

# Soils and Agricultural Land Report Cover Letter

An Agricultural Land Classification (ALC) report was completed by Roberts Environmental in October 2024, considering an initial Site red line boundary covering an area of 85.24 hectares (ha) (shown in Figure 1 below). Subsequently, AECOM produced a Soils and Agricultural Land Report in December 2024, which reanalysed the ALC data following minor amendments to the Site red line boundary, including a reduction in overall size to 84.78ha (shown in Figure 2 below).

Since the completion of both reports, the Proposed Development design has undergone further changes, including amendments to the Site red line boundary, driven by technical assessments and land landowner negotiations.

The updated, final Site red line boundary covers an area of 87.09ha, as a result of increased provision of land for Biodiversity Net Gain (BNG) purposes compared to the previous design iterations (shown in Figure 3 below). This includes incorporating new BNG areas in the southwest of the eastern parcel, totalling an overall larger area of BNG provision within the Site. As a result, these changes primarily reduce the amount of Subgrade 3b land covered with solar panels and exclude the northern field in the western parcel, previously classified as Subgrade 3a land. The final Site red line boundary includes Subgrade 3a land, covering a total area of 10.4ha and constitutes 11.94% of the Site. Similarly, Subgrade 3b land covers a total area of 63.44 ha, making up 72.86% of the Site.

Despite these design changes, the findings of the original reports remain valid as the expansion of the Site red line boundary since the production of the Soils and Agricultural Land Report (AECOM, 2024) is attributed to additional BNG areas rather than any increase in solar infrastructure which comprises the long-term temporary development of land. As noted in the Soils and Agricultural Land Report (AECOM, 2024), improvements to soil function are anticipated within green infrastructure, including seeding with species-rich grassland and other measures to meet commitments to BNG. Loss of agricultural land is typically considered an adverse effect and the losses of both BMV and non-BMV land from agriculture to green infrastructure represents a minor adverse effect, however this is balanced by a minor beneficial effect to soil function and carbon sequestration, that develops from the absence of cultivation.

As such, in light of the design and Site red line boundary revisions, the assessment methodology, identified effects, and conclusions presented in the Soils and Agricultural Land Report (AECOM, 2024) remain valid.

