Dean Moor
Solar Farm

Environmental Statement: Appendix 6.1 – Historic Environment Desk-Based Assessment (HEDBA) (1 of 4)

on behalf of **FVS Dean Moor Limited**

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Prepared by: Stantec UK Ltd
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DEAN MOOR SOLAR FARM
ENVIRONMENTAL STATEMENT
APPENDIX 6.1 – HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT (HEDBA)
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 Project Background

1.1.1 The Site extends to approximately 276.5ha and is located approximately 1.1km east of the Lillyhall Industrial Estate, 600m east of the small village of Gilgarran, approximately 900m west of Branthwaite, and approximately 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 as shown on Figure 1. The Site area comprises generally agricultural land used for livestock grazing with wind turbines located in the north of the Site.

1.1.2 The Proposed Development comprises the construction, operation, and decommissioning of a solar photovoltaic ('PV') energy generating station with a total capacity exceeding 50 Megawatts ('MW') comprising solar PV arrays, grid connection infrastructure, associated infrastructure, and green infrastructure.

1.2 Scope, Aims, and Objectives

1.2.1 This report provides a baseline of known or potential buried heritage receptors (archaeological remains) and above ground heritage receptors (structures and landscapes of heritage interest) within or immediately around the Proposed Development. These are identified as having a degree of significance meriting consideration in planning decisions and include designated heritage receptors, receptors identified by the local planning authority (including local listing), and non-designated receptors.

1.2.2 The term 'receptor' has been used within this assessment rather than asset in keeping with the ES terminology.

1.2.3 Professional expert opinion has assessed heritage significance and archaeological potential, based on historic, archaeological, architectural, or artistic interest, considering past ground disturbance which may have compromised survival.

1.2.4 Cultural Heritage has long been a material consideration in the planning process and its value is recognised in national and local planning policy. The aim of this report is to assess the impact of the Proposed Development and to provide recommendations to mitigate any adverse effects, if required. The aim is achieved through the following objectives:

- Identify the presence of any known or potential heritage receptors, including buried remains, which may be affected by the Proposed Development;
- Assess any previous impacts which may have affected receptor survival;
- Provide an evaluation of asset sensitivity based on statutory designation, or in the absence of designation, professional judgement against values set out in Historic England's 'Conservation Principles' (2008)[1];
- Assess development impacts and hence the significance of environmental effects arising from the proposals during the construction phase and operation/completed phase, including effects on the historic character and setting of designated heritage assets where relevant;
- Provide recommendations for mitigation that would reduce or offset any adverse effects; and
- Quantify any residual effects (those that might remain after mitigation) and, where required, cumulative effects.

1.2.5 This assessment should be proportionate to the receptor importance and no more than is sufficient to understand the potential impact of the Proposed Development on said significance.

[1] Historic England (2015). Conservation Principles, Policies and Guidance

2 Methodology and Sources

2.1 Historic Environment Desk-Based Assessment

2.1.1 The Historic Environment Desk-Based Assessment ('HEDBA'). has been undertaken in accordance with the requirements of the NPPF and to standards specified by the Chartered Institute for Archaeologists and Historic England (see Section 2.2).

2.1.2 This section sets out the proposed approach and methodology for undertaking an assessment of the likely significant effects (for Environmental Impact Assessment reports) of the Proposed Development on known or potential buried heritage receptors (archaeological remains) and above ground heritage receptors (structures and landscapes of heritage interest).

2.2 Decision Making Framework

2.2.1 This section sets out the legislative provisions, policy, and guidance, as well as the EIA Regulations, which provide the context for the cultural heritage assessment to be undertaken in the EIA.

Legislation

2.2.2 The applicable legislative framework comprises:

- Ancient Monuments and Archaeological Areas Act ('AMAAA') 1979[2], which provides specific protection for monuments of national interest;
- Planning (Listed Buildings and Conservation Areas) Act 1990[3], which provides specific protection for buildings and areas of special architectural or historic interest;
- Historic Buildings and Ancient Monuments Act 1953[4], which makes provision for the compilation of a register of gardens and other land (parks and gardens, and battlefields); and
- Hedgerows Regulations 1997[5] make provision for the protection of important hedgerows, which may be afforded statutory protection

[2] Ancient Monuments and Archaeological Areas Act (AMAAA) (1979)
[3] Planning (Listed Buildings and Conservation Areas) Act (1990)
[4] Historic Buildings and Ancient Monuments Act (1953)
[5] Hedgerows Regulations (1997)

should they qualify as being 'important' for, inter alia, historical, or archaeological reasons.

National Policy

2.2.3 In the Overarching National Policy Statement ('NPS') for Energy ('EN-1')[6] 'Section 5.9: The Historic Environment' is the section of EN-1 of most relevance to this chapter, and the key points relevant to this assessment are as follows:

'The applicant should undertake an assessment of any likely significant heritage impacts of the proposed development as part of the EIA and describe these along with how the mitigation hierarchy has been applied in the ES … This should include consideration of heritage assets above, at, and below the surface of the ground. Consideration will also need to be given to the possible impacts, including cumulative, on the wider historic environment. The assessment should include reference to any historic landscape or seascape character assessment and associated studies as a means of assessing impacts relevant to the proposed project'. (Paragraph 5.9.9)

'As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development, including any contribution made by their setting. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum, the applicant should have consulted the relevant Historic Environment Record (or, where the Proposed Development is in English or Welsh waters, Historic England or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development's impact'. (Paragraph 5.9.10)

'Where a site on which development is proposed includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, accurate representative visualisations may be necessary to explain the impact'. (Paragraph 5.9.11)

'The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents. Studies will be required on those heritage assets affected by noise, vibration, light and indirect impacts, the extent and detail of these studies will be proportionate to the significance of the heritage asset affected'. (Paragraph 5.9.12)

'The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible:

enhancing, through a range of measures such a sensitive design, the significance of heritage assets or setting affected

[6] HM Government (2024). DESNZ. Overarching National Policy Statement for Energy (EN-1)

considering measures that address those heritage assets which are at risk or which may become at risk, as a result of the scheme

considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to, or interpretation, understanding and appreciation of, the heritage assets affected by the scheme'. (Paragraph 5.9.13)

'Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary or permanent'. (Paragraph 5.9.14)

'Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably'. (Paragraph 5.9.15)[7]

2.2.4 The NPS for Renewable Energy Infrastructure (EN-3)[8] contains Section 3.10 - Solar photovoltaic generation: cultural heritage. Key paragraphs within this section include:

'The impacts of solar PV developments on the historic environment will require expert assessment in most cases and may have effect both above and below ground'. (Paragraph 3.10.98)

'Above ground impacts may include the effects on the setting of Listed Buildings and other designated heritage assets as well as on Historic Landscape Character'. (Paragraph 3.10.99)

'Below ground impacts, although generally limited, may include direct impacts on archaeological deposits through ground disturbance associated with trenching, cabling, foundations, fencing, temporary haul routes etc'. (Paragraph 3.10.100)

'Equally solar PV developments may have a positive effect, for example archaeological assets may be protected by a solar PV farm as the Site is removed from regular ploughing and shoes or low-level piling is stipulated'. (Paragraph 3.10.101)

'Applicant assessments should be informed by information from Historic Environment Records (HERs) or the local authority'. (Paragraph 3.10.103)

'Where a site on which development is proposed includes, or has the potential to, include heritage assets with archaeological interest, the applicant should submit an appropriate desk-based assessment and, where necessary, a field evaluation. These should be carried out, using expertise where necessary and in consultation with the local planning authority, and should identify archaeological study areas and propose appropriate schemes of investigation, and design measures, to ensure the protection of relevant heritage assets'. (Paragraph 3.10.104)

'In some instances, field studies may include investigative work (and may include trial trenching beyond the boundary of the proposed site) to assess the impacts of any ground disturbance, such as proposed cabling, substation foundations or

[7] ibid

[8] HM Government (2024). DESNZ. National Policy Statement for Renewable Energy Infrastructure (EN-3)

mounting supports for solar panels on archaeological assets'. (Paragraph 3.10.105)

'The extent of investigative work should be proportionate to the sensitivity of, and extent of proposed ground disturbance in, the associated study area'. (Paragraph 3.10.106)

'Applicants should take account of the results of historic environment assessments in their design proposal'. (Paragraph 3.10.107)

'Applicants should consider what steps can be taken to ensure heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on views important to their setting'. (Paragraph 3.10.108)

'As the significance of a heritage asset derives not only from its physical presence but also from its setting, careful consideration should be given to the impact of large-scale solar farms which depending on their scale, design and prominence, may cause substantial harm to the significance of the asset'. (Paragraph 3.10.109)

'Applicants may need to include visualisations to demonstrate the effects of a proposed solar farm on the setting of heritage assets'. (Paragraph 3.10.110)

'The ability of the applicants to microsite specific elements of the proposed development during the construction phase should be an important consideration by the Secretary of State when assessing the risk of damage to archaeology'. (Paragraph 3.10.128)

'Where requested by the applicant, the Secretary of State should consider granting consents which allow for the micrositing within a specified tolerance of elements of the permitted infrastructure so that precise locations can be amended during the construction phase if unforeseen circumstances, such as the discovery of previously unknown archaeology, arise'. (Paragraph 3.10.129)

'Solar farms are generally consented on the basis that they will be time-limited in operation. The Secretary of State should therefore consider the length of time for which consent is sought when considering the impacts of any indirect effect on the historic environment, such as effects on the setting of designated heritage assets'. (Paragraph 3.10.151)

2.2.5 The NPS for Electricity Networks Infrastructure (EN-5)[9] only refers to archaeology or heritage on two occasions, both with regard to the laying of below ground electricity cables:

'As well as having duties under Section 9 of the Electricity Act 1989, (in relation to developing and maintaining an economical and efficient network), applicants must take into account Schedule 9 to the Electricity Act 1989, which places a duty on all transmission and distribution licence holders, in formulating proposals for new electricity networks infrastructure, to "have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and …do what [they] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.' (Paragraph 2.2.10)

[9] HM Government (2024). DESNZ. National Policy Statement for electricity networks infrastructure (EN-5)

'… the potentially very disruptive effects of undergrounding on local communities, habitats, archaeological and heritage assets, marine environments, soil (including peat soils), hydrology, geology, and, for a substantial time after construction, landscape and visual amenity. (Undergrounding an overhead line will mean digging a trench along the length of the route, and so such works will often be disruptive – albeit temporarily – to the receptors listed above than would an overhead line of equivalent rating)'. (Paragraph 2.9.25)

Planning Policy and Guidance

2.2.6 National and local planning policy frameworks and associated guidance further guide the overall heritage assessment methodology. These include:

- National Planning Policy Framework (NPPF)[10];
- Planning Practice Guidance (PPG): Historic environment[11];
- Cumberland Consolidated Planning Policy Framework January 2023[12];
- Carlisle Local Plan 2015 - 2030[13] (Policy SP 7: Valuing our Heritage and Cultural Identity and Chapter 9 Historic Environment); and
- Allerdale Local Plan (Policy S24)[14].

2.2.7 As of 1 April 2023, Allerdale Borough Council (ABC) merged with Copeland Borough Council and Carlisle City Council to become Cumberland Council ('the Council'), which is now the administrative authority within which the Site is located. The Site is located within the former administrative boundary of ABC.

2.2.8 Sectorial guidance documents relevant to the EIA include:

- International Council on Monuments and Sites (ICOMOS) Guidance and Toolkit for Impact Assessment in a World Heritage Context[15];
- IEMA's Principles of Cultural Heritage Impact Assessment[16];
- Design Manual for Roads and Bridges (DMRB) LA 106 - Cultural heritage assessment[17] (while this guidance should not be relied upon it provides a useful framework for cultural heritage assessment);

[10] HM Government (2024). MHCLG National Planning Policy Framework (NPPF) - Section 16: Conserving and Enhancing the Historic Environment, paragraphs 189-208

[11] HM Government (2014, last updated 2019) MHGLG Planning Practice Guidance: Historic environment

[12] Cumberland Council (2023). Cumberland Consolidated Planning Policy Framework

[13] Carlisle City Council (2015) Carlisle Local Plan 2015 – 2030

[14] Allerdale Borough Council (2014). Allerdale Local Plan (Policy S24)

[15] ICOMOS (2011) ICOMOS Guidance and Toolkit for Impact Assessments in a World Heritage Context

[16] IEMA (2021). IEMA's Principles of Cultural Heritage Impact Assessment

[17] Department for Transport (2020) Design Manual for Roads and Bridges [DMRB] LA 106

- Conservation Principles: Policies and guidance for the sustainable management of the historic environment[18];
- Historic Environment Good Practice Advice in Planning 2: Managing Significance in Decision Taking in the Historic Environment[19];
- Historic Environment Good Practice in Planning Note 3 – The Setting of Heritage Assets[20];
- Historic England Advice Note 12: Statement of Heritage Significance: Analysing Significance in Heritage Assets[21];;
- Historic England Advice Note 15: Commercial Renewable Energy Development and the Historic Environment[22];; and
- Chartered Institute for Archaeologists ('CIfA') Standard and Guidance for Historic Environment Desk-based Assessment[23].

2.2.9 The NPPF is primarily used to guide the creation of local plans and the granting of developments under the Town and Country Planning Act 1990. The Proposed Development is an NSIP and so falls under the Planning Act 2008 regime. Whilst the NPS is the most relevant, the NPPF (along with other guidance) provides a useful framework in understanding heritage assets and development impacts which is reflected in the DCO regime.

2.2.10 For the purposes of this EIA, the Applicant is required to assess the magnitudes of impact resulting from the Proposed Development. The Proposed Development impacts have to be weighed against the 'value' of each cultural heritage receptor. This 'value' is broadly equivalent to a receptor (or asset's) 'significance' in NPPF terminology[24]. The term 'value' has been retained in this HEDBA (see Section 6.3) in order that this is not

[18] English Heritage (now Historic England) (2008) Conservation Principles: Policies and guidance for the sustainable management of the historic environment

[19] Historic England (2015) Historic Environment Good Practice Advice in Planning 2: Managing Significance in Decision Taking in the Historic Environment

[20] Historic England (2017) Historic Environment Good Practice in Planning Note 3 – The Setting of Heritage Assets 4

[21] Historic England (2019) Historic England Advice Note 12: Statement of Heritage Significance: Analysing Significance in Heritage Assets

[22] Historic England (2021) Historic England Advice Note 15: Commercial Renewable Energy Development and the Historic Environment

[23] Chartered Institute for Archaeologists (CIfA) (2020). Standard and Guidance for Historic Environment Desk-based Assessment.

[24] Significance is defined in Annex 2 of the NPPF as: "The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic, or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting."

confused with the 'significance of effects' which is discussed below in Section 6.3.

2.2.11 The PPG[25] provides the following interpretation of archaeological, architectural, artistic, or historic interest which guides the assessment of 'significance' of a cultural heritage 'asset' in NPPF terms:

'Archaeological interest: As defined in the Glossary to the National Planning Policy Framework, there will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.'

'Architectural and artistic interest: These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skill, like sculpture.'

'Historic interest: An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.'

2.2.12 The contribution the setting makes to the report is also a consideration in the assessment. 'Setting' is defined in Annex 2 of the NPPF as:

'The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.'

2.3 Assessment Methodology

2.3.1 The application of the EIA methodology relies on professional judgement to establish the sensitivity/value of a receptor and the magnitude of impact.

2.3.2 This section sets out the proposed approach and methodology for undertaking an assessment of the likely significant effects of the Proposed Development on known or potential below ground heritage receptors (archaeological remains) and above ground heritage receptors (buildings, structures, and landscapes of heritage value).

[25] HM Government (014, last updated 2019) MHGLG. Planning Practice Guidance: Historic environment (Paragraph: 006 Reference ID: 18a-006-20190723)

2.3.3 The chapter specifically seeks to identify those receptors with potential to experience a 'significant effect'; these have been assessed in full in the accompanying ES Chapter.

2.3.4 The thresholds for 'significant effects' on heritage receptors are determined by considering the sensitivity/value of receptors alongside the magnitude of impact that will be experienced[26]. Effects that are graded as being major or moderate are considered significant with respect to the EIA Regulations. Effects that are graded as minor, negligible or constitute effects that are not considered significant (along with 'no change' effects).

2.3.5 The sensitivity/value of a heritage receptor is determined by its designated status and desk-based research to inform a professional judgement in relation to its heritage interest, accounting for the likely nature, date, extent, survival, condition, rarity, and group value along with an assessment of the contribution its setting makes to this value.

2.3.6 The assessment of setting has been undertaken with reference to the assessment steps set out in HE Advice Note 3: The Setting of Heritage Assets (2017) ('HEAN3')[27].

Sources of Information

2.3.7 The following sources of information have been consulted to inform this HEDBA:

- The Geophysical Survey reports/plots produced as of November 2023 (Appendix 6.2);
- Local Historic Environment Record ('HER')[28];
- Historic England's National Heritage List for England ('NHLE')[29];

[26] Regarding the NPPF, an assessment of 'less than substantial harm' therefore does not always equate to a 'significant effect.' A receptor could therefore be subject to 'less than substantial harm' under the NPPF and fall within 'significant effect' by the EIA assessment matrix. For example, a receptor that falls within 'less than substantial harm' under the NPPF and is of medium or low sensitivity/value could fall within significant effects if the magnitude of impact is moderate or major.

[27] Historic England (2017) Historic Environment Good Practice in Planning Note 3 – The Setting of Heritage Assets 4

[28] Westmorland and Furness Council HER data (received pers comm 25.05.2023)

[29] Historic England (2023) https://historicengland.org.uk/listing/the-list/data-downloads Accessed September 2024

- Regional, borough, district or local landscape character assessments and relevant supplementary design or planning guidance (SPD or SPG)[30];
- Relevant Conservation Area appraisals[31];
- National Planning Policy Framework (2024)[32];
- Local authority websites for Local Plans and Development Frameworks, including Area Action Plans if relevant[33];
- Google Earth Pro for aerial photography[34];
- DEFRA's Magic Maps for an initial review of statutory and non-statutory designations[35]; and
- Site walkover surveys (by both the cultural heritage consultants and the landscape consultants).

Impact Assessment Methodology

2.3.8 This assessment has been carried out in relation to the NPS EN-3. However, the relevant policy and guidance is accepted practice for assessing projects within the NSIP or Planning Act 2008 regime.

2.3.9 As mentioned above at 1.2.2, in line with EIA terminology, the term 'receptors' is used within this HEDBA to refer to heritage assets. The scope of this assessment includes the following designated[36] and non-designated heritage receptors:

Designated heritage receptors:

- World Heritage Sites ('WHS');
- Scheduled monuments ('SM');
- Listed buildings (LB, listed as grades I, II and II*);
- Registered parks and gardens ('RP&G'); and

[30] Cumberland Council https://www.cumberland.gov.uk/planning-and-building-control/conservation/conservation-areas Accessed September 2024

[31] Cumberland Council https://www.cumberland.gov.uk/planning-and-building-control/conservation/conservation-areas Accessed January 2024

[32] HM Government (2024). MHCLG National Planning Policy Framework (NPPF) - Section 16: Conserving and Enhancing the Historic Environment, paragraphs 202 to 214

[33] Cumberland Council https://www.cumberland.gov.uk/planning-and-building-control Accessed January 2024

[34] Google Inc https://earth.google.com/web Accessed January 2024

[35] DEFRA www.magic.defra.gov.uk Accessed January 2024

[36] NPPF Paragraph 213 states that heritage assets 'of the highest significance' include scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, as well as world heritage sites. Consequently, all of these 'assets' have been grouped into the single category of 'high' value rather than 'high' and 'very high' (for world heritage sites) as in the original DMRB methodology.

- Conservation areas ('CA').

Non-designated heritage receptors may include:

- Locally listed buildings, buildings of local merit; and
- Monuments listed in the local HER.
- Potential Below Ground Heritage Receptors (Archaeological Remains)

2.3.10 Professional expert opinion has been used to assess the value of these receptors based on historic, archaeological, architectural, or artistic interests[37], taking account past works which may have compromised survival.

2.3.11 The Scoping Report for the Proposed Development (Appendix 2.1) included proposed methodologies for assessing archaeology and built heritage in the ES, supplementary to the Planning Inspectorate's Scoping Opinion (Appendix 2.2) identified areas of further assessment for determining 'significant' effects.

