



Dean Moor Solar Farm

Environmental Statement: Non-Technical Summary

on behalf of **FVS Dean Moor Limited**

March 2025
Prepared by: Stantec UK Ltd
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Firma Energy

 **ib vogt**

**DEAN MOOR SOLAR FARM
ENVIRONMENTAL STATEMENT
NON-TECHNICAL SUMMARY
PLANNING INSPECTORATE REFERENCE EN010155
PREPARED ON BEHALF OF FVS DEAN MOOR LIMITED**

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009, Regulation 5(2)(a)**

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1 Introduction

1.1 Background

- 1.1.1 This document provides a non-technical summary ('NTS') of the Environmental Statement ('ES') [REF: 6.4] prepared to support a proposed Development Consent Order ('DCO') application for Dean Moor Solar Farm ('the Proposed Development') which has been submitted by FVS Dean Moor Limited ('the Applicant'). The Proposed Development would generate over 50 megawatts ('MW') of electricity and is therefore categorised as a Nationally Significant Infrastructure Project ('NSIP') requiring authorisation by a DCO, determined by the Secretary of State.

1.2 Purpose of the ES and NTS

- 1.2.1 The ES has been prepared in accordance with national legislation (Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations')¹, the Planning Inspectorate's Guidance (2025) Nationally Significant Infrastructure Projects: *Advice on the Preparation and Submission of Application Documents* and the Planning Inspectorate's², *Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements*³.
- 1.2.2 The ES presents the findings of the Environmental Impact Assessment ('EIA') undertaken to report the likely significant environmental effects resulting from the construction, operation, and decommissioning phases of the Proposed Development, including measures to mitigate adverse environmental effects.
- 1.2.3 The purpose of the NTS is to describe the Proposed Development and explain the key findings of the ES in a concise way using non-technical language.

¹ Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

² HM Government (2025). Planning Inspectorate. Guidance Nationally Significant Infrastructure Projects: Advice on the Preparation and Submission of Application Documents

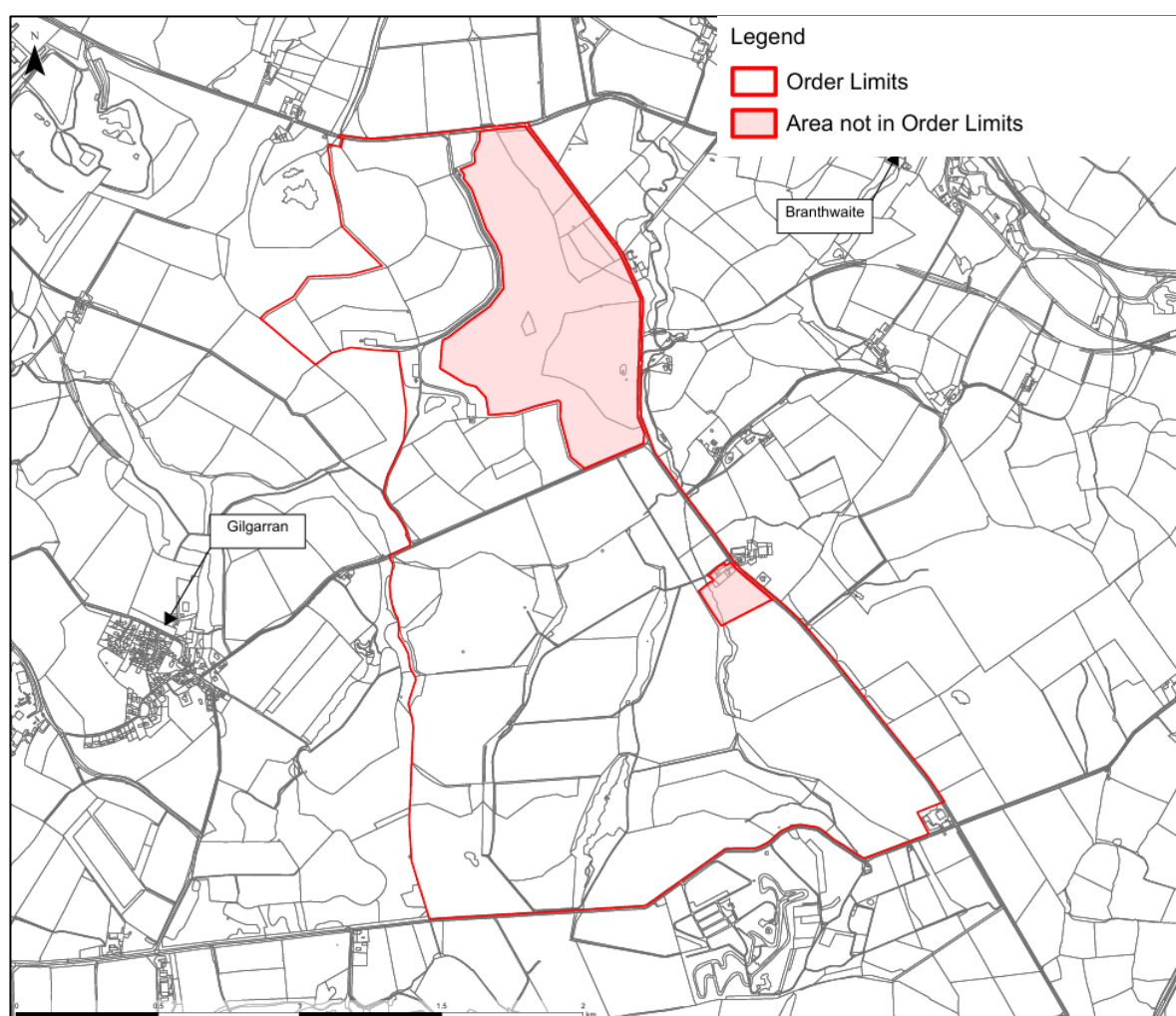
³ HM Government (2020). Planning Inspectorate Guidance Nationally Significant Infrastructure Projects - Advice Note Seven: Environmental Impact Assessment: process, preliminary environmental information and environmental statements

1.2.4 Figures are included within this NTS to assist the reader. Full size figures are provided at the end of this NTS.

1.3 The Site and Proposed Development

1.3.1 The Proposed Development comprises the construction, operation, and decommissioning of a solar energy generating station comprising solar photovoltaic ('PV') arrays, associated infrastructure, and landscape and biodiversity enhancements on approximately 276.50 hectares ('ha') of land located between the villages of Gilgarran and Branthwaite in West Cumbria (the 'Site') (see Figure 1.1), which is situated within the administrative area of Cumberland Council (the 'Council'). The Proposed Development will be within the 'Order Limits' (the land shown on the Works Plans) [REF: 2.3] within which the Proposed Development can be carried out.

Figure 1.1: The Site Boundary



- 1.3.2 The Proposed Development includes solar panels installed on the ground, associated infrastructure (including access tracks, cabling, landscaping, drainage and security and monitoring systems), a connection to the local power grid, and improvements to the surrounding environment. The Proposed Development will be able to produce up to 150MW of electricity at any time.

1.4 The Applicant

- 1.4.1 FVS Dean Moor Limited ('the Applicant') is a joint-venture partnership between two renewable energy development specialists: Firma Energy ('Firma Energy') and ib vogt ('IBV').
- 1.4.2 Firma Energy, founded in 2021, is an independent management-owned energy development company based in Leeds. Firma Energy focuses on creating and delivering renewable energy developments with environmental and social benefits.
- 1.4.3 IBV is a leading utility-scale solar development platform with a global footprint and a 20-year track record of solar farm design and engineering, construction, and operational site management.

2 Environmental Impact Assessment Methodology

2.1 Introduction

- 2.1.1 Chapter 2 – EIA Methodology of the ES **[REF: 6.1]** sets out the methodology used to assess impacts associated with the Proposed Development, and the criteria used to determine the significance of these impacts.
- 2.1.2 The ES presents the findings of the EIA undertaken for the Proposed Development and has been compiled in accordance with the EIA Regulations and relevant guidance from the Planning Inspectorate, the institution that manages the administration of the NSIP planning process, on behalf of the Secretary of State for the Department for Energy Security and Net Zero ('DESNZ').
- 2.1.3 The EIA Regulations set out the legal process and minimum requirements for the provision of adequate environmental information to enable the EIA process. The completed EIA, activities, surveys, and studies are reported in the ES submitted with the DCO application.

2.2 EIA Scoping

- 2.2.1 EIA Scoping is a step in the EIA process where the approach as to how to assess a project's potential impact on the environment is agreed with the Planning Inspectorate. This step focuses on identifying important environmental issues that a project might affect.
- 2.2.2 In August 2023, the Applicant submitted a Scoping Report (ES Appendix 2.1) **[REF: 6.3]** with details about the Proposed Development and what the EIA would cover. The Scoping Report identified anticipated environmental impacts that are likely to result in significant effects and set out which topics should be scoped in (assessed as part of the ES) and out of the ES.
- 2.2.3 The Planning Inspectorate reviewed this report and confirmed the approach. The Planning Inspectorate's views on the proposed scope of

the EIA are written into a document called a Scoping Opinion (ES Appendix 2.2) **[REF: 6.3]**, which was adopted in September 2023. The following topics have been scoped into the ES – i.e. included for detailed assessment:

- Cultural Heritage;
- Landscape and Visual;
- Biodiversity;
- Climate Change; and
- Ground Conditions.

2.2.4 Water Quality, Soils, Lighting, Glint and Glare, and Major Accidents and Disasters have also been scoped into the ES but are addressed within the assessments for the topics set out above, where relevant, rather than as separate chapters.

2.2.5 The topics scoped out of the ES as a separate chapter. i.e., where significant effects are not anticipated because of the Proposed Development are listed below. However, some of these topics have been considered in technical reports appended to the ES:

- Agricultural Land (as a standalone technical report provided at ES Appendix 2.8) **[REF: 6.3]**;
- Soils (provided as a standalone outline management plan at ES Appendix 5.3) **[REF: 6.3]**;
- Water Resources and Flood Risk (provided as standalone technical reports at ES Appendices 2.3 and 2.4) **[REF: 6.3]**;
- Air Quality;
- Traffic and Access (provided as a standalone technical report at ES Appendix 2.5 and an outline management plan at ES Appendix 5.2) **[REF: 6.3]**;
- Noise and Vibration (provided as a standalone technical report at ES Appendix 2.6) **[REF: 6.3]**;
- Major Accidents and Disasters;
- Electric Magnetic and Electromagnetic Fields;
- Telecommunications, television reception and utilities;
- Wind Microclimate;
- Daylight, Sunlight and Overshadowing;
- Waste;
- Minerals;

- Lighting; and
- Glint and Glare (provided as a standalone technical report at ES Appendix 7.9) [REF: 6.3].

2.2.6 Socio-economics was originally scoped into the ES, in line with the Scoping Report. A socio-economics chapter was therefore included at the PEIR stage⁴ as Chapter 10 (see ES Appendix 2.7) [REF: 6.3], and no significant effects were identified that related directly to socio-economics. The only significant effects that were identified related to landscape and visual amenity and climate change which were therefore covered in their respective ES chapters (7 and 9). For this reason, a socio-economics chapter was removed from the ES.

2.2.7 Potential effects linked to human health arising from the Proposed Development have been taken into account and it is considered that they will be managed via mitigation within other topic assessments, such as Climate Change and Ground Conditions. Therefore, a significant risk to human health is not anticipated, and a human health ES Chapter or 'Health Impact Assessment' has not been included as part of the ES.

2.3 Assessment Methodology

2.3.1 The assessments in the ES look at how the Proposed Development might impact the environment during different stages: construction, operation, and decommissioning. They consider how important or sensitive the environment is (like people or wildlife) and how big and long-lasting the changes might be.

2.3.2 The ES predicts what the significance of each environmental effect would be, which is determined by two factors:

- The sensitivity, importance, or value of the receptor (such as value of a heritage asset (e.g., a listed building or world heritage site ('WHS')), or sensitivity of residential receptors to changes in air quality) to the effect; and
- The actual magnitude of change taking place to the environment (i.e., the size or severity of change taking place because of the Proposed

⁴ PEIR (Preliminary Environmental Information Report) stage provides information to enable statutory bodies, the local community, and the general public, consulted as part of the formal DCO consultation process, to come to an informed view on the likely significant environmental effects of the Proposed Development. The information contained within the PEIR is 'preliminary', reflecting the design of the Proposed Development at the time of writing.

Development compared to the existing baseline (the current environment)).

2.3.3 An environmental effect can be categorised as either permanent or temporary. The duration of temporary effects comprises:

- Short-term (a period of up to 1 year);
- Medium-term (a period of between 1 year and up to 5 years); and
- Long-term (a period of more than 5 years).

Assessment Scenarios

2.3.4 For the purposes of the EIA, a construction phase of 18 months has been assumed for assessments.

2.3.5 However, it is possible that the construction phase will take longer than 18-months, so that the construction can be undertaken in a manner than minimises risk of environmental damage, particularly for the soil resources. An extended construction programme would be considered to have less of an environmental effect than an 18-month programme, as construction in unfavourable conditions such as when the Site is waterlogged can be reduced or avoided. Therefore, 18 months has been chosen as a 'worst-case scenario' i.e., the most intensive scenario as construction activity would be taking place in a shorter time period.

2.3.6 The operational lifespan of the Proposed Development is proposed to be up to 40 years. It is assumed that negative environmental effects that could arise from replacement of all solar panels during this period, due to the presence of equipment and replacement activities, would not be worse than effects from the construction phase. Therefore, the replacement of all the solar panels at once during the operational phase is not assessed as a scenario within the ES. The operational phase therefore assesses the effect of the presence of solar arrays across the Site and associated infrastructure, including limited on-going maintenance and cleaning, and ad-hoc replacement of equipment and/or arrays as required.

2.3.7 The decommissioning of the Proposed Development is anticipated to take up to 12 months as this would be the most intensive timing of decommissioning activities. Although as with construction, allowances will

be made for a longer period depending on Site conditions (e.g., waterlogging).

Assessment of Effect Significance

- 2.3.8 After the magnitude of the impact and the sensitivity of the receptor/resource have been determined, the effect significance is classified using the matrix in Table 2.1. This illustrates the interaction between impact magnitude and receptor sensitivity. Effects can be positive (beneficial) or negative (adverse).

Table 2.1: Effect Significance Matrix

Magnitude	Sensitivity			
	High	Medium	Low	Very Low
High	Major Adverse / Beneficial	Major Adverse / Beneficial	Moderate Adverse / Beneficial	Minor Adverse / Beneficial
Medium	Major Adverse / Beneficial	Moderate Adverse / Beneficial	Minor Adverse / Beneficial	Negligible
Low	Moderate Adverse / Beneficial	Minor Adverse / Beneficial	Negligible	Negligible
Very Low	Minor Adverse / Beneficial	Negligible	Negligible	Negligible

- 2.3.9 In general, major, and moderate effects (adverse/beneficial) on the receptor are considered significant (those in bold in Table 2.1), whilst minor and negligible effects are considered not significant. Where this differs for a technical assessment, it is set out in the corresponding chapter.
- 2.3.10 Professional judgement has also been applied by the various technical specialists and may have moderated the significance of an effect where necessary, considering the professional's understanding of the balance between magnitude, sensitivity and whether an effect is permanent, temporary, reversible, and likelihood of reoccurrence.

- 2.3.11 The ES includes a description of the current environmental conditions known as the baseline conditions (identified from published information and surveys on the Site), against which the likely significant environmental effects of the Proposed Development have been assessed against (a change from the baseline). The ES also looks at the future baseline and how, in the absence of the Proposed Development, the Site may change.
- 2.3.12 The EIA also identifies measures to avoid or reduce significant adverse effects. These are known as mitigation measures. There are two types of mitigation measures which are defined as follows:
- ‘Embedded mitigation’ refers to measures which are an inherent part of the design of the Proposed Development, which are secured through the ‘Work Plans’ through the DCO, for example ensuring that key habitat features are unaffected by the layout of the Proposed Development; and
 - ‘Additional mitigation’ measures are proposed, as necessary in each technical assessment, to reduce, avoid, or offset the potential negative effects of the Proposed Development, for example through various management plans such as a Construction Environment Management Plan which will includes measures that must be followed during construction of the Proposed Development to mitigate the impacts of construction.
- 2.3.13 The ‘residual’ effects are the effects that remain after considering the implementation of embedded and additional mitigation measures.

Consultation

- 2.3.14 As required by the Planning Act 2008, statutory consultation for the Proposed Development took place between 11 March – 26 April 2024. In addition, an initial, non-statutory consultation, was carried out between 3 October – 3 November 2023.
- 2.3.15 The issues that were raised in response to both Non-Statutory and Statutory Consultation, as well as how the have been addressed and responded to is detailed within the Consultation Report **[REF: 5.1]**, and the relevant technical chapters of the ES.

3 Site and Development Description

3.1 Introduction

- 3.1.1 Chapter 3 – Site and Proposed Development Description of the ES [REF: 6.1] provides an overview of the Site and surrounding area, and a description of the Proposed Development.

3.2 The Site Location and Description

- 3.2.1 The Site (shown in Figure 1.1) [REF: 6.2] extends to approximately 276.50ha and is located approximately 1.1km east of the Lillyhall Industrial Estate, 600m east of the small village of Gilgarran, 900m west of Branthwaite, and 5km southeast of Workington town centre on the west Cumbrian coast. The hamlet of Branthwaite Edge is directly adjacent to the east of the Site.
- 3.2.2 The Site is divided primarily into four areas referred to as 'Area A', 'Area B', 'Area C' and 'Area D' These areas are shown on Figure 3.1 [REF: 6.2] (an excerpt of which is included below).
- Area A – Land south of Branthwaite Road (approximately 40.2ha);
 - Area B – Land south of Branthwaite Road and north of Gilgarran Road (approximately 19.9ha);
 - Area C – Land south of Gilgarran Road and north of Dean Cross Road (approximately 203ha); and
 - Area D - Land connecting Areas A and B, including Potato Pot Wind Farm (the 'Wind Farm'), Gilgarran Road between Areas B and C, and Branthwaite Edge Road (approximately 13.4ha).
- 3.2.3 The northern part of the Site (referred to as Area A) boundary adjoins an unclassified road, hereafter referred to as 'Branthwaite Road'. The southern part of the Site boundary is adjacent to Dean Cross Road. The unnamed north/south road between Branthwaite Road and Dean Cross Road, forming the eastern boundary of much of the Site (known as Area C), is 'Branthwaite Edge Road'. The Site (Area B and C) is bisected by an unclassified road between Gilgarran and Branthwaite Edge, hereafter referred to as the 'Gilgarran Road' (also locally known as Colingate Road).

3.2.4 Land within the Site is rural and mostly used for sheep grazing, although it has a history of quarrying and mining. There are no residential dwellings within the Site, and the wider area beyond the Site is sparsely populated.

Figure 3.1: Solar Farm Area Plan

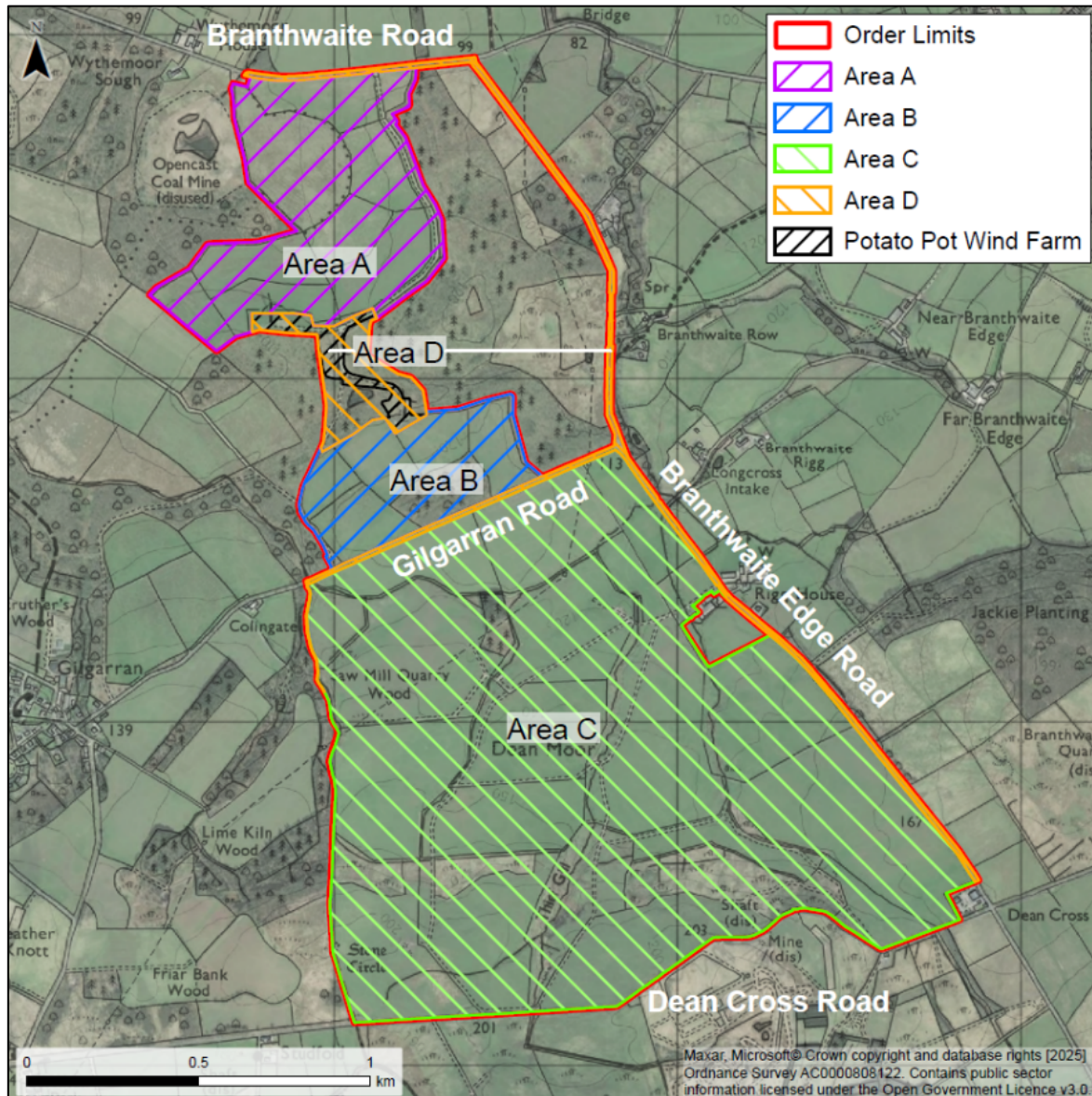
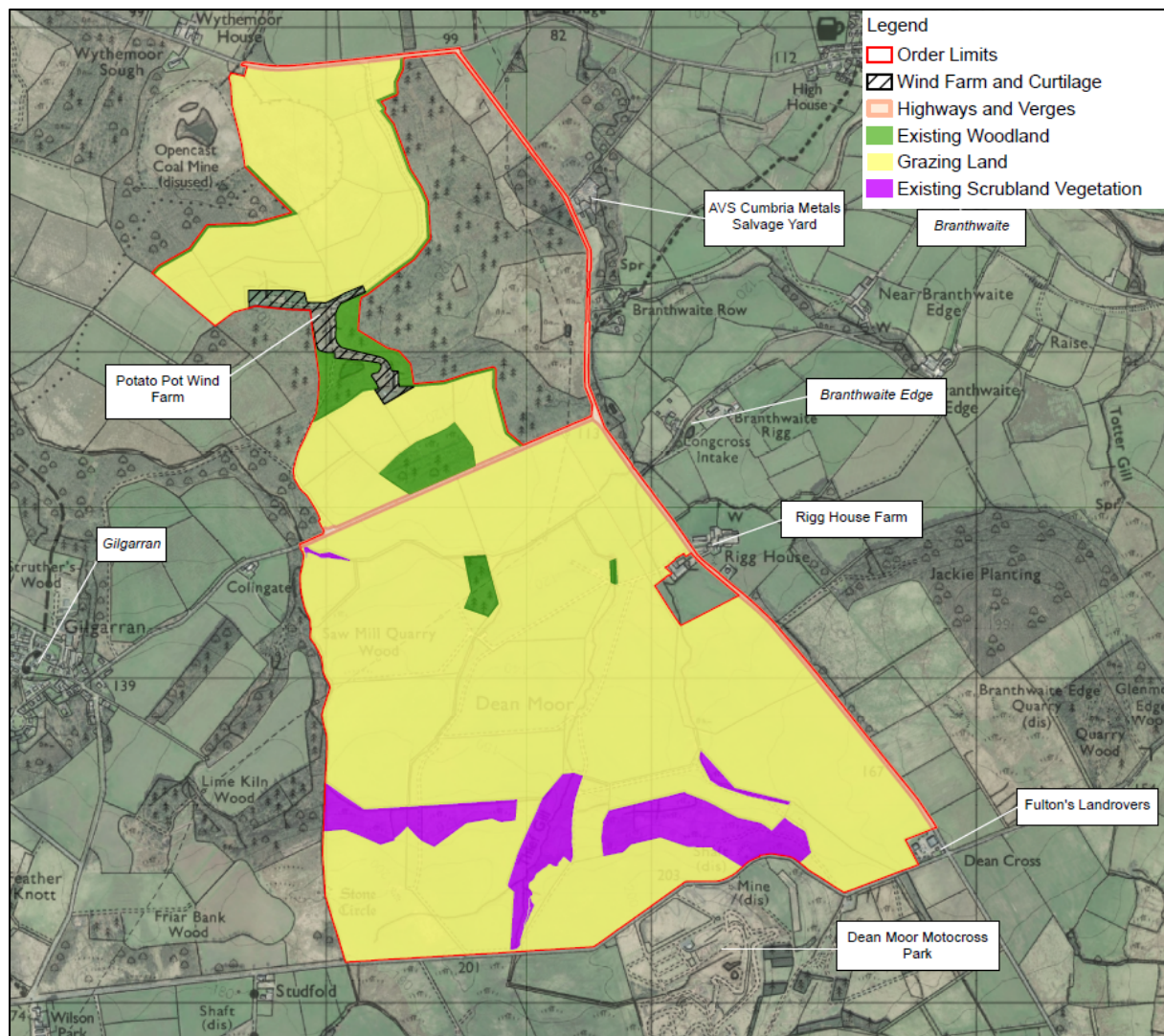


Figure 3.2: Land Use Plan



3.2.5 Notable landscape features within the Site include woodland at different stages of growth and small streams within Area C, which flow from high ground in the south to the northeast towards Branthwaite Edge. Aside from the woodland, vegetation is broadly limited to field boundary hedgerows, often supported by old dry-stone walls or wooden post and wire fences.