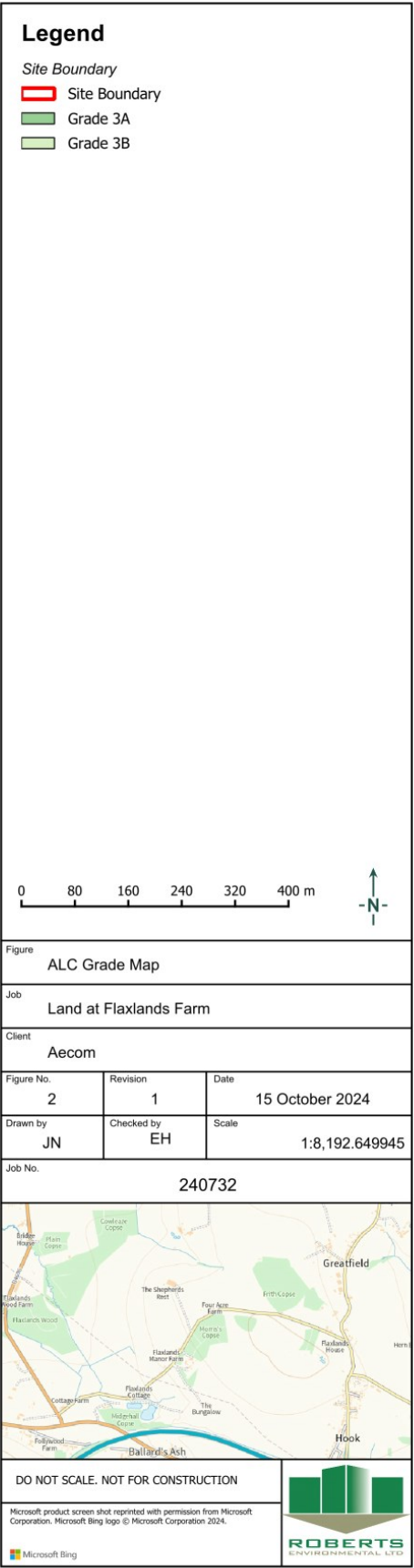
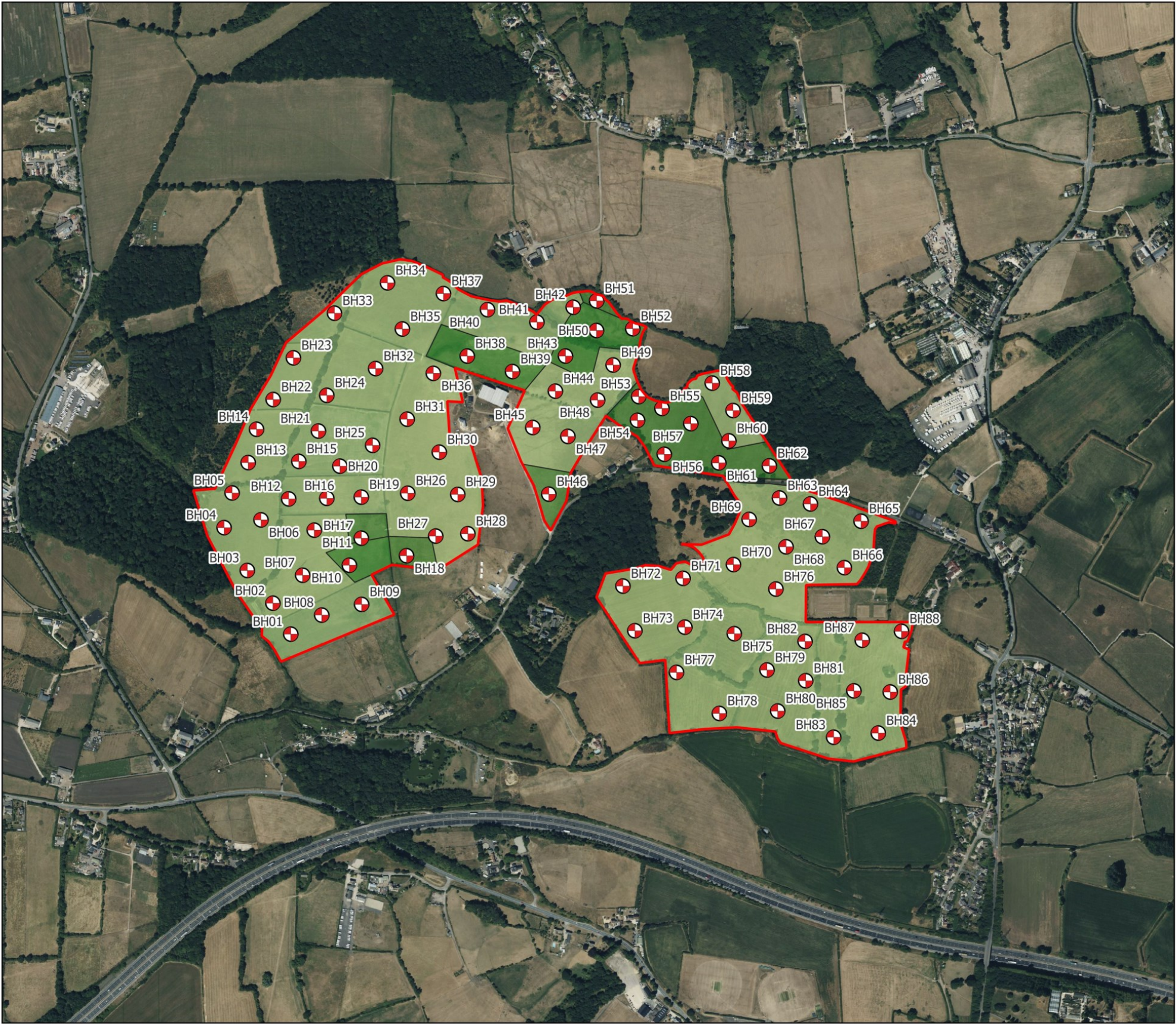
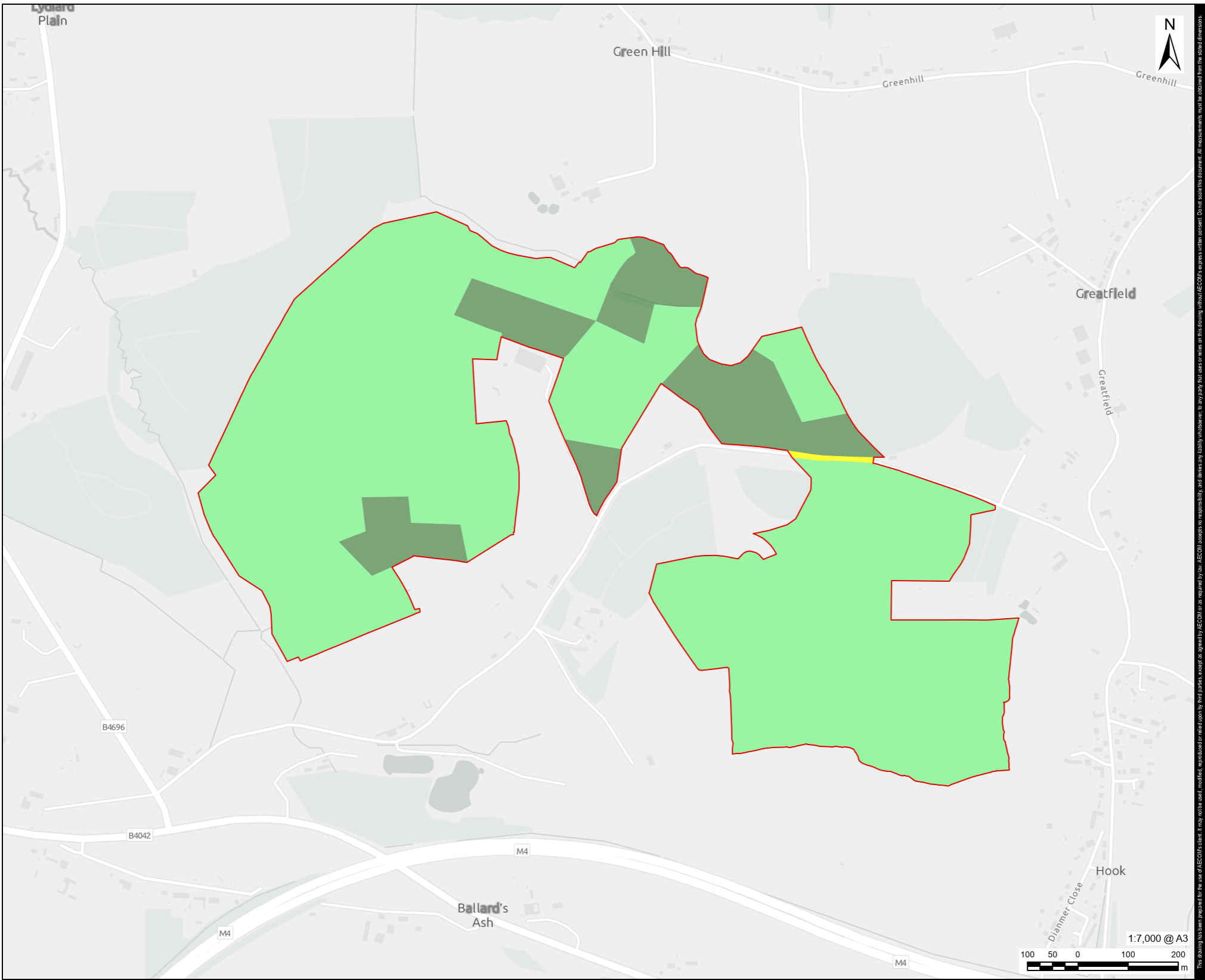


Figure 1: Site red line boundary used as the basis of the ALC report

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PROJECT  
Flaxlands Solar Farm

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LEGEND

- Site Boundary
- Urban
- Subgrade 3b
- Subgrade 3a

NOTES

Esri Community Maps Contributors, Esri UK, Esri, TomTom, Garmin, Foursquare, GeoTechnologies, Inc, METI/NASA, USGS

ISSUE PURPOSE

Soils and Agricultural Land Report

PROJECT NUMBER

60727989

FIGURE TITLE

Agricultural Land Classification

FIGURE NUMBER

Figure 2

Figure 2: ALC reanalysed for Soils and Agriculture Report with slight amendment of the Site red line boundary.