2.3.12 The methodology that has been adopted in the HEDBA and the ES chapter for assessing predicted impacts and effects upon the heritage receptors has been further informed by the guidance provided in the Highways Agency's Design Manual for Roads and Bridges ('DMRB') LA 106 - Cultural heritage assessment (while this guidance should not be relied upon it provides a useful framework for cultural heritage assessment). This methodology was designed for the assessment of impacts and effects resulting from road construction, but it is also a useful approach to the assessment of other development schemes. The original DMRB methodology was developed in consultation with the key historic environment stakeholders in the UK, including English Heritage (now Historic England ('HE')), Historic Scotland (now Historic Environment Scotland), Cadw, The Environment and Heritage Service of Northern Ireland, and the Institute for Archaeologists (now the Chartered Institute for Archaeologists ('CIfA')).

[37] Historic England (2019) Historic England Advice Note 12: Statement of Heritage Significance: Analysing Significance in Heritage Assets

2.3.13 Careful consideration has been made for other disciplines within this HEDBA. It has been necessary to work with the landscape consultants as matters such as visual impact considerations are relevant to both disciplines. The methodology used for undertaking the Landscape and Visual assessment is found in ES Appendix 7.1.

2.3.14 As the assessment of likely significant effects in the ES chapter has focused on several types of heritage receptors through professional judgement and has been the subject of consultation with the Council's Historic Environment Advisor, Conservation Officer, HE, and the Lake District National Park Partnership (in conjunction with the landscape consultant).

2.3.15 A study area comprising the land within the Site and a 1km buffer from the Site boundary has been used to assess the potential for non-designated heritage receptors (consisting of receptors of archaeological interest, locally listed buildings, and parks and gardens of local interest). This is considered an appropriate and proportionate study area in response to the scale and nature of the Proposed Development, the Site, and its surroundings and the local interest of such receptors (see below for discussion of designated heritage receptors for assessment). It is consistent with best practice guidance set out in HE Advice Note 3: The Setting of Heritage Assets (2017) ('HEAN3').

2.3.16 Potential below ground heritage receptors (archaeological remains) will only be affected where they exist within the Site itself rather than within the wider study area.

2.3.17 Figure 2 (Appendix B) sets out the locations of the designated receptors. Figure 3 (Appendix B) sets out the locations of the non-designated receptors (and other local HER data points[38]) with the unique site and monument record numbers ('SMR no').

[38] HER online mapping. Available at: https://maps.cumbria.gov.uk/eggp/eggp.aspx?dept=Environment&scriptname=Historic%20Environment&scale=600000, Accessed September 2024

2.3.18 A study area comprising the land within the Site and a 3km buffer from the Site boundary has been used to assess designated heritage receptors. The extent of the study area for designated heritage receptors (consisting of SM, LB, CA, RP&G, and WHS) has been determined by the low-rise nature of the Proposed Development and the way the receptor is experienced including the views that the surrounding topography afford towards the Site along with the Zone of Theoretical Visibility ('ZTV') analysis (see below). The extent of the study area is considered proportionate and appropriate to identify those designated receptors to which the Site may form part of their setting and therefore contribute to their sensitivity/value, which is informed by Historic England's ('HE') Advice Note 3: The Setting of Heritage Assets (2017) ('HEAN3').

2.4 Study Area

2.4.1 As the assessment of likely significant effects in the Cultural Heritage ES chapter has focused on several types of heritage receptors, appropriate study areas have been established through professional judgement and has been the subject of consultation with the Cumberland Council's (CC) Historic Environment Advisor and Conservation Officer.

2.4.2 A study area comprising the land within the Site and a 1km buffer from the Site boundary has been used to assess the potential for non-designated heritage receptors (consisting of receptors of archaeological interest, locally listed buildings, parks, and gardens of local interest). This is considered an appropriate and proportionate study area in response to the scale and nature of the Proposed Development, the Site, and its surroundings. It is consistent with best practice guidance set out in HEAN3.

2.4.3 The extent of the study area for designated heritage receptors (consisting of scheduled monuments, listed buildings, conservation areas, registered parks and gardens, registered battlefields, and WHS) has been determined by the low-rise nature of the Proposed Development and the views that the surrounding topography afford towards the Site. As the solar PV panels are not expected to be above single storey height a 3km

study area measured from the boundary of the Site is proposed. This study area also includes the land within the Site. The extent of the study area is considered proportionate and appropriate to identify those designated receptors to which the Site may form part of their setting and therefore contribute to their sensitivity, which is consistent with Historic England guidance set out in HEAN3. Figure 2 shows the designated heritage receptors within the 3km study area.

2.4.4 A preliminary 'ZTV' analysis for the Proposed Development is provided at Figure 4. This (along with a site visit) has been used as a tool to identify areas where the Proposed Development may be visible from the Site.

2.4.5 The analysis undertaken demonstrates a screened scenario accounting for features such as vegetation and built form, which provides additional filtering and reduction of theoretical visibility. Visibility is typically focused within short-range views (~1km) from the Site. Some mid-range visibility (2-3km) from the Site specifically to the east, north, and northwest is available, together with some longer-range visibility (beyond 5km) from the Site.

2.4.6 There are designated receptors located outside the 3km study area that may experience potential effects which are proposed to be included for assessment. These designated receptors are the English Lake District WHS and High Trees West farmhouse and adjoining Byre Range (Grade II Listed) and High Trees East farmhouse and adjoining Cart Shed and Store (also Grade II Listed). These receptors are located at elevated levels to the east and have the potential to be visible to and from the Proposed Development in long range views and have been included in the baseline assessment (see following section).

Zone of Theoretical Visibility

2.4.7 A ZTV analysis is a computer-generated tool to identify the 'theoretical' extent of visibility for the Proposed Development.

2.4.8 The ZTV shows theoretical visibility only and so it is important to fully understand that its accuracy is limited to the digital information that it has

been based upon and the algorithm used in its calculation. It is stressed that the ZTV remains only as a tool in the landscape and visual impact assessment of the Proposed Development.

2.4.9 A ZTV alone cannot indicate the potential visual impacts, nor show the likely significance of impacts that the Proposed Development will have. However, it does guide an appreciation of the potential and maximum visibility of the Proposed Development, that can then be used to focus the assessment process on those areas affected and avoids those areas which will not be affected.

2.4.10 A series of ZTV analysis was undertaken, based upon the design parameters that are listed in ES Chapter 3 - Site and Development Description. The ZTV calculation is performed using ESRI ArcGIS Pro 3.0.2, under the Viewshed Spatial Analyst tool.

2.4.11 The ZTV computer software processes landform data and other selected features influencing the extent of visibility such as woodland and settlements, in order to identify the theoretical extent of the area from which the Proposed Development is likely to be visible. For this ZTV analysis two datasets were considered:

- A Digital Terrain Model ('DTM') ZTV illustrates the worst-case scenario, in that it only considers the landform, i.e., it is solely the terrain surface, or bare earth model; and
- A Digital Surface Model ('DSM') ZTV includes heights of objects, such as principal areas of woodland and settlements as well as the terrain surface. Using the DSM allows for a more pragmatic approach to analysing where the potential and maximum visibility of the Proposed Development will occur, due to having a live screening effect from both the buildings and vegetation contained within the DSM. This Screened ZTV ('SZTV') is considered a realistic worst case, however important to note that other features, such as hedgerows or street trees, which have not been included are likely to provide additional filtering of views.

2.4.12 The viewer height of the ZTV was set at 1.6m above ground level. This is higher than the camera height recommended by the landscape consultants for photograph visualisations and compensates for potential

inaccuracies in digital terrain data and to ensure that the 'worst case' is represented.

2.4.13 The analysis undertaken herein demonstrates a screened scenario accounting for features such as vegetation and other forms of screening, which provides additional filtering and reduction of theoretical visibility. Visibility is typically focused within short range views (~1km) from the Site. Some mid-range visibility (2-3km) from the Site specifically to the east, north and northwest is available, together with some longer-range visibility (beyond 5km) from the Site.

2.4.14 Professional experience of other assessments and appraisals for this type of development has shown that effects on landscape and visual receptors would typically not be significant beyond 3km from a site. Given the sensitivity/value of the English Lake District WHS, its landscape and visual amenity and intervisibility has been considered within this assessment.

Site Visit

2.4.15 The Site and surrounding area were visited in March 2023 to undertake the historic environment assessment, and to collect the photographic record of the baseline (further site visits have been undertaken by the landscape consultants). This exercise also enables the consultant to:

- Determine the extent of visibility of the Site and any existing heritage receptors (both below and above ground);
- Determine the visibility of the Proposed Development, utilising the results from the ZTV plan to guide the Site visit and assessment;
- Gain further understanding of the landscape components which create the landscape character; and
- To carry out the assessment of visual effects.

2.4.16 Working with the landscape consultant (see ES Chapter 7 – Landscape and Visual), visualisations have been included as part of the ES and future consultation with the Council will be undertaken to inform this.

Criteria for Establishing sensitivity/value of Heritage Receptors

2.4.17 The methodology for appraising sensitivity/value is an exercise of professional judgement informed by the guidance detailed in previous sections and an evidence base comprising desk-top research of primary and secondary source material, together with the visit to the Site and the surrounding area. Source material consulted as part of this exercise include historic Ordnance Survey ('OS') maps, archival records, and interrogation of historic photographs on online sources (see section 6.3.3).

2.4.18 Heritage receptors can include above and below ground archaeological remains, historic buildings/built environment, and/or historic landscapes, and different criteria are provided in the DMRB for establishing a 'value' for each of these receptors, each heritage receptors are ascribed a value in accordance with a four-point scale as shown in Table 2.1 below.

2.4.19 NPS EN-1 states that: *'there should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be'.*

2.4.20 The ICOMOS guidance on *Heritage Impact Assessments for Cultural World Heritage Properties* (2022)[39] (the 'ICOMOS guidance') considers grade I and II* LB, SM, and WHS to be receptors of 'high' sensitivity/value. grade II LB are designated heritage receptors with 'medium' sensitivity/value.

Table 2.1: Criteria for Establishing sensitivity/value of Heritage Receptors

Sensitivity / Value	Receptor Categories
High	Receptors of inscribed international value, such as world heritage sites; Grade I and grade II* listed buildings; Grade I and grade II* registered parks and gardens; Scheduled monuments; Registered battlefields; Conservation areas containing important buildings; and

[39] ICOMOS (2022) Guidance and toolkit for impact assessments in a World Heritage context

Sensitivity / Value	Receptor Categories
	Undesignated archaeological receptors of clear national or international value.
Medium	Grade II listed buildings; Conservation areas; Grade II registered parks and gardens; Undesignated buildings, monuments, sites, or landscapes that can be demonstrated to have heritage value equivalent to the designation criteria; and Designated or undesignated archaeological receptors or sites that have regional interest.
Low	Locally listed buildings as recorded on a local authority list; Undesignated buildings, monuments, sites, or landscapes that can be demonstrated to have heritage value equivalent to the local listing criteria; and Archaeological receptors of limited value but with a potential to have interest at a local level.
Very low	Buildings, monuments, sites, or landscapes identified as being of negligible or no historic, evidential, aesthetic, or communal interest; and Archaeological receptors that have little or no surviving archaeological interest.

2.4.21 An impact can be characterised in terms of timing, scale, duration, and reversibility. These can be described as short, medium, or long-term, permanent, or temporary and can be positive or negative.

2.4.22 A direct impact on a heritage receptor is likely to result from changes to the physical fabric of the receptor. An indirect impact is likely to result from changes to the receptor's setting.

2.4.23 In considering the potential magnitude of an impact, a professional judgement has been made about the receptor's susceptibility to change as a result of the Proposed Development. Table 2.2 below sets out criteria that has been used to determine the magnitude of an impact, which can vary from 'major to 'no change'.

Table 2.2: Criteria for Establishing Magnitude of Impact

Magnitude of Impact	Criteria for Assessing Impact
Major	Change such that the value of the receptors is totally altered or destroyed; Changes to most or all key archaeological elements, such that the resource is totally altered; and Comprehensive changes to setting (where this affects the value of the receptors).
Moderate	Changes to many key archaeological elements, such that the resource is clearly modified; Change to the fabric of the receptors, such that it is significantly modified; and Change to the setting such that it is significantly modified.
Minor	Change to the receptors, such that the receptors are slightly different; Slight changes to setting (where this affects the value of the receptors); and Changes to key archaeological elements, such that the receptor is slightly altered.
Negligible	Little change to the fabric or setting that would materially harm value, approximating to a 'no change' situation; and Very minor changes to elements or setting (where this affects the value of the receptor).
No Change	No change

2.4.24 The assessment to determine the significance of the effect uses a matrix that considers the sensitivity/value of the receptor against the magnitude of impact from the Proposed Development. The significance of effect is determined by the interaction of the receptor's sensitivity to change and the magnitude of impact (change) (Table 2.3).

2.4.25 Effects that are graded as major or moderate are considered 'significant' with respect to the EIA. The direction of the effects can either be adverse or beneficial. Therefore, the possible effect significance can be one of the following.

- Major (adverse or beneficial);
- Moderate (adverse or beneficial);
- Minor (adverse or beneficial); and

- Negligible (adverse or beneficial).

2.4.26 Certain effects will also result in ‘no change’.

2.4.27 Table 2.3 below has been adapted from the DMRB ‘Significance of Effects’ matrix to accord with the terminology described above. It is considered that ‘significant’ effects are those that are scored as moderate or higher. This illustrates the interaction between impact magnitude and receptor sensitivity/value.

Table 2.3: Effect Significance Matrix

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

2.4.28 The following section details the historic environment baseline and heritage receptors located within the Site as well as in the study area.

3 Historic Environment Baseline

3.1 Introduction

3.1.1 The following section provides a summary of the historical development of the Site and its environs, compiled from sources listed in the references section.

3.1.2 There is one designated heritage receptor located within the Site, namely the Large Irregular Stone Circle and a Round Cairn on Dean Moor Scheduled Monument (referenced as the 'Stone Circle and Cairn' within this HEDBA). The western boundary of the Site bisects the SM. Within the wider 3km study area around the Site, there are:

- Grade I Listed Buildings;
- 1 Grade II* Listed Buildings;
- 32 Grade II Listed Buildings; and
- Scheduled Monuments.

3.1.3 Beyond the wider 3km study area is the Grade II Registered Park and Garden at Workington Hall to the northwest and the English Lake District WHS to the east. There are also several listed buildings that have been considered for assessment as they fall within the preliminary ZTV, but beyond the 3km study area. These are:

- High Tree West Farmhouse and adjoining Byre Range (Grade II Listed); and
- High Trees East Farmhouse and adjoining Cart Shed and Store (also Grade II Listed).

3.1.4 Cumberland Council is in the process of preparing a 'local list' of heritage receptors. Certain sites have been approved for inclusion in the Westmorland and Furness Council Local List[40] which remains the relevant

[40] Local heritage lists are lists of buildings and sites with heritage interest of local significance, that are formally identified by plan-making bodies, as part of the wider range of designation, so that their significance can be taken into account in planning applications affecting the building or site or its setting. Further information can be found in Historic England (2021). HE Advice Note 7- Local Heritage Listing: Identifying and Conserving Local Heritage the current page for the local list of approved assets for Westmorland and Furness Council can be found at https://www.westmorlandandfurness.gov.uk/planning-and-building-control/conservation/cumbria-local-heritage-list Accessed February 2025

list for this assessment. The Overarching National Policy Statement for Energy (EN-1) states that:

'There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be.'

3.1.5 It is this author's judgment that the 2011 United Nations Environmental Scientific Cultural Organization (UNESCO) and ICOMOS guidance's, *'Guidance on Heritage Impact Assessments for Cultural World Heritage Properties',* provided a more granular framework for the assessment of heritage receptors. It is noted that the 2011 guidance has been superseded/ updated by the UNESCO and ICOMOS *'Guidance and Toolkit for Impact Assessments in a World Heritage Context, 2022'.*

3.1.6 The *'Guidance on Heritage Impact Assessments for Cultural World Heritage Properties',* produced by UNESCO and ICOMOS, 2011, although having been superseded, is considered that the given the scale of assessment, provides a useful and relevant framework for conducting impact assessments. The grouping of receptors in terms of sensitivity as set out in 2011 guidance and has been used within this HEDBA.

3.1.7 The *'ICOMOS guidance'* includes Appendix 3A: Example Guide for Assessing Value of Heritage Assets which considers *'Nationally designated structures with standing remains'* to be receptors of *'High'* sensitivity. Nationally designated Archaeological monuments are also considered to be of 'High' sensitivity. Other *'Designated buildings Historic (unlisted) buildings that can be shown to have exceptional qualities or historical associations'* have *'Moderate'* sensitivity. The quantifiable framework of language provided, is considered a useful tool in assessing the level of harm as a result of prosed development on the Outstanding Universal Value (OUV) of the WHS.

3.1.8 The Guidance and Toolkit issued by UNESCO and ICOMOS, 2022, with regards to assessing impact in a *'World Heritage Context',* heavily centres around the attributes relating to the OUV of a WHS and the potential impact development may cause to the attribute. Impacts of development

are defined under the categories of change to the attribute including reversibility, longevity, degree and quality. This process of evaluation should therefore conclude the impact of a proposal on the OUV of a WHS. However, this guidance is deemed by the author to provide a High-Level approach to WHS as a whole and given the scale of assessment the 2011 guidance has been followed.

3.2 Geology and Topography

3.2.1 A brief of the Geology and Topography is detailed below, a comprehensive report of the Geology and Topography of Site can be found in the Ground Condition Assessment of the EIA Scoping Report (ES Appendix 2.1).

3.2.2 The Ground Conditions Report, highlights that the bedrock geology of the Site is dominated by Carboniferous Strata. The Carboniferous deposits unconformably overlie the Lower Palaeozoic Caledonian basement at depth. The Carboniferous strata are overlain by a variable but minor thickness of superficial deposits.

3.2.3 Although not complex the drift geology of the Site is incredibly varied. The British Geological Survey (BGS) map of the drift geology suggests that the Site is covered with boulder clay with intersecting layers of laminated clay and brickearth. The boulder clay at the Site is as a result of the rapid deposition of material after glacial melting of the last major ice sheet to affect mainland Britain during the Late Devensian (30,000 – 15,000 years ago). The oldest rocks present at the Site are the late Ordovician igneous intrusions of andesitic laves, which were part of the Borrowdale Volcanic Series[41].

3.2.4 The most important geology present at the Site is the intersecting coal measures which are set within Whitehaven Sandstone. The Coal Measures belong to a larger group named the Pennine Coal Measures Group which accumulated in the broad Pennine Basin. The Pennine Coal

[41] British Geological Society. Available at: https://geologyviewer.bgs.ac.uk/ Accessed September 2024

Measures Group extends across Central and Northern England and into North Wales. At the Site, above the coal measures, peat is also present.

3.2.5 Another feature of the geology of the Site is the presence of a small fault at the centre of the Site within the coal measures.

3.2.6 The Site is divided into four areas (as shown on ES Figure 3.1):

- **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);
- **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).

3.2.7 Land within the Site is typical of the surrounding area, comprising undulating agricultural and moor land. Land within the Site tends to fall south to north, with a plateau of land along the Site's southern boundary lying at approximately 200m above ordnance datum (AOD), falling sharply initially by around 60m over a span of some 350m before taking on a more undulating form, falling to around 100m AOD at the northern boundary of Area A.

3.2.8 Within Area C there are numerous landscape features, including woodland of varying maturity and minor watercourses running from the high plateau at its southern boundary northeast towards Branthwaite Edge.

3.2.9 Within the Site and surrounding landscapes, vegetation is limited to field boundary hedgerows. These hedgerows are often supported by dry stonewalling or wire fencing, as a result of the exposed nature of the moorland landscape. These hedgerows are however limited, and the most common field boundary marker is that of drystone walling.

3.2.10 Within the boundary of the Site there is little evidence of historic field patterns due to the intense mining activity which occurred during the late 20th century. Moreover, a large expanse of the Site is moorland which has

not been formally enclosed, with limited vegetation present. The landscape around the Site is characterised by traditional hedgerows supported by drystone walling and fencing and patches of woodland. These features are typical of the Cumbrian countryside and contribute to the area's rural character. It is considered that the hedgerows surrounding the Site are modern in nature often only appearing on late 19th century mapping.

