Foel Fach Wind Farm Limited.

Foel Fach Wind Farm - Environmental Statement Volume II

Main Written Statement – Chapter 8

Project Reference: 664094

This chapter is summarised within the Non-Technical Summary of this Environmental Statement.

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8 CULTURAL HERITAGE

8.1 Introduction

8.1.1 This chapter presents an assessment of likely significant effects arising from the construction, operation and decommissioning of the Proposed Development upon cultural heritage. The full description of the Proposed Development is provided within Environmental Statement **(ES) Volume II, Chapter 3: Description of the Proposed Development.**

8.1.2 This chapter is supported by the following appendices presented in **ES Volume III**:

- Appendix 8.1: Cultural Heritage Baseline Data Report – Archaeological Desk-Based and Stage 1 Setting Assessment
- Appendix 8.2: Geophysical Survey Report: Foel Fach Wind Farm
- Appendix 8.3: Geophysical Survey Report: Access Track and Compound, Foel Fach Wind Farm, Glan-Yr-Afon, North Wales, and
- Appendix 8.4: Geophysical Survey Report: Foel Fach Wind Farm (UAV Magnetometer Survey).

8.1.3 This chapter is supported by the following figures presented in **ES Volume IV**:

- Figure 8.1: Cultural Heritage Outer Study Areas
- Figure 8.2: Assessed Non-designated Historic Receptors within the Application Boundary
- Figure 8.3: Proposed Development over geophysical anomalies (1 of 8),
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- Figure 8.11: Historic boundaries for potential enhancement.

8.1.4 Figures showing all historic assets within the study areas are contained within **ES Volume III, Appendix 8.1: Cultural Heritage Baseline Data Report – Archaeological Desk-Based and Stage 1 Setting Assessment**. The assessment has also been informed by wirelines and photomontages from key historic assets, these are included within **Appendix 8.1**.

8.1.5 This chapter should be read in conjunction with the following assessment chapters presented in **ES Volume II**:

- Chapter 7: Land, Soils and Water
- Chapter 9: Landscape and Visual
- Chapter 10: Noise and Vibration, and
- Chapter 11: Traffic and Transport.

8.2 Consultation and Scope

Scoping Direction

8.2.1 The scope of this assessment has been established through an ongoing scoping and consultation process. This has involved the production of an EIA Scoping Report (provided in **ES Volume III, Appendix 1.1: EIA Scoping Report**), which was submitted to Planning and Environment Decisions Wales (PEDW) in July 2024. Further information on the scoping process can be found in **ES Volume II**, **Chapter 4: Approach to the EIA**.

8.2.2 The Scoping Direction, a copy of which is included in **ES Volume III**, **Appendix 1.2: EIA Scoping Direction and Addendum**, was received on 5 December 2024 and 18 December 2024. **Table 8.1** summarises the key Scoping Direction comments related to this assessment and sets out how these have been addressed by the Applicant.

Additional Consultation

8.2.3 **Table 8.2** provides a summary of the additional consultation activities undertaken in support of the preparation of this assessment outside of the EIA Scoping process.

Table 8.1 Summary of Scoping Direction Comments Relevant to this Cultural Heritage Assessment

ID no.	Issue	Comment raised	Applicant response
ID.35	Study area	Cadw confirms they are content with the proposed Outer Study Area buffers outlined in the SR.	Noted.
ID.36	Assessment scope and approach	Although Cadw confirms they are generally content with the proposed approach, they state that the setting of all designated historic assets inside 5 km of the application area (provided as an Annex to their response) and those identified in section 7.5.5 that are further away, should be assessed in accordance with stage 1 of the methodology outlined in the Setting of Historic Assets in Wales, to determine if more detailed assessment past stage 1 is required. Cadw states that the results of the stage 1 assessment should be included as an appendix to the ES.	All designated historic receptors up to 5 km and those identified in the Scoping Report to 10 km have been assessed by a stage 1 setting assessment in **Appendix 8.1.**
ID.37	Surveys	Cadw notes section 7.5.4 regarding the scope of the geophysical survey needing to be confirmed. They advise that the key area and scope of the surveys will need to be agreed by Heneb: The Trust for Welsh Archaeology (WAT) before the work commencing. The applicant's attention is also drawn to Cadw's comments regarding some indicative locations of the turbines being in areas of peat. They highlight peat deposits deeper than 20 cm can retain important paleoenvironmental deposits. They add that where these areas cannot be avoided, appropriate surveys need to be completed, including deposit mapping, sampling, analysis,	Geophysical survey has been conducted in consultation with WAT along the access track, entrance compound and around Llaithgwm, and a UAV magnetometer survey to test the viability of the technique see **ES Volume III, Appendix 8.2: Geophysical Survey Report Foel Fach Wind Farm, Appendix 8.3: Geophysical Survey Report: Access Track and Compound, Foel Fach Wind Farm, Glan-Yr-Afon, North Wales** and **ES Volume III**,

ID no.	Issue	Comment raised	Applicant response
		and dating carried out by a geoarchaeological specialist. Cadw states that appropriate mitigation will also need to be included in the ES. Cadw agrees that the need for, scope, and timing of intrusive evaluation cannot be determined until the desk-based assessments and geophysical survey have been completed, but add that the work will need to be carried out before the completion of the EIA so that the results of the evaluation and any mitigation measures can be included. Sufficient time for the completion of archaeological evaluations, if required, should therefore be included. PEDW welcomes the SR states that relevant parties will be consulted regarding the scope and extent of cultural heritage and archaeological assessment, including Cadw and Heneb.	**Appendix 8.4: Geophysical Survey Report: Foel Fach Wind Farm (UAV Magnetometer Survey).** A step-wise approach has been considered to avoid irreplaceable peatland habitats and embedded mitigation has avoided by careful infrastructure design and minimised where complete avoidance is not possible see **ES Volume II, Chapter 7: Land, Soils and Water.**
ID.38	Assessment methodology	In relation to Bala and Bala Lakesides Registered Landscape, Cadw agrees that an ASIDOHL assessment is not appropriate for assessing the impact of the Proposed Development on the setting of the historic landscape. However, they add this will remain a material consideration in the determination of the application and therefore there will be a need to assess this impact. Cadw recommends that this is considered in accordance with the methodology outlined in the Welsh Government's best-practice guidance Setting of Historic Assets in Wales (2017).	All designated historic receptors up to 5 km and those identified in the Scoping Report to 10 km have been assessed by a stage 1 setting assessment in **Appendix 8.1.**

ID no.	Issue	Comment raised	Applicant response
ID.39	Legislation	Cadw highlights the enactment of Historic Environment (Wales) Act 2023 (the 2003 Act), also leading to revisions to Technical Advice Note 24 and other guidance notes. References to the various parts of the Acts that have been consolidated will need to be changed to refer to the 2023 Act.	References to various parts of the previous Acts that have been consolidated in the Historic Environment (Wales) 2023 Act have been updated.

Table 8.2 Summary of Additional Consultation Undertaken

Consultee	Date of engagement	Summary of matters discussed	Applicant response
Cadw	02/07/2025	Further consultation was undertaken on 02 July 2025 with Cadw on the visual impacts on designated historic receptors within the outer study areas to agree which should be taken forward for detailed assessment.	Following consultation with Cadw clear justification for screening historic receptors out for further consideration in the ES has been provided in **Appendix 8.1.**
Heneb	20/01/2025	Heneb were consulted on the requirement for further geophysical survey within the Site on the 20 January 2025, where the baseline for the ES was discussed and the potential for post-determination trial trenching. It was agreed that an unmanned aerial vehicle (UAV) magnetometer survey should be conducted to test the viability of the technique for undertaking further UAV magnetometer survey across the footprint of the Proposed Development and that trial trenching could potentially be limited to localised trial trenches or conducted post-	Written Scheme of Investigations (WSI) specifying the extent of conventional and UAV magnetometer geophysical survey areas and methodology have been sent and approved on the 6 January 2025, 24 March 2025, 28 May 2025, and 15 August 2025. Further consultation will be undertaken on the results of the UAV magnetometer survey and potential impacts on Grade II listed buildings and Bala conservation area (which

Consultee	Date of engagement	Summary of matters discussed	Applicant response
		determination depending on the results of geophysical survey and baseline information. Further consultation will be undertaken to discuss the results of the geophysical surveys currently being completed.	are considered to be not significant based on **Appendix 8.1**).