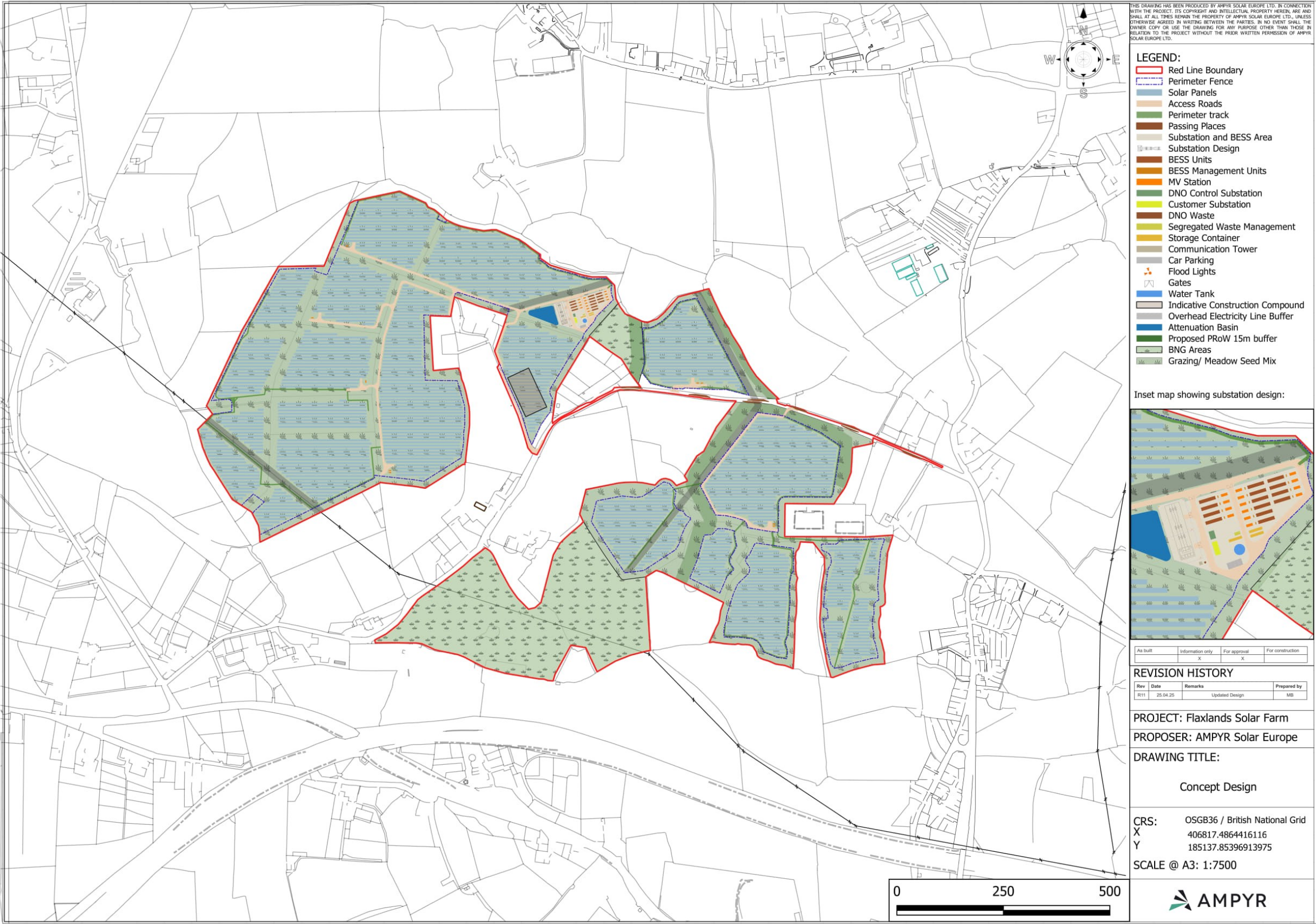


Figure 3: Final Concept Design

# Flaxlands Solar Farm

Soils and Agricultural Land Report

Ampyr Solar Europe

Project number: 60727989

December 2024

Prepared for:

Ampyr Solar Europe

Prepared by:

AECOM Limited

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# 1. Introduction

- 1.1.1 This report presents the assessment of impacts of the proposed solar photovoltaic array and Battery Energy Storage System (BESS) (hereafter referred to as ‘the Proposed Development’) on soils and agricultural Land at the Proposed Development’s site north of Royal Wootton Bassett, Wiltshire (hereafter referred to as ‘the Site’).
- 1.1.2 The assessment employs data relating to the Agricultural Land Classification (ALC), including soil auger notes for individual soil samples, undertaken by Roberts Environmental Ltd, surveyed and presented in October 2024 is included as Appendix A. The survey data assessed in this report has been undertaken in line with the 2022 guidelines published by the Institute of Environmental Management and Assessment (IEMA 2022) (Ref 1).
- 1.1.3 The ALC system divides land into five grades based on its productivity, flexibility and efficiency. ‘Best and Most Versatile’ (BMV) land is defined as Grades 1, 2 and Subgrade 3a. Non-BMV land is defined as Subgrade 3b, and Grades 4 and 5. The ALC system is used as a basis to assess the impact of development proposals on agricultural land.

## 1.2 Relevant Policy and Guidance

### National Planning Policy Framework

- 1.2.1 Under Section 15 of the National Planning Policy Framework (NPPF, 2024) (Ref 2): Conserving and enhancing the natural environment, Paragraph 187 identifies that *planning policies and decisions should contribute to and enhance the natural and local environment by:*
- 1.2.2 *(a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); and*
- 1.2.3 *(b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land<sup>1</sup>, and of trees and woodland”.*
- 1.2.4 The footnote to paragraph 188 expresses a hierarchy requiring 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. The availability of agricultural land used for food production should be considered, alongside the other policies in this Framework, when deciding what sites are most appropriate for development.*”.

### Local Planning Policy

- 1.2.5 The Wiltshire Core Strategy Development Plan Document (Ref 3) was formally adopted on 20 January 2015. The plan provides an overarching planning policy

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<sup>1</sup> Best and most versatile (BMV) agricultural land is defined as land of excellent (ALC Grade 1), very good (Grade 2) and good (Subgrade 3a) agricultural quality. Moderate (Subgrade 3b), poor (Grade 4) and very poor (Grade 5) quality land is restricted to a narrower range of agricultural uses and is collectively termed ‘non-BMV’ agricultural land.

framework for Wiltshire for the period up to 2026. Core Policy 42 addresses Standalone renewable energy installations:

- 1.2.6 *Proposals for standalone renewable energy schemes will be supported subject to satisfactory resolution of all site specific constraints. In particular, proposals will need to demonstrate how impacts on the following factors have been satisfactorily assessed, including any cumulative effects, and taken into account: .... viii. Best and most versatile agricultural land.*

## Planning Practice Guidance

- 1.2.7 The Planning Practice Guidance (PPG) which accompanies the NPPF is split into a number of guidance notes. Guidance on soils and agricultural land is found in the Planning Practice Guidance for the Natural Environment 2019 (PPGNE) (Ref 4) under the heading Agricultural Land, Soil and Brownfield Land of Environmental Value. This describes the ALC and advises that it be used to assess the quality of farmland to enable informed choices to be made about its future use within the planning system. The PPGNE states that “*Planning policies and decisions should take account of the economic and other benefits of the best and most versatile agricultural land*”.
- 1.2.8 The PPGNE goes on to state that “*In the circumstances set out in Schedule 4 paragraph (y) of the Development Management Procedure Order 2015 (Ref 5), Natural England is a statutory consultee: a local planning authority must consult Natural England before granting planning permission for large-scale non-agricultural development on best and most versatile land that is not in accord with the development plan*” and refers to Natural England guidance to assessing development proposals on agricultural land (Ref 6).
- 1.2.9 Therefore, knowledge of the ALC grading of land affected by the Project is necessary to be able to determine whether the requirements of planning policy are being met.
- 1.2.10 The PPGNE also recognises soil as an essential natural capital asset that provides important ecosystem services, for example as a growing medium for food, timber and other crops, as a store for carbon and water, as a reservoir of biodiversity and as a buffer against pollution. It also recommends Defra’s Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref 7) as a useful tool when setting planning conditions for development sites, as it provides advice on the use and protection of soil in construction projects, including the movement and management of soil resources.