3.3 Paleoenvironmental Potential

3.3.1 The Paleoenvironment is simply a past environment which has been preserved through the rock record. Within the Site there is potential for the preservation of a number of paleoenvironments as a result of the varied geology.

3.3.2 Two thirds of the Site is overlain by Devensian Glacial Till, which is described by the BGS as a '*heterogeneous mixture of clay, sand, gravel and boulders varying widely in size and shape.'* Humans were absent from the region for much of this Late Devensian cold interval but returned as climate improved during the Late Glacial period[42]. It is considered that within glacial till, there is potential for the recovery of early Holocene palaeobotanical material which reflects the environmental conditions at the time. However, while there is potential for the deposit contain such material, it is unlikely that deposits will yield any information. The breakdown and erosion of biological material within the coarse grained '*heterogeneous mixture of clay, sand, gravel, and boulders'* is likely and therefore, the retrieval of geoarchaeology form within the boulder clay at the Site is low.

3.3.3 Peat deposits comprise a small section of the superficial deposits, in the northwest and southwest corners of Area C. Due to the process of its formation, peat is considered to have high geoarchaeological potential. Peat is formed by plants under waterlogged conditions when the rate of

[42] Lee, J R, Woods, M A, And Moorlock, B S P (editors). 2015. *British Regional Geology: East Anglia* (Fifth edition). (Keyworth, Nottingham: British Geological Survey.)

production of organic matter is greater than the rate of decay[43]. The main component to its exceptional preservation is the anaerobic environment created by the waterlogged conditions, which inhibits the activity of bacteria, fungi, and soil animals normally responsible for the breakdown of organic material which results in the exceptional states of preservation. Within the peat deposits, it is likely that Carbon 14 datable materials are likely to be preserved including Organic artefacts and eco facts which often relate to well-understood stratigraphic units[44].

3.4 Past Archaeological Investigations

3.4.1 Research has been undertaken to establish the previous investigations which has occurred both within the Site boundary and study area. These investigations have been highlighted in Table 3.1 below:

Table 3.1: Past Archaeological Investigations

Name of Investigation	Date of Investigation	Grid Reference	Proximity To the Site
Seatonmoor Open Cast Colliery Palaeobotanical investigation	1996	NY0560022000	347m
Lostrigg Excavation	1990	NY0400025000	146m
Branthwaite Excavation	1971	NY0560024700	1.25km
Wadsworth Park Excavation	1994	NY0565025000	1.39km
Gilgarran Excavation	1976	NY0280023400	1.27km
Wythemoor Head Excavation	1977	NY0330023800	0.5km
Land at Winscales Geophysical Survey	2004	NY0260025600	1.31km

[43] Ayala, G. 2015. Geoarchaeology- Using Earth Sciences to Understand the Archaeological Record. Historic England
[44] Ayala, G. 2015. Geoarchaeology- Using Earth Sciences to Understand the Archaeological Record. Historic England

Name of Investigation	Date of Investigation	Grid Reference	Proximity To the Site
Lillyhall Landfill Excavation	1996	NY0250025100	1.18km
Wythemoor / Branthwaite Excavation	1977	NY0460024600	380m
Wythemoor Sough Excavation	1977	NY0450024500	220m

3.4.2 Within the Site there have been three archaeological investigations including an excavation of the Stone Circle and Round Cairn in 1877 and 1924 by Westmorland Antiquarian and Archaeological Society and a geophysical survey was also undertaken by Headland Archaeology of the Site in 2023 (ES Appendix 6.2).

3.5 Geophysical Survey

3.5.1 The geophysical survey (see ES Appendix 6.2) concluded that the archaeological potential of the Site is low (for remains which would be visible within the survey data). The survey identified a series of anomalies within the Site boundary. It was however concluded that the anomalies were caused by geological, agricultural, or modern causes rather than the presence of archaeology. Nine anomalies of uncertain origin were recorded as well as an anomaly locating a former field boundary, former field drains and modern agricultural feature. There were no anomalies of clear archaeological potential recorded. It is noted that this assessment of archaeological potential will have to be 'tested' though a series of invasive investigations (as detailed within the Archaeological Mitigation Strategy (AMS)) (Appendix 6.3).

3.6 Archaeological and Historic Background

3.6.1 Figure 3 in Appendix B show HER data for various find-spots in the vicinity of the Site; these have been used to assess the overall archaeological potential of the Site and to gain a better understanding of the historic environment resource.

3.6.2 This following section has been compiled from the sources listed in the references section with due acknowledgement. Where available findings from a map regression have been included within this section.

Palaeolithic, Mesolithic and Neolithic

3.6.3 The Lower (800,000–250,000 BC) and Middle (250,000–40,000 BC) Palaeolithic period saw alternating warm and cold phases and intermittent (seasonal) occupation. During the Upper Palaeolithic (40,000–10,000 BC), after the last glacial maximum (after approx. 13,000 BC), further warming of the climate took place and the environment altered from steppe-tundra to birch and pine woodland. It was at this time that England first saw continuous occupation. Erosion has removed much of the Palaeolithic land surfaces however and finds are typically residual.

3.6.4 The Mesolithic hunter-gatherer communities of the Post-Glacial period (c. 10,000–4000 BC) inhabited a still largely wooded environment. The first permanent inhibition of Cumbria occurred in the period as the river valleys and coast would have been favoured due to predictable sources of food, water, transport, and communication.

3.6.5 It is not until the Neolithic Period (4000-2000BC) that there is greater visible evidence of human activity within the county of Cumbria and the area surrounding the Site. The Neolithic is considered a period of significant technological change within Prehistory. There are no reported finds within the Site boundary from the period. There are however a number of Neolithic finds recorded within the study area, including a mortar (1040) and two axe hammers (1045).

3.6.6 Axes are a distinguishing form of material culture form the Neolithic period in the British Isles and much of Europe. Axes were functional objects which would have been used for both practical and spiritual activities, intimately tied up with notions of being Neolithic[45]. The Site is situated some 32km from the location of the Langdale Pikes where stone for the

[45] Bradley, R. 1998. The significance of monuments: on the shaping of human experience in Neolithic and Bronze Age Europe. London: Routledge

Langdale axes was quarried, it is suggested that one third of the Neolithic axes found within the British Isles originate from this source[46].

3.6.7 The find of a Neolithic mortar is also significant as it suggests that people were processing foods in the area which they gathered and farmed. The mortar could have also been used for spiritual activity, as it is likely that the landscape was incredibly sacred being close to the foothills of the mountainous Lake District.

3.6.8 The HER also highlights a number of undated enclosures within the study area. These enclosures are often discovered through aerial photography and do not present as features on the ground (5123, 5122, 5120). Due to the circular nature of the enclosures, it is possible to deduce that these features date to the Neolithic or Bronze Age periods.

Bronze Age and Iron Age

3.6.9 As with the Neolithic, the Bronze Age (2000-600 BC) is also considered to be a period of great technical change within the British Isles, with expected continuity between the periods including, monumentality and structure. Within Cumbria and the wider British Isles there was an expansion of sedentary settlement, with evidence for human activity being present in both upland and lowland areas.

3.6.10 In regard to the Site there is evidence of Bronze Age activity both surrounding and within the Site boundary. The most significant evidence for Bronze Age activity is the presence of the SM: Stone Circle and Cairn (3048). The stone circle is situated in the southwest corner of the Site at 200m AOD on a moorland head with excellent visibility extending over the surrounding landscape. The stone circle is an irregular stone circle with 15 sandstone monoliths, only seven of which remain standing. The monument is also intersected by a modern dry-stone wall, which incorporates one of the monoliths. A number of the stones have been partially or totally buried under the marshy soil, due to the lack of packing

[46] Cooney, R. 2000.Landscapes of Neolithic Ireland. London: Routledge

stones to keep them erect. There is also no evidence of a surrounding ditch to the monument, as seen at other examples.

3.6.11 While evident of Later Neolithic monumentality, the exact date of the monument is speculative. As some of the first attempts to alter the earth, thus visibly and physically represent statements of beliefs and values of neolithic communities[47]. It is however considered that Dean Moor Stone Circle relates to the Bronze Age period as stone circles positioned in upland associated with areas such as the Lake District were not occupied until the Early Bronze Age[48]. Moreover, the incorporation of a cairn at the centre of the monument points towards the feature being Bronze Age in date. The cairn was excavated in 1878 and 1924 which revealed the incorporation of internally placed large flat stone slabs, for the internment of human remains, however neither excavation revealed any such remains.

3.6.12 It is speculated that a smaller stone circle also existed in the area close to the village of Ullock (1033). The permeable nature of stone circles allowed references to other monuments and features in the wider landscape[49], the proximity of the two stone circles together was intentional. However, the stone circle at Ullock no longer exists today. As is often the case with smaller stone circles, it is likely that farmers throughout history removed the stones to create dry stone walls or buildings to free up the area for farmland. The evidence amounts to suggest that the area surrounding the Site during the Bronze Age was that of an incredibly sacred landscape. A salient consideration when considering stone circles is that of the monuments mimicking the landscape and topography in which they are built. Noticeable similarities exist between the location of the monuments and the broader configuration of the encompassing landscape[50]. It is therefore the suggestion that stone circles were carefully situated so that the hills of the Lake District National Park perfectly framed the

[47] Harding, J. 2003. Henge monuments of the British Isles. Stroud: Tempus

[48] Bradley, R. 1998. The significance of monuments: on the shaping of human experience in Neolithic and Bronze Age Europe. London: Routledge

[49] Cummings, V. 2017. The Neolithic of Britain and Ireland. Routledge

[50] Bradley, R. 1998. The significance of monuments: on the shaping of human experience in Neolithic and Bronze Age Europe. London: Routledge

monument[51], which indicated the awareness of the landscape and development of place by Bronze Age communities.

3.6.13 A further Bronze Age feature within the landscape is the undated mound of a possible Bronze Age cairn (40827) some 230m from the scheduled Dean Moor Stone Circle. Bronze Age cairns appear as mounds covered by stones and are typical or northern areas of the British Isles. The undated nature of the feature is as a result of a lack of expert investigation. Moreover, Bronze Age cairns are often found inserted into Neolithic cairns and without excavation it can be impossible to decipher the date. It is however known that there is a probable association between Dean Moor Stone Circle and the cairn. It was common for Bronze Age stone circles to be constructed close to the situation of Neolithic features such as chambered tombs and burial cairns. Moreover, it was also just as common for Later Bronze Age burial features to be constructed within view of Stone circles.

3.6.14 Further evidence of Bronze Age activity in the area is supported by scant finds including: a Palstave Find (1043) and Urn Find (1044). A palstave is a Bronze Age axe which would have had a wooden handle attached, however this has since rotted away. The palstave is a significant find in the area as it makes up a collection of Bronze Age tools discovered in Cumbria.

3.6.15 In 1876, workmen excavating the railway between Ullock and Parton exposed a Bronze Age burial including a collection of well burnt ceramic vessels. The smallest vessels have been referred to as ‘incense cups’, and others of different sizes and colours were accidently destroyed by the workers. One ceramic urn survived containing calcined bones and measuring 345mm tall and 280mm in diameter, with no decoration.

3.6.16 A particular find in the area suspected to be of Bronze Age date is that of the Branthwaite Boat (4304). Upon excavation in 1956 it was concluded that the Branthwaite Boat was a Bronze Age long boat which was

[51] Cummings, V. 2017. The Neolithic of Britain and Ireland. Routledge

associated with a crannog. The find consisted of a hollowed log and burnt sandstone pavement. Carbon 14 dating of the boat suggested a date of 1570 BC, however, there is doubtful authenticity of the date with critics suggesting that the Bronze Age date for the longboat can been explained by the wood being bog-oak. It is suspected that the wood was preserved from decay in a peat bog prior to being worked. It has been suggested that the find was that of a poorly constructed modern trough.

3.6.17 Further questions have been raised in regard to the boat due to the geographical location of the find. The excavation occurred 75m above the River Marron, and it has been suggested that the valley was too shallow to sustain water travel and if it were caused by post glacial erosion, it would have drained long before the Bronze age.

3.6.18 There are numerous undated earthworks within the study area, including within the Site boundary. It is likely that due to the numerous features of Bronze Age activity in the area that these enclosures, earthworks, pits, and cropmarks relate to the Bronze Age or even the Later Iron Age period (600-43 AD) (16629, 45049, 16623, 16628, 16627, 6951).

3.6.19 There is a lack of HER records of Iron Age activity within the Site and the wider study area. There are examples of Iron Age activity within the wider county of Cumbria and many of these relate to settlement activity such as hillforts.

Romano-British Period (AD 43-410)

3.6.20 Cumbria has an incredibly rich Roman heritage. The Romans established the Northern Frontier and Hadrian's Wall to protect the province of Britannia, which meant that north of England was a militarised zone. Under Roman occupation any 'civilising' influences within the North of England came secondary, a notion which is supported by the distinct lack of villa sites in Cumbria compared to the south of England.

3.6.21 Within the Site, Wythemoor Road is thought to form part of the Papcastle to Moresby Roman Road (4672). Papcastle was the location of two successive Roman forts and associated civilian settlement, known during

the Roman period as Derventio which has a wealth of associated archaeological evidence including coins, alters and earthen vessels. Moresby was a Roman Fort located on the coast which formed the formal Western Defences. Due to the scale of the settlement of Papcastle, it is likely that there were a network of road connecting the city with the coastal fortifications. Roman military roads were constructed for the rapid movement of troops across the country as well as garrison supplies, and the movement of produces and resources such as lead and copper. Excavation of the feature exposed a bed of metalling some 28cm deep, including a thin layer of gravel atop a tightly packed bed of broken sandstone.

3.6.22 Further evidence of Roman occupation in the area is evidenced by a site south of Kelmore Hill Farm, where a Roman burial (4919) was discovered in the late 19th century by farm labourers. Due to the antiquarian style excavation techniques, limited material survived the excavation process. The HER states that a collection of Roman artefacts including pottery, bronze objects and two coins of Constantie: one of Dicoletine and one of Trajan. There are also records of animal and human bones having been uncovered (4919). Other Roman artefacts recovered in the area comprise of coin finds, however these are limited.

Anglo Saxon/ Early Medieval (AD 419-1066) and Later Medieval period (AD 1066-1540)

3.6.23 There is a paucity of evidence for Anglo Saxon/ Early medieval activity or occupation in the study area. Later medieval evidence within the study area is limited. There is evidence of undated field systems (16631,16619) and undated ridge and furrow earthworks (11485, 16624, 16625, 16630) which could relate to medieval farming practices. Further evidence of medieval activity is inferred including place names. The character landscape assessment of settlements within the area[52] does however suggest that most of the nucleation in the area is of medieval origin and retains elements of the medieval plan form.

[52] Allerdale Borough Council (2023). Allerdale Settlement Characterisation Study.

3.6.24 The strongest form of evidence for medieval activity in the area is the documentary evidence for Kelmore Hill tithe barn (11794). Tithe barns were used in the medieval period across much of northern Europe to store rents and tithes in support of the local monastery. Farmers were expected to pay one tenth of their income to the church and the tithe barns were where these goods were stored. The presence of a tithe barn would suggest that within the area there were many medieval small holdings, in which debts were owed to the church.

3.6.25 An excavation of a potential medieval site occurred some 2km to the northwest of the Site when the Lillyhall industrial unit was expanded. There was no evidence of medieval remains and modern pipework were the only features identified. It was originally proposed that it was the Site of a deserted medieval village (DMV), however there was no physical evidence to support this (3079).

3.6.26 The SM of the Settlement Earthworks 25m SE of Gata is also considered to date to the medieval period. The earthworks are believed to represent a medieval farmstead. Included within the earthworks is a well-defined embanked pond feature with associated field drainage channels. The presence of two hillside cultivation terraces situated south of the Wood Beck stream, supports the conclusion that the earthworks are a medieval farming settlement. The terraces were created as a result of continuous ploughing to extend the fertile land close to the river.

3.6.27 A further feature from the medieval period includes several sites of undated ridge and furrow (11485, 16624, 16625, 16630) and linear earthworks. The majority of these features have been identified by aerial photography studies undertaken by Lancaster University.

3.6.28 Other unidentified features on the HER such as pits and quarries, are likely to date to the medieval or post medieval period, associated with farming or industry (12407, 111808, 16622, 11810). There are no other recorded finds dating to the medieval period within the study area.

Post-Medieval Period and Modern periods (AD1540-present)

3.6.29 The 1662-5 Blaeu Atlas Maior Map (Figure 5) depicts the Cumbrian landscape and the castles within it. Settlement names are not mentioned, and the name appears in a larger font as the size of the castle increases. The map of stronghold castles aligns with the turbulent political situation in the North of England in the 1600s (undergoing repeated Scottish invasions). The map depicts the presence of castles or fortified houses at Deyn (Dean) and Ullock. It is likely that the Deyn castle relates to Braithwaite Hall which is a late 14th century tower house and positioned between the small villages of Braithwaite and Dean. Moreover, the castle at Ullock relates to the 16th century hall of Crakeplace Hall situated to the north of the village of Ullock.

3.6.30 The 1773 Jospeh Hodkinson and Thomas Donald map (Figure 6) of the County of Cumberland depicts a broad overview of the settlements surrounding the Site. On the whole the settlements within the area can be characterised as small, dispersed agricultural communities with only informal tracks and routeways connecting them. It is also noted that there is an increase in the number of manorial halls within the wider area, such as Lilly Hall, Moorside Hall, Whelpside Hall and Weddicar Hall, as a means of controlling the political and physical landscape of the area. The scale of the map does not appear correct as the settlement of Gilgarran appears to the northwest of Branthwaite when it is in fact to the southwest. The lack of approximate location of the dispersed villages makes it difficult to decipher the approximate location of the Site, it is however evident that the Site exists as open moorland which rises towards the south and is intersected by a stream.

3.6.31 The remaining HER records reflect the landscape's industrial history. The HER records numerous quarry sites from physical and place name evidence, including Thief's Gill Quarry (11699), Gilgarran Quarry (6952), and Saw Mill Quarry wood (4603). Mines and coal pits are also recorded including Wythemoor Colliery (16626), Dean Moor Mine workings (11805), Distington Coal Pit (11714), Sand Beds Coal Mine (11700) and Dean

Moor Colliery (16621). These records reflect the industrial activity which occurred within the area, which had a noteworthy influence on the character and form of the landscape today. Industrial activity in the area is further indicated by a lime kiln at Gilgarran (4602), the red sandstone kiln is associated with a considerable area of quarrying and demonstrates that material was being processed.

3.6.32 Further indication of the areas industrial past includes the place name evidence provided by Sawmill Quarry Wood Smity (4603) and High Mill at Branthwaite (4174), although no evidence for the sawmills and smithy exists in the area today. It is likely that these sawmills were powered by a water mill and used to chop timber to support the areas industrial needs. Within the Old Cumbria Gazetteer[53], it is listed that the High Mill at Branthwaite consisted of a collection of buildings and was a corn and water mill. Today, the buildings still stand, however the mill is today no longer in use and is a residential dwelling.

3.6.33 Within the settlement of Gilgarran, there are a collection of post-medieval features recorded by the HER. The features include Gilgarran House (11710), and associated features such as a sundial (11711) and icehouse (13820), as well as an obelisk and monument located within the commemorative gardens on the southern side of the settlement (11707 and 11708). Also, within the settlement of Gilgarran the HER notes an Iron Road Bridge (4191) of unknown date, which was likely linked to the iron works at Distington.

3.6.34 The remains of a Victorian railway and a sandstone railway bridge are also located close to the Site at Distington (40780), however the railway has since been dismantled. The bridge consists of large cut red sandstone blocks built to a height of 2.5m and forms part of a series of other sandstone bridges along the former railway route, built for farmers' access. The railway line was constructed in 1877 and opened in 1879. The line was constructed in response to local iron mine owners increasing

[53] Cumbria County History (n.d.). Gazetteer of Old Cumbria

the freight charges on existing lines. It has since been surfaced and is currently used as a cycle path. A topographic survey was undertaken to a small section of earthworks along the line, in advance of the construction of the West Coast Pipeline in 2018. However, it was revealed that when the line was discontinued, much of the infrastructure was removed.