Scope of the Assessment

8.2.4 The technical scope of this assessment has been established through an ongoing scoping and consultation process. As a result of this process, the technical scope of the assessment reported in this chapter comprises the receptors/matters detailed in **Table 8.3**.

Table 8.3 Receptor/Matters Scoped into Further Assessment

Receptor/matter	Phase
Buildings and monuments recorded in the Historic Environment Record (HER) within or surrounded by the Site	Construction & Operational
Currently unknown historic receptors within the Site	Construction

8.2.5 The following matters in **Table 8.4** are considered unlikely to result in likely significant effects, and therefore have been scoped out of the assessment, as agreed through the EIA scoping and consultation process.

Table 8.4 Receptor/Matters Scoped Out of Further Assessment

Receptor/matter	Phase
Setting effects on all historic receptors within the Site and outer study areas (OSAs).	Construction
Residential and Civil historic receptors within the OSAs	Operational
Conservation Areas	Construction & Operational
Small structures such as the mileposts, commemorative monuments, boundary stones, wells etc.	Construction & Operational
Roads, Bridges, and Trackways within the OSAs	Construction & Operational
Corn, Fulling, Heneber and Wool Mills, Mill ponds and Sluices	Construction & Operational
Sites of former extractive pits including mines and quarries	Construction & Operational
Site of former Modern historic receptors	Operational
Find spots	Construction & Operational
Scheduled monuments	Operational
Listed Buildings	Operational
Registered historic park and garden within the 5 km OSA	Operational
All historic receptors within the Site and OSAs.	Decommissioning

8.2.6 **Table 8.5** summarises where the scope of the assessment has changed since the receipt of the Scoping Direction, presented in **Appendix 1.2**.

Table 8.5 Receptor/Matters Changed Since the Scoping Direction

Receptor/matter	Phase	Justification
Listed Buildings	Operational	The scoping allowed for review of likely impacts on designated historic receptors during preparation of the baseline report in order that those considered likely to experience significant effects be taken forward for more detailed assessment in the ES. The baseline report has assessed all designated historic receptors previously scoped in by the Scoping Direction Comments, following the guidance of the Setting of Historic Assets in Wales (Cadw, 2017b). Indirect impacts are considered not significant due to either distance or that the way in which setting contributes to the asset's significance would be minimally affected,. Clear justification for each asset has been provided in the baseline report and these assets have been scoped out in consultation with Cadw (**Appendix 8.1**).
Scheduled monuments	Operational	
Bala and Bala Lakeside HLW (Gw) 16	Operational	
Rhiwlas Registered Historic Park and Garden	Operational	The scoping allowed for review of likely impacts on designated historic receptors during preparation of the baseline report in order that those considered likely to experience significant effects be taken forward for more detailed assessment in the ES. The assets scoped out have been agreed in consultation with Cadw. The baseline report has assessed all designated historic receptors previously scoped in by the Scoping Direction Comments, following the guidance of the Setting of Historic Assets in Wales (Cadw, 2017b). Indirect impacts are considered not significant, and clear justification has been provided in the baseline report and have been scoped out in consultation with Cadw (**Appendix 8.1**).

8.3 Methodology

8.3.1 This assessment has been undertaken in accordance with the following legislation, and with regard to the following planning policy and guidance (**Appendix 8.1**). It should be noted that this chapter does not assess the compliance of the Proposed Development against relevant planning policy. Such an assessment is presented in the **Planning Statement**.

Legislation

- Historic Environment (Wales) Act 2023[1] (Welsh Government, 2023).
- Well-being of Future Generations (Wales) Act 2015 (Welsh Government, 2015)
- Treasure Act (1996) (Welsh Government, 1996).
- Burial Act (1857) (Welsh Government, 1857), and
- Protection of Military Remains Act (1986) (Welsh Government, 1986).

National Planning Policy

- Planning Policy Wales Edition 12, February 2024 (Welsh Government Llywodraeth Cymru, 2024);
- Future Wales 2040 (Welsh Government Llywodraeth Cymru, 2021).

Local Planning Policy

- Anglesey and Gwynedd Joint Local Development Plan 2011-2026 (Anglesey and Gwynedd Council, adopted 31 July 2017).

Guidance

- Technical Advice Note 24: The Historic Environment (Welsh Government Llywodraeth Cymru, 2017).
- Cadw guidance documents: Heritage Impact Assessment in Wales (Cadw, 2017a) and the Setting of Historic Assets in Wales (Cadw, 2017b).
- Cadw's Conservation Principles for the Sustainable Management of the Historic Environment in Wales (Cadw, 2011).
- Cadw's Guide to Good Practice on using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process (Cadw, Welsh Assembly Government, Countryside Council for Wales, 2007).
- Standard and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists (Cifa, 2020a).
- Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (Cifa, 2020b)
- IEMA,CIfA and IHBC guidance document: Principles of Cultural Heritage Impact Assessment in the UK (IEMA, 2021).
- Managing Historic Character in Wales (Cadw, 2017c), and
- The Chartered Institute for Archaeologists (CIfA) 'Code of Conduct' (Cifa, 2022).

[1] The Historic Environment (Wales) Act 2023 has consolidated the provisions of the Ancient Monuments and Archaeological Areas Act 1979 and the Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990. These earlier Acts which were in force at the time of the Scoping Report have now been disapplied in Wales.

Baseline Characterisation

Extent of the Study Area

8.3.2 The application boundary (illustrated in **ES Volume IV**, **Figure 8.1: Cultural Heritage Outer Study Areas**), also referred to as the inner study area (ISA) for the purposes of the Cultural Heritage Assessment, was used to identify known and potential historic receptors that may experience direct (physical) construction effects.

8.3.3 The OSA extended up to 10 km from the Site. Historic receptors within the OSA were considered, based on their importance and distance from the Site, to focus the assessment on likely significant effects as follows:

- Up to 2 km from, and including the Site: all designated historic receptors and non-designated historic receptors for which the wider setting makes a positive contribution to their significance and there is theoretical intervisibility with the Proposed Development based on the bare-earth zone of theoretical visibility (ZTV)
- Up to 5 km from the Site: all scheduled monuments, listed buildings, registered historic parks and gardens and conservation areas (there are no world heritage sites or designated wrecks within 5 km) where there is theoretical intervisibility with the Proposed Development based on the bare-earth ZTV, and
- Up to 10 km from the Site based on the ZTV: scheduled monuments, Grade I and II* listed buildings and designated historic receptors which derive significance from particular long-range views of, from or including the asset that may be sensitive to change. This included registered historic parks and gardens as they are likely to include designed views, country houses which may be associated with registered or unregistered designed landscapes, large churches as they may form landmarks in the surrounding landscape, and regional scale defensive sites such as hillforts or ringworks which may have substantial operational areas and could be expected to be highly visible in the wider landscape.

