

Environmental Statement: Chapter 6 – Cultural Heritage

ES 06

Development of National Significance

Alaw Môn Solar Farm

Land west of the B5112, 415m south of Llyn Alaw, 500m east of Llantrisant and 1.5km west of Llannerch-y-Medd, Anglesey

February 2024



6.0 Cultural Heritage

Introduction

- 6.1 This chapter of the ES assesses the likely significant effects of the Development on the environment with respect to Cultural Heritage, i.e. above and below ground ‘historic assets’.
- 6.2 The chapter has been prepared by Pegasus Planning Group Ltd. The author, as required by the EIA Regulations, is a ‘*competent expert[s]*’ with ‘*sufficient expertise*’. This is demonstrated by their academic qualifications (BA Hons, MA, PhD), Member accreditation of the Chartered Institute for Archaeologists, and nine years’ experience of the preparation of assessments in compliance with the requirements of the EIA Regulations.
- 6.3 The following changes and amendments have been added to the ES Chapter following Pre-Application Consultation (PAC), which are shown in Table 6.1.

Table 6.1: Amendments Following PAC Comments

PAC Consultee	Comment	Response within the ES Chapter
Cadw	Additional information needs to be provided explaining how the 60m buffer zone for the Scheduled Monument ‘Cors y Bol’ was determined to be sufficient – demonstrating that the solar panels will not dominate the monument from the higher ground they will be located on and in views from the west.	Clarification/justification of the 60m buffer is provided in paragraph 6.96 of this chapter. Also, the PAC response from Gwynedd Archaeological Planning Service noted “ <i>This is an appropriate means of avoiding meaningful impact on setting during the operational phase.</i> ”
Cadw	Access permission should be sought for the Scheduled Monument ‘Y Werthyr’. If access is gained, or not, the setting of the hillfort should be fully assessed including determining the rationale for its location and the significant views from it. The assessment of the impact of the solar farm on it will be assisted by the production of a ZTV showing the extent that the solar farm will be visible in views from it.	A ZTV has been produced as requested, and forms Appendix 6.4 of the ES. The setting assessment for Y Werthyr has been updated in Appendix 6.1 of the ES and in paragraphs 6.100–6.106 of this chapter. The revised assessment identifies minor harm to the asset.
Isle of Anglesey Council’s Conservation Officer	Appendix 7.8 of the ES does not provide the visualisations as recommended to and from Listed Buildings that have a particular sensitive setting. Additional photomontages are requested, with the Listed Buildings plotted on the accompanying corner maps.	Following liaison with the Conservation Officer to agree viewpoint locations, two photomontages have been prepared to illustrate the visibility (or lack thereof) of the Development in views from and towards the Grade II Listed Church of St Mary near Ceidio. The photomontages are presented and discussed in Appendix 6.1 of the ES. The previous conclusions of the assessment are unchanged.
Gwynedd Archaeological Planning Service	The Historic Environment Record data informing the ES baseline was obtained in 2021. Approximately 20 additional entries have been added within and in the immediate vicinity of the Site. Technically this means the baseline is out of date, though the new entries do not have a bearing on the assessment.	An up-to-date HER dataset has been procured for the study area, and the new (post-2021) records have been incorporated into the baseline, figures and gazetteer of Appendix 6.1 and the baseline and Figure 6.1 of this chapter as appropriate.

PAC Consultee	Comment	Response within the ES Chapter
Gwynedd Archaeological Planning Service	Appendix 6.1 and Chapter 6 were written before radiocarbon dates had been obtained for features identified during trial trenching. The documents should be updated so that the evidence is complete and accurate.	The radiocarbon dates are now presented in Appendix 6.1 and in paragraphs 6.61, 6.63 and 6.67 of this chapter.
Gwynedd Archaeological Planning Service	Strip, map and record excavation is appropriate mitigation for Fields 28 and 30-33. But note that the features in Fields 30-33 may be of pan-Wales rather than county significance; also, extensive strip, map and record would be a substantial piece of work, and above-ground foundations may not be appropriate.	The proposed mitigation for Fields 28 and 30-33 is <i>localised</i> strip, map and record excavation followed by piling, ground-mounting or even excluding development depending on the results of the investigations. This is clarified in paragraphs 6.113, 6.114 and 6.115.
Gwynedd Archaeological Planning Service	Chapter 6 states that no mitigation is necessary for the pits and post-holes or linear ditches elsewhere within the Site. This is not accepted. Additional areas of strip, map and record excavation are required for the pits and post-holes, and an archaeological watching brief is required for selected construction and landscaping groundworks impacting the linears.	Following further discussions with GAPS, paragraphs 6.116 and 6.117 and Table 6.5 have been edited to refer to 20m x 20m areas of strip, map and record excavation for each pit and post-hole identified by the archaeological trial trench evaluation; and archaeological monitoring (watching brief) for selected groundworks impacting the known linears outwith Fields 30-33.
Gwynedd Archaeological Planning Service	Strip, map and record excavation is required for the battery energy storage system and the on-site substation on the assumption that these components will be created by a cut-and-fill methodology that would expose archaeological remains and not be conducive to an archaeological watching brief.	The request for strip, map and record excavation for these elements at the pre-commencement stage is accepted, and accommodated in paragraph 6.118 and Table 6.5 of this chapter.
Gwynedd Archaeological Planning Service	The 60m buffer to be maintained between the Cors-y-Bol Scheduled Monument and the built edge of the Development is appropriate.	No response required.
Gwynedd Archaeological Planning Service	Chapter 6 proposes archaeological monitoring (a watching brief) during installation of the grid connection cabling from the Site to the Wylfa National Grid Substation. This is normally suitable, except where excavation, installation and backfilling occurs as a single operation ("moleing").	Adoption of the standard approach to cable trenching is confirmed in paragraph 6.119 of this chapter; archaeological monitoring is suitable.
Gwynedd Archaeological Planning Service	The archaeological fieldwork required as mitigation offers opportunities for outreach/public engagement, which the applicant should pursue.	This is noted but no change to this chapter is required.
Gwynedd Archaeological Planning Service	Samples from wetland and peat deposits within and around the site should be subject to palaeoenvironmental analysis where possible.	This is noted but no change to this chapter is required.

6.4 This chapter of the ES is supported by the following Appendices and Figures:

- Appendix 6.1 Heritage Statement;

- Appendix 6.2 Geophysical Survey Report;
- Appendix 6.3 Archaeological Evaluation Report;
- Appendix 6.4 Zone of Theoretical Visibility Model for Y Werthyr;
- Figure 6.1 Non-Designated Historic Assets;
- Figure 6.2 Geophysical Survey Results Interpretation Overview;
- Figure 6.3 Trench Location Plan with Field Numbers; and
- Figure 6.4 Designated Historic Assets.

Planning Policy and Legislative Context

National Planning Policy

- 6.5 National policy is set out within the Welsh Government's Future Wales: The National Plan 2040ⁱ and Planning Policy Wales, Edition 12 ('PPW')ⁱⁱ.