3.6.35 The Christopher Greenwood 1823 Map of Cumberland (Figure 7) is one of the most detailed surviving early cartographic records of the Site. The map depicts the rivers, coppices, hills, road networks and route ways surrounding the Site. The map does however lack the detail of field boundaries. Along with the addition of new roads, it is evident that many of the trackways which were depicted on the 1770s map (Figure 6) have evolved into a series of well-defined road networks. It is evident that the settlements have however stayed compact and not experienced expansion along the roads. The Site itself is depicted as a large expanse of open land which steeply rises to the southwest, with two streams intersecting the southern portion. A band of trees and a circular coppice are depicted within the northern portion of the Site. The Site boundaries are defined by road networks to the north, east and south. The western boundary is marked by a large expanse of woodland which extends to the settlement of Gilgarran. To the east of the Site, Braithwaite Edge is labelled as Braithwaite Hedge and is a hilltop covered by woodland.

3.6.36 The first edition Ordnance Survey Map published in 1867 (Figure 8) depicts a considerable proportion of the southern section of the Site as being covered by moorland which is labelled as Dean Moor. Within Dean Moor there are a number of streams running across the Site. The northern section of the Site has been enclosed into small field systems labelled as Wythemoor. Within the enclosed field systems, just north of Wythemoor Road, there is a small circular enclosure set between field boundaries. There is little development within the Site, with Rigg House being the only building within the boundary of the Site. Rigg House is depicted as being number of buildings set within its own grounds. Surrounding the Site there is extensive activity depicted. On the western boundary a quarry, smithy,

and lime kiln are identified, the stone circle is also identified and is situated next to a public right of way. Coal pits are also located along the southern boundary. There are small parcels of woodland depicted within close proximity to the Site boundaries including Gilgarran Plantation and Braithwaite Edge Wood.

3.6.37 The subsequent 1897 Ordnance Survey map (Figure 9) depicts the Site and surrounding area in much greater detail. It is evident that industrial activity within and surrounding the Site has increased. For example, through the centre of the north section of the Site there is a mineral line depicted. This would have been used to transport materials such as iron ore from its place of mining to the location where materials would have been worked. Moreover, there is a marked increase in Collieries surrounding the Site boundary. The northern portion of the Site is still depicted as moorland and a large number of streams are depicted across the Site. Interestingly, the parish boundaries are also depicted on the map and are shown as crossing through the northern section of the Site and running along the western periphery.

3.6.38 The 1900 Ordnance Survey map (Figure 10) depicts minimal change to the Site and the surrounding area. The mineral line in the northern portion of the Site has been developed into the Furness and Midland (L&N) Furness Joint Railway, which was in continuous use moving freight. Within the southern portion of the Site there are numerous depictions of old quarries, coal pits and levels. Just to the south of the boundary is the position of an old coal shaft and Dean Moor Colliery which is shown to have had an associated tramway. Moreover, to the east of the Site, Branthwaite Edge Quarry is identified. It appears that the mining and quarrying activity is concentrated to the south. A sawmill is positioned just outside of the Site's western boundary and further west is the sizable estate grounds of Gilgarran House. The Gilgarran Estate was owned by the Walker family who owned many of the collieries within the surrounding area, exploiting 17 pits across the Crossfield area in 1893[54].

[54] Haig Pit Mining and Colliery Museum (n.d.)

3.6.39 It appears on the subsequent 1945 OS map (Figure 11) that the surrounding area of the Site experienced significant development. The Site itself remains as open moorland and the off shoot of the L&N Furness Joint Railway is still situated within the northern portion. The line was dismantled in 1948 as the line was nationalised. It is apparent that the area of land at Lilly Hall has been developed and used for warehouses and the settlement of Distington has dramatically increased in size. The villages surrounding the Site, however, still retain their small size and rural setting. The settlement of Gilgarran to the west has expanded around the country house and parkland. The woodland within the Gilgarran parkland appears to have reduced in size, however this may be a result in the differing scale between the previous maps. It is apparent that mining activity to the south of the has increased in scale. To the east, the villages of Branthwaite and Dean remain small, with the London Midland, Scottish Railway intersecting the village of Branthwaite.

3.6.40 The Allerdale Settlement Characterisation Study suggests that settlement pattern within the area has experienced minor change between the medieval and post-medieval periods, with settlements remaining dispersed. Throughout history, settlements owed much of their livelihood to farming, with enclosure occurring in the 19th century. However, in the 19th and 20th centuries, inhabitants of the settlements then used the resources of the landscape of quarries and mining, giving the landscape its distinctive character that is seen today.

3.6.41 The northern most part of the Site has been subject to ground disturbance as part of open cast mining in the 1990. The aerial photograph dating from the 1990s (Figure 12), depicts the extent to which the mining covered the northern most portion of the Site, completely altering the landscape and destroying any below ground potential for in situ archaeology. It is evident that within the mining process, the topsoil has been stripped back across the northern portion of the Site and routeways for access for the heavy machinery have been cut across the area.

3.6.42 2018 Satellite imagery of the Site and its environs (Figure 13), depicts how the area remained rural, bordered by the industrial expanse of the town of Workington. To the south of the Site the earthworks of the mining are shown. Within the Site boundary trackways extending across the moorland are evident, likely as a result of farm vehicles. The course of the dismantled railway line is still visible in the landscape, appearing as an agricultural trackway. Across the Site, the satellite imagery shows that there are open pools of water, resultant of the intense mining which previously occurred in the area. Within the wider landscape the villages of Branthwaite and Dean remain small with little modern development.

3.6.43 To the east of the Site, a small industrial estate for scrap metal has been constructed. Moreover, at Dean Cross to the south of the Site, large industrial sheds have been constructed. The area of Lily Hall has undergone largescale development with the area of warehouses having almost doubled in size, in comparison to that shown on the 1945 Ordnance Survey mapping. Also, within the northern portion of the Site, a line of pylons has been constructed.

3.6.44 Within the Site boundary the LiDAR data (Figures 14 and 15) provides limited information. There is minimal evidence of any earthworks, other than a small portion in the east. Within southern portion of the Site, the most prominent feature on the LiDAR is the river channels intersecting the landscape. In the eastern corner of the southern portion, the landscape appears denuded probably as a result of the intense mining in the area. The earthworks noted in the HER are not visible. Within the study area, a railway embankment is evident as a curving feature to the east of the Site.

3.6.45 The 2024 satellite imagery (Figure 16) depicts little change from that of the 2018 imagery. The principal change being the erection of three wind turbines in the northern portion of the Site, along with the creation of an access road to the turbines and associated structures. On the whole it is apparent the area remains rural in character, on the periphery of the continuously expanding settlement of Workington.

4 Statement of Significance

4.1 Introduction

4.1.1 The management and mitigation of change to the heritage resource resulting from development is based on the recognition within NPPF objectives state that *'…heritage assets are an irreplaceable resource…'* Impacts to the historic environment and its associated heritage receptors arise where changes are made to their physical environment by means of the loss and/or degradation of their physical fabric or setting, which in turn leads to a reduction in the significance.

4.1.2 This section discusses the heritage significance of all receptors within the Site and study area. A list of all designated and non-designated receptors within the study area has been provided in the Gazetteer of Heritage receptors (Appendix A) and are represented in Figure 2 and Figure 3.

4.1.3 The determination of the significance of below ground non-designated heritage receptors (archaeological remains) is based on professional judgement against its archaeological interest (as outlined in Section 3) rather than historic or architectural interest (however, certain archaeological remains would hold historic or architectural interest, for example structural remains).

4.2 Potential heritage receptors (archaeological remains)

4.2.1 This section provides a commentary on the archaeological potential of the Site for each chronological period, based on the archaeological and historical background of the area, its geology, topography and hydrology, the likelihood for evidence of past activity, and considering past disturbance which may have affected survival.

4.3 Factors affecting archaeological survival and potential

4.3.1 Archaeological survival across the northern portion of Site is anticipated to have been affected by the open cast mining and related industrial activities

occurring at the Site, which will have removed any archaeological receptors within the area.

4.3.2 A geophysical survey undertaken in 2023 (ES Appendix 6.2), concluded that there is low archaeological potential for material remains across the Site. There were some anomalies caused by geological, agricultural, or modern causes rather than the presence of archaeology. It is noted that prehistoric remains are very ephemeral and often are not recorded in archaeological survey (including geophysical surveys). Moreover, it is considered that this assessment of low archaeological potential will have to be 'tested' though a series of invasive investigations (see Appendix 6.3 AMS).

4.4 Archaeological potential and significance

4.4.1 Following a review of the geophysical survey and local HER data the archaeological potential and significance of any possible archaeological receptors has been considered in the following section. This includes professional opinion on the heritage significance of such receptors, where there is low to moderate, or higher, potential for them to be present. Whilst it is possible to make a judgement, based on available evidence, on the likelihood of currently unknown archaeological receptors to be present (i.e. archaeological potential), it is not possible to predict the significance of any such receptors with a high degree of certainty, and they could range from low to very high. It is acknowledged that further information during the archaeological mitigation (as detailed in ES Appendix 6.3) may change the understanding of the archaeological recourse.

Palaeolithic (250,000-10,000 BC)

4.4.2 There is a lack of HER records of Palaeolithic material both within the Site and the wider study area. There is therefore low potential for Palaeolithic receptors within the Site and this is tied with the low potential of survival of any remains as a result of process such as erosion, ploughing and industrial activities. It is considered that any surviving Palaeolithic

receptors would be considered local significance depending on nature and extent.

Mesolithic (10,000- 4000 BC)

4.4.3 Within the Site and the wider study area, there is low potential for the recovery of Mesolithic receptors. Although the Mesolithic period was the first continuous period of human occupation in Cumbria, the HER does not contain evidence of Mesolithic activity within the Site or study area. It is however considered that any evidence of Mesolithic activity is very ephemeral which means that it has the potential to be missed, which could be a cause of the lack of HER Mesolithic evidence. It is therefore considered that any Mesolithic material recovered at the Site would be of local significance.

Neolithic (4000-2000 BC)

4.4.4 The Site has low potential to contain Neolithic receptors. As previously mentioned, the Neolithic period saw the earliest evidence for human activity surrounding the Site. A number of Neolithic axes (1045) and a mortar (1040) were discovered within the study area, as well as a series of undated enclosures which potentially date to the Neolithic (5123, 5122, 5120), due to their circular nature. There is the potential for the retrieval of Neolithic receptors however, much like the Mesolithic period, Neolithic receptors can be ephemeral and may have been damaged or removed form situ as a result of the later agricultural use and wide scale mining of the Site. It is however considered that any surviving Neolithic receptors would be of local significance, depending on nature, preservation, and extent, derived from their archaeological and historical interest.

Bronze Age (2000-600 BC)

4.4.5 The Site has low to moderate potential to contain Bronze Age material receptors. Within the Site in Area C there is a known Bronze Age cairn within a stone circle which is a SM. To the west of the Site is the position of an undated, but probable, Bronze Age mound which is a cairn. A further feature of Bronze age monumentality within the area is the dismantled

Ullock stone circle some 1.2km from the Site. These three features alone equate to a significant Bronze Age presence in a potentially sacred Bronze Age landscape. Furthermore, numerous Bronze Age finds are noted in the HER including a Palstave Find (1043) and Urn Find (1044), as well as the controversial Branthwaite Boat (4304). These finds and features suggest that there was a Bronze Age presence within the surrounding landscape. It is therefore considered that there is a potential for the survival and recovery of Bronze Age receptors at the Site which would likely be of local significance.

Iron Age (600 BC- 43AD)

4.4.6 The Site has low to moderate potential to contain Iron Age receptors. Although there are no specific Iron Age records within the HER, there are a series of undated earthworks within the study area, even within the Site boundary, which could be features of Iron Age activity in the area including enclosures, earthworks, pits, and cropmarks (16629,45049, 16623, 16628, 16627,6951). It is therefore considered that there is the potential for the Site to contain Iron Age receptors of regional significance.

Romano-British (AD 43-410)

4.4.7 The Site has low potential to contain Roman receptors. Archaeological evidence reflecting Roman activity in the area exists as a Roman Road between Papcastle and Carlise which is positioned on the eastern blue line boundary of the Site. Excavation has occurred at intersections along the road which has revealed the road's structure and a number of scant finds. Within the Site however, no Roman material has been recovered. Roman activity also exists to the west of the Site with the discovery of a burial mound in the early 20th century. However, due to the antiquarian nature of the excavation little written or physical material surrounding the Site remains. It is therefore considered that the archaeological potential for the survival of Roman material is low and if any material were recovered at the Site, it would be of likely be of local significance.

Early and Later Medieval (AD 410-1540)

4.4.8 It is considered that the Site has low to moderate potential to contain medieval receptors. Within the wider study area there are a series of medieval HER features such as a medieval farmstead some 3km from the Site, with associated cultivation terraces. Also positioned to the west if the Site is a medieval tithe barn. Within the Site, there is record of undated, potentially medieval ridge and furrow earthworks. The HER also suggests that medieval industry was occurring within the area, with a series of small undated pits and quarries surrounding the site. It is however considered that any medieval remains discovered within the Site would be of local significance.

Post-Medieval and Modern (AD 1540- present)

4.4.9 The Site has moderate to high potential to contain post-medieval and modern receptors and related to the industrial activities which occurred at the Site during the 19th and 20th centuries. The HER contains a number of features pointing towards the industrial past of the area including collieries, sawmills, quarries, mines, and lime kilns. A railway line for the transport of industrial goods was also present, running through the Area C. If present, receptors dating to the post-medieval period would be of low local significance, depending on nature, preservation, and extent, derived from their archaeological and historical interest.

4.5 Identified heritage receptors (built heritage and landscape)

4.5.1 Understanding the history and context of the relevant heritage receptors is to establish their setting and the contribution that their setting makes to their significance. Historic England guidance on the setting of heritage receptors advises that while this matter is primarily a visual assessment, there are other factors, such as historical associations and relationships that define settings and contribute to significance.

4.5.2 Setting is the surroundings in which a receptor is experienced: all heritage receptors have a setting, irrespective of the form in which they survive and whether they are designated or not. Elements of a setting may make a

positive or negative contribution to the significance of a receptor, may affect the ability to appreciate that significance, or may be neutral. Although views of or from a receptor will play a part to its setting, other environmental factors such as noise, dust, vibration, as well as spatial associations, and the understanding of the historic relationship between places.

4.5.3 Following Step 1 of the settings guidance, the table below indicates which designated heritage receptors within the study area have been scoped out of the assessment as they would not be affected at all by the Proposed Development, in terms of material changes to their setting. This is based on the distance of the receptor from the Site, the receptor location, scale and orientation, and the nature, extent and scale of intervening built form, vegetation and topography between receptor and the Site.

4.6 Scoping

4.6.1 The initial assessment utilised modern and historic mapping, aerial photography, Google Earth, the National Heritage List, the ZTV, and the Historic Environment Record to identify which designated receptors within the study area have potential to be impacted by the Proposed Development.

4.6.2 The table below lists the heritage receptors located within the 1km study area for archaeology and within the 3km study area for above ground heritage receptors. A select group of receptors within 5km of the Site was also considered and has been included for robustness. There are no conservation areas, registered parks and gardens or registered battlefields within the 3km study area.

Table 4.1: Identified Heritage Receptors

Receptor	Designation	Direction from the Site	Approximate Distance from the Site	Within ZTV?
Designated Heritage Receptors (archaeological remains) within the Site				

Receptor	Designation	Direction from the Site	Approximate Distance from the Site	Within ZTV?
Stone Circle and Cairn	Scheduled Monument NHLE: 1014588	Southwest corner of the Site	Within the Site	Yes
Designated Heritage Receptors (archaeological remains) within 3km of the Site				
Settlement 25m south-east of Gatra	Scheduled Monument NHLE: 1007139	Southeast	2km	No
Designated Heritage Receptors (built heritage) within 3km of the Site				
Wythemoor Sough and adjoining barn and stable	Grade II Listed NHLE: 1327185	Northwest	160m	Yes
Far Branthwaite Edge, dairy and barn	Grade II Listed NHLE: 1138216	East	1.1km	Yes
Wadsworth Farmhouse	Grade II Listed NHLE: 1145203	Northeast	1.2km	No
Whitekeld and Barns adjoining	Grade II Listed NHLE: 1311871	East	1.2km	No
The Raise	Grade II Listed NHLE: 1138216	East	1.4km	Yes
Roche House	Grade II Listed NHLE: 1138202	Northeast	1.5km	No
Hill Crest	Grade II Listed NHLE: 1326858	North-east	1.5km	No
Brow Top	Grade II Listed NHLE: 1138205	Northeast	1.6km	No
Todhole Farmhouse	Grade II Listed NHLE: 1086631	East-south-east	1.7km	No
Havercroft Farmhouse	Grade II Listed NHLE: 1336041	East-south-east	1.9km	No
Stubsgill Farmhouse, area wall and gate piers, and byre adjoining to the south-west	Grade II Listed NHLE: 1086701	West	2.1km	No
Crakeplace Hall	Grade II* Listed NHLE: 1326884	East	2.2km	No
Calva Hall Bridge	Grade II Listed NHLE: 1138225	Northeast	2.2km	No

Receptor	Designation	Direction from the Site	Approximate Distance from the Site	Within ZTV?
	Scheduled Monument NHLE: 1003051			
Branthwaite Hall (Grade I Listed Building)	Grade I Listed NHLE: 1145204	East-northeast	2.2km	Yes
Milestone east of Distington Secondary School	Grade II Listed NHLE: 1312130	West	2.3km	No
Church of St Michael	Grade II Listed NHLE: 1086721	South	2.4km	No
War Memorial in St Michael's Churchyard to the east of Lych Gate	Grade II Listed NHLE: 1086722 Scheduled Monument NHLE: 1014805	South	2.4km	No
Lych Gate and churchyard wall, incorporating drinking trough and belvedere, to west of St Michael's Church	Grade II Listed NHLE: 1336007	South	2.4km	No
Church of St Oswald	Grade I Listed NHLE: 1145164	Northeast	2.5km	Yes
Barn North of Ullock Mains on opposite side of road	Grade II Listed NHLE: 1146311	East-northeast	2.6km	No
Barn west of Ullock Mains on opposite side of road	Grade II Listed NHLE: 1145174	East-northeast	2.6km	No
Whinnah Cottages and adjoining Store	Grade II Listed NHLE: 1086632	Southeast	2.6km	No
Hillcrest and Barns adjoining	Grade II Listed NHLE: 1138364	East	2.6km	No
Croft House and adjoining barn	Grade II Listed NHLE: 1145175	Northeast	2.7km	No
The Rectory	Grade II Listed NHLE: 1145165	East	2.7km	Yes
Low Millgillhead with adjoining Coach House and Stables	Grade II Listed NHLE: 1336022	Southeast	2.9km	No

Receptor	Designation	Direction from the Site	Approximate Distance from the Site	Within ZTV?
Coffin Rest at low Millgillhead in garden circa 35 yards north-east of house	Grade II Listed NHLE: 1068696	South-east	2.9km	No
Churchyard Cross south of Church of St Oswald	Grade II Listed NHLE: 1326878	East	2.9km	Yes
Designated Heritage Receptors (built heritage) within 5km of the Site				
Rose Farmhouse	Grade II Listed NHLE: 1145167	East-northeast	2.7km	No
Dean Mains	Grade II Listed NHLE: 1326879	East-northeast	2.7km	No
Manor House	Grade II Listed NHLE: 1145166	East-northeast	2.7km	No
Orchard House	Grade II Listed NHLE: 1326880	East	2.7km	No
The English Lake District	WHS NHLE: 14526155	East	3.2km	Yes
High Trees West farmhouse and adjoining Byre Range (Grade II Listed)	Grade II Listed NHLE: 1068657	Southeast	3.4km	Yes
High Trees East farmhouse and adjoining Cart Shed and Store	Grade II Listed NHLE: 1086672	Southeast	3.4km	Yes
Workington Hall	Grade II Registered Park and Garden NHLE:1001262	Northwest	3.4km	No
Heritage Receptors (built heritage) within 1km of the Site				
Rigg House	Non-designated Heritage receptor	East	65m	Yes
Heritage Receptors (archaeological remains) within the Site (from the HER)				
Whitebanks Wood Mines	Non-designated Heritage receptor	Within the Site	Within the Site	Not Applicable
Thief's Gill Quarry	Earthwork (SMR no 45802)	Within the Site	Within the Site	Not Applicable

Receptor	Designation	Direction from the Site	Approximate Distance from the Site	Within ZTV?
Dean Moor Mine Workings	Non-designated Heritage receptor	Within the Site	Within the Site	Not Applicable
Rigg House Earthworks, Dean	Quarry (SMR no 11699)	Within the Site	Within the Site	Not Applicable
Dean Moor Unclassified Cropmarks	Non-designated Heritage receptor	Within the Site	Within the Site	Not Applicable

4.6.3 As a result of this sifting process, and comments by Planning Inspectorate (see Table 4.2) the following receptors have been included in the HEDBA assessment for completeness (and shown on Figure 2 and Figure 3 of this report).