3.2.6 There is a small existing operational wind farm ('the Wind Farm')⁵ located within Area D and between Areas A and B. The Wind Farm consists of three wind turbines.

⁵ planning ref. 2/2012/0594

3.3 The Proposed Development

3.3.1 The Proposed Development will include the following key elements of infrastructure:

- Solar PV panels;
- Solar PV array mounting structures;
- Power Conversion System ('PCS') Units in the form of Inverters and Transformers;
- Grid Connection Infrastructure comprising Customer and DNO Substation Buildings and external electrical equipment and ancillary infrastructure within a Security Fence;
- Perimeter Fencing, Gates, CCTV cameras, electrical cabling, and other associated infrastructure;
- Access from the highway and internal access tracks; and
- Green infrastructure including landscape planting and ecological enhancements.

3.3.2 Figure 3.3a and 3.3b show the Parameter Plan for the Proposed Development which has been used as a 'worst case' to assess the likely significant effects within the ES, representing the maximum parameters of where elements of the Proposed Development could be located, as well as key environmental features within the Site, such as watercourses and hedgerows.

3.3.3 The Proposed Development will include a new substation to connect to the existing 132 kilovolt ('kV') overhead power lines ('OHL') which run across the north of Area C. There are various sections of 11kV OHL within the southern and northern parts of the Site, as shown on Figure 3.3a and 3.3b.

Figure 3.3a: Parameter Plan (Areas A, B, and D)

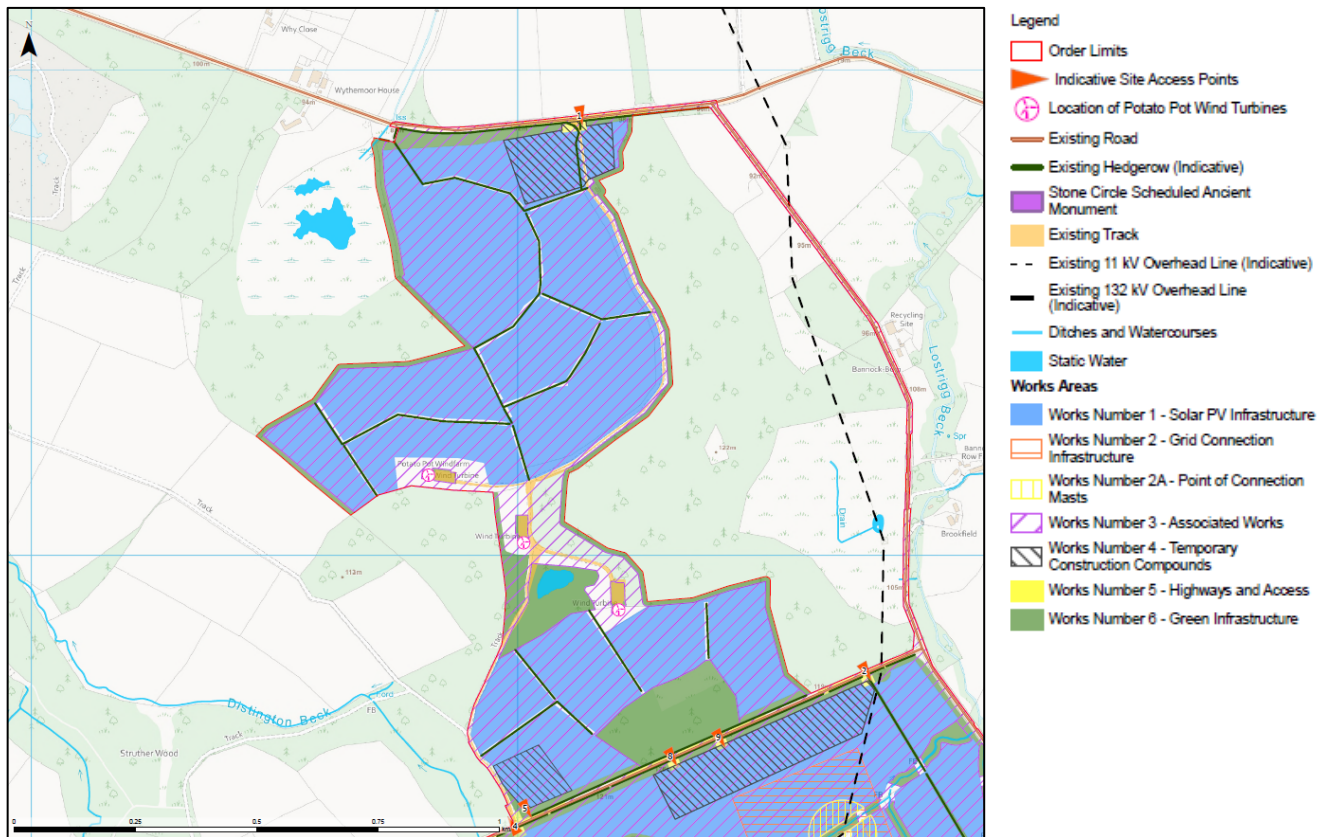
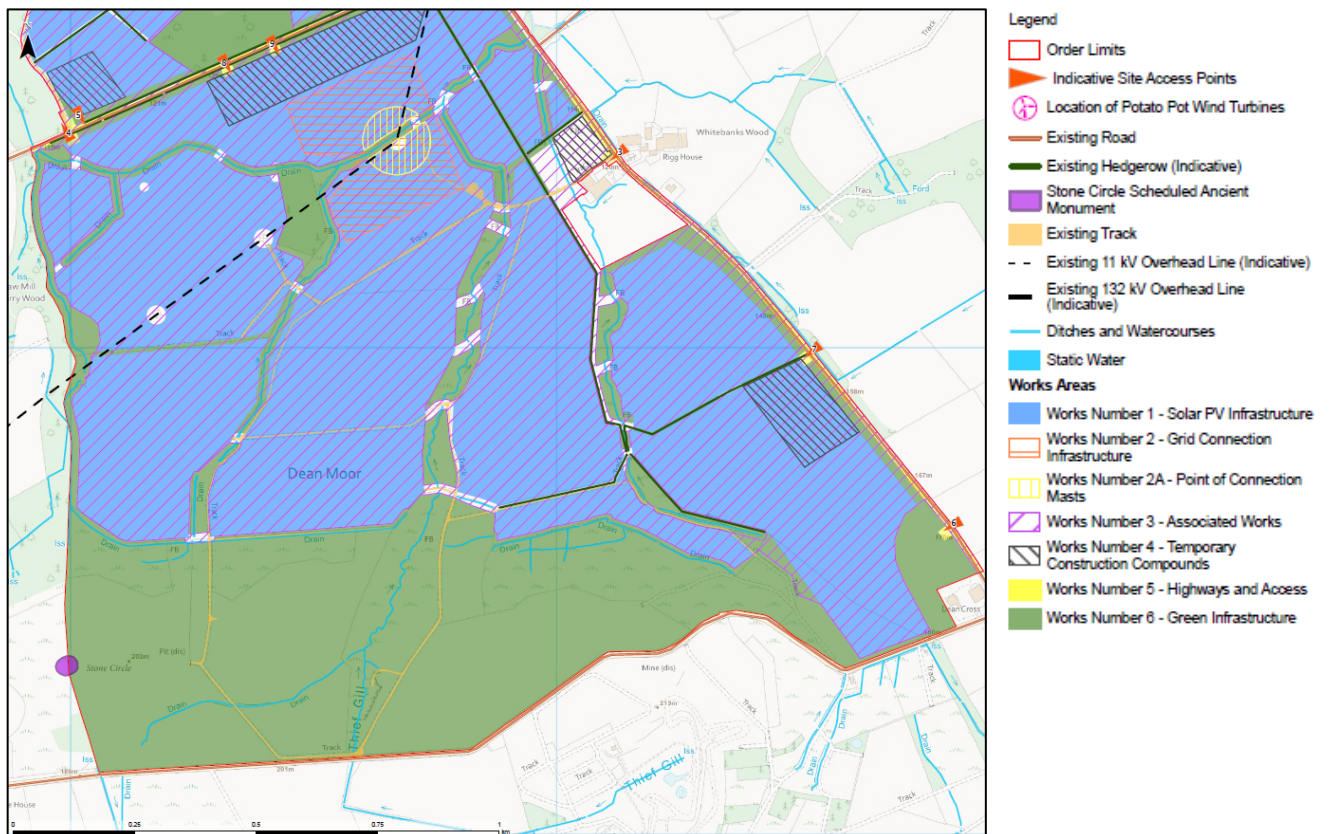


Figure 3.3b: Parameter Plan (Area C)



- 3.3.4 The generating station will send electricity directly to the local grid and will be able to produce up to 150 megawatts ('MW') of electricity at any time. The goal of the Proposed Development is to create clean, renewable energy to the local area and to help reduce the UK's carbon emissions.
- 3.3.5 Solar PV technology is rapidly evolving, and the best available technology at the time of construction will be used. In general, the efficiency of solar panels is improving such that the quantity of panels needed to generate a given amount of energy is decreasing.
- 3.3.6 The Proposed Development is reversible and is currently proposed to have an operational lifespan of up to 40 years.
- 3.3.7 During the operation of the Proposed Development, periodic visits will be required to the Site for maintenance activities, including servicing and cleaning of plant and equipment, and vegetation management.

4 Alternatives and Design Evolution

4.1 Introduction

- 4.1.1 Chapter 4 – Alternatives and Design Evolution of the ES [REF: 6.1] provides a description of the Proposed Development's design evolution, and the main alternatives considered, in line with the EIA Regulations.

4.2 The 'Do Nothing' Alternative

- 4.2.1 The 'do nothing' alternative considers the future conditions at the Site, should the Proposed Development not progress. In this case, the Site would stay as farmland, and none of the positive or negative effects reported in the ES and this NTS would happen.

4.3 Site Selection and Consideration of Alternative Locations or Uses

- 4.3.1 The site selection process involved four stages:
- Identification of a suitable connection to the Grid Network;
 - Review of Land Availability and Suitability;
 - Constraints Review of Land; and
 - Identification of Additional Land.
- 4.3.2 Securing a suitable connection into the local / national grid network is a key determinant of whether a site may be viable for solar. A grid connection point was identified by the Applicant at the 132kV OHL in Area C of the Site, which take on the electricity generated by the Proposed Development. No new OHLs or pylons are needed, and no extra cables will be required off-Site. The Applicant also reached provisional agreement with a landowner who owns the fields where the pylons are located. This land was determined to have fewer environmental issues compared to other areas and was considered suitable for the Proposed Development.

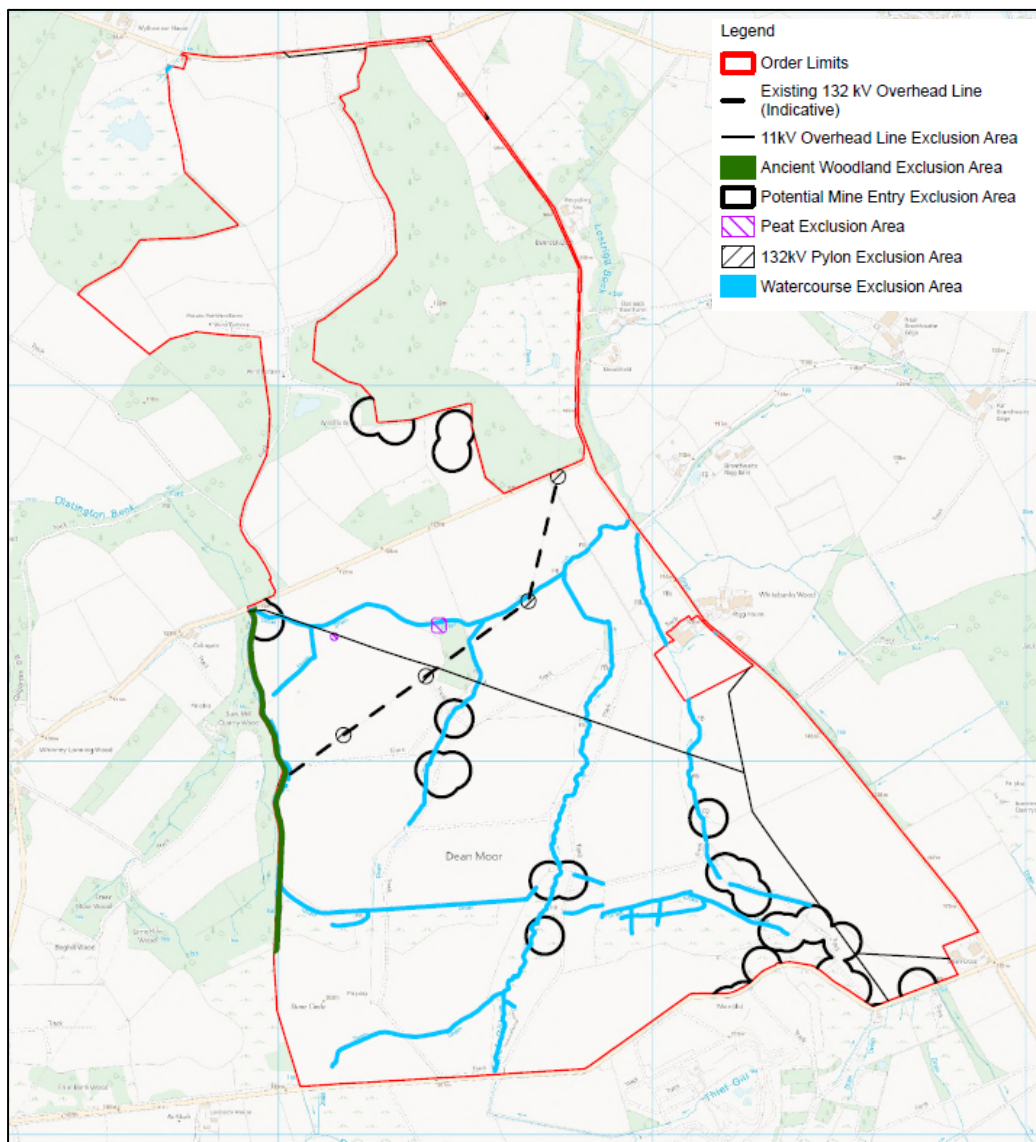
4.3.3 The land selected was considered suitable for the following reasons:

- Solar Irradiation⁶ – the rural, undeveloped Site is not overshadowed, maximising the amount of available sunlight;
- Topography – the Site is relatively enclosed and benefits from natural screening;
- Agricultural Land – Area C was the subject of a survey by the Department for Environment, Food and Rural Affairs ('Defra') which assessed the quality of the land. It concluded that the land within Area C is not high quality 'Best and Most Versatile' ('BMV') land (as shown on Figure 4.2), and was more suitable for the Proposed Development;
- Visual Impact – There are relatively few properties in the area so visual impact on residential receptors would be limited;
- Landscape designations – The Site is not within a key landscape designation area, such as a National Landscape (formerly an Area of Outstanding Natural Beauty). Other areas to the south would have a greater visual impact on the Lake District National Park ('LDNP');
- Ecological designations – There are no national or internationally important ecological designations on or adjacent to the Site;
- Accessibility – The Site can be readily accessed from local roads and is 3km east of the A595 which connects to the A66, meaning construction traffic would avoid rural settlements. The Site also benefits from existing internal access tracks and access points;
- Public Rights of Way ('PRoW') – No designated PRoW (routes over which the public have the right to pass) are located within the Site;
- Cultural Heritage Designations – There is only one designated heritage receptor in the southwest corner of Area C. However, it is located on higher ground which would not be developed on as part of the Proposed Development; and
- Flood Risk – The Site is located in Flood Zone 1 'Low Probability' in the Environment Agency ('EA') Flood Zone Map which is the lowest risk area of flooding from rivers/sea and the Site has low risk of surface water flooding.

4.3.4 Whilst the Site was favourable for the abovementioned reasons, there are areas within the Site that presented hazards and design restrictions. These include areas of peat and coal mine hazard areas. For this reason, these areas that are potentially excluded from having certain types of infrastructure such as solar panels and substations located on them where appropriate, and these areas are mapped on Figure 4.1 (an extract of which is shown below).

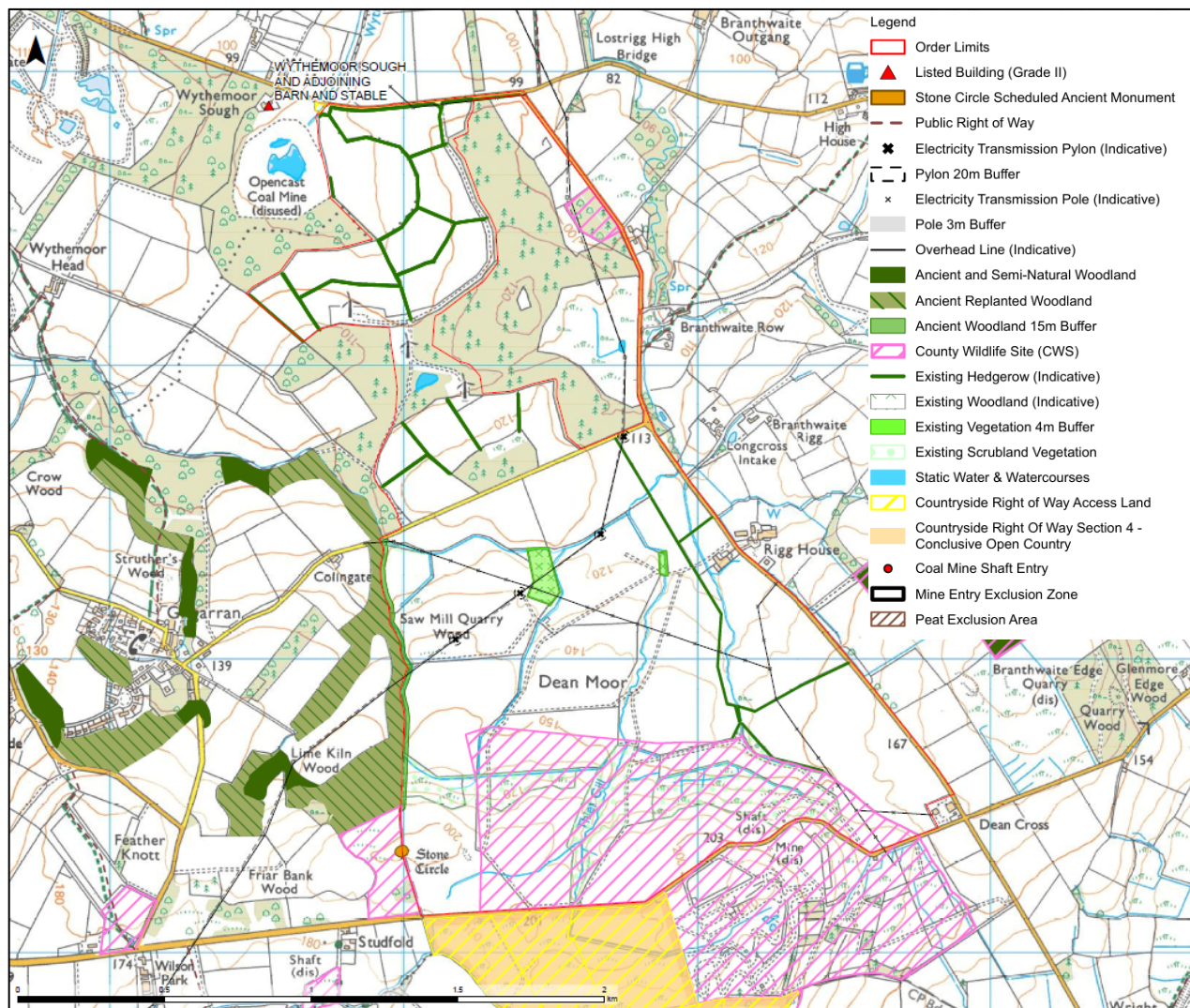
⁶ Solar irradiance is the power per unit area (surface power density) received from the Sun in the form of electromagnetic radiation in the wavelength range of the measuring instrument.

Figure 4.1: Exclusion Areas



4.3.5 It became clear, through a more detailed desk-based assessment, that the developable area within Area C was constrained by several factors which limited the placement of solar arrays, which are mapped in Figures 4.1 and 4.2. Upon review of these constraints, it became apparent that additional land would be necessary to reach the export capacity (150MW) and provide enough flexibility to be able to respond to any future environmental issues.

Figure 4.2: Combined Constraints Plan



4.3.6 The selection of additional land was led by a preliminary Zone of Theoretical Visibility ('ZTV') (area from which the Proposed Development can be seen) with a 7.5km study area. This was to make sure it was considered how the Proposed Development might look from the LDNP, which is very sensitive to visual impacts. The study found several possible land areas to the north and northwest of the Site. They excluded land to the south and east because it could have significant negative visual impacts, including views from the LDNP.

4.3.7 Areas A and B were chosen because they are mostly hidden from the LDNP by trees. The land in these areas is not high-quality farmland, with Area A being an old colliery site. Area A also has a wide access point from Branthwaite Road, used for building the Wind Farm, and internal tracks

that connect to the north of Area B. Area B has an existing access point on Gilgarran Road, making it easy to reach from Area C.

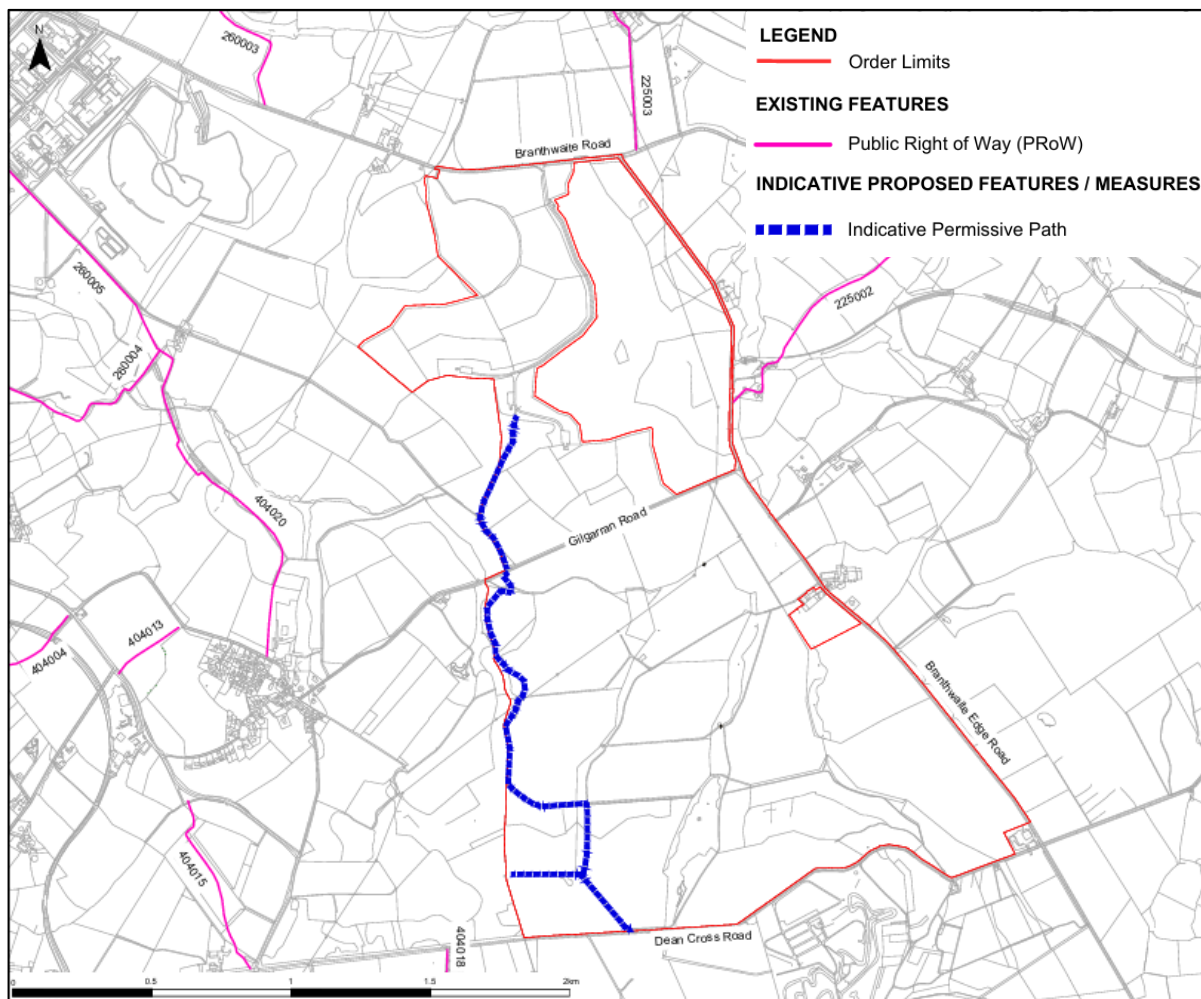
4.4 Consideration of Alternative Designs

4.4.1 The design of the Proposed Development has changed over time to make the best use of the land, considering both challenges and opportunities. Adjustments were also made after the non-statutory and public consultation events in Autumn/Winter 2023 and the statutory and public consultation events in Spring 2024 (March – April). These changes include:

- Rearranging the solar panels to lessen visual impact and increasing the distance between the panels and nearby properties;
- Provision of two new access points (8 and 9) were also added compared to an earlier plan;
- Removal of the battery energy storage system for ground conditions, agricultural land, and soil reasons; and
- Amendments to the landscaping and ecological enhancements.