Future Wales: The National Plan 2040 (2021)

- 6.6 Policy 17 of Future Wales: The National Plan 2040 provides a presumption in favour of renewable energy development subject to the criteria in Policy 18 which includes:

'6. there are no unacceptable adverse impacts on statutorily protected built heritage assets;'

Planning Policy Wales

- 6.7 Chapter 6 of PPW deals with the historic environment and its contribution to the Welsh Government's seven well-being goals for a sustainable Wales. PPW emphasises that the positive management of change in the historic environment is based on a full understanding of the nature and of historic assets and the recognition of the benefits that they can deliver in a vibrant culture and economy.

- 6.8 Paragraph 6.1.5 of PPW states that:

'The planning system must take into account the Welsh Government's objectives to protect, conserve, promote and enhance the historic environment as a resource for the general well-being... Conservation Principles highlights the need to base decisions on an understanding of the impact a proposal may have on the significance of an historic asset.'

- 6.9 Paragraph 6.1.6 sets out the Welsh Government's specific objectives for the historic environment as follows:

- protect the Outstanding Universal Value of the World Heritage Sites;
- conserve archaeological remains, both for their own sake and for their role in education, leisure and the economy;
- safeguard the character of historic buildings and manage change so that their special architectural and historic interest is preserved;
- preserve or enhance the character or appearance of Conservation Areas, whilst the same time helping them remain vibrant and prosperous;

- preserve the special interest of sites on the Register of Historic Parks and Gardens; and
- protect areas on the Register of Historic Landscapes in Wales.

6.10 In relation to the setting of Listed Buildings, paragraph 6.1.10 states that:

'There should be a general presumption in favour of the preservation or enhancement of a listed building and its setting, which might extend beyond its curtilage. For any development proposal affecting a listed building or its setting, the primary material consideration is the statutory requirement to have special regard to the desirability of preserving the building, its setting or any features of special architectural or historic interest which it possesses.'

6.11 In relation to Conservation Areas, Paragraph 6.1.14 states that:

'There should be a general presumption in favour of the preservation or enhancement of the character or appearance of Conservation Areas or their settings. Positive management of Conservation Areas is necessary if their character or appearance are to be preserved or enhanced and their heritage value is to be fully realised.'

6.12 In relation to Historic Parks & Gardens, Paragraphs 6.1.18 and 6.1.19 state that:

'Planning authorities should value, protect, conserve and enhance the special interest of parks and gardens and their settings included on the register of historic parks and gardens in Wales. The register should be taken into account in planning authority decision making.'

'The effect of a proposed development on a registered park or garden, or its setting, is a material consideration in the determination of planning applications.'

6.13 In relation to archaeological remains, paragraphs 6.1.23 to 6.1.25 state:

'The conservation of archaeological remains and their settings is a material consideration in determining planning applications, whether those remains are a scheduled monument or not.'

Where nationally important archaeological remains are likely to be affected by proposed development, there should be a presumption in favour of their physical protection in situ. It will only be in exceptional circumstances that planning permission will be granted if development would result in direct adverse impact on a Scheduled Monument (or an archaeological site shown to be of national importance) or has a demonstrably and unacceptably damaging effect upon its setting.'

In cases involving less significant archaeological remains, planning authorities will need to weigh the relative importance of the archaeological remains and their settings against other factors, including the need for the proposed development.'

Technical Advice Notes

- 6.14 Technical Advice Note 24: The Historic Environment ('TAN24')ⁱⁱⁱ provides a detailed supplement to PPW, and as such is consistent with those national policies. It contains detailed guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and listed building consent applications. It replaces Welsh Office Circulars 60/96, 61/96, and 1/98.

Local Planning Policy

Anglesey and Gwynedd Joint Local Development Plan 2011–2026

- 6.15 Planning applications on Anglesey are currently considered against the Anglesey and Gwynedd Joint Local Development Plan 2011–2026 (adopted in 2017)^{iv}. Policy PS 20 'Preserving and Where Appropriate Enhancing Heritage Assets' states:

'In seeking to support the wider economic and social needs of the Plan area, the Local Planning Authorities will preserve and where appropriate, enhance its unique heritage assets. Proposals that will preserve and where appropriate enhance the following heritage assets, their setting and significant views into and out of the building/area will be granted:

- i) Scheduled Ancient Monuments and other areas of archaeological importance (in line with Policy AT 4).***
- ii) Listed Buildings and their curtilages.***
- iii) Conservation Areas (in line with Policy AT 1).***
- iv) Beaumaris Castle and Caernarfon Castle and Town Walls World Heritage Sites (in line with Policy AT 1).***
- v) Candidate World Heritage Sites.***
- vi) Registered Historic Landscapes, Parks and Gardens (in line with Policy AT 1).***
- vii) Buildings of architectural/ historic/ cultural merit that are not designated or protected (in line with Policy AT 3).'***

Legislative Context

- 6.16 Legislation relating to the built historic environment is primarily set out within the Planning (Listed Buildings and Conservation Areas) Act 1990^v, which provides statutory protection for Listed Buildings and Conservation Areas.
- 6.17 Section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 ('the 1990 Planning Act') states that:

'In considering whether to grant planning permission [or permission in principle] for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State, shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.'

- 6.18 In the 2014 Court of Appeal judgement in relation to the Barnwell Manor case, Sullivan LJ held that:

'Parliament in enacting section 66(1) did intend that the desirability of preserving the settings of listed buildings should not simply be given careful consideration by the decision-maker for the purpose of deciding whether there would be some harm,

but should be given “considerable importance and weight” when the decision-maker carries out the balancing exercise.’^{vi}

- 6.19 Scheduled Monuments are protected by the provisions of the Ancient Monuments and Archaeological Areas Act 1979^{vii} (‘the 1979 Act’) which relates to nationally important archaeological sites. Whilst works to Scheduled Monuments are subject to a high level of protection, it is important to note that there is no duty within the 1979 Act to have regard to the desirability of preservation of the setting of a Scheduled Monument.

Assessment Methodology

Consultation

- 6.20 Key correspondence with Cadw and the Gwynedd Archaeological Trust is provided as Appendix 1 of Appendix 6.1 of this chapter and is summarised in Table 6.2 below. A Senior Planning Archaeologist of the Gwynedd Archaeological Trust attended site to monitor the archaeological evaluation on 15th October 2021, 8th November 2021, 30th November 2021, and 13th December 2021.

Table 6.2: Key Correspondence with Statutory Consultees

Consultee	Date of Correspondence	Details
Cadw	26 th February 2021 and 28 th April 2021	Recommendation for Stage 1 setting assessment to consider all designated historic assets within 5km of the Site boundary.
	5 th May 2021	Acceptance of shortlist of designated historic assets to be progressed to Stages 2 to 4 of the setting assessment.
Isle of Anglesey County Council	-	No response received from Conservation Officer to email dated 25 th February 2021.
Gwynedd Archaeological Trust	25 th February 2021	Approval of intended scope and methodology for Heritage Statement; Recommendation to consult historic map collections held by Bangor University Library, Anglesey Archives and the National Library of Wales; Recommendation to consult Cadw and the Isle of Anglesey County Council Conservation Officer.
	12 th March 2021	Approval of Written Scheme of Investigation for Geophysical Survey prepared by Headland Archaeology.
	4 th June 2021	Request for pre-determination trial trenching in order to provide further information for decision-making.
	1 st July 2021	Comments on Heritage Statement, including request for appendix of site walkover survey observations.
	16 th July 2021	Provision of detailed advice regarding the required sample and distribution of trial trenches.
	19 th August 2021	Approval of trial trench plan prepared by Pegasus Planning Group Ltd.
	23 rd September 2021	Approval of Written Scheme of Investigation for Archaeological Evaluation prepared by Cotswold Archaeology.
	19 th April 2022	Approval of Report of Archaeological Evaluation prepared by Cotswold Archaeology.