## Other relevant policy, legislation or guidance

- 1.2.11 Natural England’s Guide to Assessing Development Proposals on Agricultural Land (2021) (Ref 6) sets out the government policies and legislation that developers and local planning authorities (LPA) should refer to when considering development proposals that affect agricultural land. It also includes guidance on when Natural England should be consulted on development proposals, provides a detailed explanation of ALC and information on published ALC resources and explains circumstances in which new detailed surveys may be required. It also explains how ALC data should be used in the assessment of planning decisions. Importantly, the guidance states that the LPA should ensure that development proposals include plans to protect soils, that where insufficient data are available new surveys should be undertaken to better inform the planning decision, and that these surveys should be carried out by soil scientists or experienced soil specialists. The guidance also summarises the required survey methodology (also presented in Natural England’s 2012 Technical Information Note 049 (TIN049) (Ref 8).

- 1.2.12 As referred to above, Defra's Construction Code of Practice for the Sustainable Use of Soil on Development Sites (Ref 7) provides Technical Guidance on the handling, storage and (re)use of soil within construction projects.
- 1.2.13 The Institute of Quarrying (2021) Good Practice Guide for Handling Soils in Mineral Workings (Ref 9) details good practice methods for stripping, handling, storage, reinstatement and management of soil resources. This guidance updates and replaces the Ministry of Agriculture, Fisheries and Food's (MAFF) Good Practice Guide for Handling Soils (2000) and despite originating in the quarrying sector is considered relevant as the described measures are applicable to all development where soils are handled.
- 1.2.14 The MAFF's Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land (Ref 10) provides the current guidelines and criteria for grading the quality of agricultural land in England and Wales.
- 1.2.15 The British Society of Soil Science (BSSS) Guidance Document 3: Working with Soil Guidance Note on Benefitting from Soil Management in Development and Construction (2021) (Ref 11) has been written for development planning and control professionals, site owners and developers to help promote the protection of soils and the important functions they support within the planning system and the development of individual sites.
- 1.2.16 The Institute of Environmental Management and Assessment (IEMA) published the first guidance for the consideration of the impacts of development on soils and land in EIA: A New Perspective on Land and Soil in Environment Impact Assessment (hereafter referred to as the IEMA guidance) (Ref 1). The aims of the IEMA guidance are to advocate "*a broader approach [to the assessment of soils and agricultural land in EIA] that involves assessing the natural capital and functional ecosystem services provided by land and soils*". The guidance therefore sets out a new 'soil functions' approach, to assess the effects on land and soil of developments likely to have a significant effect on the environment. The guidance is appropriate, therefore, to environmental appraisal as well as Environmental Impact Assessment (EIA) as it embeds the concepts of soil functions, soil biodiversity, soil health, ecosystem services and natural capital, and to consider the influence of soil carbon on climate change. The guidance introduces a soil functions-based evaluation methodology and improved mitigation measures for soil conservation, to avoid and minimise detrimental impacts on soil.

## 2. Assessment Methodology

### 2.1 Scope

- 2.1.1 The aim of this assessment is to assess the impacts of the Proposed Development on soil resources and agricultural land. As the impacts of development on soils and agricultural land are restricted to soils and agricultural land directly impacted by development, the Study Area for the assessment is the Site boundary and no buffer has been described (see Figures 1 and 2, Appendix B).
- 2.1.2 The introduction to the IEMA guidance (Ref 1) identifies that the guidance is not prescriptive but rather designed to be a selective reference document, more in the nature of a land and soil 'handbook'. Soil specialists are expected to focus on content relevant to their interests, for example in respect of specific development proposals; and to interpret and apply the guidelines as appropriate to the sensitivity of the environment at the development location, and the nature of the proposed development. The assessment presented in this report is therefore based upon relevant aspects of the IEMA guidance and focusses on the potential impacts of the Proposed Development to agricultural land and land use including the loss of BMV land, and loss of soil functions/volumes and soil-related features.
- 2.1.3 The decommissioning of the Proposed Development at the end of the Operational Phase would have effects similar to or less than the effects of construction and has been scoped out.

### 2.2 Assessment approach

- 2.2.1 Soil profile characteristics were investigated across the Site using a hand-held auger capable of sampling to 1.2 m depth. Soil profile inspections were undertaken at a density of approximately one auger per hectare. Survey locations are shown on Figure 1, Appendix B.
- 2.2.2 The information from the soil survey was used in conjunction with the interpolated agro-climatic characteristics of the Site, provided by the Met Office and contained within the Survey Report (Appendix A), to determine the ALC grading in accordance with the revised MAFF guidelines (Ref 10).

### 2.3 Significance criteria

- 2.3.1 The IEMA guidelines (Ref 1) provide threshold areas for the permanent sealing of land or land quality downgrading that have been adopted for the Proposed Development. Long term temporary development, such as that of the Proposed Development, presents a low impact magnitude, following the IEMA guidance (Ref 1). The sensitivity of the Site is determined by the ALC conditions on-site. Sensitivity and magnitude criteria are presented in Table 2-1 and Table 2-2 respectively.

**Table 2-1: Sensitivity Criteria**

| <b>Sensitivity / Value</b> | <b>Sensitivity / Value Criteria</b> |
|----------------------------|-------------------------------------|
| <b>High</b>                | ALC Grade 1 & 2                     |
| <b>Medium</b>              | ALC Subgrade 3a                     |
| <b>Low</b>                 | ALC Subgrade 3b                     |
| <b>Very Low</b>            | ALC Grade 4 & 5                     |

**Table 2-2: Magnitude Criteria**

| Magnitude       | Magnitude                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>High</b>     | Permanent irreversible loss (including permanent sealing or land quality downgrading) or permanent improvement of one or more soil functions or soil volumes (due to remediation or restoration) over >20 hectares (ha) of agricultural land.                                                                                                                                                   |
| <b>Medium</b>   | Permanent irreversible loss (including permanent sealing or land quality downgrading) or permanent improvement of one or more soil functions or soil volumes (due to remediation or restoration) over >5 ha <20 ha of agricultural land.                                                                                                                                                        |
| <b>Low</b>      | Permanent irreversible loss (including permanent sealing or land quality downgrading) or permanent improvement of one or more soil functions or soil volumes (due to remediation or restoration) over <5 ha.<br>Temporary loss / reduction of one or more soil function(s) and restriction to current or approved future use (e.g., through degradation, compaction, erosion of soil resource). |
| <b>Very Low</b> | No discernible loss / reduction of soil function(s) that restrict current or approved future use.                                                                                                                                                                                                                                                                                               |

2.3.2 The criteria for determining impact magnitude and sensitivity of agricultural soils are combined in a matrix of significance of effects, presented in Table 2-3.