4.4.2 During the consultation events, it was found that there are informal paths around and through the Site that locals use. The layout of the Proposed Development has accounted for the potential formalisation of these paths. Additionally, two permissive paths are proposed for which signage will be provided, shown on Figure 4.3.

Figure 4.3: Permissive Paths and PRoW



- 4.4.3 The design and layout of the Proposed Development has further evolved with consideration of the impacts on ecology, heritage assets, flood risk and drainage, and ground conditions.
- 4.4.4 Due to the rapid evolution of technology, the solar panels used might be more efficient than those currently available. The Proposed Development plans to stay flexible to use the best technology available at the time of construction to maximize renewable energy benefits and efficiency.

5 Construction and Decommissioning Methodology and Phasing

5.1 Construction Phase

5.1.1 The earliest construction of the Proposed Development could commence in 2026 and it is estimated that construction would span a period of approximately 18 months. On this basis, it is expected that the construction of the Proposed Development could be completed in 2027.

5.1.2 The activities on-Site during the construction phase are anticipated to include the following:

- Commencement of Site establishment and preparatory works for construction, including the installation of temporary barriers and perimeter fencing and the implementation of necessary ecological and environmental protection measures;
- Implementation of temporary construction facilities, temporary security measures, and temporary and permanent internal access tracks;
- Deliveries and construction of the Proposed Development including the installation of solar panel mounting equipment, solar panels and ancillary units;
- Deliveries and construction of the Grid Connection Infrastructure to establish the point of connection ('POC') to the local power grid;
- Cable trenching, ducting and backfilling to connect solar generating equipment to the POC equipment and from the POC equipment to the existing 132kV OHL;
- Testing commissioning⁷ of the generating station equipment and grid connection equipment; and
- Green infrastructure, landscaping, and biodiversity enhancements.

5.1.3 Core construction working hours will be:

- 08:00 to 18:00 Monday to Friday;
- 08:00 to 13:00 on Saturdays; and
- No work on Sundays or Bank Holidays.

⁷ Commissioning is a process that starts with cold testing and then "hot" once energised. The grid connection going live is also part of the process. After the commissioning phase, prior to the commercial operations date there is usually a period of testing before all equipment leaves the Site. A 3-6-month period is normally expected between the start of commissioning and the COD (Commercial Operations Date), with the latter representing the start of the Site's operational phase.

- 5.1.4 If work needs to be undertaken outside of these core working hours, it would only be in exceptional circumstances, and this would be agreed with the Council beforehand.
- 5.1.5 The period of one hour before and one hour after core working hours outlined above will be used for start-up and close-down activities such as construction workers arriving or leaving the Site, unloading of materials and general preparatory work.
- 5.1.6 It is expected that there would be an average of up to approximately 20 Heavy Goods Vehicle ('HGV') trips to Site per day, or 40 two-way movements, during the 18-month construction period.
- 5.1.7 Approximately up to 150 workers are anticipated to be required on-Site during the peak construction period, although with the average much lower across most of the construction phase (between 50-80 per day).
- 5.1.8 Secure temporary construction compounds will be used to store materials and provide welfare facilities during the construction period. There will be up to five temporary construction compounds consisting of up to two Primary Compounds and up to three Secondary Compounds, to be located immediately adjacent to Site access points within the areas defined by the Parameter Plan shown on Figure 3.3a and 3.3b.
- 5.1.9 Nine indicative access points have been identified and are shown on Figure 5.1.

Figure 5.1: Site Access Map



Environmental Impacts

- 5.1.10 During construction of the Proposed Development there will be construction activities and equipment on-Site that will generate noise. As detailed above, construction will be limited to agreed working hours. Mitigation measures will be put in place to ensure sufficient provisions are in place to avoid creating a noise nuisance to surrounding receptors. These measures will be included within 'management plans' (which are control documents that key personnel must adhere to during construction), as detailed below in section 5.3.
- 5.1.11 The Proposed Development is located on agricultural land. During construction, there is the potential that the soil resource on-Site will be affected. However, measures to protect the soil will be put in place, as further detailed in section 5.3.

- 5.1.12 Equipment, workers and construction materials will be delivered to Site via the road network, therefore increasing the volume of traffic on the road network, which could create concerns around traffic, safety and increased emissions. However, measures will be put in place to manage transport and access arrangements during the construction phase, as detailed in section 5.3.

5.2 Decommissioning Phase

- 5.2.1 It is anticipated that at the end of the 40-year operational lifespan, the Proposed Development, including solar PV panels, mounting structures, cabling and ancillary buildings will be decommissioned, dismantled, and removed, the land will be restored to farmland. Wherever possible, equipment will be recycled or properly disposed of. Any waste that cannot be recycled will be handled by a licensed contractor.
- 5.2.2 The decommissioning process is expected to take up to 12 months (assessed as a 'worst-case', most intensive scenario), although as with construction, allowances will be made for a longer period depending on Site conditions (e.g., waterlogging).
- 5.2.3 During decommissioning, temporary work areas and access roads will be needed. These will be removed once the work is complete, except for tracks that the farmer intends to use them for agricultural use. A decommissioning specific management plan would be put in place during this phase.

5.3 Management Plans

- 5.3.1 The environmental management (or mitigation measures) to eliminate, reduce, or offset likely significant adverse effects on the environment during the construction phase is provided by management plans outlined below, which are appended in the ES.
- 5.3.2 The purpose of these management plans is to ensure people working on-Site during construction to ensure that mitigation measures recommended are implemented. These management plans will be agreed with the Council:

- Outline Construction Environmental Management Plan ('OCEMP') **[REF: 6.3]** outlines the overall site and environmental management of matters beyond construction traffic (for example: ecology, arboriculture, water management, noise, lighting, waste management).
- Outline Construction Traffic Management Plan ('OCTMP') outlines measures for safe access and traffic management to avoid or mitigate impact on the local road network. The OCTMP includes a Construction Worker Travel Plan ('CWTP') which includes measures to minimise worker traffic and promote sustainable transport.
- Outline Soil Management Plan ('OSMP') provides an outline of the measures which will be implemented during the construction phase to protect the soil as a resource. This management plan would also feed into measures to be taken forward into the Landscape and Ecological Management Plan ('LEMP') and into a future Decommissioning Management Plan ('DMP') document suite.

5.3.3 These documents are called 'outline' because currently a complete understanding of construction of the Proposed Development is not known, as the Proposed Development still need to undergo a detailed design. These outline plans will be used to inform the version of the plan agreed with the Council (the version of the plan approved must be substantially in accordance with its respective outline plan).

5.3.4 An Outline Landscape and Ecological Management Plan ('OLEMP') **[REF: 6.3]** sets out how mitigation and enhancement measures for landscape and ecology will be implemented and maintained during the operational phase. To cover matters that are not related to the green infrastructure and biodiversity, an Operational Management Plan ('OMP') will be implemented. This will cover topics such as traffic, security, health and safety and community engagement. An outline version of this document is included within the DCO Application, as the Outline OMP ('OOMP') at ES Appendix 3.1 **[REF: 6.3]**.

5.3.5 The environmental management (or mitigation measures) to eliminate, reduce, or offset likely significant adverse effects on the environment during the decommissioning phase are set out in the Framework Decommissioning Management Plan ('FDMP') (ES Appendix 5.4) **[REF: 6.3]**.

6 Cultural Heritage

6.1 Introduction

6.1.1 Chapter 6 – Cultural Heritage of the ES [REF: 6.1] considers potential impacts on designated and non-designated heritage assets. A summary is provided below.

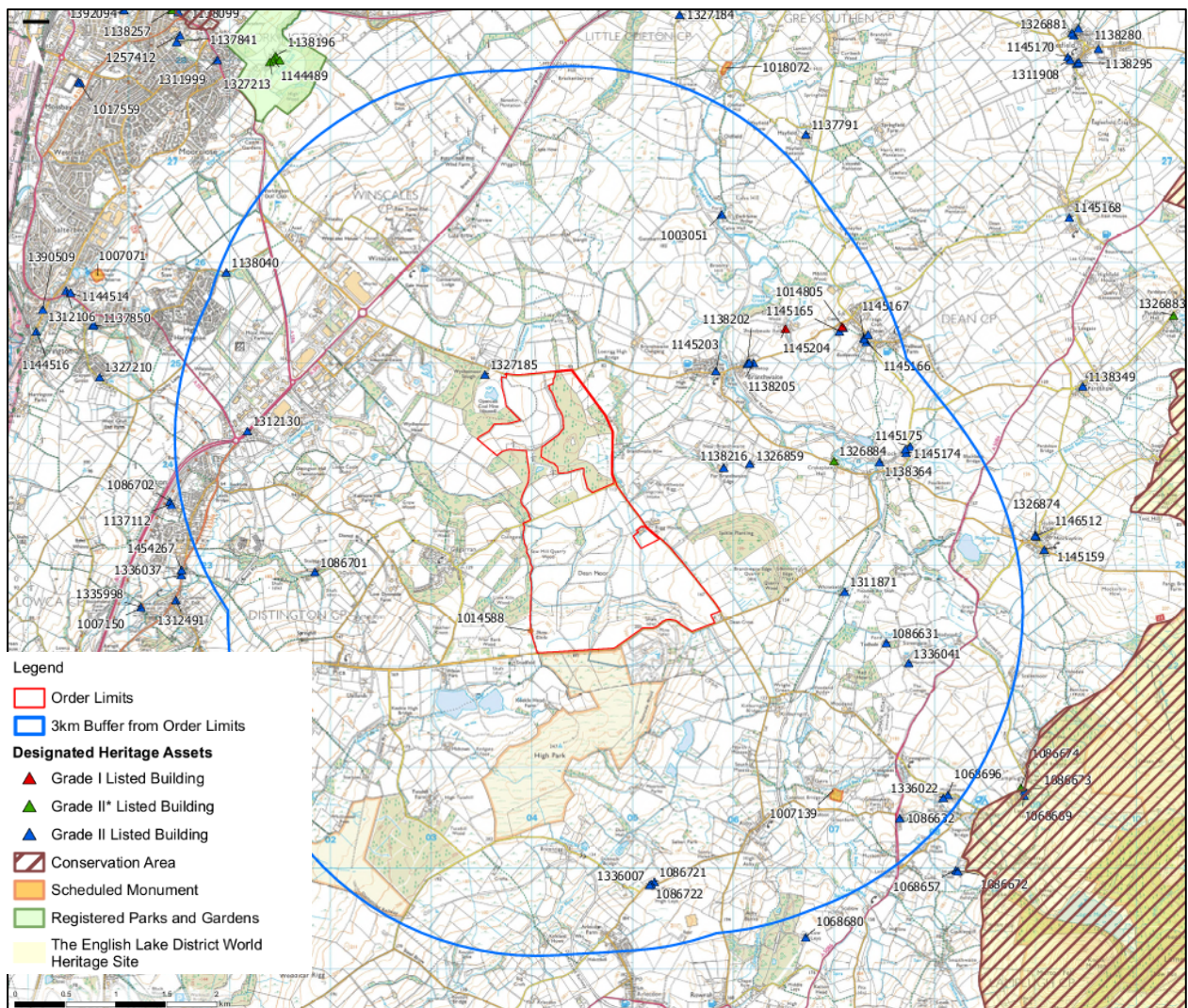
6.2 Baseline

6.2.1 The Historic Environment Desk-Based Assessment ('HEDBA') (ES Appendix 6.1) [REF: 6.3] provides a full baseline of known or potential 'above ground heritage receptors' (buildings, structures, and landscapes of heritage interest) within the Site and the study area. The following heritage assets have been included for assessment due to their sensitivity/value and potential for significant effects:

- The Large Irregular Stone Circle and a Round Cairn of Dean Moor Scheduled Monument ('SM') is a designated heritage receptor within the southwest corner of the Site. This asset is one of seven which remain in England, and provides one of only 45 examples of known large irregular circles;
- Potential 'below ground' (i.e., archaeological) remains within the Site;
- Designated built heritage receptors within 3km of the Site including Wythemoor Sough and adjoining barn and stable which is Grade II listed (160m to the northwest of the Site); and
- The English Lake District WHS, which lies 3.2km east of the Site.

6.2.2 Figure 6.1 shows the designated heritage receptors in proximity to the Site.

Figure 6.1: Designated Heritage Receptors



6.2.3 The land within the Site to the north of the Gilgarran Road (Areas A and B) has been subject to extensive opencast mining and industrial activities within the southern part of Area C will have also impacted any archaeological remains that may have been present in these areas.

6.2.4 A geophysical survey (a survey undertaken to reveal any potential archaeological remains underground) of Area C was undertaken in October 2023 and identified a series of features that could be of archaeological importance. However, further analysis concluded that the majority of these were not due to the presence of archaeological remains below ground. Nine ‘anomalies’ were classified as holding some archaeological potential.

6.3 Likely Significant Effects

Embedded Mitigation

6.3.1 Embedded mitigation measures relevant to cultural heritage include:

- A mitigation and enhancement area within Area C in the south of the Site around the Stone Circle and Cairn SM (as shown on Figure 3.3b);
- Considered positioning of solar panels and associated infrastructure in relation to the landscape characteristics; and
- The use of appropriate landscape screening such as retention of existing boundary vegetation and new woodland and scrubland planting and hedgerow enhancement.

Construction Phase

6.3.2 The Proposed Development could have a significant impact on the above ground heritage receptors. However, there will be no direct impacts to them. Any impacts would be indirect, coming from changes to the surrounding landscape due to the presence of the Proposed Development.

6.3.3 Prior to additional mitigation, short-term significant Moderate Adverse effects are anticipated during the construction phase for the Stone Circle and Cairn and Wythemoor Sough and Adjoining Barn and Stable. A short-term non-significant Minor Adverse effect is predicted for The English Lake District WHS. A permanent Major Adverse effect is anticipated for the potential below ground heritage receptors (archaeological remains) prior to mitigation. This assessment represents a 'worst-case scenario' prior to additional mitigation and the archaeological interest and sensitivity of a receptor will depend on its nature, value and condition.

Operational Phase

6.3.4 During the operational phase, long-term, temporary, and significant Moderate Adverse effects are anticipated for the Stone Circle and Cairn and Wythemoor South and Adjoining Barn and Stable prior to mitigation. There would be no direct impact to these receptors. However, the Proposed Development would lead to a change to the rural character of the wider setting.

- 6.3.5 Prior to additional mitigation, there is likely to be a permanent non-significant Minor Adverse effect to the setting of The English Lake District WHS due to the 'high' sensitivity of the receptor.
- 6.3.6 As no further below-ground disturbance would occur within the Site during the operation phase, there would be a 'No Change' effect to the potential archaeological remains.

Decommissioning Phase

- 6.3.7 During the decommissioning phase, the effects would be less than reported during construction, with the Stone Circle and Cairn, Wythemoor Sough and Adjoining Barn and Stable and The English Lake District WHS all assessed as likely to experience short-term non-significant Minor Adverse effects.
- 6.3.8 There will be no additional ground disturbance during the decommissioning phase, therefore there will be a 'no change' effect to below ground heritage receptors (archaeological remains).

6.4 Mitigation

Construction Phase

- 6.4.1 This would include requirements that all unloading/loading of materials would take place within the Site boundary and that noise, dirt, and dust levels be kept to a minimum to limit adverse effects on character and views.
- 6.4.2 Mitigation measures for potential archaeological remains during the construction phase will comprise a phased approach and a review of the surviving archaeological remains. Any intrusive evaluation (i.e. using excavation methods and digging) would be agreed at a later stage in the DCO process and would identify the nature and extent of the identified archaeological remains within the Site to inform the scope of the second phase of mitigation.
- 6.4.3 Several forms of archaeological mitigation may be required including evaluation fieldwork, archaeological monitoring and recording and/or

excavation, design alternatives, and construction management practices. For decommissioning, similar mitigation measures to construction are likely to be required.

- 6.4.4 These measures will be implemented through a CEMP and CTMP.

Operational Phase

- 6.4.5 A LEMP will ensure that the embedded mitigation measures are sustained throughout the operation of the Proposed Development.
- 6.4.6 During the operational phase, the mitigation and enhancement area would be maintained to ensure that the effects to the setting of the Stone Circle and Cairn do not worsen.
- 6.4.7 No additional measures would be required during the operational phase to below ground archaeology as the below-ground impacts would have been mitigated during the construction phase.

6.5 Residual Effects

- 6.5.1 With mitigation measures implemented, the potential effects on the unknown below ground archaeological remains would be **Moderate Beneficial** (which is **significant**) during the construction phase.
- 6.5.2 Residual **Moderate Adverse** effects (which are **significant**) are anticipated to the Stone Circle and Cairn and Wythemoor Sough and Adjoining Barn and Stable during the construction and operational phase due to the potential impacts on their setting.
- 6.5.3 There would be no other significant effects to heritage receptors.

6.6 Cumulative Effects

Introduction

- 6.6.1 The cultural heritage assessment assessed the potential cumulative effects within 3km of the Proposed Development, which included two developments: Land at Lillyhall North, Branthwaite Road, Winscales, Workington and Lostrigg Solar.

Construction Phase

- 6.6.2 During the construction phase, there is anticipated to be cumulative effects at the Grade II Listed Building Wythemoor Sough and adjoining barn and stable, which are assessed as **Moderate Adverse (significant)**.
- 6.6.3 No cumulative construction effects are reported in conjunction with the Land at Lillyhall North scheme.

Operational Phase

- 6.6.4 The cumulative effect with Lostrigg Solar would remain during operation of the Proposed Development on this receptor and would reduce to **Negligible Adverse (not significant)** during decommissioning.
- 6.6.5 No cumulative operational effects are reported in conjunction with the Land at Lillyhall North scheme.

Decommissioning Phase

- 6.6.6 During decommissioning there is the potential for indirect effects such as noise, dust and vibration, and presence of construction equipment. However, following implementation of measures similar to those in construction, cumulative effects are assessed as **Negligible Adverse and not significant**.
- 6.6.7 No cumulative decommissioning effects are reported in conjunction with the Land at Lillyhall North scheme. Any effects are assumed to be managed in accordance with a DMP suite and are therefore assessed as not significant.

7 Landscape and Visual Impact

7.1 Introduction

7.1.1 Chapter 7 – Landscape and Visual [REF: 6.1] of the ES presents the findings on the assessment of the likely significant effects of the Proposed Development on the environment with respect to Landscape and Visual matters. A summary is provided below.

7.2 Baseline

7.2.1 The Site lies within an area of smooth hills and farmland, with farm buildings, small villages, areas of woodland, and wind farms. Land within the Site is typical of the surrounding area; predominantly farmland with areas of woodland, electricity pylons with overhead cables and farm buildings associated with the nearby Rigg House Farm. The Site itself is bound by hedgerows which are often gappy and of varying quality.

7.2.2 The Site does not lie within any areas designated for their landscape significance. Figure 7.1 shows the landscape planning designations in the surrounding area. The LDNP, which is also designated as The English Lake District WHS, lies approximately 3.2km to the east. The mountainous character of the LDNP in combination with the lower lying land towards the western coastline provides for wide-ranging views both towards and from it. The Cumbria Landscape Character Guidance and Toolkit assesses the character of the area and classifies the Site as Landscape Character Type ('LCT') 9: Intermediate Moorland and Plateau (moorlands, ridges and woodland) and Type 5: Lowland (gentle ridges and valleys), as shown on Figure 7.2.

7.2.3 There are no PRoWs within the Site. Those in relative proximity to the Site include the following, and indicated on Figure 4.2:

- Footpath ('FP') 225002 – is located on the eastern border of the Site running north of Rigg House Farm towards Branthwaite;
- Bridleway 404020 – is located approximately 0.8km from the western border of the Site, running north from Gilgarran to Lillyhall;
- FP 225003 – is located to the northeast and runs from A595 to Branthwaite Road; and

- Other PRoWs within the vicinity of the Site include FPs 404018 and 404015 to the southwest.

7.2.4 The Site and 2.5km study area lie within National Character Area ('NCA') 07: West Cumbria Coastal Plain.

Figure 7.1: Landscape Designations Plan

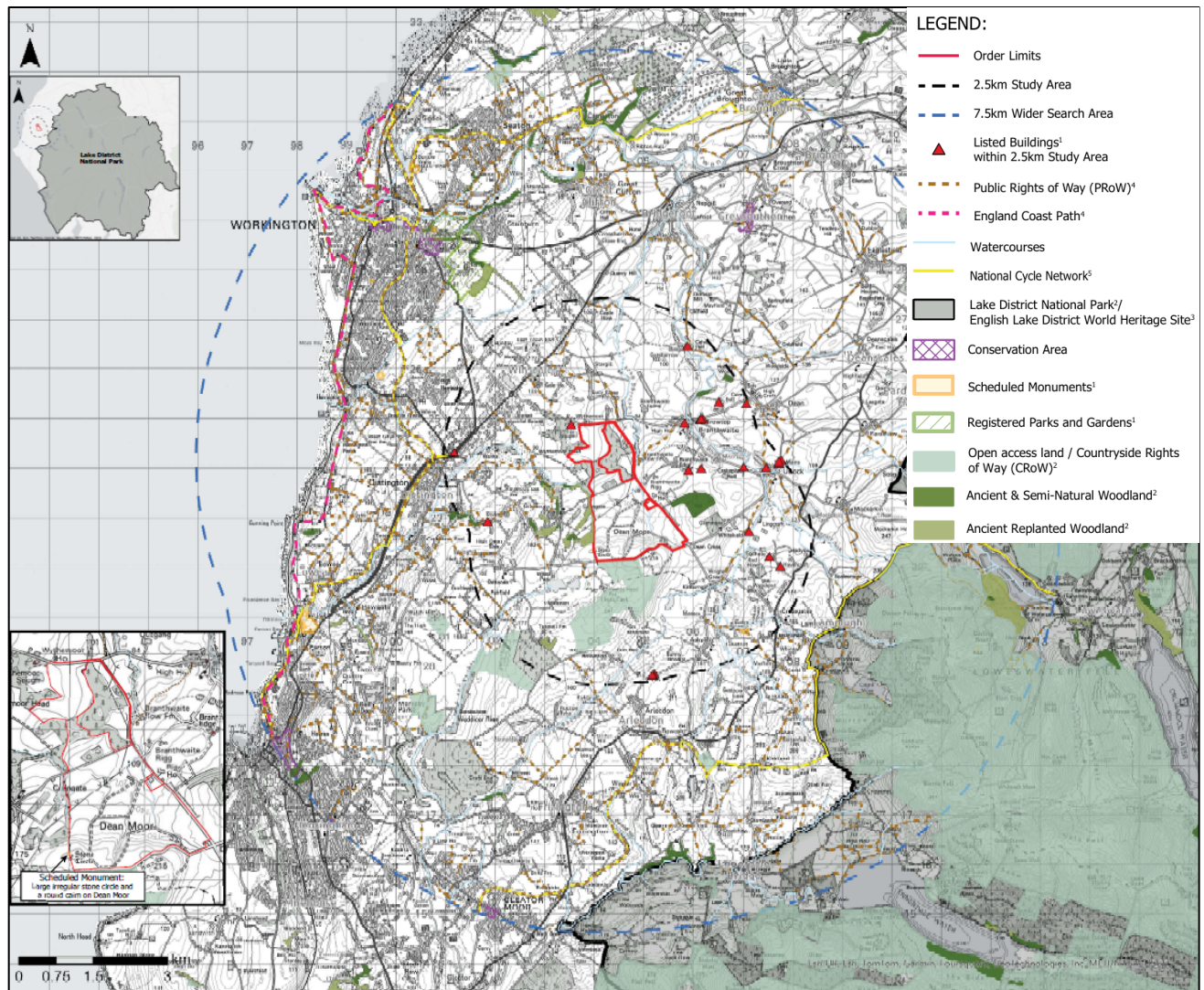
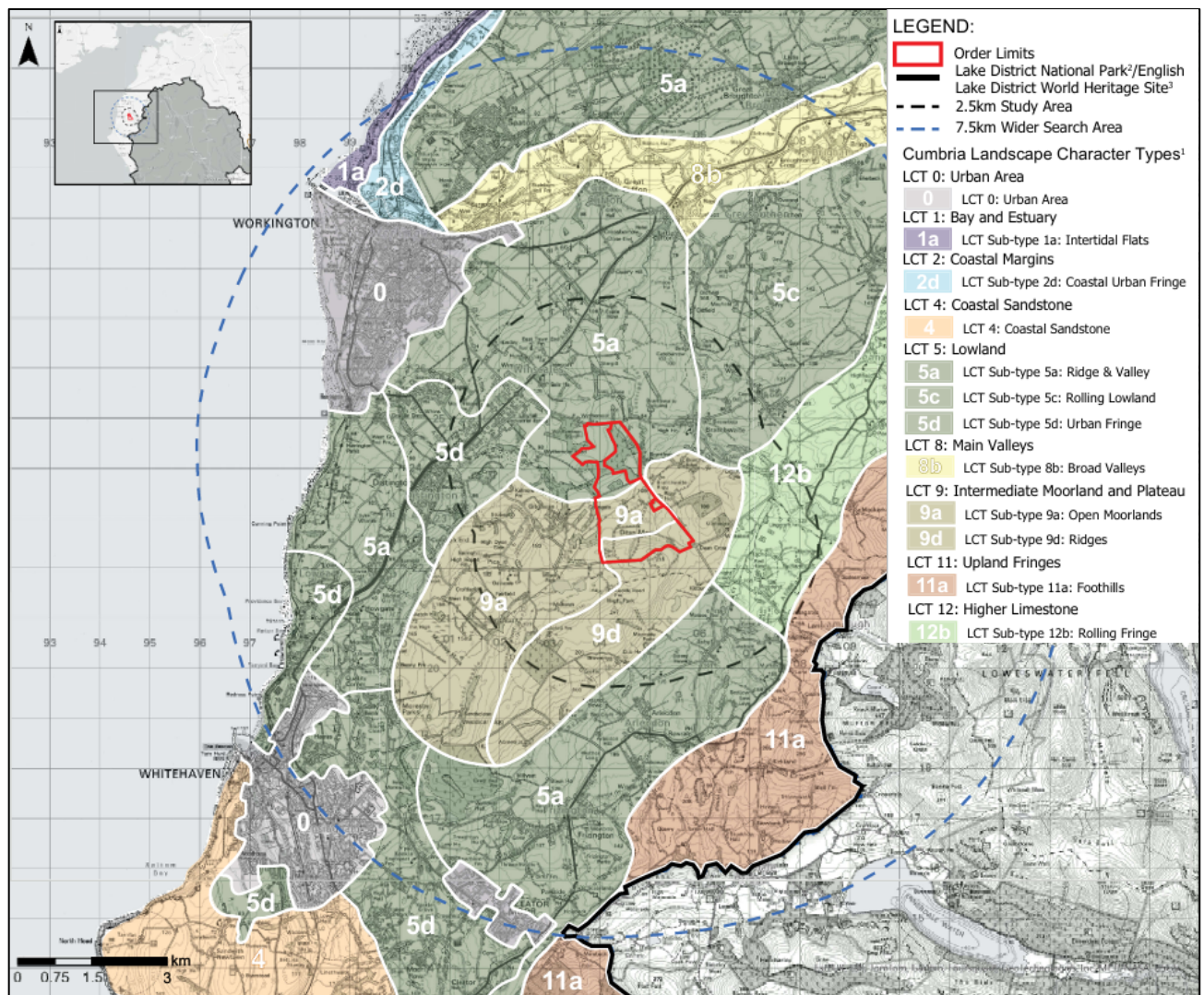