Consultee	Date of Correspondence	Details
	6 th May 2022	Agreement of proposal for five radiocarbon dates for organic samples taken during Archaeological Evaluation by Cotswold Archaeology.

- 6.21 The EIA Scoping Direction adopted by the Planning Inspectorate Wales ('PINS Wales') (now Planning and Environment Decisions Wales ('PEDW')) on 30th June 2021 scoped Cultural Heritage into the ES, and noted:

'The approach to assessment of cultural heritage as set out in the SR is considered appropriate. The Inspectorate welcomes the applicants' intention to follow best practice guidance and attention is drawn to comments provided by Cadw in this respect.'

'The applicant should also note the Inspectorate comment ID.30 above regarding the assessment of noise impacts where appropriate.'

- 6.22 PINS Wales's (now PEDW) Development of National Significance ('DNS') Pre-Application Advice dated 30th June 2021 identified Cadw as a relevant consultee and noted:

'Cadw has identified historic assets within 3km of the site and within its ZTV.'

Baseline Data Procurement & Analysis

Data Sources

- 6.23 The following key sources were consulted as part of the desk-based assessment process:
- Cadw, for information relating to designated historic assets;
 - National Monuments Record of Wales ('NMRW') data regarding recorded historic assets;
 - The Gwynedd Historic Environment Record ('HER') for information on recorded historic assets and previous archaeological works;
 - Historic maps and documentary sources held by Anglesey Archives and the National Library of Wales;
 - Historic aerial photographs within the collections of the Welsh Government Aerial Photography Unit – available online;
 - 1m resolution digital terrain model LiDAR imagery – available online;
 - Other online resources, including Ordnance Survey Open Source data; Google Earth satellite imagery; the British Geological Survey and the Cranfield Soils and Agrifood Institute; and The Genealogist and Promap;
 - The results of a geophysical survey of the Site, undertaken by Headland Archaeology in April 2021 (refer to Appendix 6.2); and
 - The results of a trial trench evaluation of the Site, undertaken by Cotswold Archaeology between October and December 2021 (refer to Appendix 6.3).

Data Processing and Analysis

- 6.24 A proportionate level of data, sufficient to inform the assessment of archaeological potential, significance and effects, has been acquired from the sources listed in paragraph 6.22 above. All data has been reconciled and analysed in accordance with the relevant industry guidance and best practice and is consistent with both.
- 6.25 All digital spatial data has been interrogated using industry-standard Geographical Information System ('GIS') software.
- 6.26 The results of full commercial data searches were received from the Royal Commission on the Ancient and Historical Monuments of Wales (for NMRW data) on 1st March 2021 and from the Gwynedd Archaeological Trust (for HER data) on 8th March 2021. All of the data supplied was reconciled and analysed within the context of this assessment.
- 6.27 The NMRW and HER data returned contained numerous records of varying reliability and relevance. Only those recorded sites and events that are of relevance to the determination of potential, significance and impact in respect of the historic environment are discussed further within this chapter.
- 6.28 Digital photographs of relevant historic sales particulars and estate records held by the National Library of Wales were provided via email on 18th and 19th May 2021. Plans were geo-referenced in GIS software to accurately locate features of interest within the Site.
- 6.29 An inspection of the Site was undertaken in April 2021 in order to assess the Site within its wider landscape context, identify or confirm any evidence of previous disturbance within the Site, and examine any known or suspected historic assets within the Site.
- 6.30 Setting assessments were also undertaken during the visit, with those historic assets identified as potentially susceptible to non-physical impact, and their settings, assessed from the Site and publicly accessible locations.

Settings Assessment

- 6.31 Setting is defined in TAN24 as:

'the surroundings in which [a historic asset] is understood, experienced, and appreciated embracing past and present relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surrounding 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.'

- 6.32 Setting can thus contribute to, detract from, or have a neutral effect upon significance. In addition, whilst a physical or visual connection between a historic asset and its setting will often exist, it is not essential or determinative.

- 6.33 Of particular relevance, TAN24 further provides that:

'setting is not a historic asset in its own right but has value derived from how different elements may contribute to the significance of a historic asset.'

- 6.34 As such, any impacts are described within this chapter in terms of how they affect the significance of a historic asset, and any heritage values that contribute to that significance, through changes to setting.

- 6.35 The settings assessment was undertaken in accordance with the industry-standard methodology provided by Cadw's 'Setting of Historic Assets in Wales, Guidance Note 3'^{viii}. This guidance promotes a 'stepped' (iterative) approach, as follows:
- Step 1 - assess which assets would be affected and identify their setting;
 - Step 2 - define and analyse the settings to understand how they contribute to the significance of the historic assets and, in particular, the ways in which the assets are understood, appreciated and experienced¹;
 - Step 3 - assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it; and
 - Step 4 - consider options to mitigate or improve the potential impact of a proposed change or development on that significance.
- 6.36 The following primary resources were used to identify those assets that might have been potentially susceptible to impact as a result of changes to their setting due to the Development (i.e. Step 1):
- the relevant Cadw Scheduling and Listing descriptions;
 - elevation and contour mapping;
 - geological, soil and hydrological mapping;
 - modern and historic mapping;
 - LiDAR imagery; and
 - satellite imagery and aerial photography.
- 6.37 The spatial datasets were processed and analysed using industry-standard GIS software in order to interrogate such factors as building height, line of sight, historic and extant surface features, built form, boundaries, vegetation, roads, and modes of pedestrian and vehicular movement, amongst others. This initial analysis included the creation of an original topographic model.
- 6.38 The locations of those assets identified as potentially susceptible to indirect impact are presented on Figure 6.4. These assets and their settings were then inspected during the site visit (refer to paragraphs 6.28 and 6.29 above). Only where the potential for an asset's significance to be harmed as a result of changes to its setting was identified has further detailed assessment (i.e. Steps 2 to 4) been undertaken in this chapter.

Assessment of Heritage Significance and Significant Effects

- 6.39 This assessment has considered the following in respect of each identified historic environment receptor (asset):
- the asset's significance;
 - the anticipated level of harm to that significance (comparable to 'magnitude'); and
 - whether that level of harm would comprise a significant effect.
- 6.40 Determination of each of the above has been undertaken in accordance with a robust methodology, formulated within the context of recent case law, the relevant statute and policy provisions, and

¹ The guidance includes a (non-exhaustive) check-list of elements that may contribute to a historic asset through setting including: functional and physical relationships, topographic features, physical surroundings, original layout, buried or archaeological elements, views to/from/across, formal or planned vistas, prominence, views associated with aesthetic / functional / ceremonial purposes, historical / artistic / literary / place name / cultural / scenic associations, noise, smell, tranquillity / remoteness / wildness.

professional guidance. The rationale for each is set out within the following three sections, alongside the relevant criteria and terminology used in their articulation.

Heritage Significance

- 6.41 In accordance with the levels of significance articulated in PPW and TAN24, three levels of heritage significance are identified and have been utilised for the purposes of this chapter. These are presented in Table 6.3.