Table 4.2: Receptors scoped into HEDBA assessment

Asset	Designation	Direction from the Site	Approximate Distance from the Site	Within ZTV?
Designated Heritage Receptors (archaeological remains) within the Site				
Stone Circle and Cairn	Scheduled Monument NHLE: 1014588	South-west corner of the Site	Within the Site	Yes
Designated Heritage Receptors (archaeological remains) within 3km of the Site				
Settlement 25m southeast of Gatra	Scheduled Monument NHLE: 1007139	Southeast	2km	No
Designated Heritage Receptors (built heritage) within 3km of the Site				
Wythemoor Sough and adjoining barn and stable	Grade II Listed NHLE: 1327185	Northwest	160m	Yes
Far Branthwaite Edge, Dairy and Barn	Grade II Listed NHLE: 1138216	East	1.1km	Yes

Asset	Designation	Direction from the Site	Approximate Distance from the Site	Within ZTV?
Crakeplace Hall	Grade II* Listed NHLE: 1326884	East	2.2km	No
Calva Hall Bridge	Grade II Listed NHLE: 1138225 Scheduled Monument NHLE: 1003051	Northeast	2.2km	No
Branthwaite Hall	Grade I Listed NHLE: 1145204	East-northeast	2.2km	Yes
Church of St Oswald	Grade I Listed NHLE: 1145164	Northeast	2.5km	Yes
Churchyard Cross south of Church of St Oswald	Grade II Listed NHLE: 1326878	East	2.9km	Yes
The Raise	Grade II Listed NHLE: 1138216	East	1.4km	Yes
The Rectory	Grade II Listed NHLE: 1145165	East	2.7km	Yes
Designated Heritage Receptors (built heritage) within 5km of the Site				
The English Lake District	WHS NHLE: 14526155	East	3.2km	Yes
High Trees West farmhouse and adjoining Byre Range	Grade II Listed NHLE: 1068657	Southeast	3.4km	Yes
High Trees East farmhouse and adjoining Cart Shed and Store	Grade II Listed	Southeast	3.4km	Yes

Asset	Designation	Direction from the Site	Approximate Distance from the Site	Within ZTV?
	NHLE: 1086672			
Workington Hall	Grade II Registered Park and Garden NHLE:1001262	Northwest	3.4km	No
Non-designated Heritage Receptors (archaeological remains)				
Whitebanks Wood Mines	Non-designated Heritage receptor Earthwork (SMR no 45802)	Within the Site	Within the Site	Not Applicable
Thief's Gill Quarry	Non-designated Heritage receptor Quarry (SMR no 11699)	Within the Site	Within the Site	Not Applicable
Dean Moor Mine Workings	Non-designated Heritage receptor Mine (SMR no 45802, 11805)	Within the Site	Within the Site	Not Applicable
Rigg House	Non-designated Heritage receptor	East	65m	Yes
Rigg House Earthworks	Non-designated Heritage receptor Building, Mound, Ridge, and Furrow (SMR no 45801)	Within the Site	Within the Site	Not Applicable

4.7 Significance Assessment

4.7.1 The following section assesses the significance of the identified receptors, including the contribution their setting makes to this significance, in accordance with Step 2 of the methodology recommended by the Historic England guidance (GPA 3).

Stone Circle and Cairn

4.7.2 The Stone Circle and Cairn (ref: 1014588) is considered to have high archaeological significance. The monument is situated at the highest point of Dean Moor at 200m AOD on a moorland head with excellent visibility extending over the surrounding landscape. The Stone Circle is an irregular stone circle with 15 Sandstone monoliths, only seven of which remain standing. The SM is also intersected by a modern dry-stone wall, which incorporates one of the monoliths (Figure 17). The stone wall is a modern feature of agrarian revolution in the area which has altered the monument, and its setting.

4.7.3 As one of only 45 examples of known large irregular circles in England, the stone circle at Dean Moor has high significance as a rare monument type with high evidential value and archaeological interest. The stone circle also holds historical significance as a feature in the landscape which visibly and physically represent statements of ritual and values of prehistoric communities[55].

4.7.4 The monument was designed to be permeable and draw links to the wider landscape in order for the communities who built it to create a sense of place. The position of the circle at the highest point of the moor with wide ranging views towards the Lake District may have been intentional and these views comprise a part of the monument's interest. The lack of fertile farmland on Dean Moor has helped to retain the wild landscape in which prehistoric communities (likely late Neolithic to the Middle Bronze Age in this case) erected the monument and the landscape has not experienced profound change since the period.

[55] Harding, J. 2003. Henge monuments of the British Isles. Stroud: Tempus

4.7.5 The immediate surroundings of the Stone Circle and Cairn is the barren plateau of Dean Moor (Figure 18). There are long distance views from the monument across the Site to the wider landscape to the north, northwest and east. Modern infrastructure is prominent within the landscape from views to the north including the Wind Farm, distant groups of turbines, pylons, and some built form visible near the horizon. The contribution that the Site makes to the immediate setting of the monument is positive due to the open rural character.

4.7.6 The archaeological interest of the receptor is the physical material which makes up the receptor itself, the surviving stones, and the land beneath. Overall, the land which comprises the Site does contribute to the setting of this receptor (and therefore its significance) by way of its open rural nature.

Settlement 25m Southeast of Gatara

4.7.7 The significance of the scheduled monument (ref: 1007139) is derived from its archaeological potential as a medieval farmstead. The receptor is comprised of a series of well-defined and recent earthworks which include a ring embankment, field drainage channels, a possible pond, and a series of cultivation terraces adjacent to the River Wood Beck. The cultivation terraces consist of two terraced ways which descend into the river floodplain.

4.7.8 The farmstead has been excavated and it has been postulated that it is a possible Roman enclosure settlement and a larger medieval hamlet. It has however been concluded through expert investigation that the scheduled monument is a medieval farmstead.

4.7.9 The monument itself in a state of neglect and set within residential gardens surrounded by a heavily planted woodland. The garden is incredibly well screened by the dense vegetation and there is no sense of the wider landscape within the monument's boundary.

4.7.10 The Site itself has no bearing on the setting of the medieval farmstead there is no intervisibility between the monument and the wider landscape

and the separation distance is too great. Overall, the land which comprises the Site does not contribute to the setting of this receptor (and therefore its significance).

Wythemoor Sough and adjoining barn and stable

4.7.11 Wythemoor Sough (ref: 1327185) consists of a grade II listed farmhouse stables and barn, all under a graduated green slate roof (Figure 19). The structures' architectural and historical significance lies in its character as an 18th century vernacular farmhouse that retains its traditional rural character. The buildings are constructed of local stone which has been rendered and painted in areas. The barn has a projecting cart entrance, and the return wall has pigeon openings which further reflect its use as an agricultural building.

4.7.12 The setting of Wythemoor Sough comprises of the buildings' curtilage which includes modern barns and a residential garden. The plot of land in which the building sits has been reduced since its depiction on the 1889 Ordnance Survey Map. The wider setting of the receptor is comprised of the agricultural landscape (including the Site) which has undergone substantial change with a history of farming and periods of mining within the area throughout the 19th and 20th centuries (Figure 12). The land which comprises the Site, does not make a substantial contribution to the setting of this receptor, rather it is the immediate setting and land parcel from which the receptor is best appreciated.

Far Branthwaite Edge, Dairy and Barn

4.7.13 The significance of the grade II listed building (ref: 1138216) is derived from its historical uses as a farmhouse, dairy and barn dating to the late 18th century (Figure 20). The farmhouse has a roughcast exterior, with an original large roughcast chimney stack under a graduated green slate roof, which is characteristic of the area. The barn is constructed of mixed sandstone rubble with a corrugated asbestos roof.

4.7.14 The barn consists of two storeys and three bays, with a single-storey dairy and lower right barn. The survival of the historic farming infrastructure is

where the significance of the receptor lies. The receptor reflects the importance of farming within the area and represents a traditional 18th century farmstead within the Cumbrian landscape.

4.7.15 The farmhouse, dairy and barn and are centred around a narrow farmyard which extends to the southwest, which today contains modern barns and a series of caravans. The immediate setting of the receptors comprise of its enclosed curtilage of the farmhouse, barns and the associated gardens. As such, views are constrained and enclosed within the immediate setting.

4.7.16 The receptor is positioned to the east of the Site with views of the hillside within its wider setting. The Farmhouse however has always been intrinsically linked to the landscape of the Site as the surrounding land was how its occupants based their livelihoods. However, views from the receptor are constrained by the mature hedgerows and visual separation. Overall, the land which comprises the Site does not meaningfully contribute to the setting of this receptor (and therefore its significance).

Crakeplace Hall

4.7.17 The significance of the grade II* listed receptor of Crakeplace Hall (ref: 1326884) is derived from its historic and architectural significance as a mid-16th century farmhouse with 19th and 20th century alterations (Figure 21). The majority of the 16th century features survive within the interior of the receptor, including an arched stone kitchen fireplace similar to one at Branthwaite Hall. Above the doorway to the entrance of the property there is an engraved date of 1612, however it is often the case that these dates cannot alone be presumed. The receptor is noted in the Blaeu Atlas Maior 1662-5 map of manor and castles within Cumbria and the Jospeh Hodkinson and Thomas Donald in 1770 & 1771 Survey map of the County of Cumbria. The documentation of the building within these maps suggests a degree of historical significance as a notable building within the historical landscape.

4.7.18 Architecturally, the receptor is typical of the area as a two and half storey building with cement roughcast walls, under a graduated green slate roof

with coped gables and kneelers and a roughcast reconstructed chimney. The building itself has an L-shaped plan as a result of an attached extension and barn. There are a number of styles of window within the building. Within the main part of the building there are 4-light stone mullioned windows with the central mullion removed. There are also similar complete 3-light windows to the upper floors both with hoodmoulds, with those at ground floor also with carved-head label stops. To the rear of the main house there are various windows on three levels: central former 2-light stone-mullioned window under complete 3-light window, both under hoodmoulds, and small square chamfered-surround attic windows. Other windows are sashes in 18th and 19th century stone surrounds. The former stable also has slit vent and attic windows.

4.7.19 The L-shaped farmhouse and attached former stables, and large modern barn to the east create an enclosed setting surrounding a small rectangular farmyard. To the rear of the property is a residential garden which today is used for the storage of agricultural machinery and as such has lost much of its residential character. The garden's former residential character is marked by a drystone wall.

4.7.20 The receptor is positioned to the east of the Site, on an area of high ground with potential glimpsed views across to the Site. Views of the receptor are generally enclosed within its immediate setting. Wider views from the farmhouse are constrained by the mature hedgerows which line the adjacent field boundaries. The land which comprises the Site therefore does not meaningfully contribute to the setting of this receptor (and therefore its significance).

Calva Hall Bridge

4.7.21 The Calva Hall or Packhorse Bridge is a probable 17th Century bridge which holds archaeological and historic potential as a river crossing. It is a designated scheduled monument and grade II listed building (refs: 1138225, 1003051). Architecturally, the bridge is a wide, single span 15m segmental arch, with solid low parapets. The bridge is constructed from Calciferous sandstone which is local to the area and is a crossing of the

River Marron (Figure 22). The bridge is identified in the 1773 Hopkinson and Thomas map (Figure 4) adjacent to 'calvey' building. The bridge holds archaeological potential as it represents an even older historic river crossing. The name of packhorse bridge denotes to the bridges use as a crossing for packhorses and is believed to be on the packhorse route from Lamplugh to Furness House[56].

4.7.22 Today, the bridge's immediate setting is comprised by the banks of the River Marron. The bridge itself and its surrounding banks are overgrown with mature trees on each side of the river. Adjacent to the bridge is the presence of a ford which is used to access Calva Hall Farmyard, which comprises the wider setting of the receptor. Overall, due to the distance and visual separation, it is judged that the land which comprises the Site does not meaningfully contribute to the setting of this receptor (and therefore its significance).

Branthwaite Hall

4.7.23 Branthwaite Hall is a grade I listed tower house with a hall wing (ref: 1145204). The tower section of the receptor dates to the late 14th or early 15th century, with the hall wing suspected to have been added in 1604, with additional alterations occurring in 1670. The receptor is considered one of the best-preserved early houses in Cumbria (Figure 23).

4.7.24 The hall belonged to the Skelton family and was a Pele tower house. The Skelton Family inherited the land in 1365, and it descended through the Skelton family until 1757. Pele tower houses were fortified houses built along both sides of the English and Scottish boarders. Pele towers were built as homes for the gentry but were large enough to provide refuge for the village during border raids.

4.7.25 The receptor can be considered in two parts: the tower and the hall. The tower as a result of its purpose as a defensive feature has extremely thick walls of mixed calciferous and red sandstone rubble which is partly rendered. The tower itself is square and three storeys in height. The

[56] Hinchcliffe, Ernest: 1994: Packhorse Bridges of England: Cicerone Press (Milnthorpe, Cumbria)

notable architectural features include parapets and some original openings, which were blocked in some places during the 16th century. The interior of the tower has ground-floor double-vaulted chambers. The historic significance of the tower lies in is survival as one of the best examples of a pele towers in England.

4.7.26 Branthwaite Hall consists of 6 bays, with a three-story projection. The hall exhibits a number of windows which are believed to be the work of William Thackeray in the 1670s with examples of 2-light stone-mullioned windows, sash windows with glazing bars in stone architraves under ground-floor cornices and upper-floor segmental pediments. Alterations to the building in the 17th century preserved the original 2-, 3- and 4-light Tudor windows under hoodmoulds, some blocked and one with label dated 1604.

4.7.27 The receptor was formerly owned by the National Coal Board which conducted extensive and sympathetic renovations between 1985 and 1986 to enable its use as offices, following the building being in a derelict state for a number of years. This has since led to the continued use of the buildings.

4.7.28 The immediate setting of Branthwaite Hall consists of its curtilage, which includes its large mature garden, associated outbuildings, together with large farmyard barns and further associated outbuildings. The receptor is situated down a long private lane which runs adjacent to Stock Beck river. Mature planting surrounds the immediate boundary of the receptor which encloses views to the surrounding countryside.

4.7.29 In the past much of the surrounding land would have been associated with the Hall and many of the surrounding farms would also have had associations. However, with the collapse of the Skelton family much of the land and associated farmsteads were divided and sold. Today Branthwaite Hall has little association with the surrounding landscape. Overall, due to the distance and visual separation, it is judged that the land which comprises the Site does not meaningfully contribute to the setting of this receptor (and therefore its significance).

Church of St Oswald and Cross

4.7.30 The grade I listed Church of St Oswald (ref: 1145164) dates to a number of periods including the 12th, 13th, and 15th century with 17th century alterations (Figure 24). The church is constructed of calciferous sandstone, under a graduated green slate roof with coped gables and cross finials. The church has a three-bay nave with south aisle, porch, a twin open east bellcote and a three-bay chancel with north vestry. The north nave wall has 12th century lower courses and a blocked doorway, and 13th century narrow round-headed windows. Alteration in the 13th century saw the addition of a porch and a south aisle wall. A notable architectural feature includes the 15th century chancel which has a 2-light ogee-headed windows under hoodmoulds, medieval carved beast gargoyles at eaves and the three light Tudor east window.

4.7.31 In the 17th century, restorations to the church took place including 2-light windows, with the head of one formed from a medieval grave slab. Alterations to the roof can be seen with the higher-pitched roof line visible on the gable wall of the nave, corbels are also visible for original lower roof.

4.7.32 The church lies in the former estate of Branthwaite Hall and architectural features can be seen which denote to this the buildings tied heritage. The lintel for the east window is a reused medieval cross slab to a member of the Branthwaite family of Branthwaite Hall. The interior of the church contains a nave with a Norman font which is positioned on a 20th century shaft. Medieval cross slabs are also used as flagging.

4.7.33 The grade II listed churchyard cross of St Oswald (ref: 1326878) has been listed for its group value with the church. The monument comprises an octagon calciferous sandstone base, of six steps (also known as a calvary), with a stone cross base (or socle) and an 18th century sandstone sundial set on top, in the former location of a medieval preaching cross. The medieval feature is rare in Cumbria and is associated with the influence of monks from Calder Abbey.

4.7.34 The immediate setting of the Church of St Oswald comprises of the churchyard in which it is situated. The cross in the churchyard is considered part of the curtilage of the church and is considered to make a positive contribution to the church's setting.

4.7.35 The church is situated within a large plot which is on the southern periphery of the village of Dean. Mature hedgerows and trees surround the churchyard which prohibits short distance views across the countryside to the surrounding agricultural land. To the south of the receptor between the gaps in the trees, it is possible to see the foothills of the English Lake District WHS.

4.7.36 However, it is judged that due to distance and intervening and vegetation the land which comprises the Site does not meaningfully contribute to the setting of this receptor (and therefore its significance).

The Raise

4.7.37 The Raise is deemed nationally significant as a result of its a grade II listing (ref: 1138216). The receptor comprises a historic farmstead which dates to 1758, with the date and architect inscribed over the entrance (Figure 25). The frontage of the property has roughcast walls with eaves, cornices and v-jointed quoins which is quintessential of the area, especially in more affluent farming communities. The roof is composed of the local Cambrian green slate which is also common in farmhouses of this type. Moreover, the large sash windows in stone painted architraves are a prominent feature within the building and are positioned facing into the farmyard.

4.7.38 The immediate setting of the farmhouse is comprised of the farmyard and barns. The farmyard is rectangular and self-contained, with a series of barns marking the full extent of both the east and west boundaries of the farmyard. The farmhouse forms the southern end of the yard and is surrounded by garden and paddock space. Mature planning is also present within the farmyard.

4.7.39 The farmyard is set back from the road on a long lane which gives the impression that the farm is isolated within the agricultural field. The wider setting of the receptor is comprised of the agricultural landscape which it has wide views of due to its position within the landscape. The receptor also has views across to the farmyard of Far Branthwaite Edge which harks back to the landscape's agricultural heritage.

4.7.40 The receptor is positioned approximately 600m from the Site's eastern boundary. It is considered that the receptor may have glimpsed views across to the Site. However, it is judged that as a result of intervening vegetation and typography the land which comprises the Site does not meaningly contribute to the setting of this receptor (and therefore its significance).

The Rectory

4.7.41 The Rectory is a grade II listed late 18th century vicarage which is now a private residence. The building (ref: 1145165) has cement roughcast walls which have been painted white and has a graduated green slate roof with rendered chimney stacks (Figure 26). The building is set within large gardens and accessed via its own private driveway which is bounded by mature vegetation that prevents wider views to the surrounding village and countryside. Historically, the vicarage would have been one of the most noteworthy properties within the village. Vicarages were built in the 18th and 19th centuries to illustrate the importance of the church, with the vicar being held in the highest regard as a pillar of society.

4.7.42 The immediate setting of the receptor comprises of the large grounds in which the building is set. The long driveway from the road makes it appear as if the receptor is situated in an isolated and rural environment when it is in fact situated within a village setting.

4.7.43 The wider setting is comprised of a village environment, as the receptor once had a historical association with the church of St Oswald and the village as a whole. As previously mentioned, the vicarage was one of most noteworthy building in the village, second to the church. The house is now

privately owned and has lost most of its historical association with the church, with the land now being divided by field boundaries. The land which comprises the Site does not contribute to the setting of this receptor (and therefore its significance).

High Trees West Farmhouse, and Adjoining Byre Range High Trees East Farmhouse and adjoining Cart Shed and Store

4.7.44 These receptors are located 3.4km southeast of the Site. Given the associative nature and group value of the two Grade II listed receptor and their outbuildings, High Trees West (ref: 1068657) and East (ref: 1086672) Farmhouses have been assessed together due to an intrinsic historic and architectural interest.

4.7.45 Both receptor and associated curtilage can be considered in conjunction as a result of their proximity to each other, which combined, amount to enhance the significance of each receptor. The significance of the listed buildings derived primarily from their architectural and historic interests as mid to late 17th century farmhouses, evident of the early agrarian landscape that characterised the wider area.

