**.

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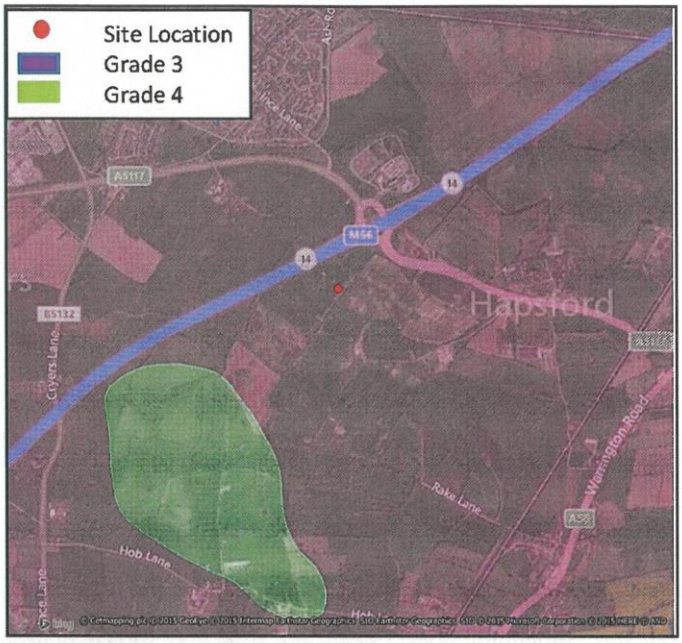
Appendix KCC2
Previous ALC Results for Part of the Site

Hapsford Solar Farm – Use of Agricultural Land

The principal physical factors influencing agricultural production are climate, site and soil. These factors, together with interactions between them, form the basis for classifying land into one of five agricultural land classification (ALC) grades; Grade 1 land being of excellent quality and Grade 5 being land of very poor quality. Grade 3, which constitutes about half of the agricultural land in England and Wales, is now divided into two subgrades designated 3a and 3b. Best and Most Versatile (BMV) land is defined as grades 1-3a (Annex 2 NPPF), and is considered less favourable for the development of a renewable energy project. The publicly available DEFRA mapping suggests that the Project site could be grade 3 agricultural land, with a swathe of grade 4 approximately 300m to the west of the site (Figure 1). The plan is based upon part of a series of maps at 1:250 000 scale derived from the Provisional 1" to one mile ALC maps, produced in 1966 and intended for strategic use only. At this scale no distinction is made between Grade 3a (good) and Grade 3b (moderate) agricultural land. These maps are not sufficiently accurate for use in the assessment of individual fields or sites and any enlargement could be misleading. The maps show ALC Grades 1-5, but Grade 3 is not subdivided. The Natural England guidance (Technical Information Note TIN049) is clear 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'[1] (pg 2). A site specific and independent ALC assessment for the Project Site was therefore undertaken in accordance with the MAFF (1988) guidelines. This has demonstrated that the entire Project site is grade 3b, meaning that no BMV land would be affected by the proposed development. The Project would result in approximately 10.6 ha of Grade 3b, moderate quality, agricultural land experiencing a temporary change of use during the construction phase.