Table 6.3: Heritage Significance

Level of Significance	Qualifying Criteria
Designated historic assets	Scheduled Monuments, Listed Buildings (Grade I, II* and II), Registered Parks and Gardens (Grade I, II* and II), Registered Historic Landscapes ('Outstanding' or 'Special'), World Heritage Sites, and Conservation Areas.
Non-scheduled nationally important archaeological remains	Archaeological remains that are not designated but are still considered to be of a level of significance commensurate with that of a Scheduled Monument.
Non-designated historic assets	Assets of less than national importance, including any of special local interest.

Heritage Harm and Benefit

- 6.42 The over-riding provision within PPW in relation to harm to designated assets (and non-designated assets of equivalent significance) is that there should be a presumption in favour of:

- the physical preservation in situ of Scheduled archaeological remains;
- the preservation and enhancement of Listed Buildings and their settings, and ensuring consistency with the statutory requirement under s.66(1) of the 1990 Planning Act; and
- the preservation or enhancement of the character or appearance of Conservation Areas or their settings.

- 6.43 PPW also provides that any development effects upon the following are material considerations in the determination of planning applications:

- Registered Parks or Gardens, or their setting; and
- non-designated archaeological remains, with the relative importance of the archaeological remains and their settings to be weighed against other factors, including the need for the proposed development.

- 6.44 Where harm to the significance of a historic asset is identified, the nature and scale of that harm have been discussed, and professional judgment used to determine the acceptability of that level of harm within the context of the above policy provisions. This is reflected within Table 6.4.

Table 6.4: Level of Heritage Harm / Benefit

Level of Harm / Benefit	Qualifying Criteria & Policy Context
Heritage Benefit	The asset's significance would be enhanced. This would weigh in favour of the Development in the planning balance. It would be a desirable outcome, consistent with all key policy objectives and industry guidance provisions.
No Harm	The asset's significance would be preserved.

	This would be consistent with the Planning (Listed Buildings & Conservation Areas) Act (1990) s.66(1) and s.72(1), and the provisions of PPW.
Harm to Designated Historic Assets (or to non-designated assets of equivalent significance)	The designated asset's significance would be reduced. An attempt is made to qualify more precisely the nature and level of harm, with reference to PPW, TAN24 and the heritage values defined within Conservation Principles; all determinations are fully qualified within the text.
Harm to Non-Designated Historic Assets	The non-designated asset's significance would be reduced. Professional judgment is used in defining the anticipated level of harm to the significance of non-designated historic assets for the purposes of the present chapter; all determinations are fully qualified within the text. As per PPW paragraph 6.1.25, the relative importance of the archaeological remains and their settings should be weighed against other factors, including the need for the Development.

- 6.45 The identification of benefit would apply where the Development would be anticipated to enhance (increase) heritage significance.

Significant Effects ('Significance of Effect')

- 6.46 In determining whether any identified harm to heritage significance would translate into a significant effect, the assessment in this chapter is not based on a quantitative, matrix-led approach, as such a method would over-simplify the assessment findings and is therefore not considered to be a robust approach. Instead, the determination of the significance of effects have been based upon professional judgement, which is presented qualitatively and with full justification.
- 6.47 Ultimately, a statement of whether any identified harm does or does not represent a significant effect is provided in respect of each cultural heritage receptor using the following terminology: 'Significant' or 'Not Significant'.

Limitations and Assumptions

- 6.48 The conclusions presented within this chapter are based upon the baseline conditions (presented below), which are derived in large part from the data held and supplied by the Gwynedd Archaeological Trust ('HER') and the Royal Commission on the Ancient and Historical Monuments of Wales ('NMRW'). In establishing the baseline conditions, for the purposes of this chapter, both the accuracy and currency of this data has necessarily been assumed.
- 6.49 The ruinous buildings of Tyddyn Bâch within the Site were subject to historic building recording, equivalent to a 'Level 1' survey as defined in Historic England's guidance^{ix} (in the absence of similar such guidance having been published by Cadw). This is considered sufficient to understand their significance for the purposes of this assessment.
- 6.50 The geophysical survey method relies on the ability of a variety of instruments to measure very small magnetic fields associated with buried archaeological remains. Under favourable conditions, it can identify a wide range of features including infilled cut features such as large pits, gullies and ditches, hearths and areas of burning and kilns and brick structures. It is less successful in identifying smaller features such as post-holes and small pits, unenclosed (prehistoric) settlement sites and graves/burial grounds.
- 6.51 In relation to the assessment of the Development's effects on the settings of historic assets, an inspection of historic assets within the Site environs that were identified as potentially susceptible to non-physical impact was undertaken from publicly accessible locations and the Site. No other privately held lands or properties were accessed.
- 6.52 The grid connection element of the Development comprises a cable installed within the public highway to the National Grid Substation at Wylfa. The road and highway verge is considered unsuitable for geophysical survey or trial trench evaluation, due to the proximity of metal fencing and the presumed presence of existing buried utilities. The buried archaeological resource of the cable route is therefore

currently unknown but considered most likely to be truncated and/or of low significance and sensitivity. As set out in Chapter 1 Introduction of the ES, the Site comprises the land shown on Figure 1.1. However, for the purposes of this assessment, 'the Site' excludes the land within the adopted highway of local roads for the underground cabling route to the National Grid Substation at Wylfa.

Baseline Conditions

Site Description and Context

Geography, Topography and Geology

- 6.53 The land within the Site is at its highest elevations in the centre, around Nantanog (up to 84 metres above ordnance datum ('m AOD')); in the north-east, to the east of Chwaen Bach (up to 84m AOD); and in the south, to the west and south of Tan Rallt (up to 108m AOD).
- 6.54 The land drops steeply to the north-west of Nantanog, reaching 40m AOD at the north-western boundary of the Site by the Scheduled Monument of Cors-y-Bol (see below). Marshland lies adjacent to the north-western boundary of the Site. A watercourse flows through the south-western part of the Site.
- 6.55 The recorded geological composition of the Site consists of interbedded mudstone and sandstone of the Ordovician Rocks Formation, overlain by diamicton of Devensian Till and slowly-permeable and seasonally-wet acid loamy and clayey soils.

Archaeological Baseline

Prehistoric (pre-43 AD) and Romano-British (AD 43 – 410)