Desk Study

8.3.4 To establish the baseline conditions within the study area, data has been obtained from the following sources:

- Cadw data on designated historic assets downloaded as a digital data extract from the Welsh Government's GeoPortal website
- Heneb HER data on non-designated historic assets within 2 km of the Site supplied as a digital data extract on 7 May 2024
- Conservation Areas downloaded as a digital data extract from the Welsh Government's GeoPortal website

- Historic Landscape Characterisation (HLC) supplied as a digital data extracted on 7 May 2024
- LANDMAP datasets
- DataMap Wales LiDAR data
- 1839 and 1849 Tithe map and apportionments of the Parish of Llanvor in the County of Merioneth (IR 29/52/25)
- Historical maps and plans held in the local archives
- Relevant internet sources including National Library of Wales
- Aerial photos held by the Central Register for Aerial Photography Wales (CRAPW) and the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW)
- The Uplands Survey Project: Archaeological fieldwork in the Gwynedd Uplands Between 1983 and 1992. 1993. Unpublished Gwynedd Archaeological Trust Unpublished Report 22 (Gwynedd Archaeological Trust, 1993)
- Henebson, S.E. 2019. L52 Overhead Line Refurbishment, Gellilygan to Llyn Celyn: Desk-based Assessment. Clwyd-Powys Archaeological Trust Unpublished Report 1649 (Henebson, 2019).
- Scofield, P. 2012. Uplands Initiative Field Projects 2011-12: Foel Goch Survey Report. Unpublished. Oxford Archaeology North Unpublished Report (Schofield, 2012).
- Cadw 2001. Landscapes of Historic Interest in Wales: Part 2.2 Landscapes of Special Historic Interest. Cadw: Cardiff (Cadw , 2001)
- Readily available published sources and unpublished archaeological reports, and
- Portable Antiquities Scheme (PAS) data. Confirmation of the existing data sets and literature upon which the assessment has been based (e.g. data from record centres, internet searches etc.).

Field Study(s)

8.3.5 The following information is included:

- A field visit as part of **Appendix 8.1** was carried out on the 9–10 October 2024;
- A detailed setting assessment visit to receptors identified as potentially experiencing significant effects was undertaken as part of **Appendix 8.1** on the 10 October 2024;
- Traditional geophysical surveys were undertaken for Llaithgwm and temporary construction and storage compound and access track areas on 15 January 2025, and 29 and 30 May 2025, **Appendix 8.2** and **Appendix 8.3**; and
- Drone geophysical surveys were conducted in test areas on 29 April 2025 and between 7 and 8 July 2025, **Appendix 8.4.**

Assessment Methodology

Significance Criteria

Assessment of Heritage Significance

8.3.6 Analysis of historic receptors and historic mapping allowed synthesis and interpretation of the historic development of the Site was established in accordance with Cadw's Heritage Impact Assessment in Wales (section 4.2) (Cadw, 2017a) and Conservation Principles for the sustainable management of the historic environment in Wales (Cadw, 2011). This analysis established what comprised the setting for the historic receptors, and what elements of that setting contribute to how the asset is experienced, understood and appreciated.

8.3.7 Assessment of the heritage importance (sensitivity) of all receptors that may be affected uses the criteria in **Table 8.6**.

Table 8.6 Criteria for Establishing Importance of Historic Receptors

Importance of the Asset	Criteria
Very high	World Heritage Sites; assets of acknowledged international importance; assets that can contribute significantly to acknowledged international research objectives; historic landscape of international value (designated or not) and extremely well-preserved historic landscapes with exceptional coherence, time depth or other critical factor(s).
High	Scheduled Monuments and non-designated assets of schedulable quality and importance; Grade I and II* Listed Buildings and Grade II Listed buildings that can be shown to have exceptional qualities in their fabric or associations; Protected Wreck Sites; Registered Battlefields; Grade I and II* Registered Historic Parks and Gardens. Conservation Areas containing very important buildings or with other exceptional qualities; non-designated structures of clear national importance; designated and non-designated historic landscapes of historic interest; assets that can contribute significantly to acknowledged national research objectives.
Medium	Grade II Listed Buildings, Grade II Registered Historic Parks and Gardens, non-designated assets that contribute to regional research objectives; Locally listed buildings (historic unlisted buildings) that have exceptional qualities; Conservation Areas.
Low	Non-designated historic assets of local importance including those compromised by poor preservation; assets of limited value but with the potential to contribute to local research objectives; locally listed buildings; robust non-designated historic landscapes.

Importance of the Asset	Criteria
Negligible	Assets with very little surviving archaeological interest; buildings of little architectural or historic note; landscapes with little significant historic interest. Negligible or no heritage significance.
Unknown	Further information is required to assess the potential of these sites

Magnitude of Impact

8.3.8 The impact will reflect the scale of change which would be caused by the Proposed Development and the effect this change would have on the ability to interpret significance and appreciate the historic asset. Adverse impacts are considered to be those which result in harm to the heritage significance of a historic asset and can result either from physical changes to a historic asset or through sensory changes within its setting.

8.3.9 An impact may be positive where for example, as part of the Proposed Development, an intrusive building or feature is removed or replaced with a more harmonious one; historic features are restored or revealed; a new feature is added which adds to public appreciation; new views are introduced that add to public experience of an asset; or public interpretation or access is improved to an asset or its setting.

8.3.10 Impacts may impart major change, for example where groundworks completely destroy important archaeological remains, to minor change to part of a historic asset's setting, leading to a limited impact on our ability to interpret it, or its context.

8.3.11 Utilising the key principles for assessing the implications of change outlined above, an assessment of the magnitude of impact has been implemented for each baseline historic heritage asset using the criteria presented in **Table 8.7**. This has been practically implemented and tested in previous Cultural Heritage ES chapters and has been adapted from Design Manual for Roads and Bridges: Volume 11 Environmental Assessment (DMRB, 2007).

8.3.12 Conclusions of the assessed magnitude of impacts are a product of the consideration of the elements of an asset and its setting that contribute to its heritage significance and the degree to which the Proposed Development would change these contributing elements. The assessment therefore reflects the varying degrees of sensitivity of different receptors to change brought about by different types of development. Utilising the key principles for assessing the implications of change outlined above, an assessment of the magnitude of impact has been implemented for each baseline historic asset using the criteria in **Table 8.7**.

8.3.13 This definition of magnitude and assessment methodology applies to likely effects resulting from change in the setting and likely physical effects on the fabric of an asset.

Table 8.7 Criteria for Classifying Magnitude of Impact

Magnitude	Summary
High beneficial	Elements of the asset's physical fabric which would otherwise be lost, severely compromising its heritage significance, are preserved in situ; or Elements of the asset's setting, which were previously lost or unintelligible, are restored, greatly enhancing its heritage significance.
Medium beneficial	Elements of the asset's physical fabric which would otherwise be lost, leading to an appreciable but partial loss of heritage significance, are preserved in situ; or Elements of the asset's setting are considerably improved, appreciably enhancing its heritage significance; or Research and recording leads to a considerable enhancement to the archaeological or historical interest of the asset.
Low beneficial	Elements of the asset's physical fabric which would otherwise be lost, leading to a slight loss of heritage significance, are preserved in situ; or Elements of the asset's setting are improved, slightly enhancing its heritage significance; or Research and recording leads to a slight enhancement to the archaeological or historical interest of the asset.
Neutral/None	The asset's fabric and/or setting is changed in ways which do not materially affect its heritage significance.
Low adverse	Elements of the asset's fabric and/or setting which are of very limited relevance to its significance are lost or changed, resulting in a very slight loss of heritage significance; or Elements of the asset's fabric and/or setting which contribute to its significance are affected, but to a limited extent, resulting in an appreciable but partial loss of the asset's heritage significance.
Medium adverse	Elements of the asset's fabric and/or setting which contribute to its significance are affected, but to a limited extent, resulting in an appreciable but partial loss of the asset's heritage significance.
High adverse	Key elements of the asset's fabric and/or setting are lost or fundamentally altered, such that the asset's heritage significance is lost or severely compromised.

Significance of Effect

8.3.14 The assessment of effects has combined analysis of the data gathered during the desk-based assessment and site visit, photographs and any wireline visualisations and photomontages of the topography and Proposed Development (**ES Volume III, Appendix 9.11: Visualisations: Viewpoints 1 to 21**).