4.7.46 High Trees West Farmhouse is considered to be the original farmhouse and was constructed in the mid-17th century and consists of rendered rubble with rusticated quoins on chamfered plinth, which has today been painted white. The roof is typical of the area and is a graduated green slate roof, with stone end chimneys.

4.7.47 High Trees East Farmhouse is late 17th to early 18th century in date and was likely constructed by the farmer to reflect the farms prosperity or to house additional farm labourers. The house is much larger than the original Farmhouse and it is likely that the farmer lived in this property, rather than the farmyard belonging to separate farms.

4.7.48 The farm is centred around a rectangular courtyard with access to the road East and the North. The farmyard consists of a byre range or cowsheds, and a series of barns which were once cart sheds and storage. The buildings surrounding the farmyard are contemporary. The byre range

is under the same roof as the farmhouse to the south. The barn has 3 doors, one of which is now blocked, with 20th century inserted window to the ground floor, with loft door and a further window which is potentially a former door. The barn range adjoining the byres at right-angles are not considered to be of interest. The cart sheds have a slate roof which is lower than those of the surrounding barns and are without shuts to the rear.

4.7.49 The immediate setting of the receptor is comprised of the farmyard which is enclosed buy the farmhouse and its barns. Development has occurred surrounding the house which has turned the once farmyard into a small hamlet of a number of houses with small associate gardens.

4.7.50 The wider setting of the farm retains its rural character as it is surrounded by agricultural fields and is some distance from the Site and any further settlement. The land which comprises the Site does not meaningfully contribute to the setting of these receptors (and therefore their significance)

Workington Hall

4.7.51 The significance of Workington Hall registered park and garden (ref: 1001262) is derived from its architectural and historical interest (Figure 27). The landscape park was laid out by Thomas White in the 1780s to accompany the country house of Workington Hall (also known as Curwen House). The Workington Hall estate covers an area of 106ha on the eastern edge of the town of Workington. The parkland is divided into distinct sections as a result of the areas' topography with the Curwen or Low Park area comprising the former Hall and the area of Upper Park comprising extensive parkland.

4.7.52 The lands were the ancestral home of the Curwen family who fortified the grounds in 1380. The grounds were used for fallow deer until their extension by Thomas White of Retford in the 1780s. John Christian continued these improvements up until his death in 1828.

4.7.53 The parkland has multiple entrances and approaches each with architectural significance. The main approach to the Hall consists of a short drive from a lodge house and single gate, with an armorial carved stone unicorn head to the west of the park. This drive passes the south-west front of the hall, then joins with a road known as Ramsay Brow, which forms the southern boundary to Curwen Park at a pair of ashlar gate piers (also listed grade II) which are surmounted by unicorn heads. The main approach is from the east, as laid out in the late 18th century, continuing into the northern perimeter belt of the Upper Park where it passes over the Cuckoo Arch.

4.7.54 The grade I listed Workington Hall makes a meaningful historical contribution to the parkland. The hall was originally a fortified tower house constructed in the mid-14th century. The building was altered in the 15th and 16th century and was later entirely rebuilt between 1783 and 1789. The building now exists as a ruin within the parkland and consists of a three-storey tower with an adjoining three-storey L-shaped wing. Adjoining these is a 15th century two-storey hall range, which together enclose a courtyard on two sides. The other two sides of the courtyard are completed by a medieval gatehouse tower and a late 18th century wing.

4.7.55 The gardens and pleasure grounds consist of numerous distinctive features. A terrace is situated to the northeast front of the hall below which the ground drops away to the parkland below. To the south-west of the hall is an accessible area of grass, formerly the Site of conservatories and an aviary of the mid-19th century, and a hedged garden enclosure. A ride from the hall extends over bridge into the Upper Park, forming part of a longer ride which leads around the circumference of both parts of the Site, Curwen Park, and the Upper Park. The northern park is ringed by a woodland belt within the park wall. A walled kitchen garden also stands to the south of the Hall.

4.7.56 The setting of the Workington Hall parks and gardens is predominantly enclosed. There is little sense of the wider expanse of the town of Workington from inside of the parkland grounds. Much of the noteworthy

features are confined to the belt of woodland which is bound to the south by the A66. The woodland belt creates an enclosed setting and prevents long distance views from the parkland.

4.7.57 The Site is situated to the south of Workington and although situated on an area of high ground with long distance views to the Site, the Site forms no meaningful contribution to the setting of these receptors (and therefore their significance).

The English Lake District

4.7.58 The English Lake District is an internationally recognised heritage receptor (ref: 14526155, Figure 2) of the highest sensitivity. A Statement of Outstanding Universal Value (SoOUV) was agreed and adopted in 2017 by the World Heritage Committee. The full SoOUV of the English Lake District not represented here for brevity. There are many conservation areas within the Lake District itself (Figure 2), however here the designated of WHS takes precedence.

4.7.59 OUV is defined by UNESCO as 'cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity' (UNESCO, 2017). The PPG: Historic Environment notes that Statements of Outstanding Universal Value are reference documents for the protection and management of world heritage sites (paragraph 26).

4.7.60 The heritage significance of the WHS is summarised within the SoOUV:

'Located in northwest England, the English Lake district is a mountainous area whose valleys have been modelled by Glaciers in the Ice Age and subsequently shaped by an agropastoral land use system characterised by fields enclosure by walls. The combined work of nature of human activity has produced a harmonious landscape in which the mountains are mirrored in the lakes. Grand houses, gardens and parks have been purposely created to enhance the landscapes beauty. This landscape was appreciated from the 18th century onwards by the Picturesque and later Romantic movements, which celebrated it in paintings, drawings and words. It also inspired an awareness of the importance of beautiful landscapes and triggered early efforts to preserve them"[57].

[57] UNESCO. World Heritage Convention. The English Lake District UNESCO profile. Available at: https://whc.unesco.org/en/list/422/ Accessed November 2024

Criterion (ii): *The harmonious beauty of the English Lake District is rooted in the vital interaction between an agro-pastoral land use system and the spectacular natural landscape of mountains, valleys and lakes of glacial origins.*

Criterion (v): *Land use in the English Lake District derives from a long history of agro-pastoralism.*

Criterion (vi): *A number of ideas of universal significance are directly and tangibly associated with the English Lake District.'*

4.7.61 The English Lake District WHS represents a very large area and does not have a designated buffer zone. The Site is situated some 3.2km from the WHS and due to the rural character of the wider area, in some sections of the Site, there are almost uninterrupted views across to the WHS (Figure 28). However, due to the undulating nature of the landscape and its overall topography many areas of the Site have no visibility to the WHS at all.

4.7.62 On balance, taking into account the views towards to Lake District (which defines the wider region in regard to landscape), it is judged that the contribution that the Site makes to the OUV of WHS is considered low, as a result of industrial nature of the surrounding landscape (in areas such as Lillyhall and Workington) and the fact that the Site only represents a small proportion of a much wider rural landscape surrounding the WHS itself.

Whitebanks Wood Mines

4.7.63 Whitebanks Wood Mines (ref: 45802, Figure 3) are a feature within the landscape which reflect the areas industrial history. Today the Whitebanks Wood Mines exist as three shafts or bell pits which are visible on LiDAR within the Whitebanks Woods. The shafts are close to the course of a beck which is now canalised. On the ground, the features are defined by clear circular mounds with a depression within the centre. Within the cartographic record, there is no evidence of the mine shafts within the early Ordnance Survey editions, and it is possible that the features predate the mid-19th century. It is judged the physical remains are of low local significance.

4.7.64 The setting of the Whitebank Wood Mines consists of the Whitebank Woods. The Whitebank Woods comprise of a narrow-curved strip of deciduous woodland, which is part of the larger Jackie Planting woodland.

The Whitebank Woods are positioned to the east of the Site, just below the crest of the hill which gently falls away to the east. Views across to the Site are limited in areas as a result of mature hedgerows between the Site and the woodland. The land which comprises the Site does not contribute to the setting of this receptor (and therefore its significance).

Thief's Gill Quarry

4.7.65 Today a depression in the ground next to the Thief's Gill stream represents the Site of the former quarry at Thief's Gill (Figure 29). The quarry (ref: 11699, Figure 3) is depicted on the 1867 Ordnance Survey map and is still represented as earthworks in the later 1957 map. The quarry demonstrates the industrial history of the Site which has left an impression upon the landscape today. It is judged the physical remains are of low local significance.

4.7.66 Thief's Gill Quarry is situated within the Site boundary along the Thief's Gill riverbank. The quarry is situated at the crest of the hill and the land rapidly falls away to the north as a result of the steam cutting through the hillside. The immediate setting of the quarry is comprised of the sharp banks of the Thief's gill stream. Due to the elevated position of the Site, and the steep sloping of the hill to the north, the quarry has views across the Dean Moor and towards Little Clifton.

Dean Moor Mine Workings

4.7.67 Dean Moor Mine workings (ref: 45802, 11805, Figure 3) exist as two former mine working areas which are depicted on the second edition Ordnance Survey mapping as old coal levels. Much of what is known about the mine working comes from documentary sources rather than features on the ground. Cartographic evidence suggests that the northern most of the two appears to a floriform spoil heap to the north. A building is also visible on the second edition OS map to the western boundary of the Site, which may also be related to the mining process.

4.7.68 Today, the land covering the Dean Moor Mine Workings exists as a Motocross Park with depressions in the hillside where the mine shaft once

was. The historical significance of the mines is no longer discernible at the surface due to the above ground features having been altered by the racetracks. The area however still exists as a feature representing the past industrial workings within the landscape.

4.7.69 While any physical remains would be of low local significance, the immediate setting of the Dean Moor Mine Workings area is today comprised of the hillside which holds the motocross trackways. The area is overgrown with moorland grass with trackways cut into the hillside by motorbikes, such that the land which comprises the Site makes no meaningful contribution to its significance.

Rigg House

4.7.70 Rigg House is noted on the HER (ref: 45801, Figure 2) along with the adjacent earthworks. Rigg House farm is situated near to the eastern boundary of the Site and is a typical example of a working farmstead within the wider agricultural landscape (Figure 30). The farmhouse itself is situated within a large working farmyard with a number of agricultural buildings including a series of barns which are separated from the Site by the road. It is of low local significance.

4.7.71 The farmhouse has a roughcast exterior with an original large roughcast chimney stack under a graduated green slate roof, which is characteristic of the area. The house has immediate views to the proposed Site and has always has a connection to the landscape through its associative farming character.

4.7.72 Rigg Farmhouse's immediate setting comprises the farmyard in which it is situated. The farmhouse is surrounded by the associated outbuildings which form the greater part of its setting. The wider landscape is also experienced by the farmhouse due to its position at the highest point of the farmyard with views to the north and especially the south.

4.7.73 However, it is the architectural and historic interest of the building which contributes to its significance (although this is assessed as low). The land which comprises the Site is set away from the immediate setting of the

receptor and does not make a substantial contribution to the setting and therefore significance of this receptor.

Rigg House Earthworks

4.7.74 Rigg House earthworks consist of a number of features which relate to different periods (as noted on the HER under Rigg House itself, Figure 31). The significance of the features lies in its archaeological potential. The earthworks consist of a mound, building foundations, ridge and furrow and hollow ways. The mound is situated to the south of Rigg House and is obvious at the surface as a large circular feature with a depression in the centre. The other features mentioned are less evident at the surface. It is likely that many of these features related to farming practices of the post-medieval period and would be of local significance only.

4.7.75 The immediate setting of the Rigg House earthworks is comprised of open agricultural fields to the rear of the Rigg House farmhouse, farmyard, and garden. The agricultural land is set aside for pasture which has helped to preserve the earthworks as a result of ploughing. As with the house itself, the land which comprises the Site does not substantially contribution to the setting (and therefore significance) of this receptor as it is the archaeological interest which comprises the significance of this heritage receptor.

5 Impact Assessment

5.1 Introduction

5.1.1 The management and mitigation of change to the historic environment resulting from development are based on the recognition within Section 16 of the NPPF that states *'…heritage assets are an irreplaceable resource…'*. Impacts to the historic environment and associated heritage receptor arise where changes are made to their physical environment by means of the loss and/or degradation of their physical fabric or setting, which in turn leads to a reduction in the significance. In examining the potential impact to significance, consideration is given to the scale, massing, design, materials, location, and topography of the Site, and the degree to which these may alter the way in which the Site contributes, or otherwise, to the significance of the identified heritage receptor.

5.2 Impact Assessment

Impact on potential heritage receptors (archaeological remains)

5.2.1 As stated in the earlier statement of significance section, it is considered that there is low to high archaeological potential across the Site (dependant on various periods). It is considered logical to divide the Site into portions to best judge the impact on buried heritage receptors across the Site.

5.2.2 It is considered that in the northern portion of the of the Site, there is negligible potential to contain any in situ archaeological receptors as a result of the intense mining which occurred in the area during the 1990s (Figure 12). The area experienced a series of widespread excavation which removed and replaced much of the material in the northern portion of the Site. It is therefore considered that the Proposed Development at the Site will have no impact on any buried heritage receptors in the northern area of the Site.

5.2.3 In the southern portion of the Site (Area C), where Dean Moor Stone Circle and Thief's Gill Quarry are both situated, it is considered that there

is residual potential for the archaeological receptors depending on period (although the geophysical survey showed an overall low potential). Where archaeological receptors survive below ground the Proposed Development may impact these receptors without a programme of suitable mitigation.

Impact on identified heritage receptors (built heritage and landscape)

5.2.4 There will be no direct physical impacts on any known heritage receptors through the Proposed Development. As such, any impact will arise through the introduction of solar panels within the setting of the identified receptors. All built heritage receptors, including buildings noted in the HER and nationally listed structures, will fundamentally remain unaltered, with the only changes coming from a change in setting.

5.2.5 The solar panels themselves represent a differing form of 'agricultural' land use which creates a juxtaposition between the historic elements in the landscape highlighting the changing land use to the present day (as well as contemporary energy needs).

5.2.6 The Proposed Development includes embedded mitigation including setbacks of the panels within fields, positioning of panels within the Site to ensure that there is sufficient separation between the panels and the receptors, as well as further mitigation, (including field boundaries and planting for screening).

5.2.7 Considering the NPPF methodology the potential impacts of the Proposed Development (before mitigation) are detailed in Table 5.1.

Table 5.1: Heritage Impacts

Heritage Receptors	Assessment of impacts	Summary of Impact
Stone Circle and Cairn Scheduled monument	The receptors significance is primarily derived from its archaeological interest as a Bronze Age monument with high evidential value. The monument is situated at the highest point of Dean Moor with wide views across the Site and towards the Lake District WHS. The introduction of infrastructure would change the rural character of wider setting of the monument to the north.	Moderate impact

Heritage Receptors	Assessment of impacts	Summary of Impact
	There would be no direct impact on the monument nor change to its immediate setting arising from the Proposed Development. The introduction of the infrastructure would change the rural character of the wider setting of the receptor. However, the new built elements of the Proposed Development would be set at a distance from the receptor (which will be at a higher elevation to the Proposed Development), and long-distance sight lines form the point of high elevation would not be impacted by the Proposed Development. The Proposed Development has incorporated a green landscape buffer surrounding the stone circle so to protect the immediate setting of the monument. The landscape buffer will function as a way of channelling views form the monument towards the hills of the Lake District through creating a green corridor at the edge of the Proposed Development. There will however be some long-distance views towards the Proposed development as a result of the monuments elevated position at the highest point of Dean Moor. It is however considered that the landscape in which the monument was originally erected has been dramatically altered over time with the inclusion of woodland belts, open cast mines, a wind farm, distant group of turbines, pylons and built form, which has to some extent eroded the monuments original significance and setting. The presence of the Proposed Development will change views from the monument to the north, but this will not alter the major characteristics of the setting. It is also considered the archaeological interest can still be appreciated from within the centre of the stone circle. There will be change to the wider setting of the receptor with no change to the evidential value of the receptor itself.	
Settlement 25m south-east of Gatra Scheduled monument	The significance of the receptor is derived from its archaeological potential as a medieval farmstead. The receptor exists as a series of well-defined earthworks which include a ring embankment, field drainage channels, a pond and two cultivation terraces. The setting of the scheduled monument is incredibly enclosed as a result of mature vegetation which blocks visibility to the wider landscape. The monument sits outside of the ZTV and It is considered that combined with the enclosed setting, the Site will have no impact on the significance of the scheduled monument.	No impact

Heritage Receptors	Assessment of impacts	Summary of Impact
Wythemoor Sough and adjoining barn and stable Grade II	The significance of Wythemoor Sough is its historical use as a late 18th century farmhouse within the Cumbrian landscape. The receptor exhibits a vernacular architectural style representing the long agrarian history of the area. The receptor is situated some 150m from the Site boundary. The farmhouse has extensive views of Dean Moor due to the topography with the farmhouse situated on a slope which falls away towards Dean Moor. The landscape mitigation of a green buffer has been included within the concept plan for the Site, which includes green corridors between the solar panels and surrounding the boundary of the Site. The views from the rear of the property looking over the Site will be affected by the scale of the Proposed Development. Although the Proposed Development will be low level infrastructure which reduces long-distance views, there will be change to the characteristics of the receptor setting, changing the rural open nature of the landscape. It is however considered the green buffer would reduce adverse impact caused by the Proposed Development. The wider landscape has however experienced notable change since the farmhouse's construction with the large-scale mining which occurred during the 1990s and the addition of turbines within the area which has altered the rural characteristics of the landscape. Overall, there will be change to the wider setting of the receptor which will have an effect on the receptor's significance.	Moderate impact
Far Branthwaite Edge, Dairy and Barn Grade II	The receptor significance primarily derives from its historical and architectural use as a farmhouse within the Cumbrian landscape. It is considered this is best appreciated from within its immediate setting (its land parcel). It is considered that due to the low levels of the solar infrastructure, views towards the Proposed Development will be limited. The infrastructure may fall within glimpsed long-distance views from the farmhouse. However, the immediate setting of the receptor (from which they are best appreciated) comprises of its enclosed curtilage of the farmhouse, barns and the associated gardens which further restrains views. Landscape mitigations have also been included within the Proposed Development proposal with including a buffer surrounding the perimeter. It is considered that this landscape mitigation will	Negligible Impact

Heritage Receptors	Assessment of impacts	Summary of Impact
	further reduce views towards the Proposed Development. It is therefore considered that the magnitude of change to the setting of the receptor is negligible.	
Crakeplace Hall Grade II*	The significance of the grade II listed receptor of Crakeplace Hall is derived from its historic and architectural significance as a mid-16th century farmhouse with 19th and 20th century alterations. The receptor is situated some 1.85km from the Site's eastern boundary. It is considered that as a result of the distance from the Proposed Development, there will be no visual relationship between them. Moreover, as a result of the surrounding topography and mature field boundary planting, views towards the Site are non-existent.	No impact
Calva Hall Bridge Grade II	The receptor significance is derived from its archaeological potential and historical significance as an ancient river crossing. The bridge was erected for carthorses transporting materials to support industry occurring in the area. Views from the bridge are constricted by the mature planting which lines the banks of the river which creates an enclosed setting. Moreover, the surrounding topography further limits any potential views to the Site. The low-level infrastructure will further limit the visibility from its immediate setting where it is best experienced. It is considered that the Proposed Development will have no impact on the setting or significance of the receptor as the land which comprises the Site does not meaningfully contribute to the setting of the receptor.	No impact
Branthwaite Hall Grade I	The significance of the receptor is derived from its architectural, historical, and archaeological potential as a late 14th to early 15th century tower house. The setting of the receptor is incredibly enclosed and well defined as it relates to the building's curtilage including a large mature garden, associated outbuildings and also large farmyard barns and outbuildings. The receptor is situated down a long private lane which runs adjacent to the Near Stock Beck River. Mature planting surrounds the immediate boundary of the receptor which encloses views to the surrounding countryside. The Proposed Development will not detract from the appreciation of the building in its setting and there are no open views towards the Site that would be affected, moreover the land which	No impact