- 6.56 Several prehistoric monuments are recorded within a 2km radius of the Site boundary. These comprise Bronze Age burial mounds (including the Scheduled Monument of Cors-y-Bol, which abuts the north-western boundary of the Site), numerous Bronze Age standing stones, possible Bronze Age burnt mounds, Iron Age hillforts (including the Scheduled Monument of Y Werthyr, which lies approximately 1.2km to the west of the Site), and possible Bronze and/or Iron Age settlement and associated stock enclosures and field systems.
- 6.57 The HER and NMRW databases state that worked flints have previously been collected from Field 21 adjacent to the Cors-y-Bol burial mound (refer to Figure 6.3). The trial trench evaluation identified a north-west/south-east orientated ditch, an east/west orientated ditch, and a post-hole near the previously-recorded flint scatter in Field 21. However, none of those features contained any artefactual or environmental evidence that could confirm their date of origin or their function.
- 6.58 The HER and NMRW databases also note that cropmarks suggestive of enclosures and a trackway, perhaps of prehistoric date or perhaps later, have previously been identified on aerial photographs of Fields 20, 25, 33 in the northern-central and southern parts of the Site (refer to Figure 6.3). The geophysical survey detected partial enclosures in these locations; and the presence of buried archaeological remains was confirmed by the trial trench evaluation.
- 6.59 The geophysical survey detected possible Bronze Age burnt mounds in Field 7 in the eastern part of the Site (refer to Figures 6.2 and 6.3), but the trial trench evaluation determined that the geophysical survey anomalies related to variations in the natural substrate and not to buried archaeological remains.
- 6.60 The geophysical survey detected a cluster of possibly-prehistoric curvilinear ditches in Fields 11 and 12 in the western part of the Site (refer to Figures 6.2 and 6.3). These were identified by the trial trench evaluation, together with pits and postholes. One posthole contained charcoal fragments and cabbage seeds suggestive of hearth waste. The features have not been dated.
- 6.61 The geophysical survey also detected a series of small rectilinear enclosures in Fields 30, 31 and 33 in the central part of the Site (refer to Figures 6.2 and 6.3). The trial trench evaluation identified undated parallel and perpendicular linear ditches in Fields 28, 30, 31 and 33, as well as a charcoal-rich layer in

Field 30, two undated pits in Field 31, and twelve undated postholes in Field 32. Environmental sampling of the features in Fields 30, 31 and 32 yielded oak charcoal, seeds, cereal grains, and hazelnut shell fragments consistent with dumped hearth/food waste. Shell fragments from two of the postholes in Field 32 yielded radiocarbon date ranges of 1784-1732 and 1744-1618 cal. BC respectively, indicating that the features date to the Early Bronze Age.

- 6.62 The geophysical survey also detected two possibly-prehistoric ring ditches in Fields 28 and 61 in the northern and eastern parts of the Site (refer to Figures 6.2 and 6.3). The trial trench evaluation identified no evidence of the possible ring ditch in Field 61. It was not possible to test the possible ring ditch in Field 28 due to the proximity of buried services.
- 6.63 A single prehistoric find, a flint blade flake, was recorded during the trial trench evaluation; it was recovered from the fill of a ditch in Field 59 in the eastern part of the Site (refer to Figure 6.3). A hazelnut shell fragment recovered from a post-hole in Field 63 yielded a radiocarbon date range of 3331-3217 cal. BC, suggesting a Late Neolithic date for this feature.
- 6.64 Recorded evidence for Roman period activity within a 2km radius of the Site boundary is limited to chance finds of a brooch, a coin and spindle whorl, and a plough coulter. The HER's suggestion of Roman origins of a paved road from Llanddyfnan Church to Plas Llanddyfnan, the western end of which lies approximately 820m to the south-east of the Site, is unsubstantiated based on available data.
- 6.65 A single sherd of Roman period pottery was recorded during the trial trench evaluation; it was recovered from a probably later ditch in Field 6 in the south-western part of the Site (refer to Figure 6.3).

Early Medieval (410 AD – 1066) and Medieval (1066 – 1539)

- 6.66 Evidence of early medieval and medieval activity recorded within a 2km radius of the Site boundary comprises only inscribed stones and cist and grave-cut burials from Llechgynfarwy c.1.4km south of the Site, Chwaen-wen-Isa c.1.25km south-west of the Site, and Ty'n-rhosydd c.935m south-west of the Site; the churches of St Mary c.610m north-east of the Site, St Ceidio, c.1.6km north-east of the Site, St. Cynfarwy c.1.4km south of the Site, and St Mary c.1.6km east of the Site; and findspots of coins and other items (none from within the Site).
- 6.67 Only a single sherd of medieval pottery was recorded during the trial trench evaluation. It was recovered from the fill of a ditch in Field 33 in the centre of the Site (refer to Figure 6.3) and identified as 15th- to 16th-century Raeren stoneware. Charcoal sampled from a pit in Field 2 in the south-western part of the Site and a ditch in Field 30 in the centre of the Site (refer to Figure 6.3) yielded radiocarbon date ranges of 1036-1173 cal. AD and 1447-1517 cal. AD respectively. It is possible, indeed likely, that some of the undated field systems are of medieval origin (as discussed in paragraph 6.72).

Post-Medieval (1540 – 1800) and Modern (1801 – Present)

- 6.68 The majority of monuments recorded by the HER and NMRW within a 2km radius of the Site boundary are of post-medieval and modern date and comprise findspots and farm buildings. None of the farmsteads that currently farm the Site (Nantanog, Chwaen Bâch, Chwaen Gôch, Tan Rallt) are included.
- 6.69 The HER does, however, identify the ruined cottages of Pen-yr-allt and Glan-hafren adjacent to the western part of the Site. During the walkover survey, these buildings, and the remains of Glan-y-gors-bâch to the north-west of Nantanog (Field 10) and Tyddyn-bâch within the eastern part of the Site (Field 58), were observed. The ruined buildings of Tyddyn-bâch are the only buildings actually located within the Site and were subject to a basic level of historic building recording.
- 6.70 A total of 14 sherds of post-medieval pottery were recorded during the trial trench evaluation. Most common was black-glazed earthenware dating to the 18th/19th centuries. The remainder of the assemblage included other types from the same period. Six fragments of post-medieval and/or modern glass and two fragmentary iron objects, and a fragment of industrial waste were also recovered. Some of these items were unstratified.

- 6.71 Study of historic maps dated 1821, 1844, 1865, 1889 and 1900 suggests that the present layout of the Site is predominantly of late-19th century date and has superseded earlier field systems. Reclamation of marshland at Cors-y-Bol and attempts to improve drainage elsewhere within the Site are apparent.

Undated

- 6.72 The geophysical survey detected numerous linear and rectilinear trends across the Site (refer to Figure 6.2). The trial trench evaluation found these trends to comprise single-ditched alignments and alignments suggestive of double ditch and hedge-bank boundaries. At least nine pre 19th-century field systems were discerned. The remains of other enclosures were too fragmented to link or to form distinct interpretations.
- 6.73 Aside from those mentioned in paragraph 6.61 above, undated postholes were also recorded elsewhere within the Site, specifically, in Fields 15, 17, 21, 22, 23, 27, 38 and 63 (refer to Figure 6.3). The fill of the posthole in Trench 63 was sampled and found to contain a large volume of charcoal and hazelnut shell fragments. This deposit is indicative of a dump of domestic hearth/food waste material, of uncertain date.

Significance of Identified Archaeological Remains

- 6.74 There are no designated archaeological remains, e.g. Scheduled Monuments, or any other designated historic assets located within the Site. The known and potential non-designated archaeological remains located within the Site comprise:
- A cluster of curvilinear and discrete features in the western part of the Site (Fields 11 and 12);
 - An untested ring ditch in the northern part of the Site (Field 28);
 - A series of small rectilinear enclosures and postholes in the central part of the Site (Fields 30, 31, 32 and 33);
 - Other pits and postholes in other locations across the Site (Fields 11, 12, 15, 17, 21, 22, 23, 27, 38 and 63);
 - Parallel and perpendicular linear ditches representing former field boundaries and drainage features associated with historic land management across the Site; and
 - The ruins of Tyddyn-bâch, which appears to have been built sometime between 1844 and 1889, in the eastern part of the Site (Fields 57 and 58).
- 6.75 The features in Fields 30, 31, 32 and 33 are considered to be of the greatest archaeological interest, but there is currently no indication that they or any other element of the known and potential heritage resource of the Site are of a significance equivalent to that of a designated historic asset.