**Table 2-3: Significance Matrix**

|                                    |          | Magnitude of Impact |            |            |            |
|------------------------------------|----------|---------------------|------------|------------|------------|
| Receptor<br>Sensitivity /<br>Value |          | High                | Medium     | Low        | Very low   |
|                                    | High     | Major               | Major      | Moderate   | Minor      |
|                                    | Medium   | Major               | Moderate   | Minor      | Negligible |
|                                    | Low      | Moderate            | Minor      | Negligible | Negligible |
|                                    | Very low | Minor               | Negligible | Negligible | Negligible |

2.3.3 Major and moderate effects are considered significant, whilst minor and negligible effects are considered to be not significant. The magnitude criteria in Table 2-2 recognise that changes to soil function may be adverse or beneficial. Professional judgement will also be applied in reaching conclusions as to the likely significance of effects.

## 3. Baseline Conditions

### 3.1 The current baseline

- 3.1.1 Soils within the Site may be described according to soil association. Soil associations are groups of soil types that occur typically together in the landscape. Published data from the Soil Survey of England and Wales (Ref 12) describes all soils within the Site and these are summarised as part of this assessment.
- 3.1.2 The soils mapping indicates the soils on-site comprise the Denchworth Association, with the potential for soils of the Wickham 2 Association to encroach on the north of the Site. Soils from the Sherborne Association are found in the central and eastern areas of the Site. The soils are described as follows:
- Denchworth Association (712b) – Slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils. Some fine loamy over clayey soils with only slight seasonal waterlogging and some slowly permeable calcareous clayey soils. Landslips and associated irregular terrain locally.
  - Wickham 2 Association (711f) - Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils. Small areas of slowly permeable calcareous soils on steeper slopes.
  - Sherborne Association (343d) – Very permeable and naturally well drained. Stoneless or slightly stony silty clay over slightly or moderately stony clay over limestone.
- 3.1.3 The survey identified two soil types across the Site, with some localised variability. Generalised profiles of the soil types encountered have been described in Table 3-1 and Table 3-2.
- 3.1.4 Gleying is a distinguishing feature of the soil types. It is the process of iron reduction in soils from ferric (reddish in colour) to ferrous compounds (grey or colourless) when soil is waterlogged. The gleying process and mottling can be used to identify the presence of a slowly permeable layer. The distribution of soil types and survey points is illustrated in Figure 1 of Appendix B.

**Table 3-1: Summary data of soil type 1**

| Depth (mm) | Texture   | Colour                          | % Stones | Mottles                                                   | Structure         |
|------------|-----------|---------------------------------|----------|-----------------------------------------------------------|-------------------|
| 0-200      | Silt clay | Dark Yellowish Brown (10YR 4/4) | 5        | No                                                        | Subangular Blocky |
| 200-700    | Clay      | Dark Brown (7.5YR 3/4)          | 5        | Fine Grey Mottles (GLEY 1 7/N)                            | Coarse Prismatic  |
| 700-1200   | Clay      | Pale Brown (10YR 6/3)           | 5        | Few Fine Ochreous (5YR 5/8) and Grey (GLEY 1 7/N) Mottles | Coarse Prismatic  |

**Table 3-2: Summary data of soil type 2**

| Depth (mm) | Texture                | Colour                          | % Stones | Mottles                                                   | Structure         |
|------------|------------------------|---------------------------------|----------|-----------------------------------------------------------|-------------------|
| 0-250      | Medium silty clay loam | Brown (10YR 4/3)                | 5        | Fine Ochreous Mottles (5YR 5/8)                           | Subangular Blocky |
| 250-700    | Clay                   | Dark Yellowish Brown (10YR 4/6) | 5        | Few Fine Ochreous (5YR 5/8) and Grey (GLEY 1 7/N) Mottles | Coarse Prismatic  |
| 700-1200   | Clay                   | Pale Brown (10YR 6/3)           | 5        | Few Fine Ochreous (5YR 5/8) and Grey (GLEY 1 7/N) Mottles | Coarse Prismatic  |

- 3.1.5 The majority of the Site is soil type 1, with the remainder of agricultural land soil type 2. Flaxlands Lane within the boundary of the Site is classed as non-agricultural land.

## 3.2 The projected future baseline

- 3.2.1 Whilst climate change may present long-term influence on soil wetness and droughtiness (which may in turn influence ALC grading), significant change is not predicted. Without implementation of the Proposed Development, no changes to the current baseline conditions are therefore anticipated.

## 4. Soil and ALC survey data

### 4.1 Soil types and relationship to ALC

- 4.1.1 ALC is governed by factors relating to landform, climatic factors, flood risk and soil characteristics.
- 4.1.2 The Site has land gradients of 0° to 3° and topography is not a limiting factor to the ALC grade.
- 4.1.3 Flood risk from surface waters presents the possibility of rare frequency and long duration or frequent flooding of short duration, over 7.0 ha of the Site. This potential flood risk limits ALC to Subgrade 3a within those areas. The flood risk assessment is provided within the survey report in Appendix A.
- 4.1.4 ALC grade of the soil types within the Site is determined by texture, wetness class and field capacity days. Wetness class is a classification of soil wetness according to depth and duration of water in the soil on a scale of six-classes. Field capacity is the upper limit of soil water storage after gravitational drainage.
- 4.1.5 For soil type 1, the combination of the topsoil texture (silty clay), wetness class II and the number of Field Capacity Days (161.8) results in ALC Subgrade 3b.
- 4.1.6 For soil type 2, the combination of the topsoil texture (medium silty clay loam), wetness class III and the number of Field Capacity Days (161.8) results in ALC Subgrade 3a.

### 4.2 ALC data

- 4.2.1 The ALC grading for the Site is summarised in Table 4-1. The distribution of ALC grades across the Site is illustrated in Figure 2 within Appendix B. Minor modifications to the Site boundary mean that the total area is reduced from the 85.24 ha reported in the ALC survey report contained within Appendix A. The Site for the planning application is 84.78 Ha.

**Table 4-1: ALC distribution**

| ALC grade               | Area (ha) | Percentage |
|-------------------------|-----------|------------|
| <b>Grade 1</b>          | 0         | 0          |
| <b>Grade 2</b>          | 0         | 0          |
| <b>Subgrade 3a</b>      | 12.23     | 14.44      |
| <b>Subgrade 3b</b>      | 72.35     | 85.33      |
| <b>Grade 4</b>          | 0         | 0          |
| <b>Grade 5</b>          | 0         | 0          |
| <b>Non-agricultural</b> | 0.18      | 0.22       |
| <b>Total</b>            | 84.78     | 100        |

## 5. Potential effects

- 5.1.1 The component elements of the Proposed Development and their distribution on Subgrade 3a (BMV land) and Subgrade 3b (non-BMV land) are shown in Table 5-1. The data follows a reanalysis of mapping after minor adjustment of the Site boundary and design elements, which has resulted in a small reduction in the area of Subgrade 3a land reported in the ALC survey report in Appendix A.