Heritage Receptors	Assessment of impacts	Summary of Impact
	comprises the Site does not meaningfully contribute to the setting of the receptor. Overall, the low-level infrastructure which is associated with the Proposed Development will reduce the possibility of views to the Site. It is therefore considered that the Proposed Development will cause no impact on the receptor.	
Church of St Oswald Grade I	The significance of the receptor is derived from its architectural, historical, and archaeological interest as a building dating to as early as the 12th century. The parish church dates to a number of periods including the 12th, 13th, and 15th century with 17th century alterations. The church is situated in a small churchyard which is on the southern periphery of the village of Dean. The churchyard itself comprises the immediate setting of the receptor. From the churchyard, the receptor experiences almost uninterrupted views across the landscape to the hills of the Lake District, with possible glimpsed views to the proposed Site. However, the low-level nature of infrastructure is considered to reduce any changes to these views. Therefore, the Proposed Development is unlikely to be visible and the land which comprises the Site does not meaningfully contribute to the setting of the receptor.	No Impact
Churchyard Cross south of Church of St Oswald Grade II	The significance of the Churchyard Cross south of the church of St Oswald is derived from its archaeological and historic interest as a stone base upon which a medieval preaching cross was situated. The group value with the Church of St Oswald is also considered important. The size of the cross and its situation within the churchyard of St Oswald, it is best seen at close proximity where its detail and aesthetic interest can be appreciated. Approaching the cross, from the north it is views against a backdrop of evergreen trees and is visible next to the church, this view is where it is best appreciated. It is considered that the Proposed Development will have no impact on the setting (and therefore the significance) of the receptor as the land which comprises the Site does not meaningfully contribute to the setting of the receptor.	No Impact
The Raise Grade II	The significance of the receptor is primarily derived from its historical and architectural interest as an 18th century farmhouse. The receptor is approached from the northeast and combined with the low-level infrastructure of	No Impact

Heritage Receptors	Assessment of impacts	Summary of Impact
	the Proposed Development; the Proposed Development will not be visible in any views of the building when first entering the farmyard. It is considered that combined with separation distance in regard to setting, it is unlikely that the Proposed Development will change the way that the building is experienced as a farmhouse in an agrarian setting (as the land which comprises the Site does not meaningfully contribute to the setting of the receptor).	
The Rectory Grade II	The significance of the receptor is derived from its historical and architectural interest as an 18th century vicarage. It is unlikely that there was any historical landscape association between the receptor and the Site with limited views to the wider landscape. The setting of the property is enclosed within its large grounds which are surrounded by mature vegetation which limits views to the surrounding landscape. It is considered that the Proposed Development will have no impact on the setting (and therefore the significance) of the receptor as the land which comprises the Site does not meaningfully contribute to the setting of the receptor.	No Impact
High Trees West Farmhouse and adjoining Byre Range Grade II	The significance of High Trees West Farmhouse and adjoining Byre Range lies in its in its architectural and historic interest as a mid-17th century farmhouse. Further significance is also afforded to the receptor in its group value and proximity to High Trees East Farmhouse and adjoining Cart Shed and Store. The immediate setting of the receptor is comprised of the farmyard which is enclosed by the farmhouse and its barns. The farm is situated on an area of high ground which is within the ZTV with possible glimpsed views towards the Proposed Development. However, it is considered that due to the enclosed setting and distance to the Site, the Proposed Development will have no impact on the setting (and therefore the significance) of the receptor as the land which comprises the Site does not meaningfully contribute to the setting of the receptor.	No Impact
High Trees East Farmhouse and adjoining Cart Shed and Store Grade II	The significance of High Trees East Farmhouse and adjoining Cart Shed and Store lies in its in its architectural and historic interest as an early 18th century farmhouse. Further significance is also afforded to the receptor in its group value and proximity to High Trees West Farmhouse and adjoining Byre Range.	No Impact

Heritage Receptors	Assessment of impacts	Summary of Impact
	The immediate setting of the receptor is comprised of the farmyard which is enclosed buy the farmhouse and its barns. The farm is situated on an area of high ground with possible glimpsed views towards the Proposed Development. However, it is considered that due to the enclosed setting and distance to the Site, the Proposed Development will have no impact on the setting (and therefore the significance) of the receptor as the land which comprises the Site does not meaningfully contribute to the setting of the receptor.	
Workington Hall Grade II	Workington Hall parks and gardens significance is derived from its architectural and historical features. The landscape park was laid out by Thomas White in the 1780s to accompany the country house of Workington Hall (also known as Curwen House). The country house today stands as a ruin and holds a grade I listing. It is considered that within the parkland to the south of Workington Hall ruins there is the possibility of glimpsed views towards the Site as the parkland is positioned on an area of high ground. However, it is considered that there is great enough separation and distance and intervening vegetation and topography such as major roads and farmsteads that the Proposed Development will have no bearing on the setting (and therefore significance) of this receptor.	No Impact
The English Lake District WHS	While there is more recent guidance available published by UNESCO, ICCROM, IUCN and ICOMOS, the 2011 guidance provides a useful and relevant framework. As noted above, it is the authors judgment that the new guidance 2022 provided by ICOMOS, provides a toolkit for impact assessments rather than guidance and framework for addressing and wholly assessing the OUV of WHS. Since there is no updated framework, the 2011 guidance has been used to assess the OUV, and the level of framework prosed in the 2011 guidance has been used. The ICOCMOS guidance (2011) provides a recommended matrix for assessing the value of heritage receptor. Using the ICOMOS grading it is proposed that the WHS is ascribed high significance due to its high historic, architectural and archaeological interest, as well as its international reputation. The ICOMOS guidance states that the scale and severity of change on the OUV can be expressed in the following terms: Major Change: Where changes will directly impact the attributes that contribute to the OUV, resulting	Negligible impact

Heritage Receptors	Assessment of impacts	Summary of Impact
	in total or substantial change to the receptor or its setting. Moderate Change: Where changes to elements are such that the resource is significantly modified. Minor Change: Where changes to features or elements will result in slight differences to the receptor or its setting. Negligible: Very minor changes that hardly affect the receptor or its setting. No changes to the receptor or its setting[58]. The 2011 ICOMOS guidance establishes a matrix for assessing the significance of the effect on the WHS with reference to the value of the heritage receptor and the scale of change. Criterion (ii), (v) and (vi) sets out the significance of the English Lake District into three elements the beauty of the landscape, the land use and ideas associated with the WHS. The archaeological, historic, and artistic interest defines the significance of these elements. The Proposed Development proposal will result in a change to the wider landscape setting of the WHS which will marginally affect views looking west from high points within the WHS against a backdrop of the industrial development of Workington. It is therefore considered that the impact would fall within the category of 'negligible' change in terms of the scale or severity of change. The authenticity and integrity of the WHS would be preserved as the Proposed Development would not affect the prominence of the elements which form the OUV of the WHS.	
Whitebanks Wood Mines Non-designated heritage receptor	The significance of Whitebanks Wood Mines lies in the historical interest of the features representing the areas industrial history. The earthworks are situated within the Whitebank Woods to the east of the Site boundary. The setting of the assets is enclosed by the deciduous woodland and views to the Site are limited. There is a marked separation of the Site and the mines with a road and agricultural field between the woodland boundary and the Site. A landscaping buffer has been positioned along the Site boundary as a form of mitigation. Moreover, views surrounding the features are enclosed by the woodland further preventing views to the Site.	No Impact
Thief's Gill Quarry Non-designated heritage receptor	The significance of Thief's Gill Quarry is its representation of the former industrial history of the Site which has left an impression upon the landscape today. Thief's Gill Quarry is situated	No Impact

[58] Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (2011).

Heritage Receptors	Assessment of impacts	Summary of Impact
	within the planned landscape mitigation to protect the receptor itself and to respond to its rural setting. Overall, there will only be a Negligible Impact to this receptor due to its location within the Site and the planned mitigation.	
Dean Moor Mine Workings Non-designated heritage receptor	Dean Moor Mine Workings, as noted on the HER, represent the past industrial workings within this landscape. The mines are situated to the south of the Site and today are set within a motocross park which has played a role in diminishing the appreciation of the receptor. Overall, it is considered that due to its current condition and distance to the Site, the Proposed Development will have no impact on the setting (and therefore the significance) of the receptor as the land which comprises the Site does not meaningfully contribute to the setting of the receptor.	No Impact
Rigg House Non-designated heritage receptor	The significance of the receptor lies in its architectural and historic interest as a farmhouse within the Cumbrian landscape. The receptor is situated adjacent to the eastern Site boundary. The receptor is separated from the Site along a driveway off a public road and is further divided by a series of existing development which consists of some agricultural buildings. The building has a historical association with the Site as the fields historically formed part of the land holdings. The Site therefore significantly contributes to the receptor's setting and falls within the views of the receptor. The Proposed Development proposal plan depicts a green buffer along the eastern site boundary, so as to protect some views from the farmhouse.	Negligible Impact
Rigg House Earthworks Non-designated heritage receptor	The significance of the Rigg House Earthworks is comprised of their archaeological potential and historical interest. The earthworks are situated next to the non-designated heritage receptor of Rigg House, adjacent to the eastern boundary of the Site. The earthworks are divided from the Site by a series of drystone walls and the road. It is however considered that the earthworks are agricultural in nature associated with Rigg House Farm and their wider setting is comprised of the agricultural landscape which comprises the Site. Within the preliminary layout design plan, it is demonstrated that there will be a landscape mitigation of a green buffer along the Site's eastern boundary. It is considered that the green buffer has been strengthened so as to protect the wider setting of the earthworks.	Negligible Impact

6 Conclusions and Recommendations

6.1 Introduction

6.1.1 This report has been produced within the context and requirements of relevant national and local planning policy and guidance, including the NPPF and Historic England guidance on significance and setting. The historic development of the Site, in addition to an analysis of HER data within the vicinity of the Site, has been used to inform the assessment of the potential impact of the Proposed Development on the known and potential heritage receptors.

6.1.2 A large number of heritage receptors of varying significance and sensitivity have been considered within this assessment due to the scale of the Proposed Development. The receptors were considered and assessed in regard to the Proposed Development as a result of proximity, visibility, and relationship to the land which comprises the Site.

6.2 Identified Heritage Receptors (Built Heritage and Landscape)

6.2.1 There will be no direct physical impacts on any designated heritage receptors through the Proposed Development. All designated heritage receptors will fundamentally remain unaltered, with the primary significance (comprising archaeological, historic and architectural interest) of these receptors remaining intact. The immediate setting of each receptor within their individual gardens and land parcels (from which they are best appreciated) will also be preserved.

6.2.2 As a result of features such as separation distance and topography, no impact as a result of the Proposed Development has been afforded to the receptors of:

- Settlement 25m south-east of Gata (scheduled monument);
- Crakeplace Hall (grade II* listed);
- Calva Hall Bridge (grade II listed);
- Branthwaite Hall (grade I listed);

- Church of St Oswald (grade I listed);
- Churchyard Cross south of Church of St Oswald (grade II listed);
- The Raise (grade II listed);
- The Rectory (grade II listed);
- High Trees West Farmhouse and adjoining Byre Range (grade II listed);
- High Trees East Farmhouse and adjoining Cart Shed and Store (grade II listed);
- Workington Hall (grade II listed);
- Whitebanks Wood Mines (non-designated heritage receptor); and
- Dean Moor Mine Workings (non-designated heritage receptor).

6.2.3 Based on changes to setting and the overall significance of each receptor a potential negligible impact as a result of the Proposed Development has been identified to affect the receptors of:

- The English Lake District (WHS);
- Far Branthwaite Edge, Dairy and Barn (grade II listed);
- Rigg House (non-designated heritage asset); and
- Rigg House Earthworks (non-designated heritage receptors).

6.2.4 It is acknowledged there will be a visual change to the wider setting of the receptors arising from a visual change in character to the surrounding rural agricultural landscape. However, it is considered that the wider rural setting of these designated and non-designated heritage receptors makes a lesser contribution to the setting of the receptors than their immediate setting (defined by each land parcel). Moreover, the wider setting (the rural agricultural landscape of which the Site is part of) will remain appreciable, with land, vegetation (including hedges), and field boundaries clearly visible. The use of the land as a solar farm simply demonstrates a different use of the landscape itself.

6.2.5 Consultation response on 28th March 2024 from the Lake District National Park Authority (LDNPA) concluded a level of minor to adverse visual effect over a 40-year period, translating to less than substantial harm to the WHS. The LDNPA recognise that the Proposed Development is not permanent with the possibility of restoring the green appearance of the

landscape and the proposed development be removed as well as the continued agricultural use during the operational phase.

6.2.6 The implementation of landscape and visual mitigation including the planting of vegetation and strengthening existing field boundaries, will further reduce this negligible impact of the Proposed Development at the Site.

6.2.7 It is considered that the Proposed Development has the potential to cause a moderate impact to the heritage receptors of:

- Stone Circle and Cairn (scheduled monument); and
- Wythemoor Sough and adjoining barn and stable (grade II listed).

6.2.8 For these two receptors, the change in overall character to the area as a result of the Proposed Development would not amount to substantial harm (in NPPF terms). The landscape will be changed from that of an agricultural and moorland setting to an area of solar infrastructure. Therefore, the considerations of harm to the heritage receptors relates to the wider setting of the receptors only.

6.2.9 The two designated receptors in this list (para 6.1.9) have been taken forward to assessment (due to the potential for significant effects) along with The English Lake District WHS (due to its high significance).

6.3 Potential Heritage Receptors (Archaeological Remains)

6.3.1 Following on from the geophysical survey (Appendix 6.1), the local planning authority may request a programme of intrusive archaeological investigation, prior to construction taking place within any given part of the Site, to mitigate these potential impacts. The scope and extent of the mitigation will depend on the final proposal design and will be agreed in consultation with the Westmorland and Furness Council (WFC) Archaeological Advisor and set out in a Written Scheme of Investigation (WSI) or Archaeological Project Design (APD). Several methods of archaeological investigation may be required depending on the type of

development and the importance (or significance in NPPF terms) of any identified below ground heritage receptors.

6.3.2 Archaeological mitigation is likely to comprise a two-stage approach (as set out in Appendix 6.3 AMS). Any below ground heritage receptors are not expected to preclude the Proposed Development on the Site. Stage One of this approach will involve a programme of evaluation fieldwork in relation to the proposals, the HER data and geophysical survey results. This will identify the nature and extent of any below ground heritage receptors within the Proposed Development area.

6.3.3 The requirement for any Stage Two mitigation will be dependent on the results of the Stage One evaluation work. Secondary mitigation may include further archaeological fieldwork, the removal of panels from certain areas of the Site, or the use non-intrusive foundations for panel structures, to preserve receptors in situ. The details of any secondary mitigation will be set out in a further WSI/APD and agreed with the local planning authority's archaeological advisor. The WFC Archaeological Advisor will monitor all archaeological works to ensure that the works comply with the relevant development polices.

Appendix A Gazetteer of Heritage Receptors and HER Evidence

The table below (Table A.1) represents a gazetteer of known historic environment sites and finds within the study area. The gazetteer should be read in conjunction with the historic environment features map (Figure 2-4).

The HER data contained within this gazetteer is the copyright of the HER and Historic England statutory designations data © Historic England 2024.

Table A.1: Heritage Receptors

Heritage Receptor	Type	Ref
The English Lake District	WHS	1452615
Calva Hall Bridge	Scheduled Monument	1003051
Defended enclosure at Salterbeck	Scheduled Monument	1007071
Settlement 25m SE of Gatra	Scheduled Monument	1007139
Hayes Castle	Scheduled Monument	1007150
Large irregular stone circle and a round cairn on Dean Moor (referenced as Stone Circle and Cairn in this report)	Scheduled Monument	1014588
Medieval standing cross in St Oswald's churchyard	Scheduled Monument	1014805
Little Clifton open heap coke producing bases and associated slag heap, 220m north of Oldfield Bridge	Scheduled Monument	1018072
Workington Hall tower house and later medieval fortified house	Scheduled Monument	1020458
Workington Hall	Registered Park and Garden	1001262
Workington Hall	Grade I Listed Building	1144479
Church of St Oswald	Grade I Listed Building	1145164
Branthwaite Hall	Grade I Listed Building	1145204
Church of St Michael	Grade II* Listed Building	1086674
Byres to north of Schoose Farmhouse	Grade II* Listed Building	1138196
Church of St John and Adjoining Community Hall	Grade II* Listed Building	1138257

Heritage Receptor	Type	Ref
Schoose Farmhouse and adjoining barns	Grade II* Listed Building	1144489
Granary east of Schoose Farmhouse	Grade II* Listed Building	1144490
Helena Thompson Museum and former stables	Grade II* Listed Building	1311987
Crakeplace Hall	Grade II* Listed Building	1326884
Windmill, adjoining barns, gatehouse and curtain wall	Grade II* Listed Building	1327213
High Trees, West Farmhouse and adjoining Byre Range	Grade II Listed Building	1068657
Lamplugh Hall	Grade II Listed Building	1068669
Low Leys Farmhouse with adjoining scullery and courtyard entrance	Grade II Listed Building	1068680
Coffin Rest at Low Millgillhead in garden circa 35 yards north east of house	Grade II Listed Building	1068696
Todhole Farmhouse	Grade II Listed Building	1086631
Whinnah Cottages and adjoining store	Grade II Listed Building	1086632
Gatepiers to Rowrah Hall	Grade II Listed Building	1086633
High Trees east Farmhouse and adjoining cart shed and store	Grade II Listed Building	1086672
Gateway at Lamplugh Hall	Grade II Listed Building	1086673
Stubsgill Farmhouse, area wall and Gate Piers, and Byre adjoining to south west	Grade II Listed Building	1086701
Chancel Arch from Medieval Church to north west of present church	Grade II Listed Building	1086702
Church of St Michael	Grade II Listed Building	1086721
War Memorial in St Michael's churchyard to east of Lych Gate	Grade II Listed Building	1086722
Church of the Holy Spirit	Grade II Listed Building	1137112
5, Middlegate	Grade II Listed Building	1137782
Mayfield	Grade II Listed Building	1137791
Lodge south west of the mansion	Grade II Listed Building	1137805

Heritage Receptor	Type	Ref
The Priory	Grade II Listed Building	1137841
Gatepiers and garden wall west of Brooklands	Grade II Listed Building	1137850
Workington Veterans Club	Grade II Listed Building	1137870
Nos. 11 And 13 and rear cottage	Grade II Listed Building	1137901
Joseph Thompson Headstone	Grade II Listed Building	1138040
6, Market Place	Grade II Listed Building	1138099
Green Dragon Hotel	Grade II Listed Building	1138130
United Club	Grade II Listed Building	1138140
15a, 17 and 19, Portland Square	Grade II Listed Building	1138145
No 1 and adjoining shops and extension wall	Grade II Listed Building	1138168
10, Portland Street	Grade II Listed Building	1138172
Storeroom for Newsdale Construction	Grade II Listed Building	1138180
Roche House	Grade II Listed Building	1138202
Brow Top	Grade II Listed Building	1138205
The Old Mill	Grade II Listed Building	1138208
Far Branthwaite edge, dairy and barn adjoining	Grade II Listed Building	1138216
Packhorse Bridge north of Calva Hall	Grade II Listed Building	1138225
Stainburn Old Hall	Grade II Listed Building	1138229
The Cottage	Grade II Listed Building	1138349
Hillcrest and Barns adjoining	Grade II Listed Building	1138364
28 and 30, Curwen Street	Grade II Listed Building	1144477
Ladies' hairdresser	Grade II Listed Building	1144480
Curwen and Co. Solicitors	Grade II Listed Building	1144483
Lamp-post opposite Green Dragon Hotel	Grade II Listed Building	1144484
No.18 and Adjoining house	Grade II Listed Building	1144485
21, Portland Square	Grade II Listed Building	1144486
8, Portland Street	Grade II Listed Building	1144487
Gatepiers south east of Workington Hall	Grade II Listed Building	1144488