Curvilinear Ditches, Ring Ditches, Small Rectilinear Enclosures, Pits and Postholes

- 6.76 The fills of the ditches of the curvilinear, ring and rectilinear enclosures, and the fills of the pits and postholes, preserve and/or have the potential to preserve palaeoenvironmental and archaeological evidence pertaining to their construction, use and abandonment. Sampling of some of the postholes identified charcoal, seeds, grains, and nutshell fragments suggestive of the dumping of hearth waste material. The various enclosures and discrete features represent non-designated historic assets, their heritage significance being derived from their evidential value.

Historic Land Management Features

- 6.77 The former field boundary and drainage ditches and plough furrows provide an indication in plan of the former organisation of the agricultural landscape, but the trial trenching yielded only a very small quantity of artefacts and no palaeoenvironmental deposits of any interest. Such features represent non-designated historic assets of limited heritage significance derived from their historic value.

Tyddyn-bâch

- 6.78 The ruinous mid-19th century farm buildings of Tyddyn-bâch are of limited architectural or historic interest and are accordingly considered to be non-designated historic assets of only limited heritage significance.

Future Baseline

- 6.79 The known and potential buried archaeological resource of the Site would remain unchanged if current land use (sheep grazing) is continued in lieu of the Development.

Likely Significant Effects**Construction Phase***Direct Development Effects (i.e. truncation of archaeological remains)*

- 6.80 The small cluster of archaeological features recorded in Fields 11 and 12 will be preserved in situ, by excluding development from this location.
- 6.81 The ruinous mid-19th century farm buildings of Tyddyn-bâch in Fields 57 and 58 will be retained as part of the Development.
- 6.82 Solar photovoltaic ('PV') arrays and associated infrastructure are proposed across the areas containing the other known and potential archaeological remains listed in paragraph 6.74 above.
- 6.83 Ground clearance and preparation, piling of solar PV arrays, excavation of cable trenches, laying concrete pads for inverters/transformers, erection of security fencing, and landscaping with planting during the construction phase would result in partial truncation and/or destruction of known and potential buried archaeological remains within the Site.
- 6.84 Impacts from piling and fencing would be localised. They would entail partial removal of the curvilinear and ring ditches and rectilinear enclosures, but could result in total loss of certain discrete features, such as postholes. Impacts from topsoil stripping and cable trenching would cover a larger area. They would for the most part entail only partial removal of buried archaeological features, with potential total loss of certain discrete features, especially if only shallowly-buried.
- 6.85 The grid connection element of the Development comprises a cable installed within the public highway to the Wylfa National Grid Substation. Some prior disturbance from highway works and the installation of existing services is expected. The excavation of the proposed cable trench will result in partial removal and/or total loss of potential buried archaeological remains (as discussed in paragraph 6.52).
- 6.86 For purposes of this assessment, the direct effect of the Development upon the heritage significance of the known and potential archaeological remains within the Site is considered to be 'Not Significant'.

Indirect Development Effects (i.e. as a result of changes to setting)

- 6.87 No harm to the significance of any identified designated historic assets would result from the construction phase of the Development and therefore the effect of the Development is 'Not Significant'.

Operational Phase*Direct Development Effects (i.e. truncation of archaeological remains)*

- 6.88 No harm to the significance of the known and potential archaeological remains within the Site would result from the operational phase of the Development and therefore the effect of the Development is 'Not Significant'.

Scheduled Monument of Cors-y-Bol Bronze Age Burial Mound

- 6.89 Cors-y-Bol, which abuts the north-western part of the Site boundary, comprises a low circular bank up to 20m in diameter, with some stones visible at the surface on the north side and a possible raised area at the centre. Discovered in 1956, it is generally believed to be the remains of a Bronze Age burial mound. However, studies published in 2003 and 2004 suggested that it could be the remains of a Neolithic henge or a small, enclosed Bronze Age hut circle group.
- 6.90 As a Scheduled Monument, it is a designated historic asset of the highest significance. Its significance is principally derived from the evidential value of its buried archaeological and palaeoenvironmental deposits, which will provide information on chronology and building techniques and have the potential to enhance our knowledge of prehistoric ritual and funerary practices.
- 6.91 It occupies a low-lying position within the landscape, less than 100m from the watercourse of the same name, at what is now the interface between marshland and farmland. Another mound of similar morphology but uncertain origin is recorded approximately 350m to its north. The geophysical survey of the adjacent field within the Site did not detect any anomalies suggestive of buried archaeological remains of features potentially associated with Cors-y-Bol.
- 6.92 The Scheduled Monument can only be experienced at close-range. The very low form of the earthwork, and the undulating topography of the field within which it has been incorporated, means that it is not readily identifiable beyond approximately 100m to its east. It is only from within the designated area and its immediate curtilage that the low banks and stones of the asset are discernible.
- 6.93 Scrubby marshland surrounds it on the north, west and south sides and limits long-ranging views in these directions. Looking west, it is possible to see the high ground to the rear of Bodnolwyn Hir, but not the hill and hillfort of Y Werthyr beyond it. Open views are directed east across the adjacent field outside of the Site boundary and allow for an appreciation of the topographical context of the monument even though the landscape character is evidently modern.
- 6.94 Elements of the setting of the Scheduled Monument of Cors-y-Bol Bronze Age burial mound that contribute to its significance are:
- Its low-lying position close to Cors-y-Bol stream, which was presumably intentionally selected;
 - The mid-ranging views from the monument, which illustrate its landscape context by including rising ground to the east and high ground to the west; and
 - The mid- to close-ranging views of the monument when approaching from the east across the adjacent pasture field within the Site.
- 6.95 It is considered that the western half of the adjacent pasture field within the Site contributes to the significance of the asset, in being the location from where its surviving above-ground remains and its topographical situation can be discerned and appreciated.
- 6.96 The Development's layout accommodates an approximate 60m buffer from the asset to the built edge of the Development. This is intended to preserve the open, close-ranging westerly views towards the asset within its low-lying marshland context. The distance was chosen based on observations made during the site visit: the monument is best experienced within a range of approximately 50m, as illustrated in Plates 13 and 14 of Appendix 6.1 of this chapter.
- 6.97 The change of landscape character of the remaining western part of this field will result in minor harm to the significance of the Scheduled Monument. The effect of the Development is 'Not Significant'.
- Scheduled Monument of Y Werthyr Iron Age Hillfort*
- 6.98 Y Werthyr, which lies c.1.2km west of the Site, represents a small Iron Age bivallate hillfort. The perimeter banks and ditches are best-preserved on the south and east sides, with a possible entrance to the north-east and an annex enclosure to the north. Geophysical surveys have detected anomalies suggestive of at least seven hut circles within its interior and three in the annex.