[1] http://publications.naturalengland.org.uk/publication/144017

Figure 1: Agricultural Land Surrounding the Site



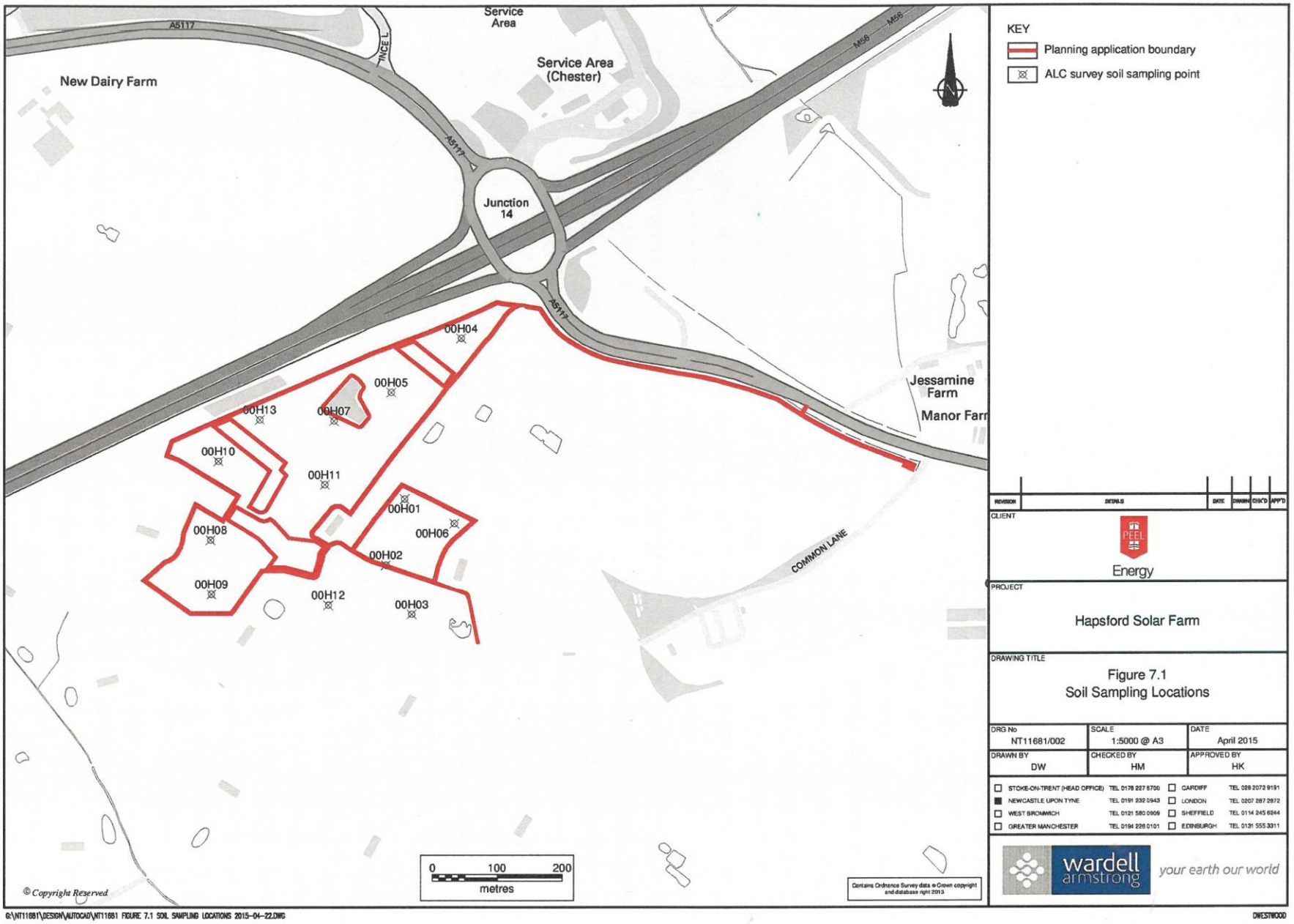
The lack of availability of previously developed land or brownfield sites is detailed within section 5.3 of the ES. The use of agricultural land for the Project has therefore been shown to be necessary, due to alternative brownfield sites being unavailable. This complies with the National Planning Practice Guidance (NPPG) on Renewable and low carbon energy (para 13), which sets out particular planning considerations that relate to large scale ground-mounted solar photovoltaic farms. Part (2) (i) of the guidance states *'where a proposal involves greenfield land, whether ... the proposed use of any agricultural land has been* ***shown to be necessary*** *and poorer quality land has been used in preference to higher quality land*". The ALC grading within the wider area is shown on Figure 1, and demonstrates that all land surrounding the Project site is grade 3 or 4. We do not have access to other agricultural land for borehole and sampling purposes and a detailed ALC grading of this wider area cannot therefore be undertaken by ourselves. We can confirm that no BMV land would be lost or affected as a result of the Project.