8.3.15 These assessments have been carried out using professional judgement, taking into account designations and heritage significance as assessed against national standards. Significance of effect has been based on a combination of importance (in other disciplines sometimes referred to as sensitivity of the receptor) and magnitude of impact (incorporating contribution from setting where relevant) to establish the likely significance of effect. The significance of effect matrix is presented in **Table 8.8** below and provides a guide to decision-making but is not a substitute for professional judgement and interpretation, particularly where the importance or impact magnitude levels are not clear or are borderline between categories. EIA significance may be described on a continuous scale from negligible to major.

8.3.16 It is also common practice to identify effects as significant or not significant, and in this sense major and moderate effects are regarded as significant, while minor and negligible effects are not significant.

8.3.17 Where **Table 8.8** provides two possible options for the significance of effect this will be a matter of professional judgement, taking into account the relative importance and heritage significance of the asset, the magnitude of impact and the reversibility or otherwise. Significant effects are highlighted with bold text.

Table 8.8 Criteria for Assessing the Significance of Effect

Magnitude of Impact	Heritage Importance(Sensitivity)				
	Very high	High	Medium	Low	Negligible
High beneficial	**Major**	**Major**	**Major or moderate**	**Moderate** or minor	Minor or negligible
Medium beneficial	**Major**	**Major or moderate**	**Moderate or minor**	Minor	Minor or negligible
Low beneficial	**Major or moderate**	**Moderate** or minor	Minor	Negligible	Negligible
Neutral beneficial	Negligible	Negligible	Negligible	Negligible	Negligible
No impact	No effect	No effect	No effect	No effect	No effect
Neutral adverse	Negligible	Negligible	Negligible	Negligible	Negligible
Low adverse	**Major or moderate**	**Moderate** or minor	Minor	Negligible	Negligible
Medium adverse	**Major**	**Major or moderate**	**Moderate** or minor	Minor	Minor or negligible
High adverse	**Major**	**Major**	**Major or moderate**	**Moderate** or minor	Minor or negligible

8.4 Baseline Conditions

Existing Baseline

8.4.1 The Archaeological Desk-Based and Stage 1 Setting Assessment (**Appendix 8.1**) has been used to inform the baseline conditions and should be read in full as part of the Cultural Heritage Chapter.

Within the Site

8.4.2 There are no designated historic receptors recorded by Cadw within the Site.

8.4.3 There are 26 non-designated historic receptors recorded within the Site, with 25 recorded in the Trust for Welsh Archaeology (Heneb) HER. These predominantly relate to the post-medieval period or of an unknown origin, representing 85% of the non-designated historic receptors identified within the Site. They are largely agricultural in character that include sheepfolds / shelters, and enclosures. Small-scale industrial and extraction activity has also been identified such as a pond, a sluice, peat cuttings, mines and quarries / gravel pits; while small infrastructure features such as boundary markers, trackways, and a dam are also recorded. Two non-designated historic receptors date to the prehistoric period (**ES Volume IV, Figure 8.2: Assessed Non-designated Historic Receptors within the Application Boundary**), which consist of a grass covered cairn on the summit of Garnedd Fawr and north-eastern boundary of the Site (WAT HER PRN 3258), and a hut circle located in the centre-east of the Site (WAT HER PRN 15611). It has been suggested that the latter is a medieval or post-medieval livestock shelter. The remaining two non-designated historic receptors are from the Medieval period in the centre-west of the Site and are associated with the former Township of Llaethgwm (now spelled Llaithgwm) (WAT HER PRN 9896), and a possible former Hermitage (WAT HER PRN 3259). The former township and hermitage are scoped out of further assessment in this ES Chapter and are discussed further in **Appendix 8.1.**

8.4.4 The only newly identified non-designated historic receptor within the Proposed Development is a previously unrecorded linear feature identified during analysis of the LiDAR and satellite imagery, and through the field visit (HA001). The linear feature of an unknown date that traverses Moel Darren in the east of the Site (**ES Volume IV, Figure 8.2**). The possible boundary marker is not depicted on historical maps and due to its form is likely to be of a more recent origin.

8.4.5 **Appendix 8.1** identified that there is a medium potential for previously unknown historic receptors to be located within the footprint of proposed physical infrastructure. A conventional geophysical survey has been conducted across the access track, temporary construction and storage compound area and around Llaithgwm within the enclosed improved land and no anomalies indicative of below ground archaeological remains were detected (**ES Volume IV, Figure 8.3: Proposed Development over geophysical anomalies (part 1)**). The upland area of the Site precluded conventional geophysical techniques, therefore a test UAV magnetometer survey was conducted on test areas along the proposed physical

infrastructure in proximity to known archaeological remains to assess the viability of the techniques and the presence or absence of any previously unknown historic receptors. The test was successfully completed and the test results supported the further use of the technique on this site. Weather constraints (strong winds) and poor ground conditions for access by the UAV operators hampered deployment of the UAV for the full survey and parts of the infrastructure areas remain un-surveyed. The quality of the data gathered by the UAV was generally comparable to that which can be obtained by traditional means and allowed access to areas of the site where traditional geophysical survey techniques were not possible. The information gathered is detailed in **Appendix 8.4.** No anomalies of likely archaeological origin were revealed, and although some anomalies of uncertain origin may be archaeological in origin they are considered more likely to be of agricultural or geological origin.

8.4.6 Peat to a depth beyond 20 cm has been recorded within the Site. Peat, which survives under waterlogged conditions and therefore has excellent preservation potential for organic remains, also potentially seals an undisturbed ground surface with archaeological potential. Study of the organic remains preserved within stratified peat deposits enables the construction of a narrative of changes to the surrounding environment brought about by human activities and natural events in the prehistoric and historic periods.

Within the OSA

8.4.7 There are 23 designated historic receptors recorded by Cadw within the 2 km OSA. These comprise one scheduled monument, 21 Grade II listed buildings, and Bala and Bala Lakeside Registered Landscape of Special Historic Interest (Cadw HLW (Gw) 16).

8.4.8 The scheduled Maen y Rhos Standing Stone (Cadw ME228) is located c. 1.7 km to the east of the Site. The standing stone is a large, impressive and well-preserved example that probably dates to the Early Bronze Age.

8.4.9 The Grade II listed buildings predominantly are agricultural in character and date to the post-medieval period. However, two residential houses which are encircled by the Site but lie outside it, have their origins in the Medieval period. These are Wern Fawr (Cadw 24655), a 17th century farmhouse, and Llaithgwm (Cadw 4672), a 17th century house, and its associated listed Carthouse and Stable Block (Cadw 24636 and 24637).Two Post-Medieval bridges and a chapel are also recorded Pont Llwyn y Brain (Cadw 2456) is approximately 30 m northeast of the Site, the other bridge and the chapel are over 1.3 km away. The extent for Bala and Bala Lakeside Registered Landscape extends into the 2 km study area, c. 1.5 km to the south of the Site and 2.7 km south of the nearest turbine.

8.4.10 There are 188 designated historic receptors recorded within the 5 km OSA. These consist of 11 scheduled monuments, one Grade I listed building, 11 Grade II* listed buildings, 160 Grade II listed buildings, the Grade II listed Rhiwlas registered historic park and garden, which includes its two kitchen gardens, and two conservation areas.

8.4.11 A further 43 designated historic receptors are recorded within the 10 km OSA. These comprise 20 scheduled monuments, 21 Grade II* listed buildings and two registered historic landscapes.