Heritage Receptor	Type	Ref
Seaton Mill Farmhouse, nos. 3 and 4 Seaton Mill Cottages and barn adjoining	Grade II Listed Building	1144491
Brooklands	Grade II Listed Building	1144514
11, Christian Street	Grade II Listed Building	1144515
Wyrehurst	Grade II Listed Building	1144516
7 and 9, Curwen Street	Grade II Listed Building	1144517
Beech Croft	Grade II Listed Building	1145159
The Rectory	Grade II Listed Building	1145165
Manor House	Grade II Listed Building	1145166
Rose Farmhouse	Grade II Listed Building	1145167
Home Farm and barns adjoining	Grade II Listed Building	1145168
Barn west of Ullock mains on opposite side of road	Grade II Listed Building	1145174
Croft House and adjoining barn	Grade II Listed Building	1145175
Wadsworth Farmhouse	Grade II Listed Building	1145203
Barn north of Ullock mains on opposite side of road	Grade II Listed Building	1146311
Wall, railings and gate piers in front of Mockerkin Hall	Grade II Listed Building	1146512
The Church of Our Lady and St Michael, attached steps, walls, gates and gate piers	Grade II Listed Building	1257412
Whitekeld and barns adjoining	Grade II Listed Building	1311871
Elmbank	Grade II Listed Building	1311999
1, Christian Street	Grade II Listed Building	1312096
Willow Dene and adjoining former stables	Grade II Listed Building	1312106
Milestone east ff Distington secondary school	Grade II Listed Building	1312130
Methodist Chapel, area wall and central Gate	Grade II Listed Building	1312491
Hill Crest	Grade II Listed Building	1326858
The Raise	Grade II Listed Building	1326859
Mockerkin Hall	Grade II Listed Building	1326874

Heritage Receptor	Type	Ref
Churchyard Cross South of Church of St Oswald	Grade II Listed Building	1326878
Dean Mains	Grade II Listed Building	1326879
Orchard House	Grade II Listed Building	1326880
Plunderland Farmhouse and Adjoining Barn	Grade II Listed Building	1327184
Wythemoor Sough and Adjoining Barn And Stable	Grade II Listed Building	1327185
Church of St Mary	Grade II Listed Building	1327187
15, Curwen Street	Grade II Listed Building	1327208
Cross House	Grade II Listed Building	1327210
1 And 3, Market Place	Grade II Listed Building	1327211
East Lodge	Grade II Listed Building	1327214
Hayes Castle	Grade II Listed Building	1335998
Lych Gate and Churchyard Wall, Incorporating Drinking Trough and Belvedere, To West of St Michael's Church	Grade II Listed Building	1336007
Low Millgillhead with Adjoining Coach House and Stables	Grade II Listed Building	1336022
Milestone To North of Boot Bridge	Grade II Listed Building	1336037
Havercroft Farmhouse	Grade II Listed Building	1336041
Rowrah Hall	Grade II Listed Building	1336042
Harrington Infant School	Grade II Listed Building	1390509
The (Peat) Memorial Obelisk	Grade II Listed Building	1390847
Distington War Memorial	Grade II Listed Building	1454267
Greysouthen	Conservation Area	5308
Portland Square, Workington	Conservation Area	5311

Table A.2: HER evidence

HER evidence	Type	Period
Dean Moor Stone Circle	Cairn, Cist, Stone Circle	Bronze Age
Dean Moor Mine Workings	Two former mine workings, depicted on the second edition Ordnance Survey mapping, and each labelled as 'Old Level (Coal)'. A building is also recorded to the west, which may be related.	Post medieval
Thiefs Gill Quarry	Quarry	Post medieval
Whitebanks Wood Mines	Three shafts or bell pits are visible on LiDAR within Whitebanks Wood, close to the course of a beck (now canalised). The features are defined by clear circular mounds with a depression at their centre.	Post medieval
Sawmill Quarry Wood Place Name	Saw Mill	Post medieval?
Wythemoor Road	Road	Roman
Rigg House Earthworks, Dean	Building, Mound, Ridge and Furrow	Unknown
Dean Moor Unclassified Cropmarks, Dean	Site	Unknown
Dean Moor Unclassified Cropmarks, Dean	Ridge and Furrow, Site	Unknown
Dean Moor Mine Workings	Mine	Unknown
L & NW & Furness Joint Railway, Whitehaven, Cleator & Egremont Branch	Railway	Victorian

Figures

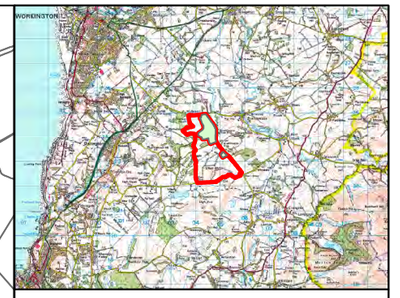
Figure 1: Site Location Plan

N

Branthwaite

Gilgarran

0 0.5 1 1.5 2 km



Legend

Order Limits

Area not in Order Limits

Project Title

Dean Moor Solar Farm

Client

FVS Dean Moor Limited

Title

DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER

Site Location Plan

Scale: 1:12,500 @ A3	Date: 16/10/2024
Drawn: TL	Checked: JL
Figure: 6.1 Sheet 1 of 1	Rev: A

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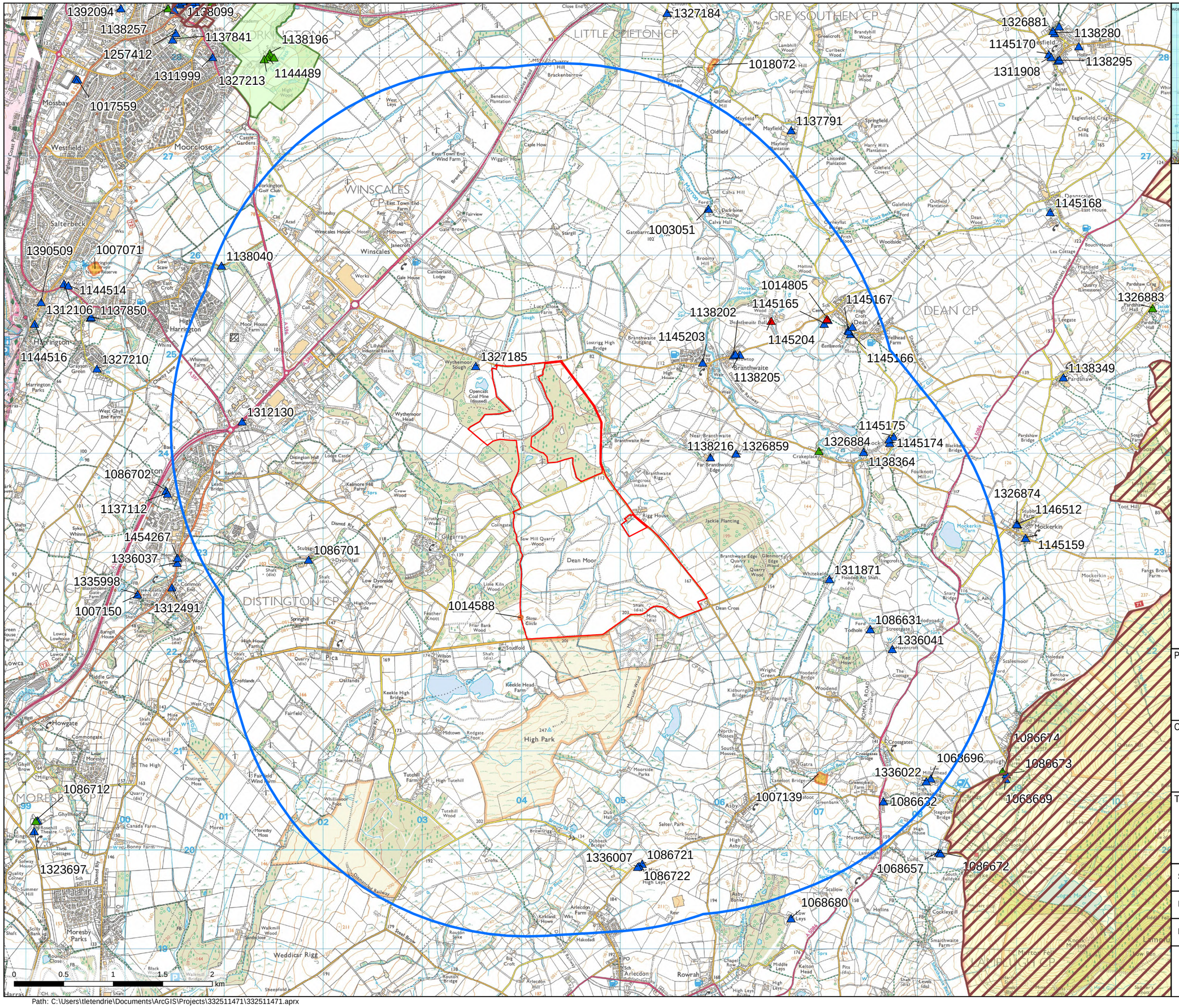
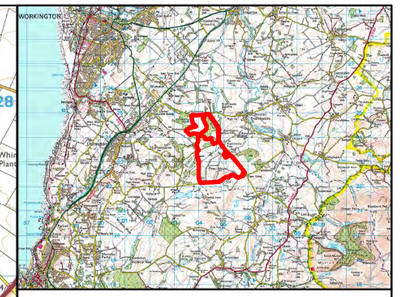
Path: C:\Users\tletendrie\Documents\ArcGIS\Projects\332511471\332511471.aprx

Figure 2: Designated Heritage Receptors





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

Project Title: Dean Moor Solar Farm

Client: FVS Dean Moor Limited

Title: DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER

Designated Heritage Receptors within 3km of the Order Limits

Scale: 1:35,000 @ A3	Date: 04/11/2024
Drawn: TL	Checked: HC
Figure: 6.2	Sheet 1 of 1 — Rev: A

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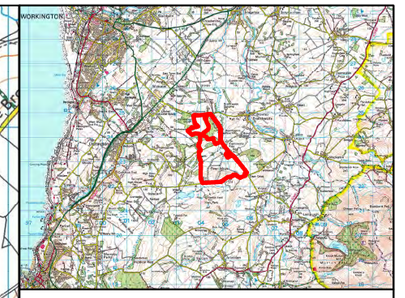
Path: C:\Users\tletendrie\Documents\ArcGIS\Projects\332511471\332511471.aprx

Figure 3: Non-Designated Heritage Receptors



Legend

- Order Limits
- 1km Buffer from Order Limits

Non-Designated Assets

- Prehistoric evidence
- Roman evidence
- Medieval evidence
- Post-Medieval to Modern evidence
- Unknown date (potential heritage receptors)

Project Title

Dean Moor Solar Farm

Client

FVS Dean Moor Limited

Title

DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER

Non-Designated Heritage Receptors within 1km of the Order Limits

Scale: 1:20,000 @ A3	Date: 04/11/2024	
Drawn: TL	Checked: HC	
Figure: 6.3	Sheet 1 of 1	Rev: A

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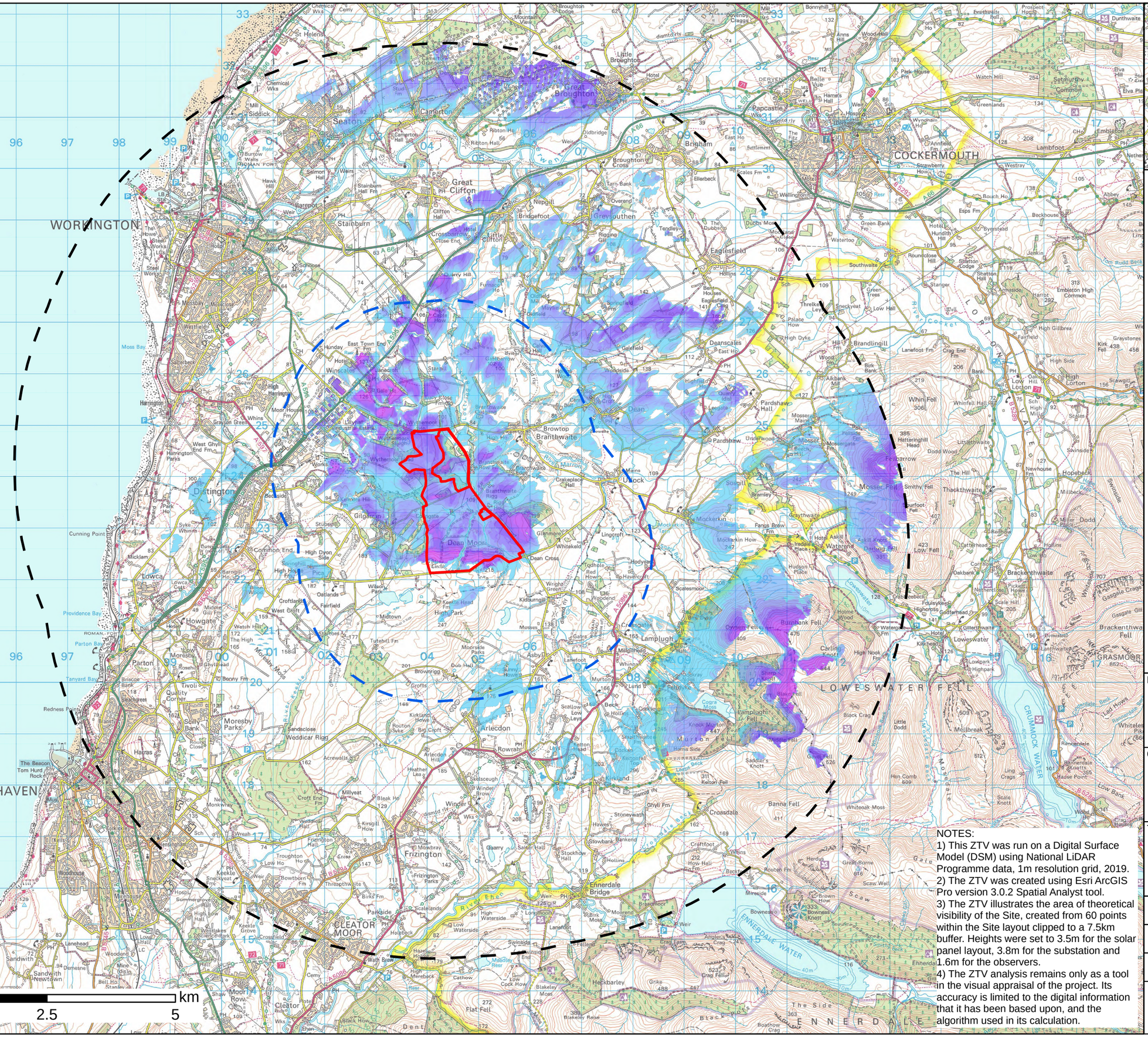
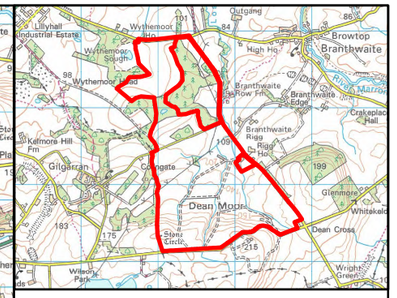
0 0.5 1 1.5 2 km

Path: C:\Users\tletendrie\Documents\ArcGIS\Projects\332511471\332511471.aprx

Figure 4: Zone of Theoretical Visibility





Legend

- Order Limits
- 2.5km Study Area
- 7.5km Initial Search Area

Theoretical Visibility (%)

- 0
- 10
- 20
- 30
- 40
- 50
- 60
- 70
- 80
- 90
- 100

Lake District National Park (LDNP) Boundary

Project Title

Dean Moor Solar Farm

Client

FVS Dean Moor Limited

Title

DEAN MOOR SOLAR FARM
DEVELOPMENT CONSENT ORDER

Zone of Theoretical Visibility

Scale: 1:70,000 @ A3	Date: 17.07.23
Drawn: TL	Checked: HC
Figure: 6.4 Sheet 1 of 1	Rev: A

NOTES:
1) This ZTV was run on a Digital Surface Model (DSM) using National LiDAR Programme data, 1m resolution grid, 2019.
2) The ZTV was created using Esri ArcGIS Pro version 3.0.2 Spatial Analyst tool.
3) The ZTV illustrates the area of theoretical visibility of the Site, created from 60 points within the Site layout clipped to a 7.5km buffer. Heights were set to 3.5m for the solar panel layout, 3.8m for the substation and 1.6m for the observers.
4) The ZTV analysis remains only as a tool in the visual appraisal of the project. Its accuracy is limited to the digital information that it has been based upon, and the algorithm used in its calculation.

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Figure 5: Blaeu Atlas Maior 1662-5, Volume 5, Cumbria, Vulgo Cumberland - approximate location of the Site in red.

Figure 6: Jospeh Hodkinson and Thomas Donald: To the most honourable Charles Howard, Earl of Survey this Map of the County of Cumberland, surveyed in 1770 & 1771- approximate location of the Site in red.

Figure 7: Christoper Greenwood, 1786-1855, Map of the County of Cumberland

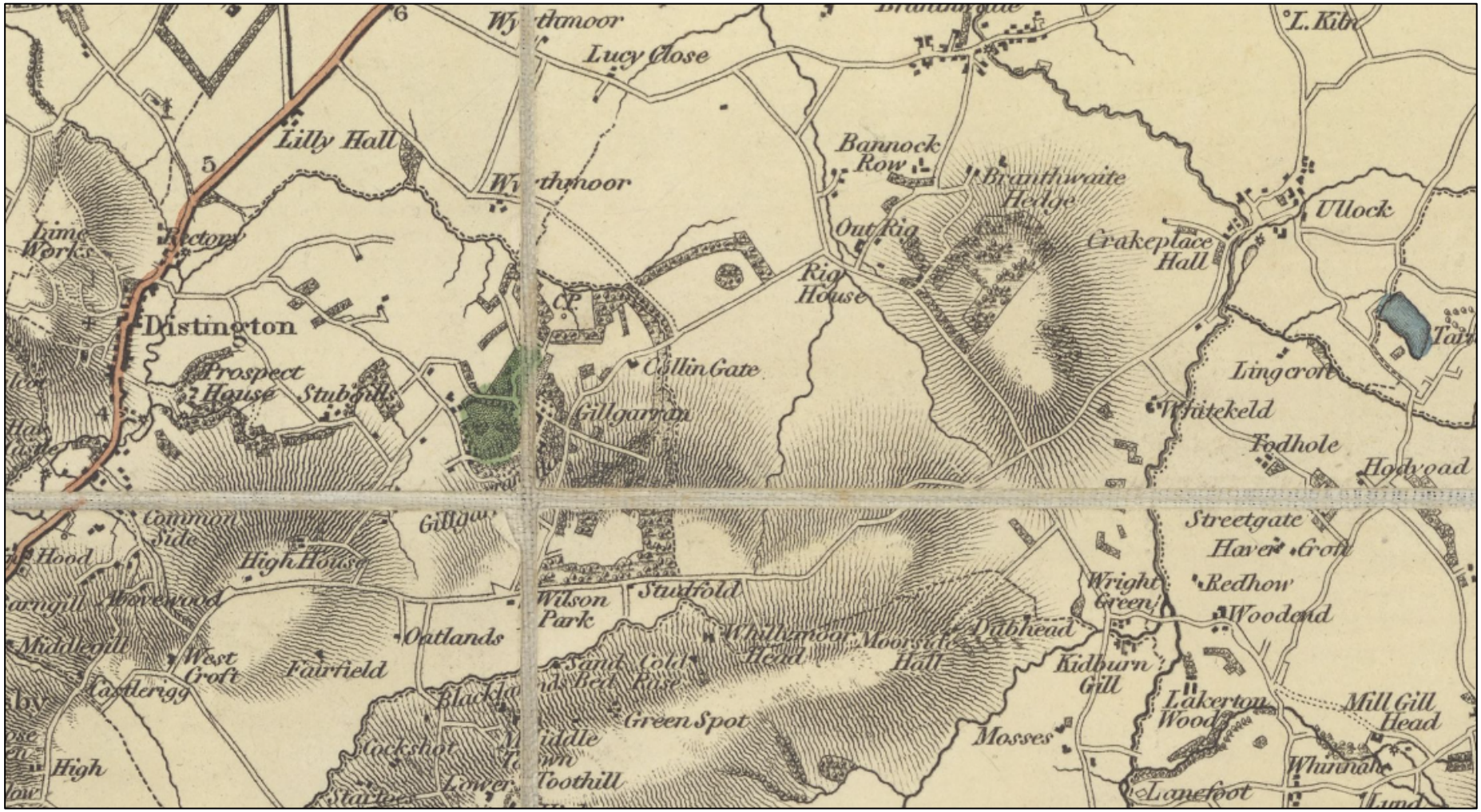

Figure 8: 1867 Ordnance Survey Map

Figure 9: 1897 Ordnance Survey Map

Figure 10: 1900 Ordnance Survey Map

Figure 11: 1945 Ordnance Survey Map

Figure 12: 1992 Aerial Photograph of the extent of mining in the northern portion of the Site (NMR ref: OS/92206)