**Table 5-1: Design elements of the Proposed Development by ALC**

| Design element                | Area ALC subgrade 3a (ha) | Area ALC subgrade 3b (ha) | Non-agricultural (ha) |
|-------------------------------|---------------------------|---------------------------|-----------------------|
| Photovoltaic (PV) solar array | 7.58                      | 46.83                     | 0                     |
| Substation and BESS           | 0.02                      | 0.88                      | 0                     |
| Access Route                  | 0.38                      | 1.21                      | 0                     |
| Green infrastructure          | 4.25                      | 23.43                     | 0                     |
| Flaxlands Lane                | 0                         | 0                         | 0.18                  |
| <b>Total</b>                  | <b>12.23</b>              | <b>72.35</b>              | <b>0.18</b>           |

- 5.1.2 The proposed use of the Site for PV solar arrays would require approximately 7.58 ha of Subgrade 3a (BMV land) and 46.83 ha of Subgrade 3b (non-BMV land). The PV solar array is a long term temporary development of land that will be available to agriculture upon decommissioning after an operational lifetime of up to 40 years. Within medium sensitivity (Subgrade 3a) BMV land this represents a low magnitude impact and hence a minor adverse effect (not significant). The long-term temporary withdrawal of Subgrade 3b (non-BMV land) represents low magnitude impact to low sensitivity land, which represents a negligible effect (not significant).
- 5.1.3 The Proposed Development will result in the irreversible loss of soil function in the area of the BESS and sub-station, affecting 0.9 ha of land, almost entirely of Subgrade 3b. This represents a negligible adverse effect (not significant).
- 5.1.4 Improvement to soil function is anticipated within green infrastructure to include seeding with species-rich grassland and other measures to meet commitments to biodiversity net gain (BNG). Loss of agricultural land is typically considered an adverse effect and the losses of both BMV and non-BMV land from agriculture to green infrastructure represents a minor adverse effect. This is balanced by a minor beneficial effect to soil function and carbon sequestration, that develops from the absence of cultivation. The positive effect on biodiversity is not considered within this report.
- 5.1.5 Areas of green infrastructure will be maintained at the perimeter of the Site and maintaining wayleaves for utility infrastructure and public rights of way (PRoW). The green infrastructure will also include areas of species-rich grasslands and in total equates to approximately one third of the Site. The grasslands may similarly offer soil health benefits but is assessed overall as a negligible effect (not significant).
- 5.1.6 All potential effects of the Proposed Development on soils and agriculture are deemed minor or negligible and hence not significant.

- 5.1.7 Potential effects of decommissioning at the conclusion of the operational phase of the Proposed Development are considered to be equivalent to the identified effects of construction and were scoped out.

## 6. Summary and Recommendations

- 6.1.1 Two soil types were identified within the Site of the Proposed Development. In distinguishing between soil types, topsoil texture is important in determining ALC grade. Soil type 2 has a medium silty clay loam topsoil and is Subgrade 3a. Soil type 1 has a silty clay topsoil and is Subgrade 3b.
- 6.1.2 The areas of the Site where solar arrays are proposed would result in long-term temporary use of agricultural land, utilising 7.58 ha of Subgrade 3a, BMV land. The effects of this, and of 46.83 ha of Subgrade 3b (non-BMV) land use is minor.
- 6.1.3 Permanent land take for the sub-station and BESS area of the Site falls almost exclusively on non-BMV land. Identifying 0.02 ha of BMV land within this may be an artefact of the resolution of the soil survey and mapping. It represents at worst a negligible adverse effect (not significant).
- 6.1.4 Minor improvements to soil health will develop over the duration of the Proposed Development because of the absence of soil cultivation, but these improvements are reversible if the land is returned to agriculture. Hence the benefits are minor over the operational period but following decommissioning may decline to Negligible.
- 6.1.5 No significant effects on soils and agricultural land are identified from the Proposed Development.
- 6.1.6 Assessment is based on the construction and operational phases of the Proposed Development as decommissioning and reinstatement of land at the end of the Proposed Development's lifetime are equivalent to or less than the construction and operational effects.

## 7. References

Ref 1 Institute of Environmental Management and Assessment (2022). A New Perspective on Land and Soil in Environmental Impact Assessment. (Not available online)

Ref 2 Department for Levelling Up, Housing and Communities (2024), National Planning Policy Framework (NPPF). Available at:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Ref 3 Wiltshire Core Strategy Development Plan. Available at:

<https://www.wiltshire.gov.uk/planning-policy-core-strategy>

Ref 4 Department for Levelling Up, Housing and Communities (2019), Planning Practice Guidance: Natural Environment . Available at: <https://www.gov.uk/guidance/natural-environment>

Ref 5 His Majesty's Government (2015). Statutory Instrument 2015 No. 595, The Town and Country Planning (Development Management Procedure) (England) Order 2015. Available at <https://www.legislation.gov.uk/uksi/2015/595/contents/made>

Ref 6 Natural England (2021). Guide to assessing development proposals on agricultural land. Available at: <https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development>

Ref 7 DEFRA (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. Available at: <https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites>

Ref 8 Natural England (2012). Technical Information Note 049, 'Agricultural Land Classification: protecting the Best and Most Versatile agricultural land'. Available at: <http://publications.naturalengland.org.uk/publication/35012>

Ref 9 Institute of Quarrying (2021) Good Practice Guide for Handling Soils in Mineral Workings. Available at: <https://www.quarrying.org/soils-guidance>

Ref 10 MAFF (1988) 'Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land'. Available at

<http://publications.naturalengland.org.uk/publication/6257050620264448>

Ref 11 British Society of Soil Science (2021). Guidance Document 3: Working with Soil Guidance Note on Benefitting from Soil Management in Development and Construction.