Figure 7.2: Published Landscape Character (Cumbria County Council)



7.3 Likely Significant Effects

Overview

7.3.1 The assessment of landscape and visual considers effects of the Proposed Development on:

- Landscape character within which the Site is located;
- Landscape elements (the 'fabric' or features, which contribute to character); and
- Views available to people and their visual amenity, from publicly accessible viewpoints.

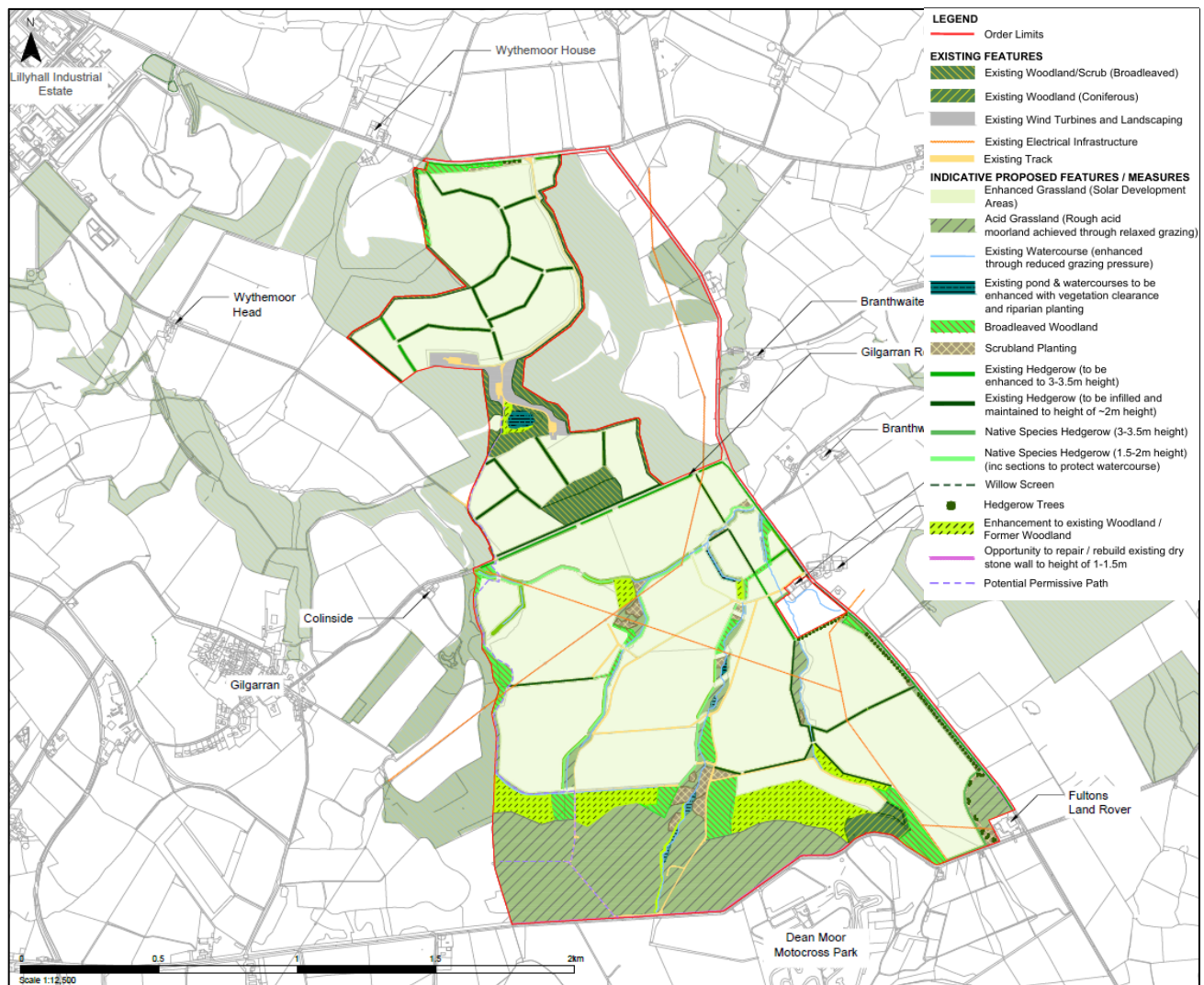
Embedded Mitigation

7.3.2 Embedded mitigation measures include:

- Retention of existing Site boundary vegetation where practicable, particularly established/mature woodland habitats;
- Use of existing field entrances during delivery/ construction to minimise impact on field boundaries;
- Careful siting of infrastructure to minimise visual intrusion, including 'no-build' areas on the elevated open moorland within the southern part of Area C, with relaxed grazing in place to ultimately attain species-rich grassland, and taller plant and features located centrally within the Site to minimise visibility from sensitive receptors;
- Suitable buffers between the solar farm and ancient woodland and watercourses;
- Provision of sheep grazing where possible to provide the opportunity for the Site to retain its agricultural use;
- Reinforcement of existing field boundaries (hedgerows and dry-stone walls); and
- New native structural landscape planting to provide visual screening, including native hedgerows, hedgerow trees, scrub / shrub planting, with the aim of breaking up the extent of development, and linking existing habitats / landscape features where possible to provide enhanced green infrastructure and biodiversity opportunities.

7.3.3 A Landscape Strategy Plan is shown on Figure 7.3. This plan shows the principles of landscaping and biodiversity mitigation and enhancement that can be implemented on the Site. The full details of the landscaping will be agreed and implemented (as a Landscape and Ecology Plan ('LEP')) during the later detailed design stage.

Figure 7.3: Landscape Strategy Plan



7.3.4 Given the importance of the LDNP and The English Lake District WHS, the landscape character, and views from it, have also been assessed. Visually, the effects of the Proposed Development have been considered using ‘representative view locations’, which assess where the Proposed Development could be seen from different points in the surrounding landscape. These locations were agreed with the Council and Lake District National Park Authority (‘LDNPA’).

Construction and Decommissioning Phases

7.3.5 During the construction and decommissioning phases of the Proposed Development, significant short-term Moderate Adverse direct effects on the landscape character of the Site were assessed because of the change from open farmland to a solar farm development. There would also be

short-term Moderate Adverse, indirect effects to LCT 9a: Open Moorlands during the construction phase, although by the decommissioning phase, the vegetation planting would be effective in reducing this effect to not significant. The remaining landscape receptors, including the WHS and LDNP would not experience significant effects.

- 7.3.6 Significant adverse visual effects during construction would be focussed on locations in close proximity to the Site. Visually, effects during the decommissioning period would also be similar to those experienced during construction. However, the majority will be reduced in severity because of the maturation of screening from the new and enhanced planting of vegetation, which is embedded into the design.

Operational Phase

- 7.3.7 During the operational phase, there would be a direct medium to long-term Moderate Adverse effect to the landscape character. Properties near the Site represented by View Location ('VL') 6a/6b (Dean Cross), VL7 (Rigg House) and VL9 (Wythemoor House) would experience a Major Adverse (significant) visual effect. A Moderate Adverse (significant) visual effect is anticipated to VL3c (Dean Cross Road), VL10 (PRoW FP 230010), VL13c (Blake Fell), and VL14 (Fellbarrow).
- 7.3.8 There are no other anticipated significant effects in relation to the remaining visual receptors.

7.4 Mitigation Measures

Construction and Decommissioning Phases

- 7.4.1 In addition to the embedded mitigation, additional mitigation measures for the possible landscape effects of the construction and decommissioning phases would be the implementation of best practice measures in accordance with the CEMP, CTMP, and DMP. A Soil Management Plan ('SMP') will be in place to preserve soils as a resource, and as a resource that is critical for the success of the operational LEMP.

7.4.2 Potential enhancement measures include:

- Additional scrub and woodland planting on the steeper, southern section of Thief Gill; and
- Scrub and marginal planting including wildflower areas along watercourses to enhance habitat connection and provide Biodiversity Net Gain ('BNG');
- Infilling of existing field boundary hedgerows where gappy and retained at 3-3.5m height;
- Opportunities to enhance existing dry stone walls at the Site's boundaries by rebuilding to a height of 1-1.5m and repairing where necessary; and
- Enhance the pond within Area D by removing / clearing existing overgrown vegetation and re-planting with suitable marginal species.

Operational Phase

7.4.3 During the operational phase, mitigation would take the form of the management of the new and enhanced vegetation planting in accordance with a LEMP.

7.5 Residual Effects

7.5.1 The residual effects are assessed at Year 15 of the operation of the Proposed Development once the planting of vegetation (that would provide visual screening) has become established.

7.5.2 During construction, the proposed planting would not yet be established, and the CEMP is not anticipated to result in changes to the likely significant effects. Therefore, the significant **Moderate Adverse** effects predicted to the landscape character of the Site and the LCT 9a: Open Moorlands, would remain. There would be **Major to Substantial Adverse** effects (significant) effects to visual receptors located nearby to the construction, including VL 6a/6b (Dean Cross), VL7 (Rigg House), VL9 (Wythemoor House), VL3c (Dean Cross Road) and VL10 (PRoW 230010) would also remain.

7.5.3 At operation Year 15, once the landscape planting has matured, there would be a **Negligible to Moderate Beneficial** long-term effect for landscape features, namely the green infrastructure network, trees, woodland, watercourses and hedgerow within the Site following the

successful establishment of the proposed mitigation measures which would increase BNG across the Site and improve habitat networks.

- 7.5.4 During the operational phase, a significant **Major Adverse** effect was assessed for the visual receptors at VL7 (Rigg House) and a significant **Moderate Adverse** effect for the visual receptor VL6a/6b (Dean Cross) and VL9 (Wythemoor House), all of which are homes at the Site boundary. Although the proposed planting would provide some level of visual screening for residents, they would still experience visual effects.
- 7.5.5 Residual effects during the decommissioning phase would be similar to those experienced during the construction phase, with **Moderate Adverse** effects anticipated to the landscape character. Visually, significant **Major** and **Moderate Adverse** effects would remain for the closest receptors however the established vegetation would provide a reasonable level of screening for some activity.

7.6 Cumulative Effects

Introduction

- 7.6.1 Of the cumulative schemes, the landscape and visual assessment considered those closest schemes to the Site, which included: Lostrigg Solar Farm and FUL/2021/0009 (Land at Lillyhall North).

Construction and Operational Phases

- 7.6.2 With regards to Land at Lillyhall North, no significant cumulative effects were predicted for landscape or visual receptors during either the construction or operation phases. Although visual receptors were predicted to experience a **Moderate Adverse (significant)** impact during construction because of sequential visual change, the low sensitivity of receptors travelling on a relatively high-speed road resulted in a **Minor Adverse (not significant)** level of effect.
- 7.6.3 With regards to Lostrigg Solar, a **Moderate Adverse (significant)** effect was predicted for LCT Sub-type 5a: Ridge and Valley during both construction and operation as the result of partial direct physical changes to key characteristics of its character. **Significant adverse** effects were

also found for visual receptors at View Location Cumulative (VLC)1, VLC3, VLC4, VLC5, and View Location Sequential Cumulative (VLSC) 5 during construction, with only VLC3 reducing to **not significant** effects during operation.

- 7.6.4 Considering all three schemes together, the assessment found that users of Branthwaite Road would experience a **Moderate Adverse (significant)** level of effect during construction and operation. This was due to their experiencing visibility of all three developments.

Decommissioning Phase

- 7.6.5 In terms of cumulative effects with Lostrigg Solar and Land at Lillyhall North, it is considered that these would be similar to those reported during the construction phase. Effects would however be reduced to some degree given that the roundabout proposed as part of the Land at Lillyhall North application would likely remain and would not be part of the decommissioning process.

8 Biodiversity

8.1 Introduction

- 8.1.1 Chapter 8 – Biodiversity of the ES [REF: 6.1] reports on the assessment of the likely significant effects of the Proposed Development on the environment with respect to biodiversity. A summary is provided below.

8.2 Baseline

- 8.2.1 A range of desktop and field surveys have been carried out to determine the ecological value of the Site. Five sites designated for their international importance were recorded within 10km of the Site, the closest being the River Derwent and Bassenthwaite Lake Special Area of Conservation ('SAC')⁸ 1.2km to the east, which is designated for its aquatic habitats and species. The SAC is also underpinned by the River Derwent and Tributaries Site of Special Scientific Interest ('SSSI')⁹, which is a statutory designation of national importance and lies downstream of the Site, linked by watercourses.
- 8.2.2 Dean Moor County Wildlife Site ('CWS')¹⁰ is a non-statutory (locally important) designated site, cited for its acidic moorland habitats, which lies within the southern area of the Site, as shown in Figure 8.1. Data received from the Cumbria Biodiversity Data Centre ('CBDC') confirmed the presence of several protected species within 2km of the Site, including great crested newts ('GCN'), bats, breeding bird, otter, water vole, wintering bird, and hen harrier. Surveys for these species have been carried out across the Site.
- 8.2.3 The Site is mostly comprised of modified grassland which is common for a sheep grazing pasture. Woodland habitats exist on-Site in some areas, although primarily outside the Site including replanted ancient woodland¹¹ to the west of Area C. The Site contains notable habitats including lowland dry acid grassland which supports a purple moor grass ('PMG') community

⁸ A statutory protected area that safeguards special habitats and/or species.

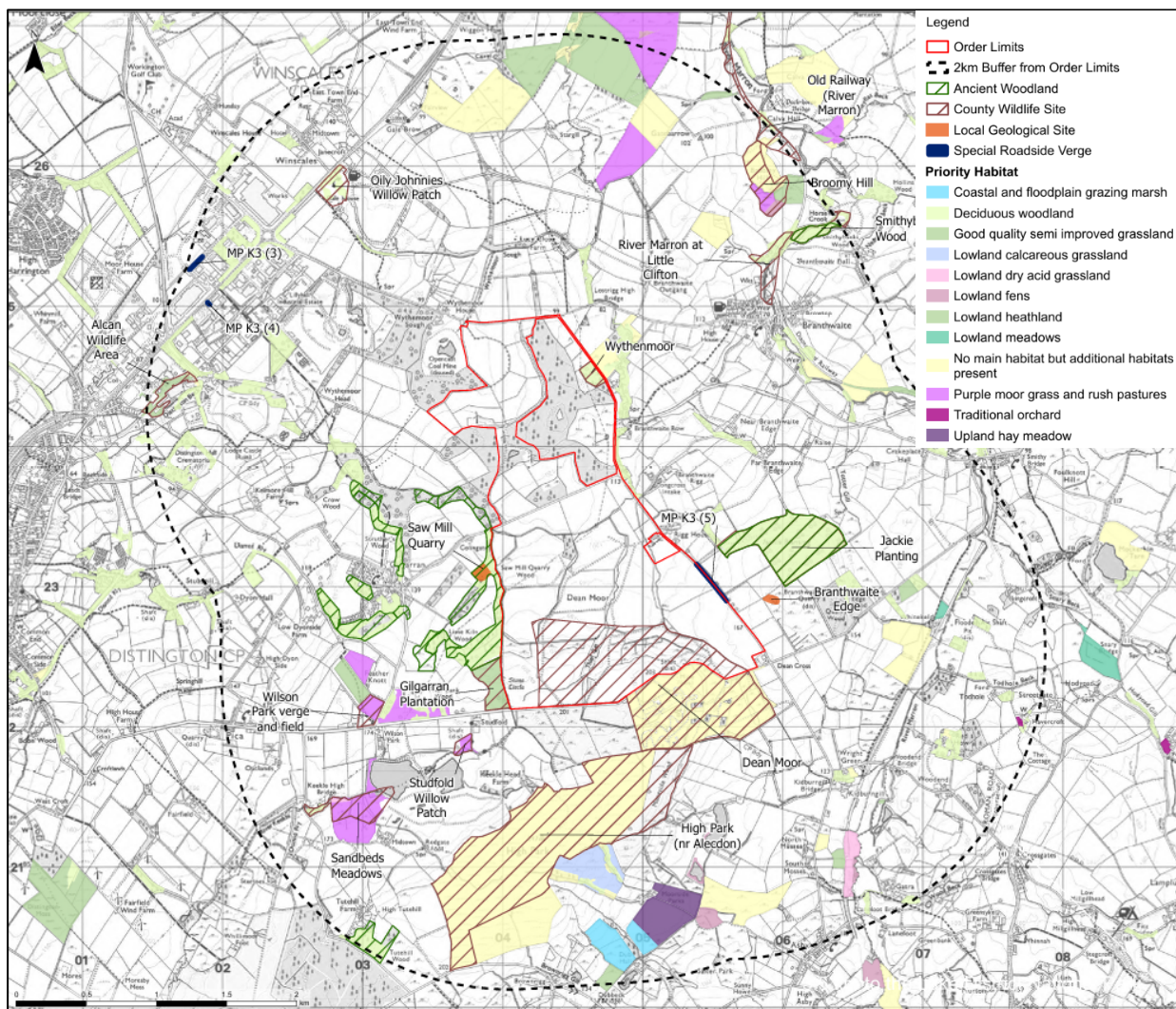
⁹ A statutory protected area with rare or unique wildlife and/or geology.

¹⁰ A designated area to conserve the importance and value of a site within its county context.

¹¹ Woodland sites that have had the native species partially or wholly replaced with non-native species.

(as shown on Figure 8.1), and hedgerows, as well as four ponds, some of which are surrounded by marshy grassland, willow scrub, or in one case a swamp dominated by floating bulrush. Watercourses are present across the Site, the most obvious being Thief Gill which flows northwards from the southern boundary (as shown on Figure 3.3b) through a steep-sided gorge before discharging off-Site via a culvert under Branthwaite Edge Road on the eastern boundary.

Figure 8.1: Non-Statutory Designated Sites and Notable Habitats



8.3 Likely Significant Effects

Embedded Mitigation

8.3.1 A hierarchical approach to mitigation is being adopted through the design process which seeks to avoid adverse impacts in the first instance through an iterative approach to design (e.g. avoiding sensitive receptors), where

possible, in the layout of the Proposed Development. Embedded mitigation measures within the Proposed Development will include:

- Impacts to Dean Moor CWS during construction and decommissioning to be avoided or minimised with qualifying habitats protected from intrusive development where possible;
- Retaining all sensitive habitats such as ponds, watercourses, woodland, hedgerows and small areas of scrub, swamp and mire. Removal of woodland, trees and hedges will be avoided, other than limited clearance to enable access, where required;
- Buffers will be included between sensitive habitats (e.g., woodlands and watercourses) and the development. The removal of habitats will be done sympathetically if required;
- Infrastructure will be sited in grassland areas of low ecological value;
- No permanent lighting will be installed on-Site. Where lighting is needed, for example above doors of ancillary buildings, it will be shielded, point downwards and be switch or motion activated; and
- Incorporation of gaps around perimeter fencing to facilitate dispersal of some small terrestrial species (not including deer) across the Site.

8.3.2 Impacts to most designated sites are considered unlikely given the distance from the Proposed Development. However, the Planning Inspectorate will be required to consider whether the Proposed Development could negatively impact the designated sites when preparing its recommendation to the Secretary of State on the DCO application. They will give consideration to the internationally protected River Derwent and Bassenthwaite Lake SAC through a Habitats Regulations Assessment ('HRA'). The Applicant included a report to inform this assessment (shadow Habitat Regulations Assessment 'sHRA') (ES Appendix 8.7) **[REF: 6.3]**.

Construction Phase

8.3.3 Prior to mitigation, during the construction phase, the Proposed Development has the potential to have significant short-term negative effects on the River Derwent and Bassenthwaite Lake SAC, River Derwent and Tributaries SSSI and Dean Moor CWS. Effects to otters, bats and breeding and wintering birds are assessed to be significant at the Site level only.

Operational Phase

- 8.3.4 During the operational phase, there are unlikely to be any significant effects to biodiversity receptors, although there would be an overall long-term positive effect on breeding birds and reptiles.

Decommissioning Phase

- 8.3.5 No significant effects are likely during the decommissioning phase.

8.4 Mitigation Measures

Construction Phase

- 8.4.1 Additional mitigation during the construction phase will include several measures included in the CEMP, CTMP, and SMP, to minimise impacts to protected habitats and species as well as avoid any surface run-off which could impact the SAC and SSSI downstream.
- 8.4.2 Mitigation will include best practice methodologies such as: siting infrastructure away from sensitive habitats, employing an Ecological Clerk of Works ('ECoW')¹² to undertake checks prior to any habitat clearance, avoiding hedgerow removal and utilising existing routes for access; and, protecting buffer strips adjacent to hedgerows and watercourses to avoid impacts.

Operational Phase

- 8.4.3 During the operation phase, the implementation of the LEMP will have the potential to have a positive impact on both habitats and species as a result of sensitive habitat management and the stopping or relaxation of sheep grazing. A Grazing Management Plan will be part of the LEMP to manage these grazing activities. Additionally, a Biosecurity Management Plan will be in place to prevent the spread of non-native invasive plant species should they become a future concern. Details will be included in the OMP and/ or LEMP, as appropriate.

¹² A site-based ecologist who oversees construction works and provides advice on managing and protecting ecological features in line with the required mitigation measures, ensuring compliance to relevant legislation and policy.

Decommissioning Phase

- 8.4.4 Mitigation measures during decommissioning will be addressed through the adoption of a DMP which will demonstrate how sensitive habitats and species will be avoided.

8.5 Residual Effects

- 8.5.1 After the implementation of the CEMP and the DMP suite, there would remain to be a significant **Negative effect** at the **Local Level** to a small part of Dean Moor CWS during the construction and decommissioning phases of the Proposed Development. There would be no significant residual effects to habitats or species during these phases.
- 8.5.2 During operation, the re-establishment of natural habitats across a large area of the retained CWS will offset any negative residual construction effects identified and is likely to result in a significant **Positive effect** at the **Local Level** to non-statutory designated areas. There would be no significant residual effects to statutory designated sites. Habitats would experience a long-term Positive effect at a Site level. However, this is not significant. Effects on species would remain non-significant.
- 8.5.3 Any effects during decommissioning can be effectively managed through the implementation of the DMP suite, resulting in no significant residual effects during this phase.