8.4.12 These assets are scoped out of further assessment in this ES Chapter and are discussed further in **Appendix 8.1.**

Sensitive Receptors

8.4.13 **Table 8.9** sets out the receptors scoped in as relevant to this assessment and their assigned importance. All receptors scoped in within the scoping direction (**Table 8.3**) have been assessed with **Appendix 8.1,** with the following receptors included for further assessment as part of the ES. The location of these receptors is illustrated in **ES Volume IV**, **Figure 8.2.**

Table 8.9 Sensitive Receptors

Receptor	Discussion	Importance
Linear feature (HA001)	The previously unrecorded linear feature of archaeological significance and low importance was identified on Moel Darren in the east of the Site during analysis of the LiDAR data and satellite imagery and field visit is of an unknown date. It is possibly a boundary marker not depicted on historical maps and due to its form is likely to be of a more recent origin.	Low
Peat deposits deeper than 20 cm in depth	Peat to a depth beyond 20 cm has been recorded within the Site. Peat survives under waterlogged conditions and therefore has excellent preservation potential for organic remains. Study of the organic remains preserved within stratified peat deposits is of archaeological interest and enables the construction of a narrative of changes to the surrounding environment brought about by human activities and natural events in the prehistoric and historic periods. Any remains would likely be organic and diagnostic rather than features in their own right and are therefore considered to be of no more than local importance.	Low

Receptor	Discussion	Importance
Cairn, Garnedd Fawr, Llandderfel (WAT HER PRN 3258)	The Bronze Age Cairn, Garnedd Fawr is a non-designated historic asset of archaeological interest and low importance described as a grass covered cairn on the summit of Garnedd Fawr and on the north-eastern boundary of the Site.	Low
Hut Circle, Llandderfel (WAT HER PRN 15611)	Hut Circle, Llanderfel is a non-designated historic asset of archaeological interest and low importance is thought to date to the Bronze Age but could be more recent in date, possibly being a medieval or post medieval livestock shelter in the centre-east of the Site.	Low
Currently unknown historic receptors within the Site	The is a potential for currently unknown historic receptors to be located with the upland area of the Site. Based on the findings of Appendix 8.1, it is considered that the Site has a low potential for remains from the Palaeolithic, Mesolithic, Neolithic, Iron Age, Roman/Romano-British and Early Medieval periods; a low to medium potential for remains from the Medieval Period; a medium potential for bronze age remains, and a medium to high potential for remains from the Post-Medieval period.	Unknown

Future Baseline in the Absence of the Proposed Development

8.4.14 In the future, and in the absence of the Proposed Development, the existing cultural heritage conditions within the Site and the OSAs may change in the following ways:

- New historic receptors may be designated and / or currently designated historic receptors may be delisted
- New historic receptors may be identified
- Upstanding remains pertaining to built historic and archaeological historic receptors may be degraded by the impacts of weather and the growth or proliferation of vegetation. This is particularly relevant for the non-designated Cairn, Garnedd Fawr (WAT HER PRN 3258), Hut Circle (WAT HER PRN 15611), and sheepfolds (WAT HER PRN 55257 and PRN 55443), which are currently either already mutilated or overgrown
- Below ground archaeological remains may be disturbed or truncated by agricultural activities such as ploughing or the establishment of new tree plantations or may be negatively impacted by changes in soil moisture levels, particularly if floods occur within the Site or outer study areas, and

- The ability to understand and appreciate non-designated historic receptors within the Site will continue to be hindered by relative inaccessibility due to the lack of good condition public rights of way and a lack of information boards and / or signage in their vicinities.

8.5 Mitigation Embedded into the Design

8.5.1 This assessment has been based on the principle that measures have been 'embedded' into the design of the Proposed Development to remove potential significant effects as far as practicable, for example by the considered placement of infrastructure. **ES Volume II, Chapter 3: Description of the Proposed Development**, identifies the design mitigation that has been embedded into the design of the Proposed Development. The embedded mitigation relevant to this assessment is detailed in **Table 8.10**.

Table 8.10 Embedded Mitigation

Embedded mitigation measure relevant to Cultural Heritage	Function
The layout of the Proposed Development has been designed to avoid as far as is practical non-designated historic receptors recorded within the Site.	To reduce the level of direct impacts caused by the Proposed Development.

8.6 Assessment of Likely Effects (Without Additional Mitigation)

Construction

8.6.1 Direct physical effects describe those development activities that directly cause damage to the fabric of a historic asset. Typically, these activities are related to construction works and will only occur within the extent of the receptor. For the purposes of this assessment all infrastructure plus a 50 m micrositing tolerance has been taken as the potential area where construction phase impacts may occur.

8.6.2 The Proposed Development during the construction phase has the potential to have a direct adverse impact on linear feature (HA001), removing a c. 37 m section of the c. 128 m linear receptor for site clearance during the construction of the access track and crane pad for Turbine 10 (T10).

8.6.3 Although Hut Circle, Llandderfel (WAT HER PRN 15611)will not be directly impacted and will be preserved in situ (being c. 84 m from the nearest proposed infrastructure), there is a medium potential for below ground archaeological remains to extend from the receptor to within the footprint of the Proposed Development. A UAV magnetometer survey of test areas covers the access track that runs in close proximity to the hut circle and did not detect any anomalies of a possible or probable archaeological origin. However, there is a potential for further currently unknown

below ground historic receptors to be located with the upland area of the Site. These could be removed during site clearance within the footprint of the Proposed Development, including any topsoil removal for the proposed temporary soil storage areas (if required). The locations of which are shown on **ES Volume IV, Figure 2.19: Construction Layout**, and contain no known historic assets.

8.6.4 All activity requiring removal, transport, stockpiling and re-placing of peat soil would have the potential to lead to the removal or contamination a small section of peat deposits of a much larger resource that could contain organic remains of archaeological or palaeoenvironmental interest preserved within its stratified deposits.

Operational

8.6.5 Indirect effects describe secondary processes, triggered by development. An effect on the setting of a historic asset occurs when the presence of a development changes the surroundings of a historic asset in such a way that it affects (positively or negatively) the heritage significance of that receptor. Visual changes are most commonly encountered but other environmental factors such as noise, light or air quality can be relevant in some cases.

8.6.6 A stage 1 settings assessment was conducted as part of **Appendix 8.1: Report – Archaeological Desk-Based and Stage 1 Setting Assessment**. This assessed all historic receptors identified within the Scoping Direction and it was determined that all but the following historic receptors would not be materially impacted by the Proposed Development, as it is not located within their setting and / or is not located within views from which their significance is best understood and therefore will not be considered further as part of the ES chapter.

8.6.7 The Proposed Development during the operational phase has the potential to have an indirect adverse impact on the setting of Cairn, Garnedd Fawr (WAT HER PRN 3258), as the setting of the cairn positively contributes to its cultural significance. Cairns are largely located in prominent summit locations and viewed in the round. They also have a potential to be parts of prehistoric ritual and funerary landscapes, with Garnedd Fawr cairn likely contributing to a wider Bronze Age ritual and funerary landscape.

8.6.8 The cultural significance of Garnedd Fawr cairn largely lies in its evidential value, as there is a potential for buried human remains to be preserved within its extent. However, WAT HER describes Garnedd Fawr cairn as being a mutilated and grass covered cairn that has been subsequently repurposed as a marker, with a boundary stone set within a hollow in the cairn. Fencing and fence posts that illustrate that the cairn now functions as a marker have already directly impacted this component of its cultural significance.

8.6.9 The Bronze Age cairn could be indirectly impacted by change to its setting. Its setting is defined by Garnedd Fawr itself 569 m AOD, tributaries of Afon Medrad to the north, Foel Goch 611 m AOD to the east, Foel Fach 457 m AOD and Pen y Bwlch 502 AOD to the south and Foel Tyn-y-ddol 470 m AOD to the west. The Proposed Development is located within the confines of its wider setting and will be visible in the silhouette of the cairn when viewed in the round from the surrounding area: specifically, the Proposed Development will be located within the silhouette of the cairn when viewed from east through to the south-west. Therefore, the Proposed Development will be located within views that positively contribute to the significance of the cairn.

8.6.10 Hut Circle, Llandderfel is recorded as an individual roundhouse possibly dating to the Bronze Age (WAT HER PRN 15611). However, a recent archaeological survey has also suggested that the same structure at Moel Emoel was more likely to be a later medieval or post medieval stock management feature (Schofield, 2012). Setting positively contributes to its significance as if it does relate to a prehistoric hut circle it would have likely been either a seasonal hunting shelter or farmstead for summer grazing, with its setting being defined by Moel Emoel to its south-east and watercourses to the south-west that lead to Llyn Maen bras.