Available at: <http://publications.naturalengland.org.uk/publication/35012>

Ref 12 Soil Survey of England and Wales (1984). Soils and their Use in South West England and accompanying 1:250,000 map Sheet 4. (not available online)

# **Appendix A Agricultural Land Classification (ALC) Report: Land at Flaxlands Farm, Wootton Bassett, October 2024**



## **Agricultural Land Classification (ALC) Report**

### **Land at Flaxlands Farm, Wootton Bassett**

**May 2025**

**AECOM**

**Reference: 240732.AC.03**

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# 1. Scope & Objectives

|                                                                                                                                                                                                      |                                                                                                                                                                                                                            |                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>The Services</b>                                                                                                                                                                                  | Agricultural Land Classification (ALC) Report                                                                                                                                                                              |                                                                                                                                                                                         |
| <b>The Client</b>                                                                                                                                                                                    | AECOM                                                                                                                                                                                                                      |                                                                                                                                                                                         |
| <b>Appointment Details</b>                                                                                                                                                                           | The Services have been carried out in accordance with the revised Proposal dated 26 July 2024 and REL's Terms and Conditions of Engagement, (together " <b>the Agreement</b> ") as accepted by the Client on 29 July 2024. |                                                                                                                                                                                         |
| <b>Site Name</b>                                                                                                                                                                                     | Land at Flaxlands Farm                                                                                                                                                                                                     |                                                                                                                                                                                         |
| <b>Site Address</b>                                                                                                                                                                                  | Flaxlands Lane, Wootton Bassett, Swindon, SN4 8DY (" <b>the Property</b> ")                                                                                                                                                |                                                                                                                                                                                         |
| <b>Proposed Use</b>                                                                                                                                                                                  | It is understood that the site is to be developed for a photovoltaic farm and associated infrastructure, engineering works, access and landscaping.                                                                        |                                                                                                                                                                                         |
| <b>Planning Application</b>                                                                                                                                                                          | None are currently available for viewing (Wiltshire County Council planning portal).                                                                                                                                       |                                                                                                                                                                                         |
| <b>Information Sources</b><br><br>(Where appropriate documents are contained in appendices with data extracts provided and summarised within pertinent sections of this report. List not exhaustive) | <b>Online Source</b>                                                                                                                                                                                                       | Natural England Provisional Agricultural Land Classification Grade (pre-1988), accessed via Magic Web Mapping Service, DEFRA, 2024.                                                     |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | Natural England Agricultural Land Classification Grades Post-1988 Surveys (Polygons) Database and Mapping, accessed via Magic Web Mapping Service, DEFRA, 2024.                         |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | British Geological Survey (BGS) Database and Mapping.                                                                                                                                   |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | BGS Geoindex Web Mapping Service.                                                                                                                                                       |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | BGS 1: 50,000 scale Provisional Series, Geological Map, England and Wales, 252 (Swindon), available on the BGS map portal.                                                              |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | Google Historic Satellite Imagery.                                                                                                                                                      |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | National Library of Scotland Historical Ordnance Survey England and Wales, 1885-1970 Maps.                                                                                              |
|                                                                                                                                                                                                      | <b>Documentation Source</b>                                                                                                                                                                                                | Soil Classification for Soil Survey, Monographs on Soil Survey, Butler, B E (1980), Clarendon Press, Oxford.                                                                            |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | Hodgson, J.M (ed.) (2022). <i>Soil Survey Field Handbook</i> . Soil Survey Technical Monograph No. 5, Cranfield.                                                                        |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | Meteorological Office (Met Office), 1989, Climatological Data for Agricultural Land Classification – Gridpoint Datasets of Climatic Variables, at 5km intervals, for England and Wales. |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | MAFF, 1988, Agricultural Land Classification of England and Wales – Revised Guidelines and Criteria for Grading the Quality of Agricultural Land.                                       |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | Natural England, Technical Information Note TIN049 Second Edition, 2012.                                                                                                                |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                            | Soils and their Use in South West England, 1984, Soil Survey of England and Wales Memoir and accompanying 1:250,000 scale map.                                                          |
|                                                                                                                                                                                                      | <b>Previous Reports</b>                                                                                                                                                                                                    | No previous reports, including Post-1988 ALC surveys, are available for the site.                                                                                                       |
|                                                                                                                                                                                                      | <b>Site Works</b>                                                                                                                                                                                                          | The site works were undertaken by REL in August 2024.                                                                                                                                   |

## 2. Site Details

|                                |                                                                                                                                 |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>National Grid Ref.</b>      | Approximate centre of the site: 406609 185082                                                                                   |
| <b>Ground Level Topography</b> | Range 111 – 152m AOD, average for site: 129m AOD.                                                                               |
| <b>Site Area</b>               | ~85.24 (ha).                                                                                                                    |
| <b>Location</b>                | The site is located along Flaxlands lane, approximately 500m north of the M4 Motorway and 1.7km north of Royal Wootton Bassett. |



**Figure 1:** Site Boundaries (highlighted in red)

|                                           |                                                                                                                                                                                                                         |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Current Site Description and Usage</b> | The subject site comprises agricultural fields which are currently used for arable crop (based on observations made during the site visit).                                                                             |
| <b>Surrounding Land Uses</b>              | Surrounding land uses comprise agricultural fields around the entire site, with a forested area adjacent east of the site, the M4 motorway 0.5km to the south and the town of Royal Wootton Bassett 1.7km to the south. |
| <b>Site History</b>                       | From the earliest mapping dated 1884, the site is shown as agricultural land.                                                                                                                                           |
| <b>Current Grading</b>                    | The site is currently mapped as <b>Grade 3</b> on the provisional 1: 250,000 scale ALC map (MAFF, 1983) see <b>Appendix V</b> for key to the gradings.                                                                  |

### 3. Methodology

#### Desk Study

Using published data sources, an initial desk-based study has been undertaken to provide a reconnaissance of the general site characteristics, including soil type(s) and agricultural classification.

Where available, Post-1988 ALC Surveys (undertaken at varying scales and levels of detail, ranging from 1:5,000 to 1:50,000 scale) have been consulted. Surveys included on this map provide the most detailed and up to date ALC grading following surveys between 1989 and 1999 by MAFF (now part of DEFRA).

Climatological data provided by the Met Office has been used to determine the overriding agroclimatic site limitations, using interpolated values based on the central point of the site.

#### Intrusive Soil Survey

The intrusive soil survey comprised at least one hand auger boring per hectare to a depth of 1.20m below ground level (where achievable) in accordance with current guidance. These were undertaken to examine the soil profiles, using standard soil survey methods.

In addition, in order to determine subsoil structure, at least one inspection pit has been excavated for each soil type encountered.

#### ALC Grade Assessment

All factors have been considered (listed in **Appendix V**), including those which pose no limitation on the ALC grading for the site.

Using the information collected during the site survey and the MAFF ALC guidance documents, an ALC grade was then determined for the site (**Appendix I**). A brief overview of relevant terminology is included in **Appendix V**.

## 4. Desk Based Reconnaissance

Prior to the intrusive site investigation, a review of available desk-based information was undertaken. Pertinent information has been summarised below.

### Climate Data

Using the climatological data set (Met Office, 1989) the following information (**Table 1**) has been calculated for the site. Calculations comprised altitude adjustment and interpolation, using the formula presented within the data set.

**Table 1:** Summary of Agroclimatic Data for the Site

| (Site Centre Grid Reference: 406609, 185082) |       |         |
|----------------------------------------------|-------|---------|
| Average Annual Rainfall (mm)                 | AAR   | 726.42  |
| Accumulated Temperature (°C)                 | ATO   | 1384.66 |
| Field Capacity Duration (Days)               | FCD   | 161.84  |
| Moisture Deficit Wheat (mm)                  | MDWHT | 102.25  |
| Moisture Deficit Potatoes (mm)               | MDPOT | 92.50   |

The site is identified to have a slightly below average AAR, FCD and ATO when compared to the mapped values for the area west of Swindon (Soils and their Use in South East England, 1984).