- 6.99 As a Scheduled Monument, it is a designated historic asset of the highest significance. Its significance is principally derived from the evidential value of its buried archaeological and palaeoenvironmental deposits, which will provide information on chronology, layout, building techniques and functional detail, and have the potential to enhance our knowledge of later prehistoric defensive organisation and settlement.
- 6.100 Y Werthyr occupies a rounded hill that is not especially elevated (the land within the Site is higher) but does comprise a locally-high point of ground within the valley floor of Afon Alaw (which flows c.550m to the north-west of Y Werthyr). There is evidence of Late Neolithic to Early Bronze Age activity within the site, approximately 1.2km to the east of Y Werthyr (see 6.61 and 6.63); and the Bronze Age burial mounds of Cors-y-Bol and Bedd Branwen lie c.1km to the east and c.600m to the north respectively. No other evidence of Iron Age activity is recorded in the immediate locality of Y Werthyr.
- 6.101 The hillfort earthworks will be best appreciated at close range, by walking the perimeter and interior of the monument. There is no public access, and efforts to locate the legal landowner and gain their permission were not successful. The surviving banks and ditches of the hillfort are said to be best preserved on the south and east sides, and are visible from the section of lane between Bodnolwyn Hir and Bronwen to the east. No clear views of Y Werthyr were identified from within the Site during the walkover survey.
- 6.102 Most hillforts seem to have been designed to be seen from and to see across the wider landscape. A 'Reverse' Zone of Theoretical Visibility model demonstrates that there are long-ranging views from Y Werthyr across the surrounding landscape, particularly in a clockwise arc from south-west to north-east (Appendix 6.4). That landscape includes moorland, farmland, buildings, wind turbines, and the Llyn Alaw Reservoir. Most of the land in the western and northern parts of the Site is visible, while the southern, central and eastern parts are not visible.
- 6.103 The Zone of Theoretical Visibility model produced for the Landscape and Visual Impact Assessment further indicates that there will be moderate visibility of the Development from Y Werthyr (Figure 7.1).
- 6.104 Elements of the setting of the Scheduled Monument of Y Werthyr Iron Age hillfort that contribute to its significance are:
- Its locally-elevated position on a low rounded hill within the valley floor of Afon Alaw;
 - The potential range of views from its summit across the surrounding landscape;
 - The openness and rural character of that landscape, despite its organisation into modern fields and the presence of modern farmsteads and turbines;
 - The close-ranging views of the monument from the lane to the east (in which the Site is not co-visible).
- 6.105 There is nothing to suggest that a hillfort was established at Y Werthyr to ensure visibility of or from the Site, and while there is evidence of later prehistoric activity within the Site, there is nothing to suggest this was contemporary with or otherwise associated with activity at the hillfort. The landscape around Y Werthyr, including the Site, is much changed from when the hillfort was built and used. Nonetheless, the openness and rural character of the western and northern parts of the Site, visible from the hillfort, assists in imagining the 'undeveloped' Iron Age landscape, and as such, is considered to make a small contribution through setting to the significance of the hillfort.
- 6.106 The solar arrays in the (south)western and northern parts of the Site are expected to be visible in the mid-ground of north-easterly through to south-easterly panoramic views from the hillfort. The introduction of this modern built form will alter, and erode to some degree, a component of the currently open and rural character of the landscape setting of the hillfort as experienced in those views. This is considered to result in minor harm to the significance of Y Werthyr. The effect of the Development is 'Not Significant'.

Other Potentially Susceptible Historic Assets

- 6.107 There is no potential for the significance of any other historic assets to be harmed as a result of changes to setting from the Development. This includes all other designated historic assets located within a 5km radius of the Site boundary, as shown on Figure 6.4.
- 6.108 The lack of any material inter-visibility between these assets and the Site on account of intervening distance and/or topography, the lack of any relevant non-visual association(s) between them and the Site, and the lack of any 'third points' from which both would be visible within the same viewshed, negates the potential for the Development within the Site to adversely affect their heritage significance.
- 6.109 Similarly, the ability to appreciate the significance of those assets would be unaffected by development within the Site of the nature and on the scale proposed for the Development. The key contributing heritage values to the significance of those historic assets, the ability to appreciate their significance, and the key views towards, from and including them, would be preserved. As such, the Development would cause no harm to the significance of these assets.
- 6.110 For purposes of this assessment, the indirect effect of the Development upon the heritage significance of all other historic assets identified as potentially susceptible to indirect harm would be considered 'Not Significant'.

Mitigation Measures

Construction Phase

- 6.111 Groundworks associated with the Development could result in a degree of harm to potential buried archaeological remains within the Site, as well as the grid connection element of the Development.
- 6.112 Based on the results of the trial trench evaluation, it is considered unlikely that any remains would be of equivalent significance to a designated historic asset, although this remains a possibility in the absence of full archaeological investigation. Mitigation in the form of further archaeological investigation/recording and/or design changes will be implemented post-consent (Table 6.5).
- 6.113 The ring ditch in Field 28, which could not be subject to trial trenching due to the proximity of buried services, and the rectilinear enclosures in Fields 30, 31, 32 and 33, will be preserved by record and/or in situ, by undertaking strip, map and record excavation and/or deploying above-ground design solutions and/or accommodating development exclusion zones.
- 6.114 In the case of strip, map and record excavation, the ring ditch in Field 28 would be excavated in its entirety, but only localised areas of excavation will be undertaken for the enclosures in Fields 30-33. The results of the strip, map and record excavations would determine the next steps as follows:
- Piling and other standard construction methods to install the proposed solar infrastructure – where archaeological remains were found to be of low significance;
 - Further archaeological investigations (such as larger areas of strip, map and record excavation) prior to piling and other standard construction methods to install the proposed infrastructure – where archaeological remains were found to be of moderate significance;
 - Commitment to above-ground design solutions for the proposed infrastructure, and adherence to additional safeguarding measures during construction, operation and decommissioning (the details to be provided in an Archaeological Mitigation and Management Plan) – where archaeological remains were found to be of moderate to high significance;
 - Exclusion of development from the entirety of the ring ditch and/or the enclosures – where archaeological remains were found to be of high significance.
- 6.115 GAPS are also willing to consider an upfront proposal for above-ground design solutions across the entirety of the ring ditch in Field 28 and the entirety of the rectilinear enclosures in Fields 30–33, if preceded by one or more target areas of strip, map and record excavation to provide information by

which to ensure that this would be a proportionate and suitable approach (pers. comm. 23rd January 2024).

- 6.116 The discrete pits and postholes in Fields 15, 17, 21, 22, 23, 27, 38 and 63, have already been recorded and several have been sampled as part of the archaeological trial trench evaluation. However, given the possibility of there being additional such features in their immediate vicinity, strip, map and record excavation will be undertaken for 20m x 20m areas centred on each known pit and posthole.
- 6.117 Regarding the undated/presumed historic parallel and perpendicular linear ditches present elsewhere across the Site, GAPS recognise that there is no merit in further targeted investigation but may require archaeological monitoring of construction and landscaping groundworks that would have the greatest below-ground impact on these features. For instance, the excavation of drainage swales and attenuation ponds and the creation of screening bunds and habitats.,.
- 6.118 A cut-and-fill construction methodology will be required for the battery energy storage system and 132kV substation within the Site, on account of existing ground levels. The 'cut' areas will require excavation to up to c.2.5m below present ground level. The 'fill' areas will entail the introduction of spoil onto the present ground level. Only the 'cut' areas have the potential to impact buried archaeological remains and so will undergo strip, map and record excavation prior to the onset of the construction phase.
- 6.119 The archaeological resource of the grid connection element of the Development has not been fully established due to access constraints (as discussed in paragraph 6.85). The cable will be installed within trenches cut into the highway and/or the highway verge; the trench will be cut, the cable installed, and the trench backfilled as three separate events. Potential archaeological remains will be identified and recorded through professional archaeological monitoring of the excavation of the cable trench.
- 6.120 Table 6.5 sets out the construction phase mitigation measures to be implemented for the Development.