8.6.11 To the north and north-west of the hut circle, there is a natural ridge that runs between Pen y Bwlch and Moel Emoel that likely functioned as a natural windbreak but limits visibility in these directions from the hut circle elevation. If it is a medieval to post medieval stock management, its functional setting would be limited to the same or more immediate surroundings. There is a potential for elements of the proposed infrastructure required for the Proposed Development to pass in close proximity to the hut circle, with the access track connecting turbines T01 and T04 running c. 87 m to the north-east of this receptor having an indirect impact on the setting of the hut circle that contributes to its significance.

Table 8.11 Assessment of Effects without Additional Mitigation

Paragraph number	Receptor / receptor groups	Phase	Impact and effect description	Scale of effect	Additional information?
8.11.1	Linear feature (HA001)	Construction	Direct high adverse impact on linear feature (HA001), permanently removing a c. 37 m section of the c. 128 m linear receptor for site clearance during the construction of the access track and crane pad for Turbine 10 (T10).	Minor or moderate adverse	**Appendix 8.1**
8.11.2	Peat deposits to a depth beyond 20 cm	Construction	Direct high adverse impact on peat deposits to a depth beyond 20 cm, permanently removing peat that may contain dateable organic remains within the footprint of the hardstanding for Turbine 1 (T01), Turbine 4 (T04), Turbine 7 (T07), Turbine 8 (T08) and Turbine 9 (T09), as well as the access track between the first junction and junction for Turbine 6 (T06), access track between Turbine 6 (T06) and Turbine 7 (T07), and the access track between Turbine 8 (T08) and watercourse crossing/ bridge to the west of Turbine 9 (T09).	Minor or moderate adverse	**ES Volume II, Chapter 7: Land, Soils and Water.** **Appendix 8.1**
8.11.3	Currently unknown historic	Construction	Up to a direct high adverse impact on possible unknown historic receptors within the footprint of proposed infrastructure has the potential to	Minor or moderate adverse	**Appendix 8.2** **Appendix 8.3**

Paragraph number	Receptor / receptor groups	Phase	Impact and effect description	Scale of effect	Additional information?
	receptors within the Site		permanently and totally remove in a worst-case scenario buried archaeological remains that have not previously been identified.		**Appendix 8.4**
8.11.4	Cairn, Garnedd Fawr, Llandderfel (WAT HER PRN 3258)	Operational	The Proposed Development is located within the confines of its wider setting and will be visible in the silhouette of the non-designated cairn when viewed in the round causing an indirect medium adverse impact on the cultural significance of the cairn	Minor adverse	**Appendix 8.1**
8.11.5	Hut Circle, Llandderfel (WAT HER PRN 15611)	Operational	Elements of the infrastructure required for the Proposed Development pass in close proximity to the non-designated hut circle, with the access track connecting turbines T01 and T04 running c. 87 m to the north-east of this receptor causing an indirect medium adverse impact on the setting of the hut circle.	Minor adverse	**Appendix 8.1**

8.7 Additional Mitigation Measures

8.7.1 **Table 8.12** sets out the additional mitigation measures required to mitigate the likely effects identified in **Section 8.6.** This includes mitigation measures to reduce or offset direct physical impacts on archaeological remains even where these do not lead to significant effects in accordance with standard practice.

Table 8.12 Additional Mitigation

Phase	Description of additional mitigation measure	Securing mechanism
Construction	Post-determination archaeological monitoring or excavation of linear feature (HA001) would mitigate the loss a c. 37 m section of the c. 128 m linear receptor by preservation through record.	Planning condition of consent by the Local Planning Authority with scope defined by an Archaeological written scheme of investigation (WSI) approved by WAT
Construction	Where the peat survey has identified peat deeper than 20 cm in depth, which cannot be avoided through the design (e.g. through micrositing or use of floating track) a programme of post-determination deposit mapping, purposive sampling, analysis and dating and reporting will be undertaken by a geoarchaeological specialist prior to the commencement of construction activity.	Planning condition of consent by the Local Planning Authority with scope defined by an Archaeological written scheme of investigation (WSI) approved by WAT
Construction	The desk-based assessment and geophysical survey results indicate that the Site has generally low archaeological potential. The risk that currently unknown archaeological remains may be disturbed during construction would be managed through an Archaeological Clerk of Works and an Unexpected Finds Protocol.	Planning condition of consent by the Local Planning Authority with scope defined by an Archaeological written scheme of investigation approved by WAT

8.8 Assessment of Residual Effects (with Additional Mitigation)

8.8.1 **Table 8.13** sets out a description of the likely effects of the Proposed Development following the implementation of the mitigation specific to each receptor or receptor group.

Table 8.13 Assessment of Likely Affects (With Additional Mitigation)

Paragraph number	Receptor/ receptor groups	Description of impact	Magnitude of Impact	Description of likely effect	Monitoring
Table key: P/T = Permanent or Temporary, D/I = Direct or Indirect, ST/MT/LT = Short Term, Medium Term or Long Term, N/A = Not Applicable					
Construction					
8.13.1	Linear feature (HA001)	Direct impact on linear feature (HA001), permanently removing a c. 37 m section of the c. 128 m linear receptor for site clearance during the construction of the access track for T10.	Medium adverse P / D / LT	The importance of the linear feature (HA001) is low (local), and the magnitude of change, following additional mitigation, is medium adverse. Therefore, there is likely to be a **direct minor adverse residual effect** on the linear feature following the implementation of additional mitigation measures, which is considered to be **not significant.**	Monitoring would be carried out by WAT to ensure that any measures set out by the Local Authority as a condition of consent remain appropriate and are adhered to.

Paragraph number	Receptor/ receptor groups	Description of impact	Magnitude of Impact	Description of likely effect	Monitoring
Table key: P/T = Permanent or Temporary, D/I = Direct or Indirect, ST/MT/LT = Short Term, Medium Term or Long Term, N/A = Not Applicable					
8.13.2	Peat deposits deeper than 20 cm in depth.	Direct impact on peat deposits deeper than 20 cm in depth, permanently removing peat that may contain organic remains of archaeological or palaeoenvironmental interest within the footprint of the hardstanding for Turbines and access track.	Medium adverse P / D / LT	The importance of the peat deposits deeper than 20 cm in depth is low (local), and the magnitude of change, following additional mitigation, is medium adverse. Therefore, there is likely to be a **direct minor adverse residual effect** on peat deposits deeper than 20 cm in depth following the implementation of additional mitigation measures, which is considered to be **not significant.**	Monitoring would be carried out by WAT to ensure that any measures set out by the Local Authority as a condition of consent remain appropriate and are adhered to.
8.13.3	Currently unknown historic receptors within the Site	Direct impact on possible unknown historic receptors within the footprint of proposed infrastructure has the potential to permanently remove archaeological remains that have not	Unknown	The importance of currently unknown historic receptors is unknown; therefore the likely effects are similarly unknown. However. based on other non-designated historic receptors within the Site, if any currently	Monitoring would be carried out by WAT to ensure that any measures set out by the Local Authority as a condition of consent remain

Paragraph number	Receptor/ receptor groups	Description of impact	Magnitude of Impact	Description of likely effect	Monitoring
Table key: P/T = Permanent or Temporary, D/I = Direct or Indirect, ST/MT/LT = Short Term, Medium Term or Long Term, N/A = Not Applicable					
		previously been identified.		unknown historic receptors were identified they would likely be of low (local) importance and the magnitude of change, following additional mitigation, would be medium adverse. Therefore, there is likely to be a **direct minor adverse residual effect** following the implementation of additional mitigation measures, which is considered to be **not significant.**	appropriate and are adhered to.
Operational					
8.13.4	Cairn, Garnedd Fawr, Llandderfel (WAT HER PRN 3258)	The Proposed Development is located within the confines of its wider setting and will be visible in the silhouette of the cairn when viewed in	Medium adverse T / I / MT	The importance of the cairn (WAT HER PRN 3258) is low (local), and the magnitude of change is medium adverse. Therefore, there is likely to be a **direct**	No monitoring required.

