



HISTORIC ENVIRONMENT DESK-BASED ASSESSMENT

MYNYDD PENCARREG WIND TURBINES PENCARREG CARMARTHENSHIRE

Planning • Heritage

Specialist & Independent Advisors to the Property Industry

NOVEMBER 2014

**Planning Authority:
Carmarthenshire County
Council**

**Site centred at:
NGR 257390, 240970**

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Executive Summary

This historic environment assessment has been prepared for Dulas Ltd., on behalf of EnergieKontor, for a site at Pencarreg, Carmarthenshire, which is being proposed for the development of two wind turbines and associated infrastructure.

The setting of the designated heritage assets in the wider area has been assessed in detail and it has been shown that the proposed development would have no more than a **Negligible** impact on the significance of any assets.

The archaeological interest of the Proposed Development Area (PDA) consists of surviving historic field boundaries, present from the late 19th century; and a low to moderate potential for the survival of buried Bronze Age features which may be of regional significance at most. There is a low potential for archaeological remains of any other period.

While the proposed development impact of the turbines within the PDA is small, it has the potential to have a limited impact on any sub-surface remains which may survive. In recognition of this potential impact the archaeological and historical interest of the PDA could be addressed by appropriate mitigation comprising a watching brief, to excavate and record any surviving remains during construction.

The local authority Archaeological Planning Advisor may, however, require pre-construction works to further investigate the potential for Bronze Age features to survive within the PDA. This would most likely take the form of a geophysical survey, which would identify any areas of archaeological activity. These could then be mitigated, most simply by exclusion from the development area.

Any such additional works, either geophysical survey or watching brief, could be dealt with as part of a condition applied to planning permission. The assessment has not revealed potential adverse effects on the historic environment at a scale which would preclude the proposed development in accordance with current Local Plan policies CUDP13, BE2 and BE3.

1.0 INTRODUCTION AND SCOPE OF STUDY

- 1.1 This historic environment assessment has been researched and prepared by Philip Bethell of CgMs Consulting for Dulas Ltd., on behalf of EnergieKontor.
- 1.2 The assessment considers land at Pencarreg, Carmarthenshire (Fig. 1). The proposed development area (hereafter referred to as the PDA) is centred at NGR 257390, 240970, and is approximately 32ha in extent. The proposed turbines are located at 256960, 241001, and 256960, 241248.
- 1.3 Where the effects of the proposed turbines on the settings of heritage assets are considered, the mid-point between the two turbines is used as the proposed turbine location (PTL), i.e. the point from which to measure such effects.
- 1.4 In accordance with Welsh Government policy on archaeology and planning (Chapter 6 of Planning Policy Wales), and the adopted 'Carmarthenshire Unitary Development Plan 2006', this assessment draws together the available archaeological, topographic and land-use information in order to clarify the archaeological potential of the PDA.
- 1.5 Planning policy (see below) requires that an appropriate assessment should be carried out to assess and identify the archaeological resource, the setting on any statutorily protected landscapes or features, and propose any further mitigation necessary.
- 1.6 Accordingly, in line with the IfA Standard and Guidance for Historic Environment Desk-Based Assessment (IfA 2012), the assessment includes the results of a site inspection, an examination of published and unpublished records, and charts historic land-use through a map regression exercise.
- 1.7 As a result, the assessment enables relevant parties to assess the significance of heritage/archaeological assets on and close to the PDA and assesses the potential for hitherto undiscovered archaeological assets, thus enabling potential impacts on assets to be identified along with the need for design, civil engineering or archaeological solutions. The assessment also enables an understanding of the potential impacts on the settings of heritage assets that could arise as a result of the development.

2.0 RELEVANT STATUTORY AND PLANNING POLICY FRAMEWORK

2.1 Statutory Framework

Ancient Monuments & Archaeological Areas Act 1979

- 2.1.1 The Ancient Monuments & Archaeological Areas Act 1979 (as amended) protects the fabric of Scheduled Monuments, but does not afford statutory protection to their settings. Relevant policies relating to the protection of the setting of scheduled monuments are contained within national and local development plan policy. Current best-practice guidance for assessing and managing change within the setting of heritage assets has been published by English Heritage in 'The Setting of Heritage Assets' (English Heritage 2011).