Using the AAR and ATO values within **Table 1**, the site is considered to be Grade 1 according to climate (Figure 1, MAFF 1988). Therefore, climate is considered to not be a limiting factor on the site.

### Topography

The site was identified to have a gradient between 0° and 3°, therefore topography is identified to not be a limiting factor of the ALC grade of the site (Table 1, MAFF 1988).

### BGS Published Data

A review of BGS information has identified that no Made Ground areas are indicated across the site.

The site is situated within an area recorded to be largely free of superficial deposits, however, a portion in the eastern area of the site south of Flaxlands Lane is indicated as being overlain by superficial deposits of Sand and Gravel of Uncertain Age and Origin (Gravel, Sand, Silt, and Clay).

The bedrock geology of the site is complex, with the west area the site recorded as being underlain by the Oxford Clay Formation (Mudstone). A band running across the centre of the site is recorded as the Hazelbury Bryan Formation and Kingston Formation (Sandstone, Siltstone and Mudstone). A larger band running east and parallel of the aforementioned is recorded as the Stanford Formation (Limestone). The northeastern boundary of the site is recorded as the Ampthill Clay Formation and Kimmeridge Clay Formation (Mudstone).

### **Published Soils Data**

Soils mapping for the area as shown on *Soils and their use in South West England*, 1984, Soil Survey of England and Wales Memoir and accompanying 1:250,000 scale map has been reviewed as part of this assessment. The location of the site is shown in the soils mapping extract below in **Figure 2**.

The soils mapping suggests the soils on site comprise the Denchworth Association, with the potential for soils of the Wickham 2 Association to encroach on the north of the site and the Sherborne Association in the central and eastern areas of the site. The soils are described as follows:

- **Denchworth Association (712b)** – Slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils. Some fine loamy over clayey soils with only slight seasonal waterlogging and some slowly permeable calcareous clayey soils. Landslips and associated irregular terrain locally.
- **Wickham 2 Association (711f)** - Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils. Small areas of slowly permeable calcareous soils on steeper slopes.
- **Sherborne Association (343d)** – Very permeable and naturally well drained. Stoneless or slightly stony silty clay over slightly or moderately stony clay over limestone.



**Figure 2:** Soils Mapping for the Site and Surrounding Area (site location indicated in red)

## Historic Mapping



**Figure 3:** (25 inch to the mile) Map Great Britain 1876-1884 Historic Map

**Figure 3** shows that the site has always been agricultural land and woodland, with Flaxlands Manor Farm being present since 1885.

## Previous Reports

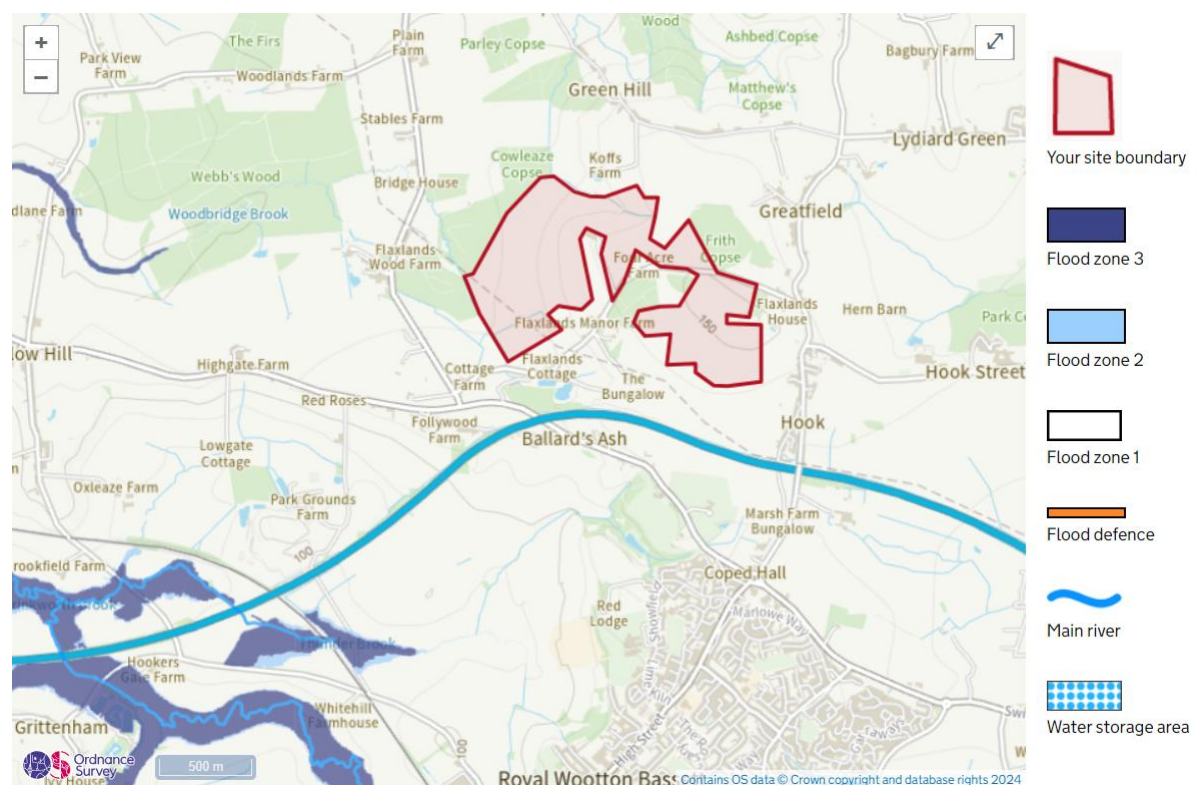
No post-1988 surveys are available for the site and immediate surrounding area.

## Flood Risk Assessment

Since the ALC guidance document was published in 1988, the Environment Agency (EA) has updated the way the risk of flooding is assessed. Therefore, the terms used in the MAFF 1988 guidance (**Table 2**) have been paired to the current EA flood risk classifications below.

**Table 2:** Summary of Flood Risk for the Site

| EA Flood Classification       | MAFF Flood Classifications |
|-------------------------------|----------------------------|
| Zone 3a High Probability      | Frequent                   |
| Zone 3b Functional Floodplain | Frequent                   |
| Zone 2 Medium Probability     | Occasional                 |
| Zone 1 Low Probability        | Rare to Very Rare          |

**Figure 4:** Flood Risk Present from Rivers and the Sea for the Site (approximate site boundary defined in red)

The interactive EA Flood Map for Planning on the UK Government website identifies the site to be within a Flood Zone 1 (Low Probability) area (**Figure 4**).