Furthermore, during the operational phase, the Project site would be maintained as species rich grassland, improving biodiversity on site, and, due to the placement and height of the solar PV panels, the land would be available as permanent pasture for sheep grazing. This is

in full accordance with NPPG paragraph 13 part (2) (ii) - *"the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays'*. The Project is therefore considered acceptable with regard to this element of the NPPG, as the use of agricultural land has been demonstrated to be necessary, lower grade land has been sought in preference to any higher grade land in the area, the Project would not impact on BMV land, and an agricultural use would be able to continue on the site during the life of the Solar Farm.

Appendix 7.1. ALC grading for the individual soil cores (see Figuire 7.1 for locations)

Core	Climatic ALC	Gradient	Summer Flood Risk	Winter Flood Risk	Soil depth	Stoniness	Restored (disturbed)	Soil wetness		Droughtiness	Texture	ALC Grade	Limted by	SPL criteria	Criteria for the limitation	Association	Series
								class	limited to								
1	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 60 cm, gleyed <40 cm, HCL topsoil texture	Salop 711m	Salop
2	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 60 cm, gleyed <40 cm, HCL topsoil texture	Salop 711m	Salop
3	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 50 cm, gleyed <40 cm, HCL topsoil texture	Salop 711m	Salop
4	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 50 cm, gleyed <40 cm, HCL topsoil texture	Salop 711m	Salop
5	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 60 cm, gleyed <40 cm, HCL topsoil texture	Salop 711m	Salop
6	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 60 cm, gleyed <40 cm, HCL topsoil texture	Salop 711m	Salop
7	1	1	1	1	1	1	no	IV	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 30 cm, gleyed <40 cm, HCL topsoil texture	Salop 711m	Salop
8	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 50 cm, gleyed <40 cm HCL topsoil texture	Salop 711m	Salop
9	1	1	1	1	1	1	no	IV	3b	1	1	3b	wetness	weak subangular blocky, >18% clay	SPL at 35 cm	Salop 711m/disturbed	Salop
10	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 40 cm, gleyed 40-70, HCL topsoil texture	Salop 711m	Salop
11	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 50 cm, gleyed 40-70, HCL topsoil texture	Salop 711m	Salop
12	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 50 cm, gleyed <40 cm, HCL topsoil texture	Salop 711m	Salop
13	1	1	1	1	1	1	no	III	3b	1	1	3b	wetness	angular blocky structure, >18% clay	SPL at 40 cm, HCL topsoil texture	Salop 711m/disturbed	Salop
															HCL - heavy clay loam (more over 27% clay)		


A5117
Service Area
Service Area (Chester)
New Dairy Farm
Junction 14
M56
Jessamine Farm
Manor Farm
COMMON LANE
00H01
00H02
00H03
00H04
00H05
00H06
00H07
00H08
00H09
00H10
00H11
00H12
00H13
KEY
Planning application boundary
ALC survey soil sampling point
0 100 200
metres
© Copyright Reserved
Contains Ordnance Survey data © Crown copyright and database right 2013
CLIENT
Energy
PROJECT
Hapsford Solar Farm
DRAWING TITLE
Figure 7.1
Soil Sampling Locations
DRG No NT11681/002
SCALE 1:5000 @ A3
DATE April 2015
DRAWN BY DW
CHECKED BY HM
APPROVED BY HK
wardell armstrong
your earth our world
G:\NT11681\DESIGN\AUTOCAD\NT11681 FIGURE 7.1 SOIL SAMPLING LOCATIONS 2015-04-22.DWG
DWESTWOOD

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