Table 6.5: Mitigation Measures

Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects (to be secured by planning condition attached to the consent)
Full strip, map and record excavation for the ring ditch in Field 28, and localised areas of strip map and record excavation of the rectilinear enclosures in Fields 30-33..
Additional development exclusion zones and/or the use of above-ground design solutions for the wider (unexcavated) areas of rectilinear enclosures in Fields 30-33, depending on the findings of the localised strip, map and record excavations.
Strip, map and record excavation for 20m x 20m areas centred on each known pit and posthole in Fields 15, 17, 21, 22, 23, 27, 38 and 63.
Archaeological monitoring of the excavation of all cable trenches and drainage swales coinciding with the linear ditches identified by the archaeological trial trench evaluation, outwith Fields 30-33.
Strip, map and record excavation of the proposed 'cut' areas of the battery energy storage system and substation within the Site.
Archaeological monitoring of the installation of grid connection cabling within the highway and/or highway verge from the Site to the Wylfa National Grid Substation.

- 6.121 The precise scope of further archaeological investigations and mitigation will be agreed with the Planning Archaeologist at Gwynedd Archaeological Trust, once consent has been granted for the DNS application.

Operational Phase

- 6.122 No mitigation is required for the operational phase of the Development.

Residual Effects

Construction Phase

Buried Archaeological Resource

- 6.123 With the implementation of additional mitigation measures as necessary, the residual effects of construction of the Development on the buried archaeological resource of the Site are anticipated to be 'Not Significant'.

Operational Phase

Cors-y-Bol Scheduled Monument

- 6.124 With no additional mitigation having been identified as required, the residual effects of the operation of the Development on the Scheduled Monument would remain as 'Not Significant'.

Decommissioning

- 6.125 Decommissioning of the Development will entail:

- The unscrewing of the solar PV arrays from the mounting frames, the removal of the mounting frame horizontal poles and the pulling of the piles from the ground;
- The re-opening of cable trenches and the removal of the cables and ducts;
- The removal of the inverters, transformers and switchgear cabinets and housing using a crane and HGVs for transportation;
- The breaking up and removal of concrete bases;
- The removal of fencing and CCTV equipment and the backfilling of any holes left by the fence posts and poles;
- The removal of access tracks; and
- The cultivation and re-seeding in grass of most areas of disturbed ground (other than earthworks associated with the energy storage facility).

- 6.126 The pulling of the piles from the ground is likely to have greater impacts on the known and potential archaeological resource in their vicinity than the driving of the piles into the ground during construction.

- 6.127 However, the most significant elements of the known archaeological resource within the Site will previously have been adequately investigated and recorded as part of the mitigation strategy implemented prior to construction (refer to Table 6.4).

Summary

- 6.128 This chapter has considered potential effects upon the significance of Cultural Heritage receptors. Buried archaeological remains, earthworks, structures, landscapes, and all other aspects of the historic environment have been considered.

- 6.129 There are no designated historic assets located within the Site. Known and potential non-designated historic assets located within the Site comprise: undated but possibly-prehistoric curvilinear and discrete features in the western, northern and eastern parts of the Site; small rectilinear enclosures and post-holes in the central part of the Site, and other pits and postholes elsewhere across the Site; parallel and perpendicular linear ditch features representing former field boundaries and drainage features associated with historic land management across the Site; and the ruins of the 19th-century farm buildings of Tyddyn-bâch in the eastern part of the Site.

- 6.130 There is no evidence to suggest that any of these remains are of the highest heritage significance in and of themselves. The curvilinear and discrete features in the western part of the Site, and the ruins of Tyddyn-bâch, are retained within the design of the Development. Additional mitigation consisting of further, localised, archaeological investigations is required to mitigate the likely impacts of construction activities upon the buried archaeological resource in the central part of the Site.
- 6.131 It is considered that a small part of the Site contributes through setting to the significance of the Scheduled Monument of the Cors-y-Bol Bronze Age burial mound, which abuts the western part of the Site boundary. The Development's layout accommodates a 60m offset from the Scheduled Monument to the built Development edge. The introduction of solar PV arrays beyond this will result in minor harm to the significance of the Scheduled Monument. This effect is Not Significant.
- 6.132 It is also considered that part of the Site contribute through setting to the significance of the Scheduled Monument of Y Werthyr Iron Age hillfort, which is located 1.2km to the west of the Site. The introduction of solar PV arrays to the western and northern parts of the Site will change a component of the landscape character experienced in easterly views from the hillfort. This will result in minor harm to the significance of the Scheduled Monument. This effect is Not Significant.
- 6.133 Table 6.6 contains a summary of the likely significant effects of the Development upon Cultural Heritage.

Table 6.6: Table of Significance – Cultural Heritage

Potential Effect	Nature of Effect (Permanent/ Temporary)	Significance (Significant/Not Significant)	Mitigation / Enhancement Measures	Geographical Importance*							Residual Effects (Significant/Not Significant)
				I	UK	W	R	C	B	L	
Construction Phase											
Truncation/loss of buried archaeological remains of a possibly prehistoric ring ditch in Field 28	Permanent and Direct	Not Significant	One or more of the following: strip, map and record excavation, above-ground design solutions, exclusion of development					X		Not Significant	
Truncation/loss of rectilinear enclosures of possibly prehistoric or medieval date in Fields 30-33	Permanent and Direct	Not Significant	One or more of the following: strip, map and record excavation, above-ground design solutions, exclusion of development					X		Not Significant	
Truncation/loss of buried archaeological remains of possibly prehistoric pits and postholes in Fields 15, 17, 21, 22, 23, 27, 38 and 63	Permanent and Direct	Not Significant	Strip, map and record excavation for 20m x 20m areas centred on each known pit and posthole					X		Not Significant	
Truncation/loss of buried historic parallel and perpendicular linear ditches outwith Fields 30-33	Permanent and Direct	Not Significant	Archaeological monitoring of the excavation of all cable trenches and drainage swales coinciding with these features					X		Not Significant	
Potential buried archaeological remains in the proposed 'cut' areas of the battery energy storage system and substation within the Site	Permanent and Direct	Not Significant	Strip, map and record excavation for these development areas, prior to construction groundworks					X		Not Significant	
Potential buried archaeological remains within the proposed off-Site grid connection	Permanent and Direct	Not Significant	Archaeological monitoring of the excavation of the cable trench within the highway and/or highway verge from the Site to the Wylfa National Grid Substation					X		Not Significant	
Operational Phase											

Change to part of the setting of Cors-y-Bol Bronze Age burial mound Scheduled Monument	Temporary and Indirect	Not Significant	None required		X						Not Significant
Change to part of the setting of Y Werthyr hillfort Scheduled Monument	Temporary and Indirect	Not Significant	None required		X						Not Significant
Cumulative Effects											
<i>None identified</i>											

*** Geographical Level of Importance**

I = International; UK = United Kingdom; W = Wales; R = Regional; C = County; B = Borough; L = Local

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