Paragraph number	Receptor/ receptor groups	Description of impact	Magnitude of Impact	Description of likely effect	Monitoring
Table key: P/T = Permanent or Temporary, D/I = Direct or Indirect, ST/MT/LT = Short Term, Medium Term or Long Term, N/A = Not Applicable					
		the round causing an indirect impact on the significance of the cairn.		**minor adverse residual effect** on the cairn, which is considered to be **not significant.**	
8.13.5	Hut Circle, Llandderfel (WAT HER PRN 15611)	The hut circle could be indirectly impacted by change to its setting defined by its former seasonal hunting / livestock grazing area. The hut circle will be located between Turbines T01 and T04 with the access track connecting the turbines that run c. 87 m to the north-east of this receptor.	Medium adverse T / I / MT	The importance of the hut circle (WAT HER PRN 15611) is low (local), and the magnitude of change is medium adverse. Therefore, there is likely to be a **direct minor adverse residual effect** on the hut circle, which is considered to be **not significant.**	No monitoring required.

8.9 Opportunities for Environmental Enhancement

8.9.1 The Applicant proposes that drystone walls in need of repair within the Site could be refurbished as part of the Proposed Development, preserving their historical characteristics. **ES Volume IV, Figure 8.4** shows historic field boundaries within the Site which could be considered for enhancement – either through repair or reinstatement of drystone walling or through hedgerow enhancement as appropriate to their original form.

8.9.2 Measures could be taken to enhance the non-designated Cairn, Garnedd Fawr (WAT HER PRN 3258), Hut Circle (WAT HER PRN 15611), and sheepfolds (WAT HER PRN 55257 and PRN 55443), which are currently either already mutilated or overgrown. These measures, including vegetation removal or management and archaeological recording of the assets, would be agreed with Heneb and detailed within a Conservation Management Plan.

8.9.3 The incorporation of information boards for historic receptors within the Site within the vicinity of the access track for the Proposed Development would increase their visibility, accessibility and appreciation. Other methods of increasing public awareness of the historic receptors within the Site could include web-based resources. Any measures to improve understanding or appreciation of the historic receptors within the Site would accord with planning policy and guidance which supports the enhancement of historic assets.

8.9.4 There is an opportunity for a Cultural Heritage Trail that incorporates elements of the access track of the Proposed Development to highlight historic receptors in its proximity. Discussions about the potential implementation of this would be held with archaeological advisors to the Local Panning Authority and Cadw as appropriate and would be detailed within a Historic Environment Enhancement Plan (HEEP) secured by condition. The HEEP would include details of any Conservation Management Plans to conserve and enhance the known historic assets within the Site.

8.9.5 The Applicant will also develop a community engagement plan which will include engagement relating to the historic environment resource within the site boundary.

8.9.6 As the significance of an asset is defined in terms of its interest for the whole of society, public access to a heritage asset means that it can be experienced, appreciated and understood by the largest proportion of society. The enhancement opportunities of the Proposed Development discussed in **paragraphs 8.9.1 - 8.9.5** above would improve public access, visibility, and engagement with the non-designated historic receptors within the vicinity of the Proposed Development. Therefore, the opportunities for environmental enhancement for the Proposed Development would allow an increased proportion of the society to experience, appreciate and understand these receptors. This would therefore increase the cultural significance of these receptors, which could be considered a direct positive change as a result of the Proposed Development.

8.10 Difficulties and Uncertainties

8.10.1 The following difficulties and uncertainties have been encountered during the undertaking of this Cultural Heritage assessment:

- Information held by public data sources is generally considered to be reliable, however the following general points are noted:
  - Documentary sources are rare before the medieval period
  - While it is accepted that historic documents may be biased depending on the author, with the content seen through the lens of context, wherever such documentary sources are used in assessing archaeological potential professional judgement is used in their interpretation in that the functionality of the document is considered
  - HER information can be limited because of opportunities for research, fieldwork and discovery depend on the situation of commercial development and occasional research projects, rather than the result of a more structured research-driven enhancement programme. A lack of data within the HER does not necessarily equal an absence of archaeology, this lack of data has been addressed through the walk-over survey, the initial archaeological survey of the access track and entrance compound, Llaithgwm and conventional geophysical surveys. A test UAV magnetometer survey has been successfully undertaken to assess the viability of the technique, with further UAV magnetometer survey commissioned for the remainder of the upland area of the Proposed Development, and
  - The significance of sites can be difficult to identify from HER data, depending on the accuracy and reliability of the original source.
- Any archaeological site visit has inherent limitations, primarily because archaeological remains below ground level may have no surface indicators. This has been addressed through geophysical survey of areas where hard infrastructure is proposed
- Magnetometry has limitations in that certain types of sub-surface remains may, under certain circumstances, be more likely to be identified by other survey techniques, such as earth resistance, ground penetrating radar or electro-magnetic methods, which measure different geophysical properties. However, given the success of preceding surveys in the wider area, magnetometry was selected as the best methodology for assessing the Site, and
- There remains the potential for below-ground remains to be present in situ within the Proposed Development. As the nature and function of such heritage receptors is unknown, their importance and significance are also unknown. Therefore, specific potential physical and settings impacts on currently unknown heritage receptors could not be determined in this

assessment. However, potential physical and settings impacts on such assets have been identified and assessed in broad terms.

8.10.2 These uncertainties are typical for an assessment of this type and are not expected to affect the validity of the outcome of the assessment.

8.11 Abnormal Indivisible Load Route

8.11.1 There are expected to be minor works around highways junctions associated with the 'Abnormal Indivisible Load Route' (AILR) (Annex 1 of **ES Volume III, Appendix 11.1: Transport Assessment**), from the Port of Liverpool through to the access route junction of the Site and is required to facilitate transport of the large turbine components. Annex 1 identifies Points of Interest (POIs) where physical works will be required. The AILR has been reviewed for environmental constraints (**ES Volume III, Appendix 4.1: AILR Environmental Constraint**). Where environmental constraints were identified in relation to cultural heritage, these are further considered here.

8.11.2 As part of the AILR constraints screening, POIs 33, 35, 36, 37,38. 39, 43 and 46 were identified as being within 50 m of designated heritage assets. Physical works likely to be required at these locations would potentially comprise oversailing of loads beyond the carriageway or overrunning of the verge or of roundabouts. These works would necessitate some removal of traffic signs, lights and/ or bollards and laying of load bearing surfaces. It is likely that these works would be minimally intrusive and would not result in significant effects on below ground archaeological remains. They would have negligible impact on the setting of the designated heritage assets. It is assumed that standard control measures on vehicle speeds and secured loads would ensure that no accidental harm to any historic assets will occur.

8.11.3 At POI 38 (A487 Penrhyndeudraeth) and POI 43 (A487 Laundry Cottage LH Bend) overhead lines will be removed or relocated, Further assessment may be needed if lines are to be relocated to ensure that any impacts on historic assets are avoided.

8.12 Inter-project Cumulative Effects

Screening Cumulative Developments within the Zone of Influence

8.12.1 The inter-project cumulative effects assessment has been undertaken in accordance with Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment, as detailed in **ES Volume II, Chapter 4: Approach to the EIA**.

8.12.2 **Table 8.14** sets out the other committed developments located within 10 km of the Site. This Zone of Influence (ZoI) has been determined as appropriate for this cumulative assessment through professional judgement and based on the assessment OSAs for the ES chapter agreed through the Scoping Direction. **Table**

8.14 also sets out the findings of a screening assessment undertaken to identify those committed developments which have the potential to result in significant effects with the Proposed Development.