8.6 Cumulative Effects

Introduction

- 8.6.1 Due to the sensitivity of some ecological receptors, cumulative schemes up to 10km from the Site were considered.

Construction Phase

- 8.6.2 During the construction phase, it is considered that there will be no cumulative effects with other schemes as many of them are located far enough away or are small in scope that they will not result in cumulative effects with the Proposed Development. Where schemes, such as Lostrigg Solar are closer to the Site, it is considered that there will be sufficient

measures in place (for both schemes) such as those within a CEMP that there will be no cumulative effects.

Operation Phase

- 8.6.3 Similar to the construction phase, there will be no cumulative effects with the identified schemes during operation.
- 8.6.4 It is assumed that similar landscape mitigation will be incorporated into the Lostrigg Solar scheme, therefore avoiding or minimising any negative effects. For the Proposed Development, such proposals would be included within the LEMP. It is therefore considered that there will also be no cumulative operational effects with Lostrigg Solar.

Decommissioning Phase

- 8.6.5 Whilst cumulative decommissioning effects are not anticipated, it is understood that similar mitigation measures to those implemented during construction would be in place. The potential for any biodiversity related cumulative effects will therefore be considered at an appropriate time, with any required measures to avoid or minimise potential cumulative effects included within the DMP suite.

9 Climate Change

9.1.1 Chapter 9 – Climate Change [REF: 6.1] of the ES reports on the assessment of the likely significant effects of the Proposed Development on the environment with respect to climate change resulting from the impact of the Proposed Development on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the Proposed Development to climate change.

9.2 Baseline

9.2.1 ‘Climate’ is generally understood to mean the weather conditions prevailing over a longer period of time and ‘climate change’ refers to changes in recorded long term climate trends, driven by human activity.

9.2.2 Overall, greenhouse gas (‘GHG’) emissions within the administrative bounds of the Council have steadily declined in the period 2005-2022. There has been a downward trend across all the main four sources of emissions in the Council (industry, commercial, transport, domestic), with commercial emissions decreasing approximately 65% over the 16-year period.

9.2.3 Domestic emissions in the Council have declined approximately 48% in this same period. Similarly in Cumbria, domestic emissions have declined approximately 48% in the period between 2005-2022. In 2022, per capita emissions in Cumbria were slightly lower than in the Council.

9.2.4 Data taken from St Bees Head (Cumbria) climate station, approximately 11.6km southwest from the Site indicates that between 1991-2020 the following climate conditions were recorded:

- Average annual maximum temperature was 11.85°C;
- July was the warmest month on average and February the coldest;
- The average total annual rainfall was 1109.40 mm;
- The wettest month was October and the driest April and
- The number of sunshine hours at the St Bees Head is unavailable from the Met Office Data.

9.3 Likely Significant Effects

Overview

9.3.1 An assessment has been undertaken of the potential effects of the Proposed Development on climate (for example the nature and magnitude of GHG emissions) and the vulnerability of the Proposed Development to climate change. The Institute of Environmental Management and Assessment ('IEMA') guidance sets out two main approaches which can be taken to determine a project's climate change impact. These involving identifying:

- The direct and indirect influence of the Proposed Development on climate change resulting from GHG emissions (climate change mitigation); and
- The vulnerability of the Proposed Development to climate change (climate change adaptation / resilience).

Construction Phase

9.3.2 Construction of the Proposed Development is likely to result in GHG emissions from direct and indirect sources. This includes emissions from construction vehicles used during the construction phase. The assessment of GHG emissions from construction vehicle movements is anticipated to be Minor Adverse and not significant.

Operational Phase

9.3.3 During the operational phase of the Proposed Development, there will be a potential carbon saving resulting from the export of renewable electricity to the local distribution network. The new development will generate electricity, reducing the need for traditional power sources like coal and natural gas.

9.3.4 By 2027, it is expected that the average carbon emissions per unit of generated electricity will be 0.067 kg per kWh. Calculations (Appendix 9.3 of the ES) **[REF: 6.3]** show that from 2027 (the earliest that the Proposed Development could start exporting electricity), the Proposed Development is anticipated to save 8,986.03 tonnes CO₂e per year, totally 359,441.2 tonnes across the 40-year lifespan.

- 9.3.5 The effect of renewable energy generation on climate change mitigation during the operational phase of the Proposed Development is assessed as being Major Beneficial at the local level, which is significant, and Minor Beneficial at the national level, which is not significant.
- 9.3.6 The future climate was assessed using UK climate projections from the Met Office. The projections suggest that in the area where the Site is located, summers will become hotter and drier, and that winters will get wetter and milder. The climate projections also indicate that cloud cover could slightly decrease over the lifespan of the Proposed Development.
- 9.3.7 Anticipated effects on climate change resilience are assessed to be Minor Adverse – Negligible, including the effects on climate change on infrastructure, the effects of climate change on future site users, and the effects of climate change on flood risk. Effects of climate change on the natural environment are likely to be Moderate – Minor Adverse. None of these effects are therefore significant.
- 9.3.8 The assessment of climate change has accounted for several embedded mitigation measures which include retaining sensitive habitats within the layout, incorporating buffers to sensitive habitats and watercourses, and being located in Flood Zone 1, the lowest risk zone for flooding from rivers.
- 9.3.9 As the generation of renewable energy will result in a beneficial effect by virtue of reducing reliance on fossil fuels, therefore no additional mitigation measures are needed.

9.4 Mitigation Measures

- 9.4.1 In addition to the embedded mitigation, a CEMP and CTMP will detail measures to reduce emissions from construction vehicles such as scheduling deliveries to avoid or minimise the use of diesel- or petrol-powered generators and re-using materials on-Site.
- 9.4.2 During operation, to mitigate the effects of climate change on future site users, strict adherence to health and safety procedures will be maintained while working on-Site, that will be outlined within the OMP.

- 9.4.3 For the natural environment, mitigation measures will include enhancing habitats through a GMP for sheep and implementing a LEMP for vegetation management. These measures will ensure that new or retained planting is managed during heatwaves. Additionally, seeded vegetation will be provided below and between rows of solar arrays to control runoff, and managed in line with the LEMP. Detailed drainage design will be undertaken later in the design process however, the current assessment shows that the Proposed Development does not increase flood risk.

9.5 Residual Effects

Operational Phase

- 9.5.1 The only significant residual effect in relation to climate change would be the **Major Beneficial effect (significant)** of renewable energy generation on climate change mitigation.
- 9.5.2 In terms of climate change resilience, the implementation of the embedded and additional measures results in a **Negligible (not significant)** effect on infrastructure and future site users.

9.6 Cumulative Effects

Introduction

- 9.6.1 The cumulative impact of carbon emissions arising from global human activity is high. This is due to the nature of climate change as a global, cumulative problem. For this reason, all the cumulative schemes identified were considered.

Construction Phase

- 9.6.2 It is assumed that all these schemes will be managed in accordance with a CEMP and/or CTMP, and the likelihood of cumulative schemes being constructed concurrently is low. It is therefore anticipated that the cumulative effect will likely be **Minor Adverse** and **not significant** at the local level.

Operational Phase

- 9.6.3 Of the schemes identified, two are related to renewable energy (4/23/2198/0F1 and Lostrigg Solar). The other residential, employment and industrial schemes identified are of a size and scale that they could feasibly be powered by the renewable energy generated by the Proposed Development and Lostrigg Solar NSIP. Therefore, there would be a cumulative **Moderate Beneficial (significant)** effect at a local level. However, this would be **Negligible (not significant)** at a national level in respect of climate change mitigation.
- 9.6.4 In respect of climate change resilience, it is assumed that the cumulative schemes would comply with policy regarding climate change resilience such as BNG and flood risk policies. Therefore, **Negligible (not significant)** cumulative resilience effects are anticipated throughout the operational phase.

10 Ground Conditions

10.1 Introduction

- 10.1.1 Chapter 10 – Ground Conditions **[REF: 6.1]** of the ES reports on the assessment of the likely significant effects of the Proposed Development on the environment with respect to ground conditions (stability and existing ground contamination).

10.2 Baseline

- 10.2.1 Land in the north of the Site (Area A, B, and D) was historically part of an opencast coal mine that was operational between the late 1980s and early 1990s. Opencast mining ended in 1993, followed by backfilling of the pit and restoration. It is considered likely that the pit has been backfilled with overburden and mine arisings which could contain elevated concentrations of metals.
- 10.2.2 Most of the land in Area C has historically been used for agricultural purposes, with some limited quarrying and mining activities. The quarries identified on historical maps do not appear to have been backfilled and are not considered to pose an environmental risk to the Site. However, there may be residual residues from chemicals used in agriculture in the farmland soil, and the access tracks could potentially contain contaminants.
- 10.2.3 The following naturally occurring geological hazards have been identified:
- Low potential for running sands;
 - Moderate potential for compressible ground where peat and alluvium are present (localised and relatively small scale); and
 - High potential for landslides/slope instability, as there are several steep sloping areas of the Site, particularly in the south of Area C.
- 10.2.4 The following hazards arising from historical land use have been identified:
- Known and potential mine entries (shafts and adits (a horizontal or nearly horizontal passage));
 - Potential shallow and / or surface mine workings;
 - Opencast coal mine and mapped artificial ground;
 - Coal mine gases; and

- Potential differential settlement associated with the opencast mine high wall.

- 10.2.5 A peat survey has been undertaken at the Site to determine the presence / absence / extent of peat within the southern half (Area C) of the Site. These results indicated that most of the Site area investigated by the survey comprised organic topsoil overlying soft to very soft clay soil with no peat present. Two areas of peat were recorded within the Site which aligned with online records, as shown on Figure 10.1, with these areas excluded from having solar panels or solar infrastructure (such as substations) located on them.
- 10.2.6 An Agricultural Land Classification ('ALC') Report has been undertaken (ES Appendix 2.8) and an OSMP has been prepared and is provided at ES Appendix 5.3. Soils are predominantly loamy or peaty, and clayey, and are poorly drained. The ALC Report identifies that none of the land within the Site is defined as 'Best and Most Versatile' (i.e., high quality) agricultural land, as shown on Figure 10.2.

Figure 10.1: Map Indicating Areas of Peat on-Site

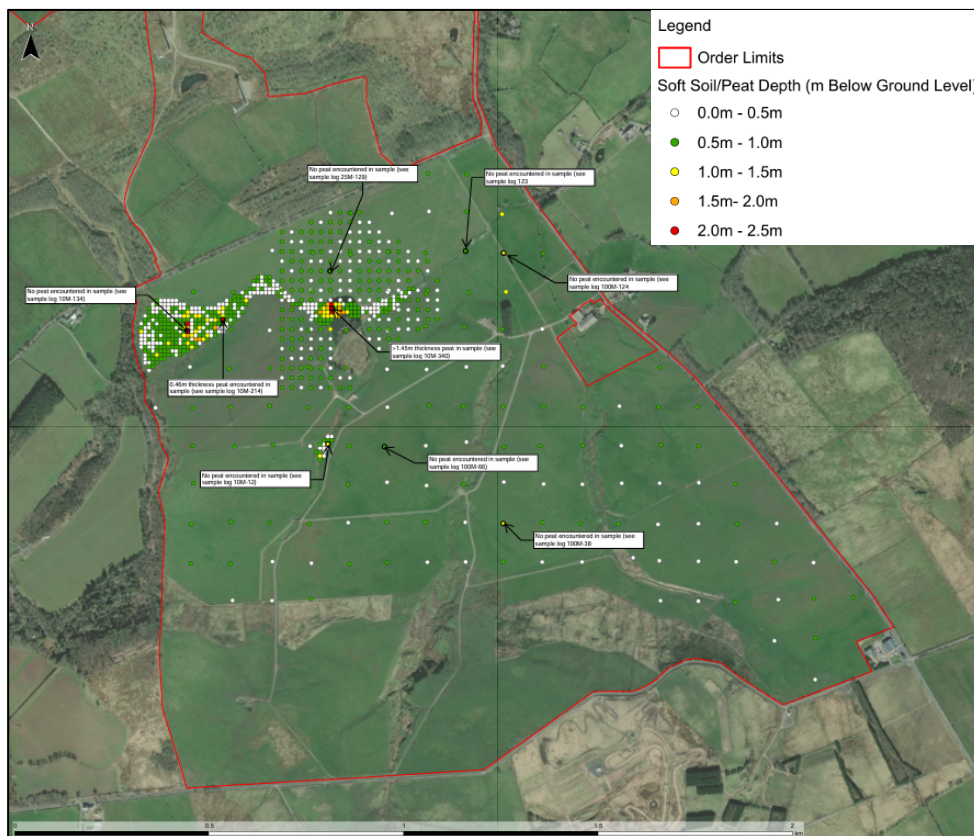


Figure 10.2: Agricultural Land Classification



10.3 Likely Significant Effects

Overview

- 10.3.1 The receptors are identified as groundwater (geology and aquifer designations), surface water (hydrology), archaeological setting and buildings, human health, and soil resource.

Embedded Mitigation

- 10.3.2 Embedded mitigation to manage ground stability hazards and potential of any historical ground contamination will be provided through the design (informed by ground investigation). Impacts to peat deposits have been managed through design by the avoidance of locating solar panels and infrastructure in these areas. Additionally, the design of the Proposed Development avoids siting structures in areas where mine entries and compressible ground have been identified in the Ground Conditions Assessment ('GCA') (Appendix 10.1 of the ES) **[REF: 6.3]**.

Construction, Operation, and Decommissioning Phases

- 10.3.3 The ground conditions in the northern part of the Site (Areas A, B, and D) are considered to have a medium risk of contamination and instability because the materials used to fill the former open-pit mine are not confirmed. In the southern part of the Site (Area C), the ground conditions are assessed as having a low risk of contamination and a medium risk of instability, the latter due to potential mine entry features.
- 10.3.4 Prior to the implementation of additional mitigation measures, there are a number of significant effects to ground conditions receptors as a result of ground disturbance, as outlined below. The remaining receptors are assessed as resulting in non-significant effects.
- Moderate Adverse effect on human health due to exposure to potential contamination during the construction, operation and decommissioning phases;
 - Moderate Adverse effect on surface water from mobilisation of potential contamination during the construction phase;
 - Moderate Adverse effect on the loss of soil resource during the construction and operation phases, escalating to Major Adverse during the decommissioning phase;

- Moderate Adverse effect to buildings and structures from exposure to potential contamination during the operation phase; and
- Moderate Adverse effect to groundwater during the decommissioning phase.

10.4 Mitigation Measures

- 10.4.1 An intrusive ground investigation would be undertaken for aspects of the Proposed Development which are at risk and subject to potential geo-environmental and/or instability and inform the CEMP ahead of construction. The aim of the ground investigation will be to investigate and characterise the near-surface soils so any additional mitigation measures can be designed. It may be that these risks can be avoided through design evolution using the information in the GCA, and no further investigation is needed.
- 10.4.2 A OCEMP has been prepared outlining how the construction of the Proposed Development will avoid, minimise, or mitigate effects on the environment and surrounding area and will cover a range of topics that include ground conditions, soils and human health. An OSMP has been prepared and sets out how soils are to be managed as a resource, measures included but are not limited to:
- Ensuring appropriate soil handling;
 - Stopping work when soil becomes too wet;
 - Ensuring appropriate soil storage; and
 - Ensuring soil is restored appropriately.
- 10.4.3 A DMP will be provided to provide decommissioning phase controls as well as a Decommissioning Soil Management Plan ('DSMP') which will set out how soils are to be managed during the decommissioning phase.

10.5 Residual Effects

- 10.5.1 Following the implementation of the additional mitigation measures, the residual effects from all the likely effects are assessed to be **Negligible** and are therefore **not significant**.

10.6 Cumulative Effects

Introduction

- 10.6.1 The ground conditions cumulative assessment considers whether the Site is within a zone of influence associated with contamination or instability. For this reason, only the closest schemes were considered. Due to the location of the cumulative schemes, only the Lostrigg Solar and Land at Lillyhall North were considered.

Construction Phase

- 10.6.2 It was assessed that there is a low likelihood of release of contamination, in corporation with contamination control mitigation measures as outlined within a CEMP. For this reason, there is a **Negligible** cumulative effect in terms of releases of contamination to groundwater, which is **not significant**.
- 10.6.3 The Phase 1 GCA assessed the construction phase risk to off-site human health, in absence of any mitigation, as Low. Mitigation in terms of release of contamination to air would be controlled during construction via measures within a CEMP. On this basis, assuming that the Lostrigg Solar scheme also adopts similar measures, there will be a **Negligible (not significant)** cumulative effect in respect to contamination to air.

Operation and Decommissioning Phases

- 10.6.4 No cumulative effects were assessed for the operation or decommissioning phase. It is assumed similar measures to construction would be implemented during decommissioning to prevent contamination or pollution release.

11 Cumulative Effects and Residual Effects Summary

11.1 Intra-Project Effects

- 11.1.1 There is no published methodology for determining the significance of intra-project effects (also known as in-combination or combined effects). Combining effects with respect to one environmental discipline with another must be qualitative and is based on a conservative professional judgment from the EIA coordinator having reviewed the technical assessments in other ES chapters.
- 11.1.2 During the construction and decommissioning phases of the Proposed Development there is risk that soil and biodiversity could be affected if surface or groundwater is contaminated. This could happen if excavated materials are stored near surface water bodies or if piling creates pathways for contamination. This pollution could impact the Dean Moor CWS located on-Site, or the River Derwent and Bassenthwaite Lake SAC / River Derwent and Tributaries SSSI. However, with measures set out in the OCEMP, these effects would not be significant.
- 11.1.3 Construction and decommissioning may also result in intra-project effects between cultural heritage and landscape and visual. Construction and decommissioning activities could change the setting of The English Lake District WHS, and listed buildings in close proximity to the Site. However, these effects are not considered to be significant with the implementation of the CTMP, CEMP, and SMP.
- 11.1.4 The presence of peat on-Site, towards the northwest of Area C (refer to Figures 4.1 and 10.1) has the potential for intra-project effects between biodiversity, climate change, and ground conditions. However, through design, peat deposits will be avoided. By avoiding construction on areas of peat where practicable, this will enable it to continue to store carbon and support biodiversity. Intra-project effects will therefore not be significant.
- 11.1.5 During the operation phase of the Proposed Development, there may be visual impacts on residential receptors near the Site, and changes to the

surroundings of important receptors such as The English Lake District WHS. However, with the landscape planting proposals in place, significant intra-project effects are not anticipated.

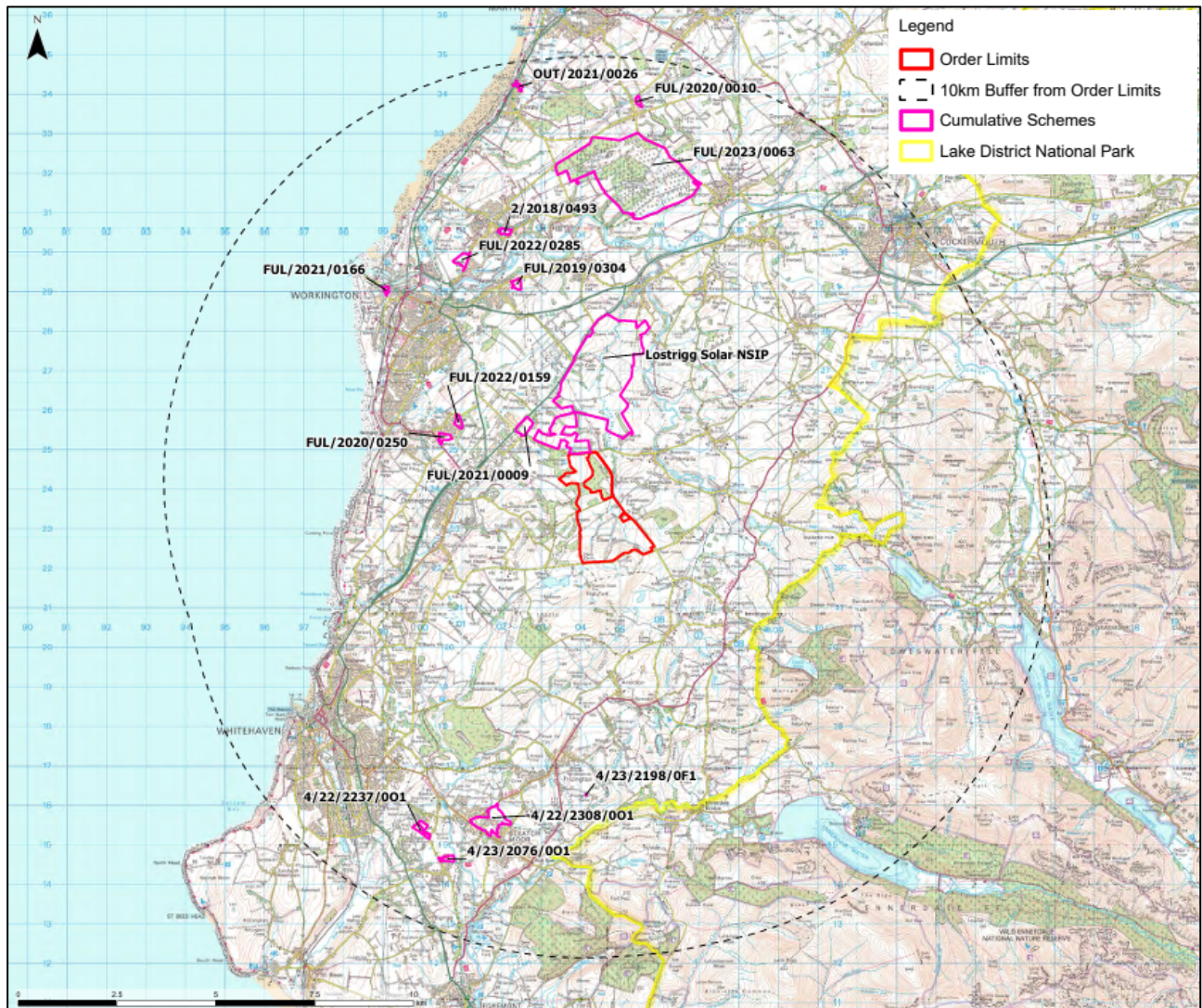
11.2 Inter-Project Effects

- 11.2.1 There is no established methodology for assessing cumulative effects with other developments. The best practice approach to cumulative schemes requires inclusion of proportionate information relating to projects that are not yet consented, dependent on the level of certainty of them coming forward. In this regard, the Planning Inspectorate's (2024) *Advice Note Cumulative Effects Assessment*¹³ in the context of Nationally Significant Infrastructure Projects has been used to guide the assessment.
- 11.2.2 Inter-project (cumulative) use effects are those which may result from the Proposed Development in combination with other existing and proposed developments in the area.
- 11.2.3 Several projects have been identified for the assessment of likely cumulative effects on the environment for the purposes of the ES. The Council provided agreement of the inclusion of the cumulative schemes identified within a 10km radius as of February 2025, displayed in Figure 11.1 below. A full list of the considered cumulative schemes can be found in Table 2.6 of ES Chapter 2 – EIA Methodology.
- 11.2.4 Of note, is the adjacent scheme, Lostrigg Solar, which is also a solar scheme. Whilst this scheme is not yet approved (the DCO application submission is anticipated for July 2025), it has been considered within the cumulative assessment due to its proximity to the Proposed Development, and fact that should both schemes be constructed, there would be a substantial change to the local area.
- 11.2.5 The construction start date is unknown, however, the scheme is expected to be operational for 40 years, similar to the Proposed Development. Limited information is available regarding this scheme, comprising information obtained from its EIA Scoping Report that was submitted to

¹³ HM Government (2024). Planning Inspectorate Guidance Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment

the Planning Inspectorate in June 2024, and from ongoing discussions with the promoters of Lostrigg Solar.

Figure 11.1: Cumulative Schemes within 10km of the Order Limits



11.2.6 No significant (beneficial or adverse) cumulative effects were identified for the following technical disciplines:

- Biodiversity; and
- Ground Conditions.

11.2.7 Significant effects were identified for the below receptors, outlined in Table 11.1, below.

11.2.8 Whilst transport was scoped out of the ES, an assessment was made in regard to the potential cumulative impact on Lillyhall Roundabout and A595. However, no significant cumulative effects were identified.

11.2.9 No significant cumulative effects were identified during the decommissioning phase.

Table 11.1: Significant Cumulative Effects

Topic	Receptor	Cumulative Effect
Chapter 6 – Cultural Heritage	Wythemoor Sough and Adjoining Barn and Stable	Moderate Adverse effects during construction and operation, in combination with Lostrigg Solar due to the presence of concurrent construction activities and subsequent views of the developments.
Chapter 7- Landscape and Visual	Ridge and Valley	Moderate Adverse short-term effects during construction and operation in combination with Lostrigg Solar due to partial direct physical changes to key characteristics of its character and subsequent views of the developments.
	VLC1 (located along PRoW 20010 near Caple How), VLC4 (located along Branthwaite Road adjacent to Wythemoor Sough residential property and Listed Building), VLC5 (located within the LDNP on Blake Fell), and VLSC5 (PRoW 260003)	Moderate Adverse short-term temporary effects during construction in combination with Lostrigg Solar due to the change in views and presence of concurrent construction activities.
	VLC3 (located on the southern boundary of the Proposed Development)	Moderate Adverse effects during construction (reduced to non-significant during operation) in combination with Lostrigg Solar due to the change in views and presence of concurrent construction activities, and subsequently the developments.
	Users of Branthwaite Road	Moderate Adverse effect during construction and operation due to the visibility of the Proposed Development, Lostrigg Solar and Land at Lillyhall North due to the change in views and presence of concurrent construction activities, and subsequently the developments.
Chapter 9 – Climate Change	The climate	Moderate Beneficial (significant) effect at the local level due to cumulative generation of renewable energy with Lostrigg Solar.