Table 8.14 Inter-project Cumulative Effects: Screening

ID	Committed development	Scheme description	Potential for cumulative effects?
C18	DNS CAS-02646-S1G1Q8 Moel Chwa Energy Park	The Proposed Development comprises an Energy Park and a 132 kV OHL grid connection. The Energy Park will consist of up to 12 three bladed horizontal axis wind turbines, with a 162 m rotor diameter, hub height of 119 m and height to blade tip of 200 m and associated infrastructure and temporary construction compound(s)	The Moel Chwa Energy Park is located 4.3 km to north-east of the Proposed Development. Although, Moel Chwa Energy Park lies with ZoI of the Proposed Development, it is a significant distance away where no cumulative effects on buried archaeological remains would be caused within the Site. Similarly, Moel Chwa Energy Park is not within the same visual envelope as the Proposed Development when viewed from the same historic receptors recorded within the OSA. Therefore, there is no potential for significant effects.
C19	DNS/3276735 Gaerwen Wind Farm	The Proposed Development comprises a wind farm consisting of nine wind turbines and external electrical cubicles with a combined generating capacity greater than 10 MW, further associated infrastructure. Seven of the turbines are proposed to have a maximum blade tip height of up to 180 m and two with a maximum blade tip height of up to 200 m.	The Gaerwen Wind Farm is located 5.09 km to east of the Proposed Development. Although, Gaerwen Wind Farm lies with ZoI of the Proposed Development, it is a significant distance away where no cumulative effects on buried archaeological remains would be caused within the Site. Similarly, Gaerwen Wind Farm is not within the same visual envelope as the Proposed Development when viewed from the same historic receptors recorded within the OSA.

ID	Committed development	Scheme description	Potential for cumulative effects?
			Therefore, there is no potential for significant effects.
C2	07/2022/0824 Tyfos, Pen Y Geulan Solar Array	Proposed installation for the erection of a 606.12 kw ground mounted solar array and all associated works.	The Tyfos, Pen T Geulan Solar Array is located 7.84 km to east of the Proposed Development. Although, Tyfos, Pen Y Geulan Solar Array lies with ZoI of the Proposed Development, it is a significant distance away where no cumulative effects on buried archaeological remains would be caused within the Site. Similarly, Tyfos, Pen Y Geulan Solar Array is not within the same visual envelope as the Proposed Development when viewed from the same historic receptors recorded within the OSA. Therefore, there is no potential for significant effects.

References

Anglesey and Gwynedd Council, adopted 31 July 2017. *Anglesey and Gwynedd Joint Local Development Plan 2011-2026 (adopted 31 July 2017).* [Online]
Available at: https://www.gwynedd.llyw.cymru/en/Council/Documents---Council/Strategies-and-policies/Environment-and-planning/Planning-policy/Anglesey-and-Gwynedd-Joint-Local-Development-Plan-Written-Statement.pdf

Anon., 1990. *Town and Country Planning Act 1990.* [Online]
Available at: https://www.legislation.gov.uk/ukpga/1990/8/contents
[Accessed August 2025].

Cadw , 2001. *Landscapes of Historic Interest in Wales: Part 2.2 Landscapes of Special Historic Interest. ,* Cardiff: Cadw.

Cadw, Welsh Assembly Government, Countryside Council for Wales, 2007. *Guide to Good Practice on using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process.* [Online]
Available at: https://cadw.gov.wales/sites/default/files/2019-

05/LandscapesRegisterGoodPractice_EN_0.pdf
[Accessed November 2025].

Cadw, 2011. *Conservation Principles for the sustainable management of the Historic Environment in Wales.* [Online]
Available at: https://cadw.gov.wales/sites/default/files/2019-05/Conservation_Principles%20for%20the%20sustainable%20managment%20fo%20the%20historic%20environment%20of%20Wales.pdf

Cadw, 2017a. *Heritage Impact Assessment in Wales.* [Online]
Available at: https://cadw.gov.wales/sites/default/files/2019-05/20170531Heritage%20Impact%20Assessment%20in%20Wales%2026917%20EN.pdf

Cadw, 2017b. *Setting of Historic Assets in Wales.* [Online]
Available at: https://cadw.gov.wales/sites/default/files/2019-05/Setting%20of%20Historic%20Assets%20in%20Wales%20EN.pdf
[Accessed November 2025].

Cadw, 2017c. *Managing Historic Character in Wales.* [Online]
Available at: https://cadw.gov.wales/sites/default/files/2019-05/Managing%20Historic%20Character%20in%20Wales%20%20EN.pdf
[Accessed November 2025].

Cifa, 2020a. *Standard and guidance for historic environment desk-based assessment.* [Online]
Available at: https://www.archaeologists.net/sites/default/files/2023-11/CIfA-SandG-DBA-2020.pdf
[Accessed November 2025].

Cifa, 2020b. *Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment.* [Online]
Available at: https://www.archaeologists.net/sites/default/files/2023-11/CIfA-SandG-Archaeological-Consultancy-2020.pdf
[Accessed November 2025].

Cifa, 2022. *Code of conduct: professional ethics in archaeology .* [Online]
Available at: https://www.archaeologists.net/sites/default/files/2023-11/CIfA-Code-of-Conduct-2022.pdf
[Accessed November 2025].

DMRB, 2007. *DMRB Volume 11 Section 3 Part 2 - HA 208/07 - Cultural Heritage.* [Online]
Available at: https://www.standardsforhighways.co.uk/tses/attachments/1a4ae444-13a7-4249-9c7c-692f5cb11e14?inline=true
[Accessed Sepetember 2025].

Gwynedd Archaeological Trust, 1993. The Uplands Survey Project: Archaeological fieldwork in the Gwynedd Uplands Between 1983 and 1992.. *Gwynedd Archaeological Trust,* Issue Unpublished Report 22.

Henebson, S., 2019. L52 Overhead Line Refurbishment, Gellilygan to Llyn Celyn: Desk-based Assessment.. *Clwyd-Powys Archaeological Trust ,* Issue Unpublished Report 1649.

IEMA, 2021. *Principles of Cultural Heritage Impact Assessment in the UK.* [Online]
Available at: https://www.ihbc.org.uk/brighton2021/resources/Principles-of-CHIA-V2%5B4%5D.pdf

Schofield, P., 2012. *Archaeological Survey Report: Uplands Initiative Field Projects 2011-12 Foel Goch Survey Area,* s.l.: Oxford Archaeology North.

Welsh Assembly Government, 1997. *Technical Advice Note (Wales) 11, Noise.* [Online]
Available at: https://www.gov.wales/technical-advice-note-tan-11-noise
[Accessed November 2025].

Welsh Government Llywodraeth Cymru, 2017. *Technical advice note (TAN) 24: the historic environment.* [Online]
Available at: https://www.gov.wales/sites/default/files/publications/2018-09/tan24-historic-environment.pdf
[Accessed November 2025].

Welsh Government Llywodraeth Cymru, 2021. *Future Wales The National Plan 2040.* [Online]
Available at: https://www.gov.wales/future-wales-national-plan-2040-0
[Accessed November 2025].

Welsh Government Llywodraeth Cymru, 2024. *Planning Policy Wales.* 12 ed. s.l.:Welsh Government.

Welsh Government, 1857. *Burial Act 1857.* [Online]
Available at: https://www.legislation.gov.uk/ukpga/Vict/20-21/81
[Accessed November 2025].

Welsh Government, 1986. *Protection of Military Remains Act 1986.* [Online]
Available at: https://www.legislation.gov.uk/ukpga/1986/35/contents
[Accessed November 2025].

Welsh Government, 1996. *Treasure Act (1996).* [Online]
Available at: https://www.legislation.gov.uk/ukpga/1996/24
[Accessed November 2025].

Welsh Government, 2015. *Well-being of Future Generations (Wales) Act 2015.* [Online]
Available at: https://www.legislation.gov.uk/anaw/2015/2/contents
[Accessed August 2025].

Welsh Government, 2023. *Historic Environment (Wales) Act.* [Online] Available at: https://www.legislation.gov.uk/asc/2023/3/contents [Accessed November 2025].