11.3 Summary of Significant Effects

11.3.1 ES Chapter 11 – Cumulative Effects and Residual Effects Summary [REF: 6.1] outlines the mitigation measures and residual effects in each of the

technical assessments included in the ES. Additional mitigation measures such as proposed landscape planting, soil management plan, and management plans for the construction, operation and decommissioning phases will reduce the environmental effects of the Proposed Development.

Beneficial Effects

- 11.3.2 The Proposed Development is expected to result in the following significant beneficial effects, outlined in Table 11.2.

Table 11.2: Significant Beneficial Effects

Topic	Receptor(s)	Effect
Construction		
Cultural Heritage	Potential Below Ground Heritage Receptors	Moderate Beneficial effect because of the site evaluation of the potential surviving archaeological remains.
Operation		
Biodiversity	Trees, woodland and hedgerow within the Site, and the green infrastructure network	Moderate Beneficial effect because of the establishment of the proposed planting measures to improve habitat networks.
	Dean Moor CWS	Long-term positive effect at local level due to the cessation or relaxation and management of grazing which will enable habitats to re-establish and offset any construction effects.
Climate Change	GHG Emissions	Major Beneficial effect at a local level due to the generation of renewable energy.

Adverse Effects

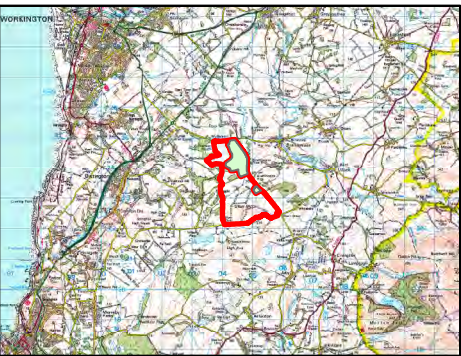
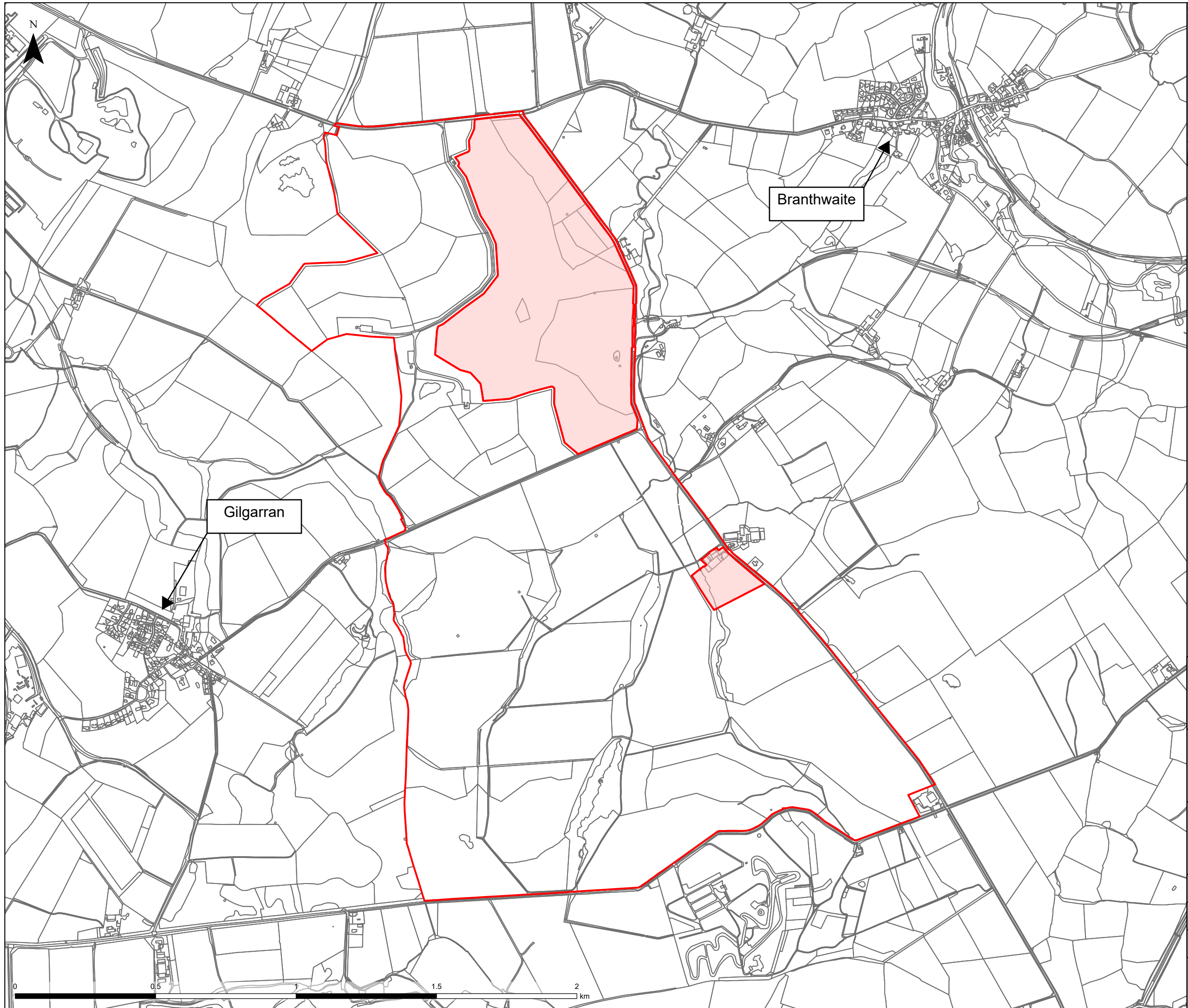
11.3.3 The Proposed Development is expected to result in the following adverse effects, outlined in Table 11.3:

Table 11.3: Significant Adverse Effects

Topic	Receptor(s)	Effect
Construction		
Landscape and Visual	Landscape Character	Moderate Adverse temporary effect because of change from open farmland to solar farm development.
	Open Moorland LCT	Moderate Adverse temporary effect because of change from open moorland to solar farm development.
	Visual receptors (including nearby properties) (VL3c, VL6a/ 6b, VL7, VL9, VL13a/b/c, VL14)	Major to Substantial Adverse temporary effect due to the high sensitivity and proximity to construction activities.
	Visual receptors (VL10)	Moderate Adverse temporary effect due to increasing visibility from the PRow as users approach the Site from the east.
Biodiversity	Dean Moor CWS	Short-term negative effect at a local level on the Dean Moor CWS due to disturbance from construction activities.
Operation		
Cultural Heritage	Large Irregular Stone Circle and a Round Cairn on Dean Moor	Moderate Adverse effect due to setting impacts from the Proposed Development.
	Wythemoor Sough and Adjoining Barn and Stable	Moderate Adverse effect due to setting impacts from the Proposed Development.
Landscape and Visual	Visual receptors (VL6a/6b, VL9, VL13c and VL14)	Moderate Adverse effect due to proximity to the Proposed Development.
	Visual receptors (VL7)	Major Adverse effect due to proximity to the Proposed Development.
Decommissioning		
Landscape and Visual	Landscape Character	Moderate Adverse temporary effect due to the presence of decommissioning activities.
	Visual receptors (as reported for construction)	Major Adverse temporary effect due to the presence of decommissioning activities.
Biodiversity	Dean Moor CWS	Short-term negative effect because of decommissioning activities within the CWS.

- 11.3.4 In summary, the ES has assessed the likely significant effects of the Proposed Development and has outlined the relevant mitigation measures to reduce the significance of the effects. The Proposed Development will assist in tackling the climate emergency and help the UK Government in meeting its target to reach net zero by 2050 and ambition to reach at least 70 gigawatts of installed solar capacity by 2035.

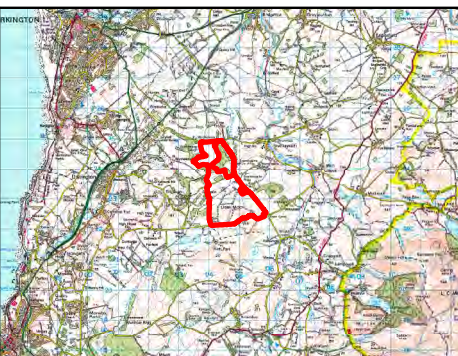
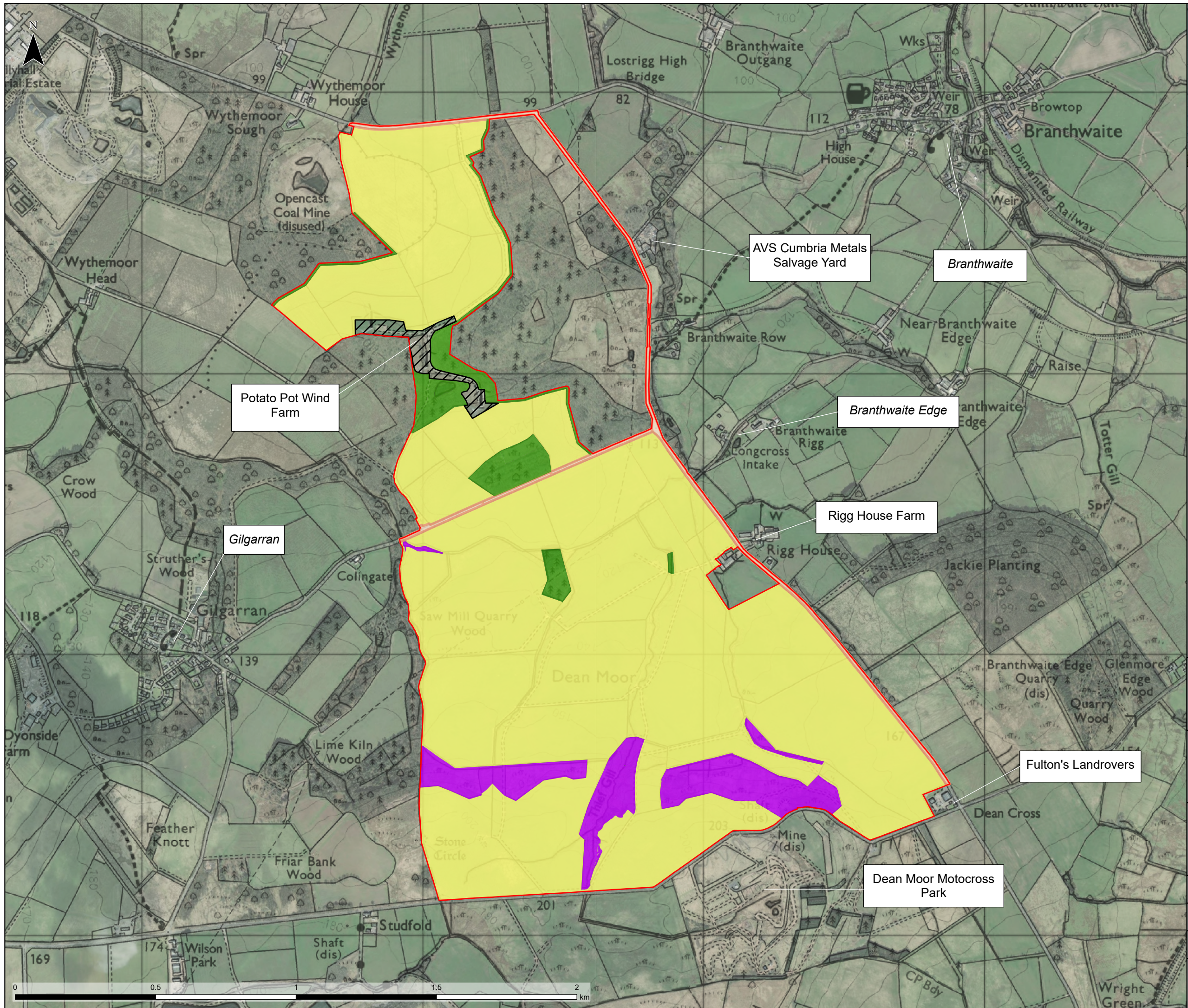
Figures



- Legend
- Order Limits
 - Area not in Order Limits

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Project Title		
Client		
FVS Dean Moor Limited		
Title		
DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER		
The Site Boundary		
Scale: 1:12,500 @ A3	Date: 16/10/2024	
Drawn: TL	Checked: JL	
Figure: 1.1	Sheet 1 of 1	Rev: A

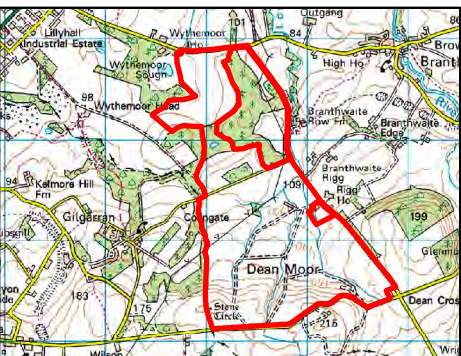
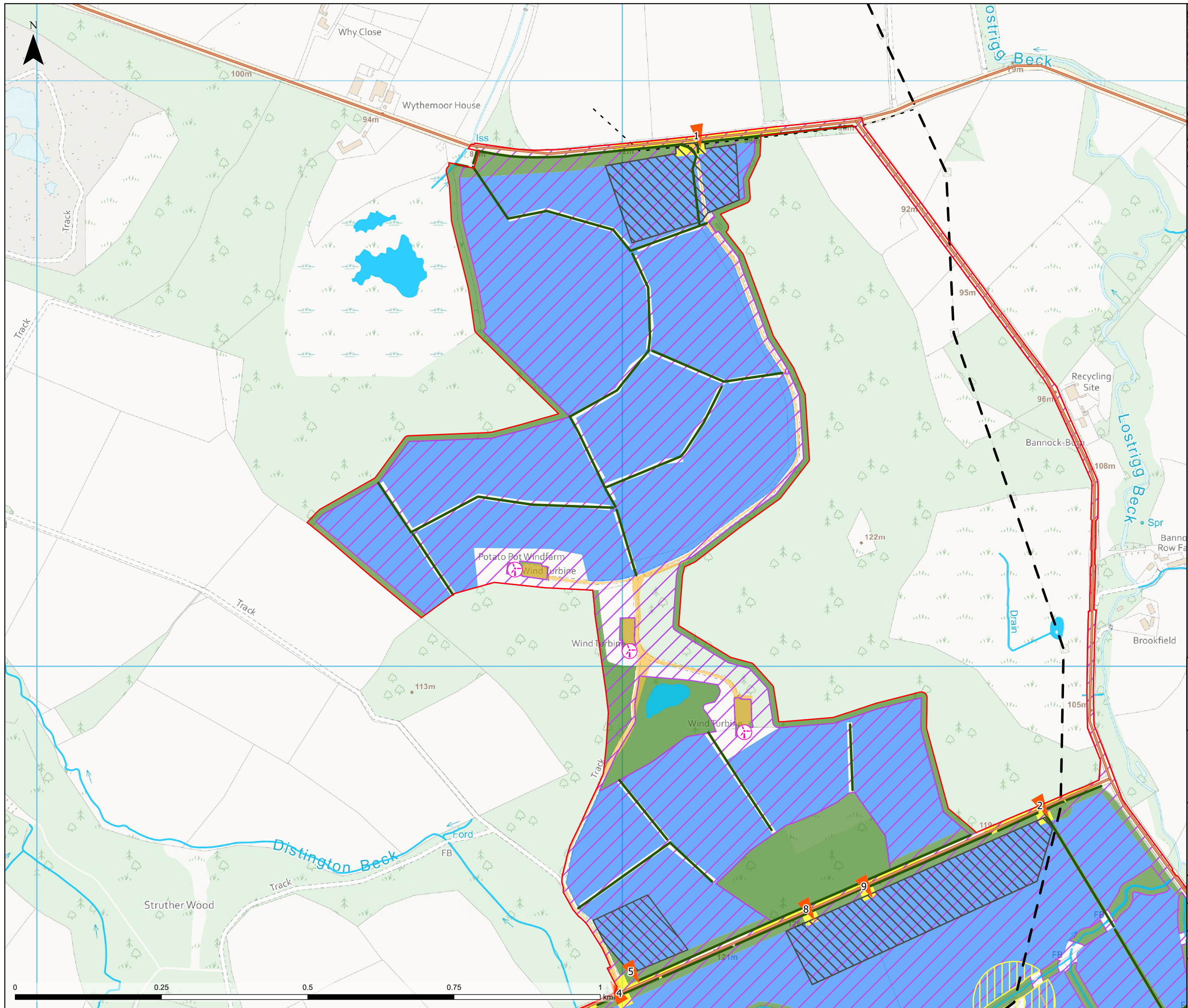


Legend

- Order Limits
- Wind Farm and Curtilage
- Highways and Verges
- Existing Woodland
- Grazing Land
- Existing Scrubland Vegetation

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Project Title			
Client		FVS Dean Moor Limited	
Title		DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER Land Use Plan	
Scale: 1:12,500 @ A3		Date: 10/03/2025	
Drawn: TL		Checked: JL	
Figure: 3.2			Rev: A
			



Legend


- Order Limits
- Indicative Site Access Points
- Location of Potato Pot Wind Turbines
- Existing Road
- Existing Hedgerow (Indicative)
- Stone Circle Scheduled Ancient Monument
- Existing Track
- Existing 11 kV Overhead Line (Indicative)
- Existing 132 kV Overhead Line (Indicative)
- Ditches and Watercourses
- Static Water

Works Areas

- Works Number 1 - Solar PV Infrastructure
- Works Number 2 - Grid Connection Infrastructure
- Works Number 2A - Point of Connection Masts
- Works Number 3 - Associated Works
- Works Number 4 - Temporary Construction Compounds
- Works Number 5 - Highways and Access
- Works Number 6 - Green Infrastructure

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Project Title



Client


FVS Dean Moor Limited

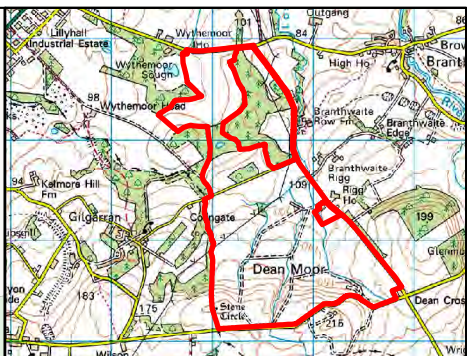
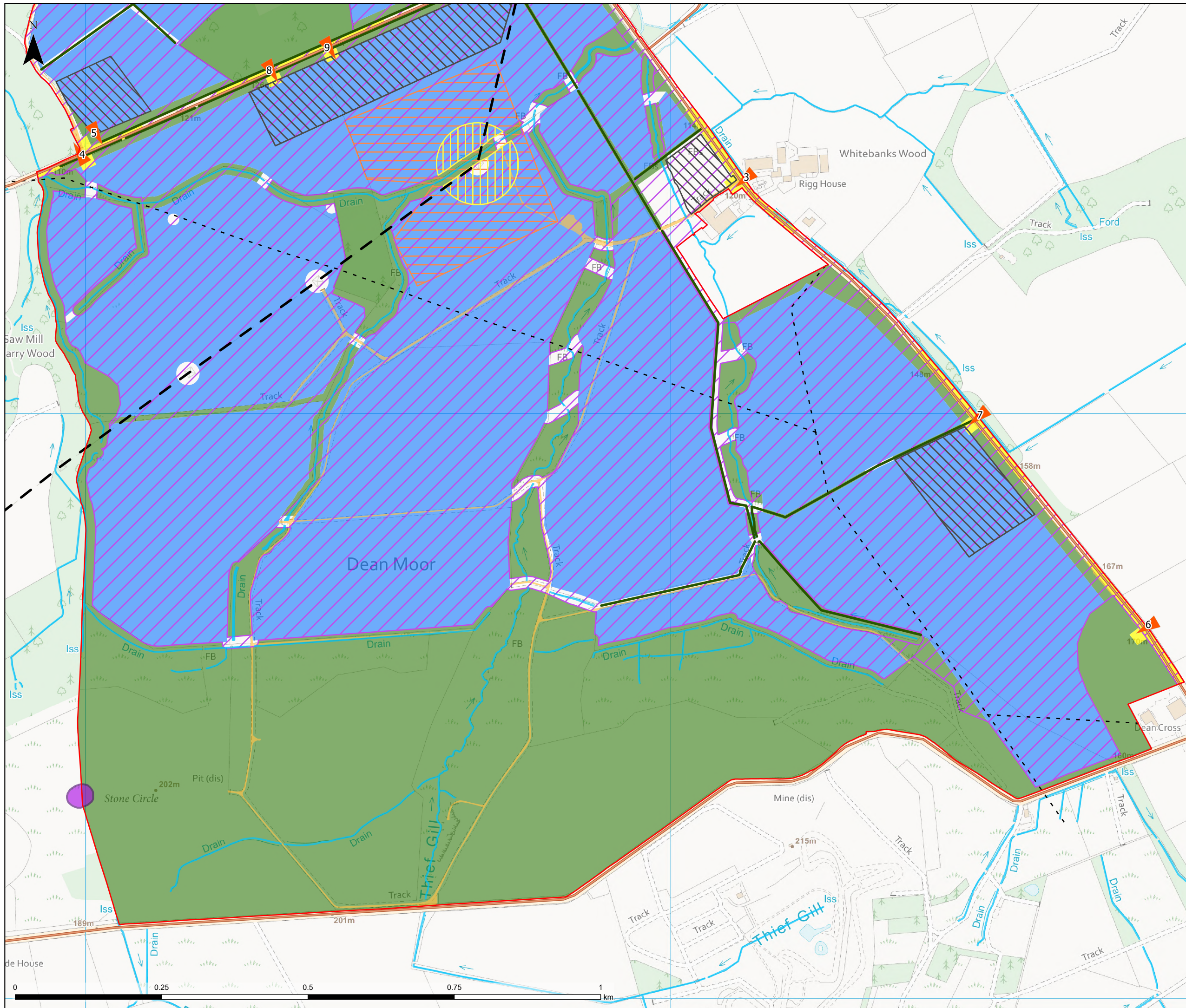
Title

DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER

Parameter Plan (Areas A, B and D)

Scale: 1:6,000 @ A3	Date: 17/03/2025	
Drawn: TL	Checked: JL	
Figure: 3.3a	Sheet 1 of 2	Rev: A





Legend


- Order Limits
- Indicative Site Access Points
- Location of Potato Pot Wind Turbines
- Existing Road
- Existing Hedgerow (Indicative)
- Stone Circle Scheduled Ancient Monument
- Existing Track
- Existing 11 kV Overhead Line (Indicative)
- Existing 132 kV Overhead Line (Indicative)
- Ditches and Watercourses
- Static Water

Works Areas

- Works Number 1 - Solar PV Infrastructure
- Works Number 2 - Grid Connection Infrastructure
- Works Number 2A - Point of Connection Masts
- Works Number 3 - Associated Works
- Works Number 4 - Temporary Construction Compounds
- Works Number 5 - Highways and Access
- Works Number 6 - Green Infrastructure

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Project Title

 **Dean Moor Solar Farm**

Client


FVS Dean Moor Limited

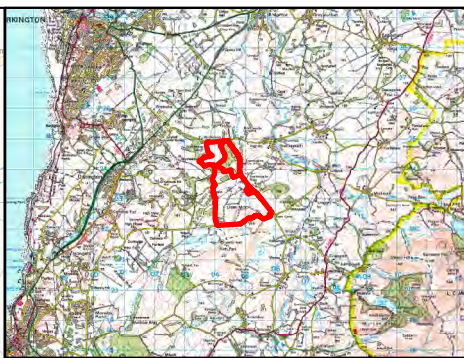
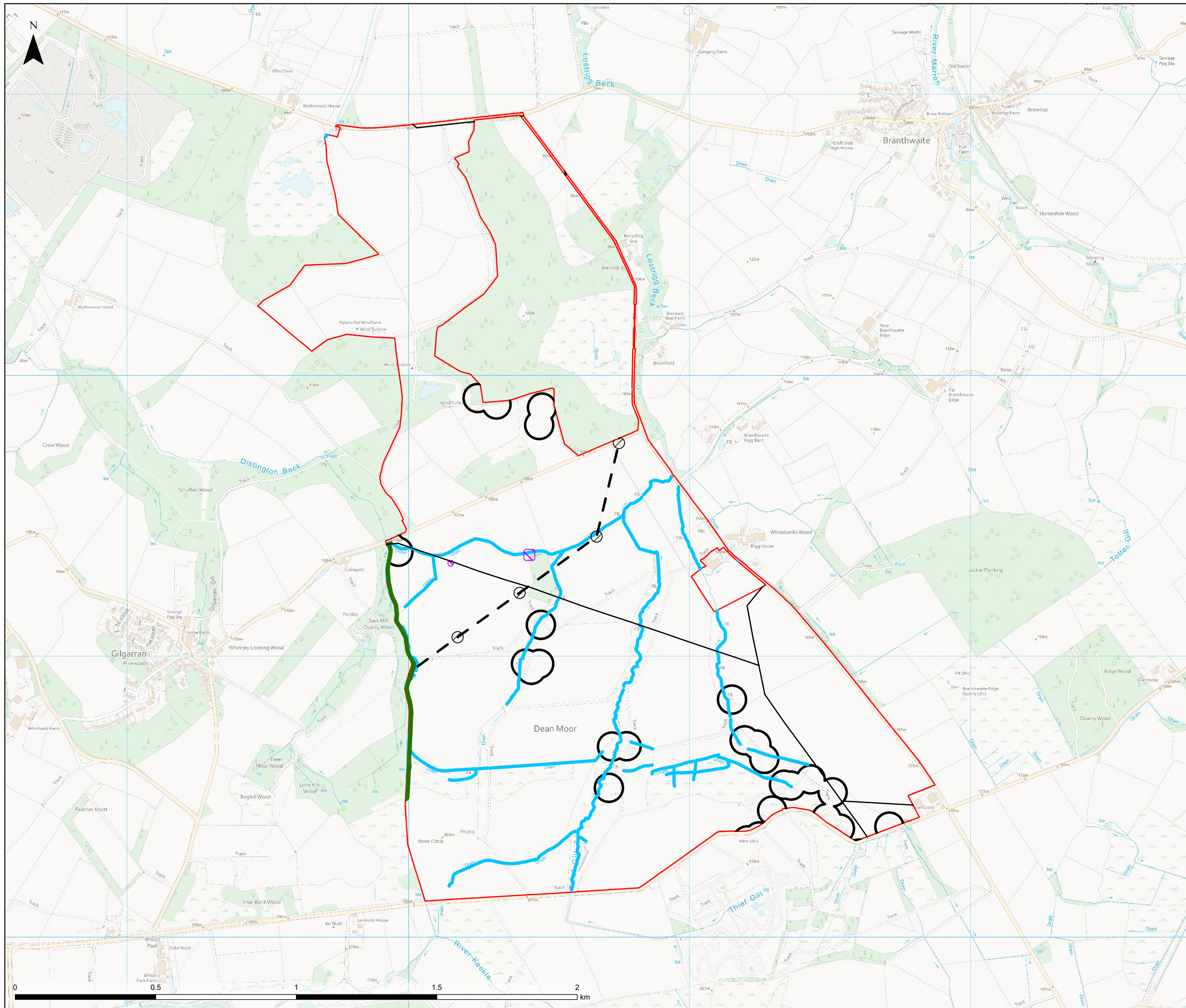
Title

DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER

Parameter Plan (Area C)

Scale: 1:6,000 @ A3	Date: 17/03/2025
Drawn: TL	Checked: JL
Figure: 3.3b	Sheet 2 of 2
Rev: A	

 **Stantec**

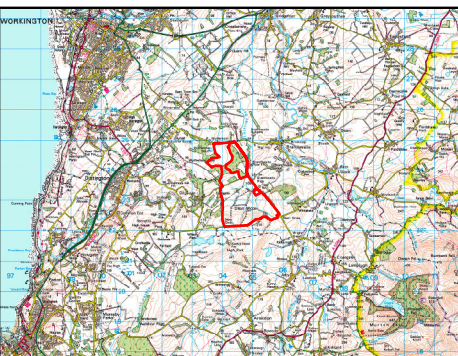
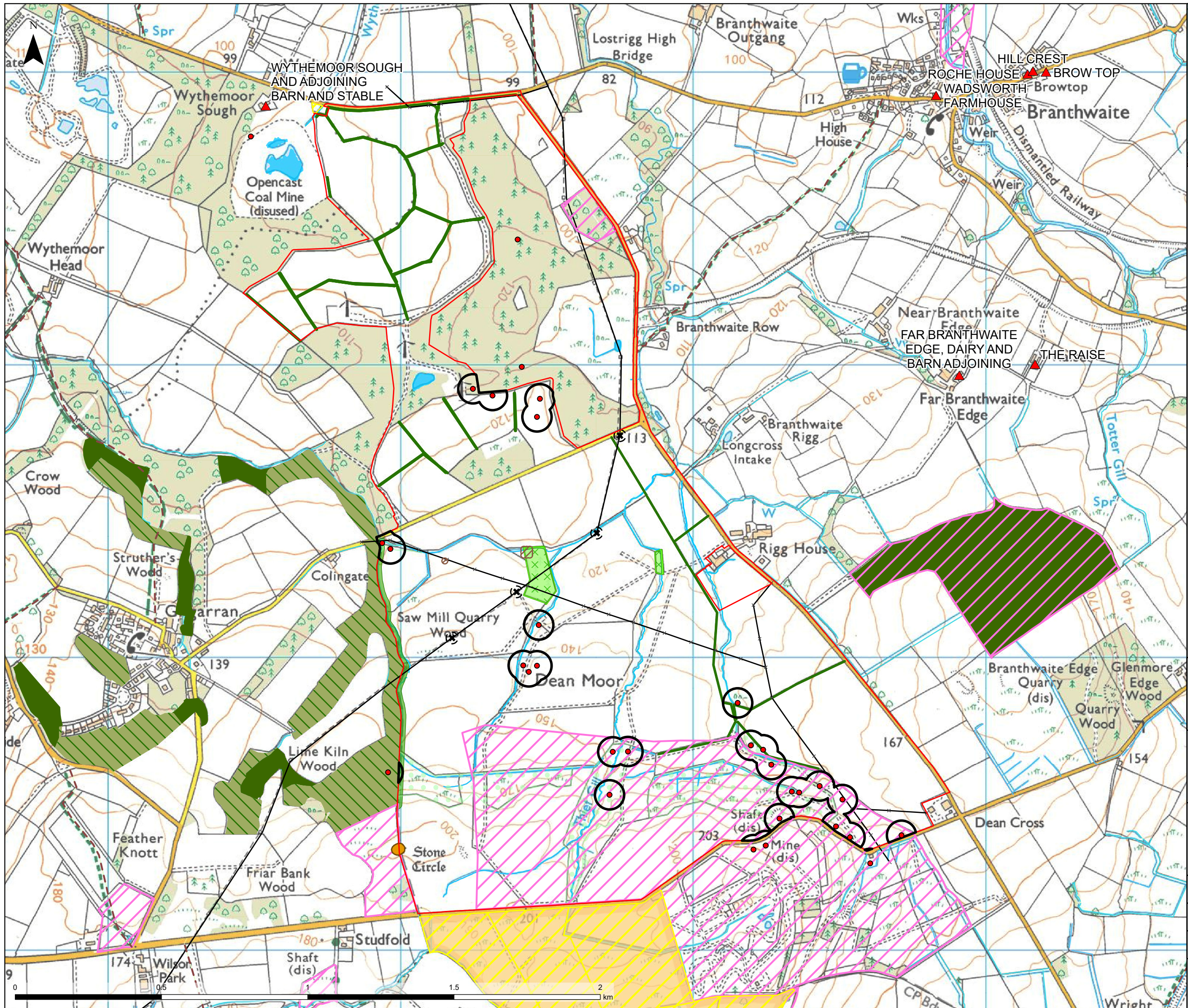


Legend

- Order Limits
- Existing 132 kV Overhead Line (Indicative)
- 11kV Overhead Line Exclusion Area
- Ancient Woodland Exclusion Area
- Potential Mine Entry Exclusion Area
- Peat Exclusion Area
- 132kV Pylon Exclusion Area
- Watercourse Exclusion Area

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Title	
DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER Exclusion Areas	
Scale: 1:12,500 @ A3	Date: 10/03/2025
Drawn: TL	Checked: JL
Figure: 4.1	Rev: A




Legend

- Order Limits
- Listed Building (Grade II)
- Stone Circle Scheduled Ancient Monument
- Public Right of Way
- Electricity Transmission Pylon (Indicative)
- Pylon 20m Buffer
- Electricity Transmission Pole (Indicative)
- Pole 3m Buffer
- Overhead Line (Indicative)
- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland
- Ancient Woodland 15m Buffer
- County Wildlife Site (CWS)
- Existing Hedgerow (Indicative)
- Existing Woodland (Indicative)
- Existing Vegetation 4m Buffer
- Existing Scrubland Vegetation
- Static Water & Watercourses
- Countryside Right of Way Access Land
- Countryside Right Of Way Section 4 - Conclusive Open Country
- Coal Mine Shaft Entry
- Mine Entry Exclusion Zone
- Peat Exclusion Area

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Project Title

 **Dean Moor Solar Farm**


Client

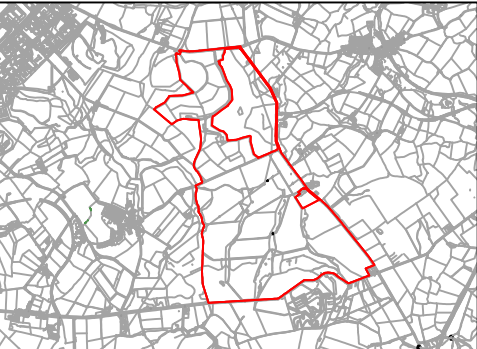
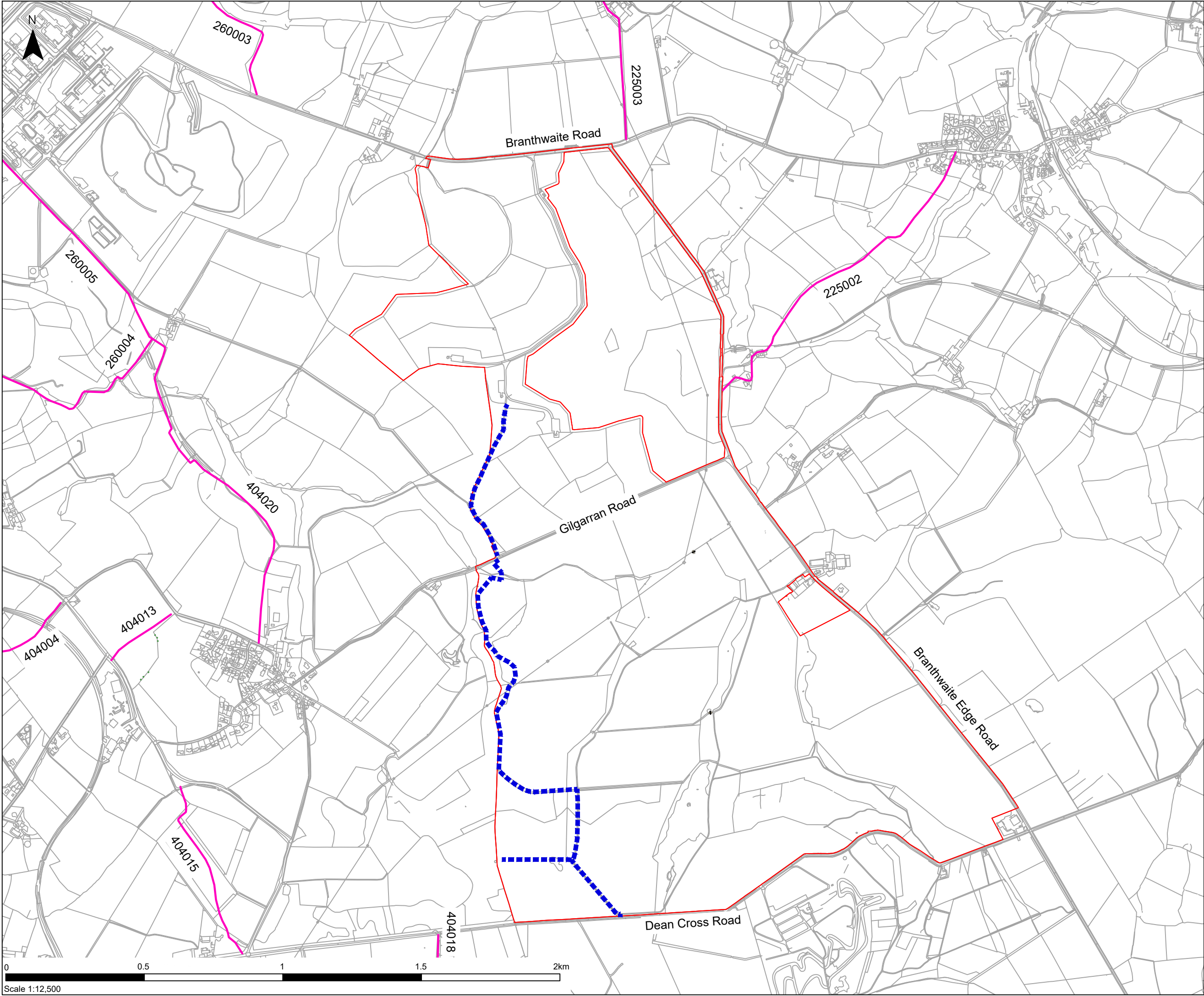
FVS Dean Moor Limited

Title

DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER
Combined Constraints Plan

Scale: 1:12,000 @ A3	Date: 08/10/2024
Drawn: TL	Checked: JL
Figure: 4.2	Rev: F

 **Stantec**



- LEGEND**
- Order Limits
- EXISTING FEATURES**
- Public Right of Way (PRoW)
- INDICATIVE PROPOSED FEATURES / MEASURES**
- Indicative Permissive Path

Project Title



Client

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Title

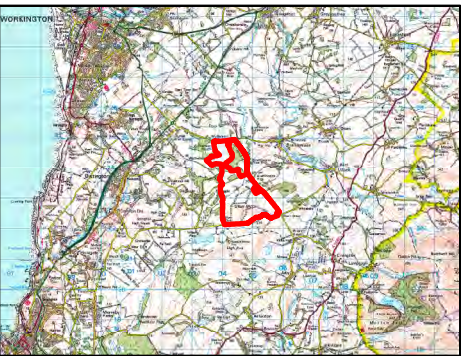
DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER

Permissive Paths and PRoW

Scale: 1:12500 @ A3	Date: 05.02.2025
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Drawn: MB	Checked: IM
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Figure:4.3	Sheet 1 of 1	Rev: N/A
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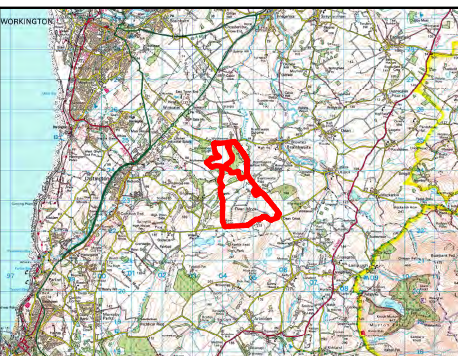
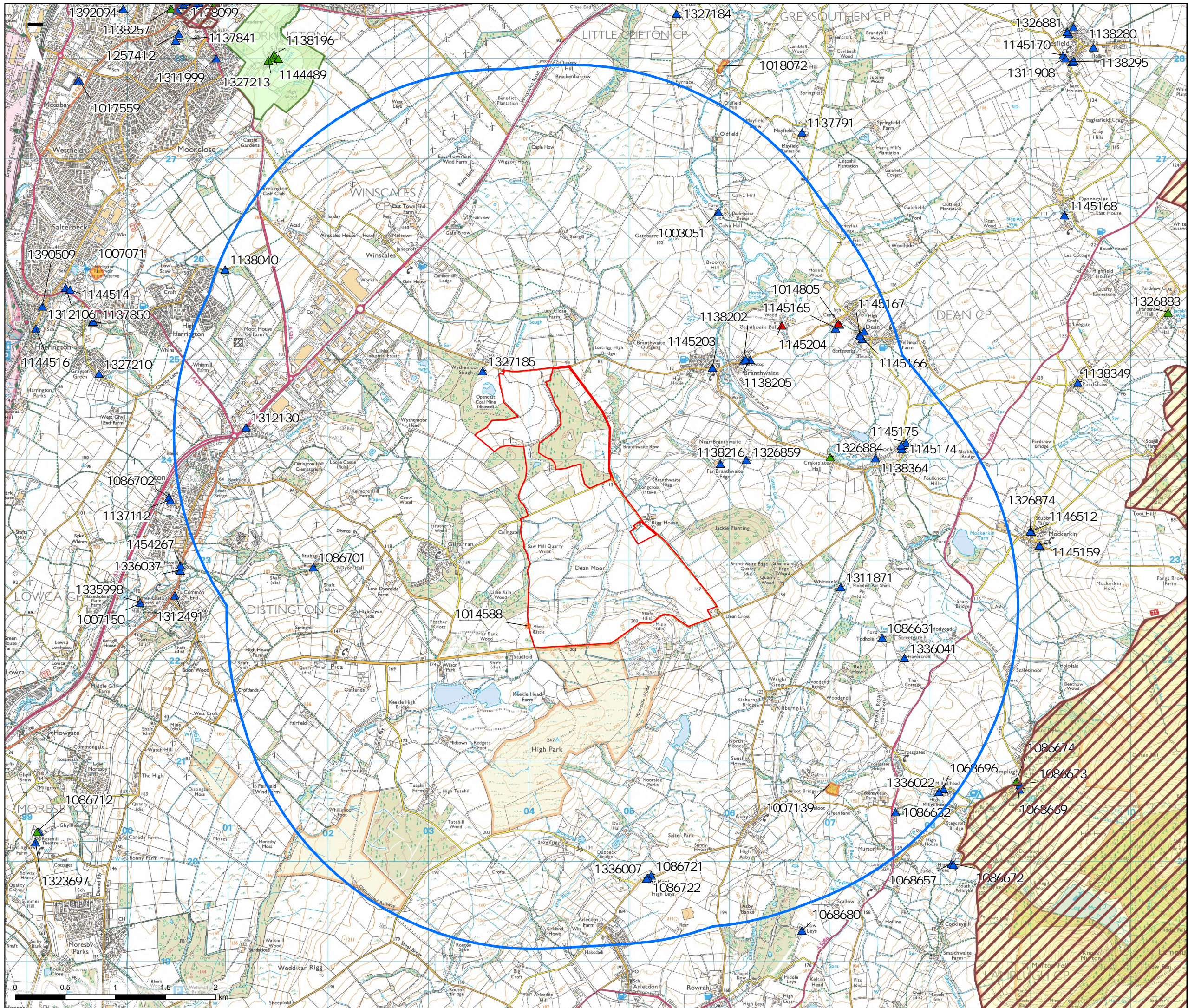


Legend

- Order Limits
- Indicative Site Access Points
- Potential Highway Works

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Title		
DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER		
Site Access Map		
Scale: 1:12,500 @ A3	Date: 16/10/2024	
Drawn: TL	Checked: TH	
Figure: 5.1	Sheet 1 of 1	Rev: A

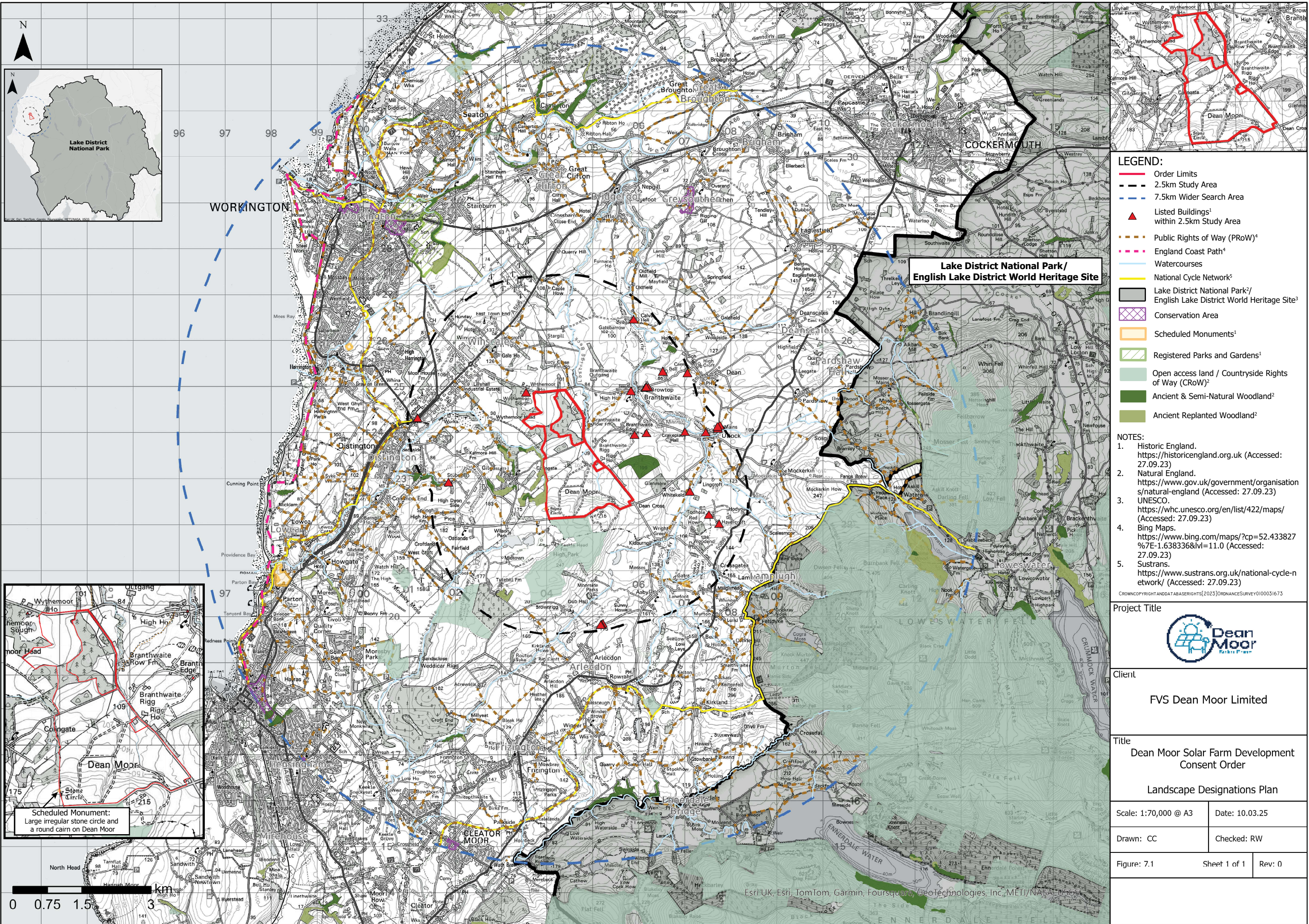


Legend

- Order Limits
- 3km Buffer from Order Limits
- Designated Heritage Assets**
 - Grade I Listed Building
 - Grade II* Listed Building
 - Grade II Listed Building
 - Conservation Area
 - Scheduled Monument
 - Registered Parks and Gardens
 - The English Lake District World Heritage Site

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Title	
DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER	
Designated Heritage Receptors	
Scale: 1:35,000 @ A3	Date: 04/11/2024
Drawn: TL	Checked: HC
Figure: 6.1	Sheet 1 of 1
Rev: A	
	



LEGEND:

- Order Limits
- 2.5km Study Area
- 7.5km Wider Search Area
- Listed Buildings¹ within 2.5km Study Area
- Public Rights of Way (PRoW)⁴
- England Coast Path⁴
- Watercourses
- National Cycle Network⁵
- Lake District National Park²/
English Lake District World Heritage Site³
- Conservation Area
- Scheduled Monuments¹
- Registered Parks and Gardens¹
- Open access land / Countryside Rights
of Way (CROW)²
- Ancient & Semi-Natural Woodland¹
- Ancient Replanted Woodland²

NOTES:

- Historic England.
<https://historicengland.org.uk> (Accessed: 27.09.23)
- Natural England.
<https://www.gov.uk/government/organisation/s/natural-england> (Accessed: 27.09.23)
- UNESCO.
<https://whc.unesco.org/en/list/422/maps/> (Accessed: 27.09.23)
- Bing Maps.
<https://www.bing.com/maps/?cp=52.433827%7E-1.638336&lvl=11.0> (Accessed: 27.09.23)
- Sustrans.
<https://www.sustrans.org.uk/national-cycle-network/> (Accessed: 27.09.23)

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Project Title



Client

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Title

Dean Moor Solar Farm Development
Consent Order

Landscape Designations Plan

Scale: 1:70,000 @ A3

Date: 10.03.25

Drawn: CC

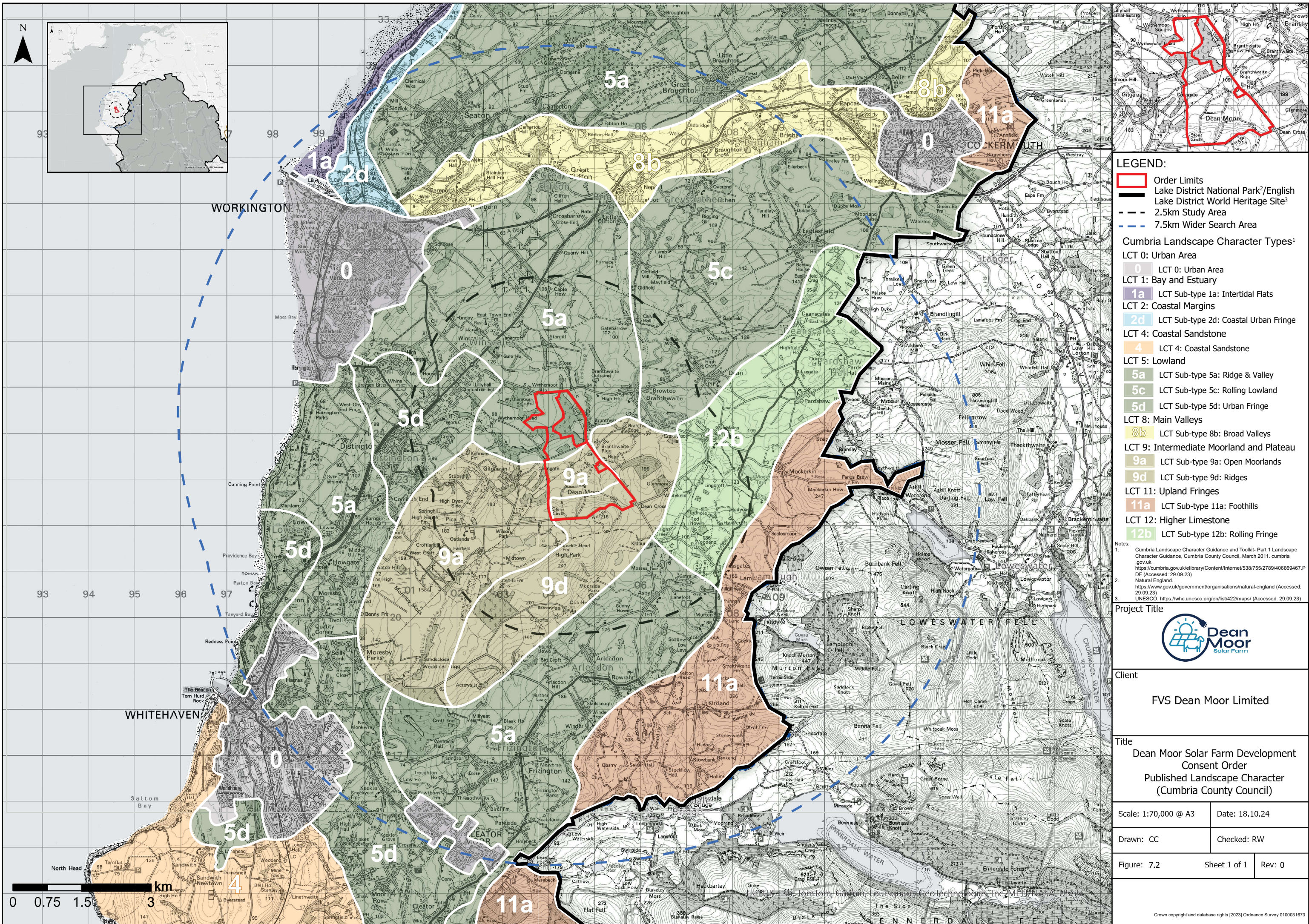
Checked: RW

Figure: 7.1

Sheet 1 of 1

Rev: 0

Esri UK, Esri, TomTom, Garmin, Foursquare, GeoTechnologies, Inc., METI/NASA, USGS



LEGEND:

- Order Limits
- Lake District National Park²/English Lake District World Heritage Site³
- 2.5km Study Area
- 7.5km Wider Search Area

Cumbria Landscape Character Types¹

- LCT 0: Urban Area
- LCT 1: Bay and Estuary
- LCT Sub-type 1a: Intertidal Flats
- LCT 2: Coastal Margins
- LCT Sub-type 2d: Coastal Urban Fringe
- LCT 4: Coastal Sandstone
- LCT Sub-type 4: Coastal Sandstone
- LCT 5: Lowland
- LCT Sub-type 5a: Ridge & Valley
- LCT Sub-type 5c: Rolling Lowland
- LCT Sub-type 5d: Urban Fringe
- LCT 8: Main Valleys
- LCT Sub-type 8b: Broad Valleys
- LCT 9: Intermediate Moorland and Plateau
- LCT Sub-type 9a: Open Moorlands
- LCT Sub-type 9d: Ridges
- LCT 11: Upland Fringes
- LCT Sub-type 11a: Foothills
- LCT 12: Higher Limestone
- LCT Sub-type 12b: Rolling Fringe

- Notes:
- Cumbria Landscape Character Guidance and Toolkit- Part 1 Landscape Character Guidance, Cumbria County Council, March 2011. <https://cumbria.gov.uk/leisure/Content/Internet/538/755/2789/406869467.PDF> (Accessed: 29.09.23)
 - Natural England. <https://www.gov.uk/government/organisations/natural-england> (Accessed: 29.09.23)
 - UNESCO. <https://whc.unesco.org/en/list/422/maps/> (Accessed: 29.09.23)

Project Title



Client

FVS Dean Moor Limited

Title

Dean Moor Solar Farm Development
Consent Order
Published Landscape Character
(Cumbria County Council)

Scale: 1:70,000 @ A3

Date: 18.10.24

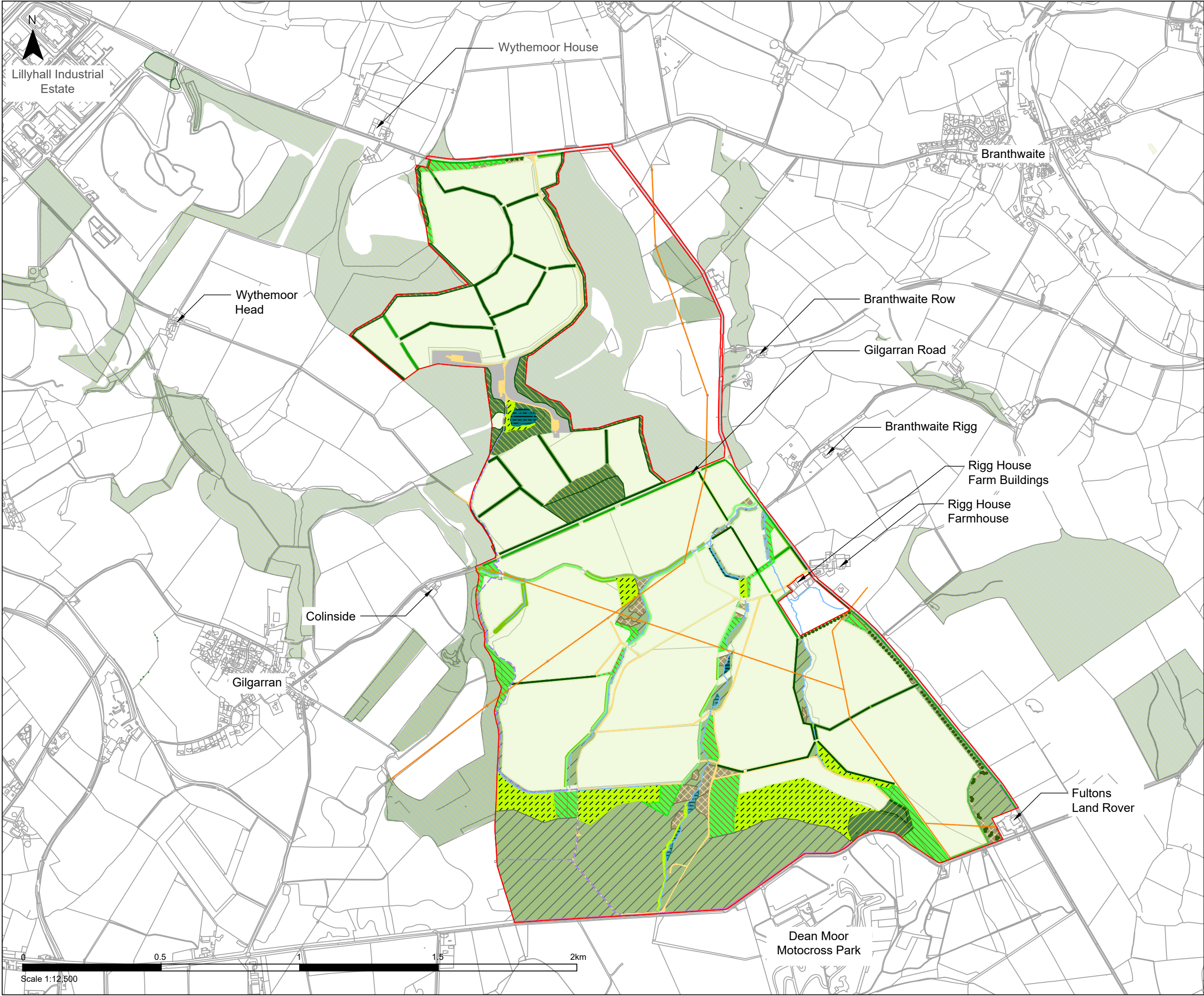
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Checked: RW


Figure: 7.2

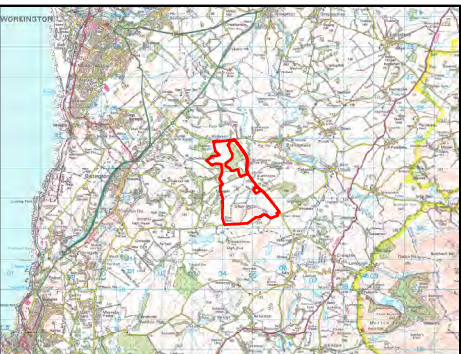
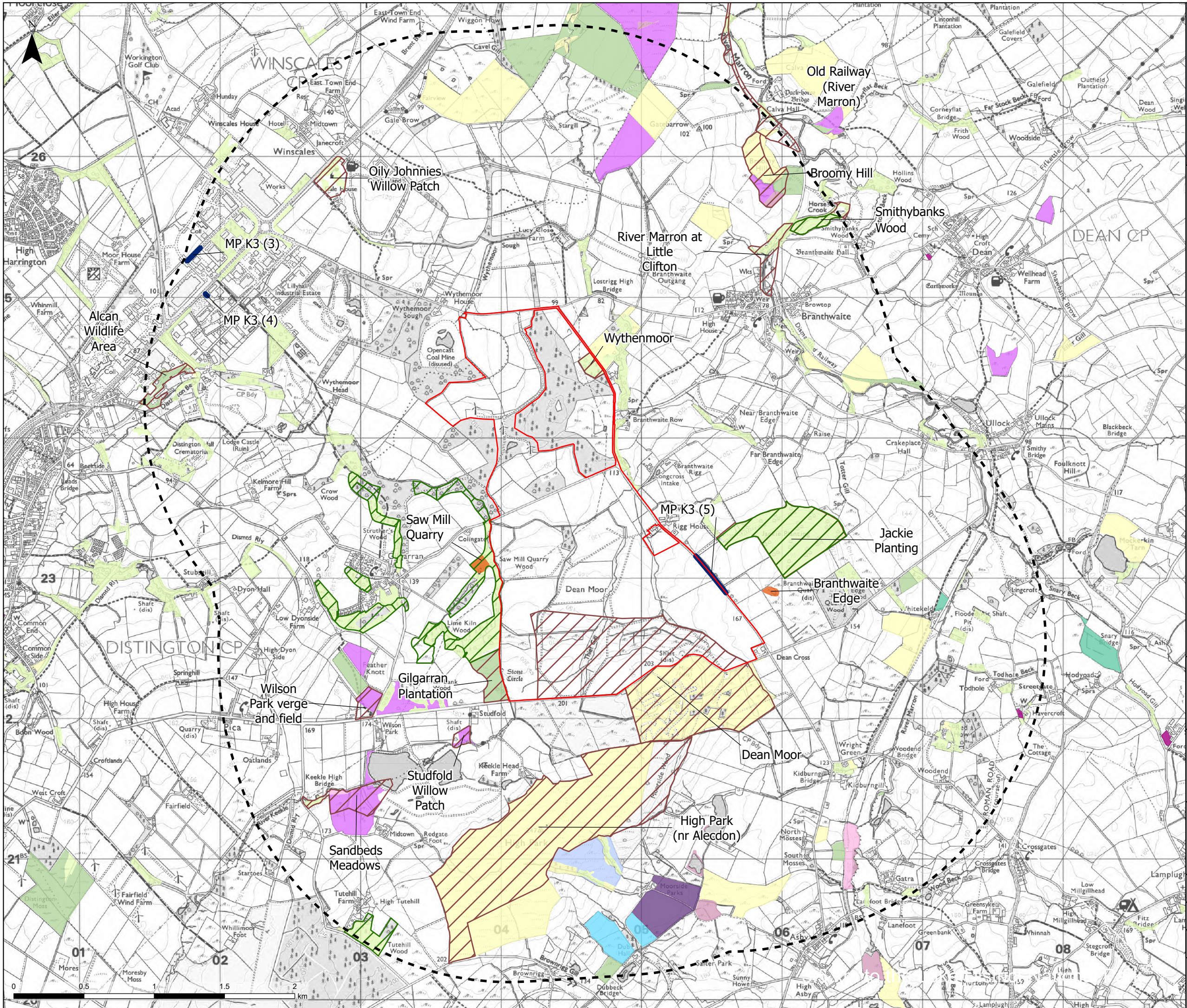
Sheet 1 of 1

Rev: 0



- LEGEND**
- Order Limits
 - EXISTING FEATURES**
 - Existing Woodland/Scrub (Broadleaved)
 - Existing Woodland (Coniferous)
 - Existing Woodland (Out of Order Limits)
 - Existing Wind Turbines and Landscaping
 - Existing Electrical Infrastructure
 - Existing Track
 - INDICATIVE PROPOSED FEATURES / MEASURES**
 - Enhanced Grassland (Solar Development Areas)
 - Acid Grassland (Rough acid moorland achieved through relaxed grazing)
 - Other Neutral Grassland
 - Existing Watercourse (enhanced through reduced grazing pressure)
 - Existing pond & watercourses to be enhanced with vegetation clearance and riparian planting
 - Broadleaved Woodland
 - Scrub Planting
 - Existing Hedgerow (to be enhanced to 3-3.5m height)
 - Existing Hedgerow (to be infilled and maintained to height of ~2m height)
 - Native Hedgerow (3-3.5m height)
 - Native Hedgerow (1.5-2m height) (inc sections to protect watercourse)
 - Willow Screen
 - Hedgerow Trees
 - Enhancement to Existing Woodland / Scrub
 - Native Planting to Protect Water Course
 - Opportunity to repair / rebuild existing dry stone wall to height of 1-1.5m
 - Potential Permissive Path

Project Title		
		
Client		
FVS Dean Moor Limited		
Title		
DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER Landscape Strategy Plan Overview Sheet		
Scale: 1:12500 @ A3	Date: 16/01/2025	
Drawn: MB	Checked: AC/RW	
Figure: 7.3	Sheet 1 of 5	Rev: N/A



Legend

- Order Limits
- 2km Buffer from Order Limits
- Ancient Woodland
- County Wildlife Site
- Local Geological Site
- Special Roadside Verge
- Priority Habitat
 - Coastal and floodplain grazing marsh
 - Deciduous woodland
 - Good quality semi improved grassland
 - Lowland calcareous grassland
 - Lowland dry acid grassland
 - Lowland fens
 - Lowland heathland
 - Lowland meadows
 - No main habitat but additional habitats present
 - Purple moor grass and rush pastures
 - Traditional orchard
 - Upland hay meadow

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Title

DEAN MOOR SOLAR FARM DEVELOPMENT
CONSENT ORDER

Non-Statutory Designated Sites and
Notable Habitats

Scale: 1:25,000 @ A3

Date: 22/11/2024

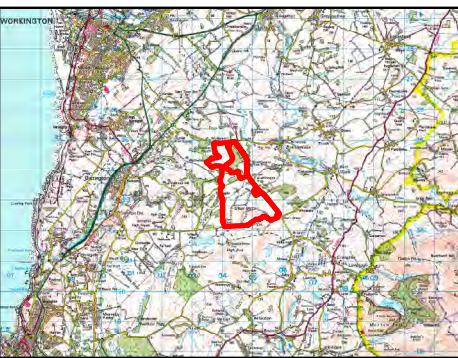
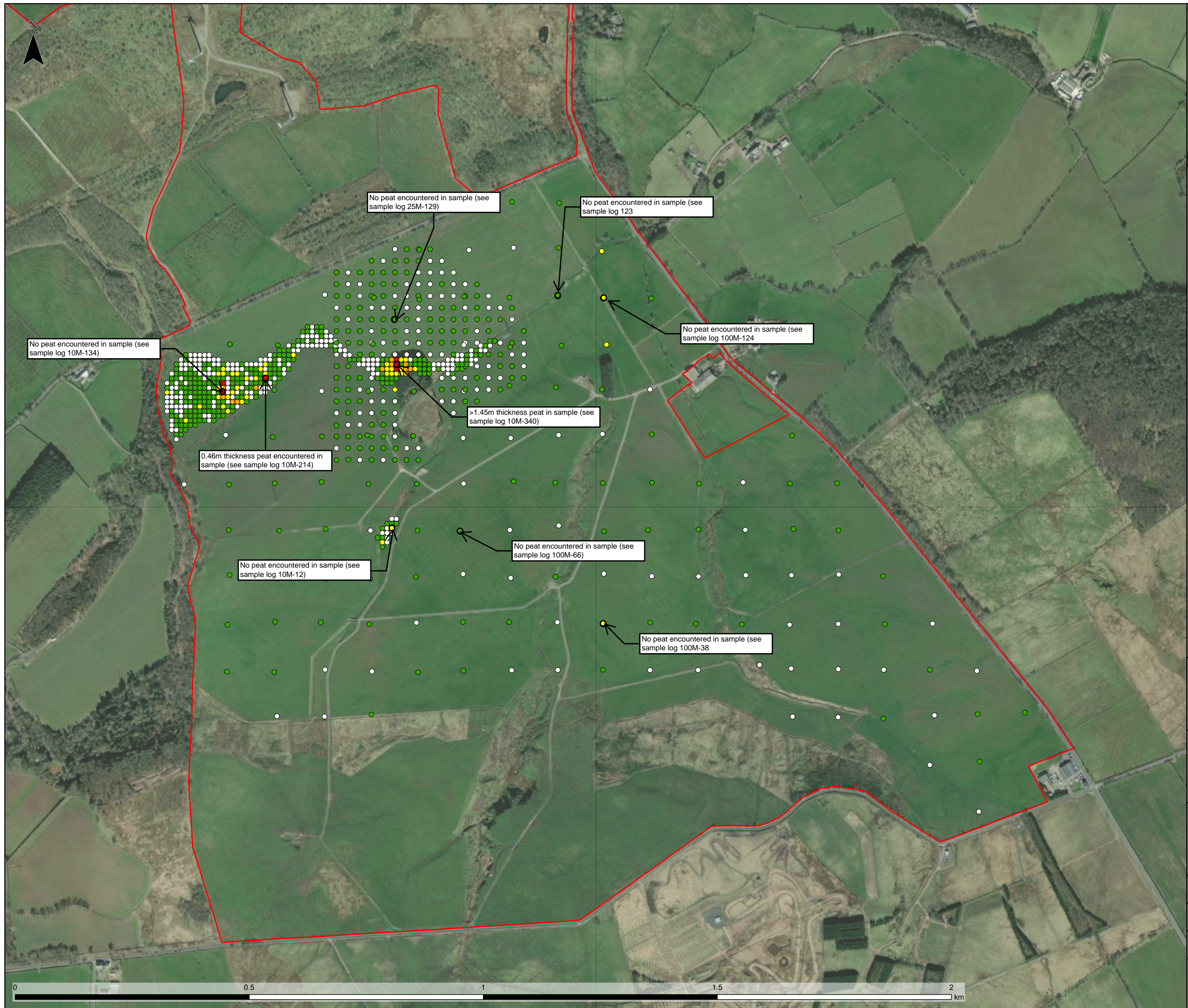
Drawn: TL

Checked: HC

Figure: 8.1

Rev: A





- Legend
- Order Limits
- Soft Soil/Peat Depth (m Below Ground Level)
- 0.0m - 0.5m
 - 0.5m - 1.0m
 - 1.0m - 1.5m
 - 1.5m - 2.0m
 - 2.0m - 2.5m

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DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER

Map Indicating Areas of Peat on-
Site

Scale: 1:7,500 @ A3

Date: 11/10/2024

Drawn: TL

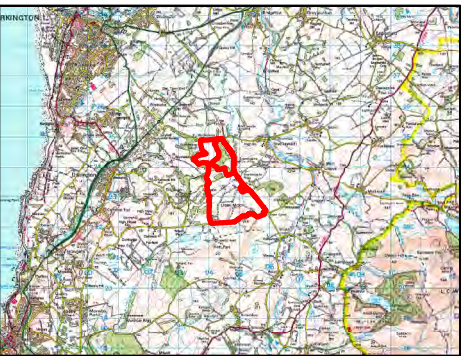
Checked: HC

Figure: 10.1

Sheet 1 of 1

Rev: A





Legend

Order Limits

Agricultural Land Classification (ALC)
Grades: Post 1988 Survey


Grade 3b

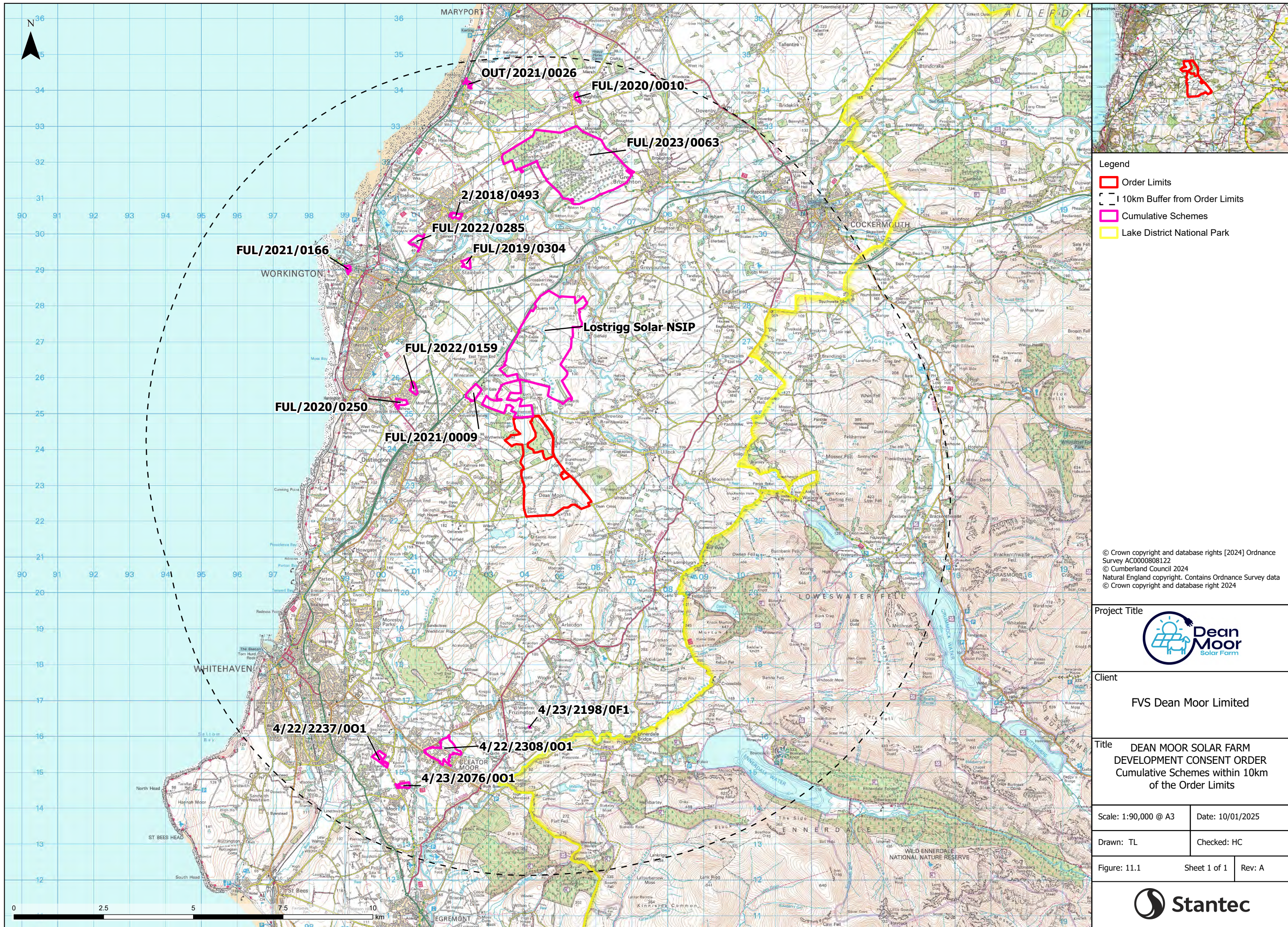
Grade 4

Grade 5

Other

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DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER Agricultural Land Classification		
Scale: 1:12,500 @ A3	Date: 24/10/2024	
Drawn: TL	Checked: JL	
Figure: 10.2		Rev: A
		



Legend

- Order Limits
- 10km Buffer from Order Limits
- Cumulative Schemes
- Lake District National Park

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DEAN MOOR SOLAR FARM DEVELOPMENT CONSENT ORDER Cumulative Schemes within 10km of the Order Limits		
Scale: 1:90,000 @ A3	Date: 10/01/2025	
Drawn: TL	Checked: HC	
Figure: 11.1	Sheet 1 of 1	Rev: A