Planning (Listed Building and Conservation Areas) Act 1990 and Planning (Listed Building and Conservation Areas) (Wales) Regulations 2012

- 2.1.2 The Planning (Listed Building and Conservation Areas) Act 1990 sets out policies relevant to the protection of listed buildings and conservation areas and their setting. The Planning (Listed Buildings and Conservation Areas) (Wales) Regulations 2012 has updated the mechanisms for implementation of the 1990 UK Act in the Welsh context, without altering the main provisions of the Act.

- 2.1.3 The following sections of the main Act are relevant to the site:

- Section 66(1) states: 'In considering whether to grant planning permission 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'.
- Section 69 of the Act requires local authorities to define as conservation areas any 'areas of special architectural or historic

interest the character or appearance of which it is desirable to preserve or enhance' and Section 72 gives local authorities a general duty to pay special attention 'to the desirability of preserving or enhancing the character or appearance of that area' in exercising their planning functions. These duties are interpreted as requiring local authorities to consider the settings of buildings within the conservation area and the setting of the conservation area itself.

2.2 **Policy Background**

Planning Policy Wales

- 2.2.1 The Welsh Government has published Planning Policy Wales (PPW), currently updated to Version 7 from July 2014. This sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs). Procedural advice is given in circulars and policy clarification letters.
- 2.2.2 Chapter 6 of the PPW, entitled 'Conserving the Historic Environment', provides policy for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Chapter 6 can be summarised as seeking to:
- preserve or enhance the historic environment, recognising its contribution to economic vitality and culture, civic pride and the quality of life, and its importance as a resource for future generations; and specifically to
 - protect archaeological remains, which are a finite and non-renewable resource, part of the historical and cultural identity of Wales, and valuable both for their own sake and for their role in education, leisure and the economy, particularly tourism;
 - ensure that the character of historic buildings is safeguarded from alterations, extensions or demolition that would compromise a building's special architectural and historic interest; and to
 - ensure that conservation areas are protected or enhanced, while at the same time remaining alive and prosperous, avoiding unnecessarily detailed controls over businesses and householders.

- 2.2.3 Chapter 6 of PPW does not define the historic environment beyond stating that it encompasses archaeology and ancient monuments, listed buildings, conservation areas and historic parks, gardens and landscapes.
- 2.2.4 There is no specific TAN for the historic environment, but several Welsh Office Circular Orders pertain to the historic environment:
- Welsh Office Circular 61/96 Planning and the Historic Environment: Historic Buildings and Conservation Areas.
 - Welsh Office Circular 60/96 Planning and the Historic Environment: Archaeology.
 - Welsh Office Circular 1/98 Planning and the Historic Environment: Directions by the Secretary of State for Wales.
- 2.2.5 Another important source of guidance on assessing the impact of developments on the historic landscape is the 'Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process, (Revised Edition 2007)'.
- 2.2.6 The 'Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment in Wales' published by Cadw in March 2011 also provide useful guidance. The six principles expressed are:
- Historic assets will be managed to sustain their values.
 - Understanding the significance of historic assets is vital.
 - The historic environment is a shared resource.
 - Everyone will be able to participate in sustaining the historic environment.
 - Decisions about change must be reasonable, transparent and consistent.
 - Documenting and learning from decisions is essential.
- 2.2.7 Welsh planning legislation and policy guidance outlines that the desirability of preserving archaeological remains and their setting is a material consideration in the determination of a planning application (Planning Policy Wales, Chapter 6, Para. 6.5.1). In order to take into account archaeological considerations and deal with them from the beginning of the development control process Local Planning

Authorities in Wales need to be fully informed about the nature and importance of archaeological remains, and their setting, and the likely impact of any proposed development upon them (WO Circular 60/96 Para. 10 and Para.15). This means that Local Planning Authorities can request an applicant to provide further information on archaeological matters (WO Circular 60/96, Para. 15).

- 2.2.8 Specific reference to the type of development considered in this assessment is contained in TAN 8 – Planning for Renewable Energy (July 2005). This refers specifically to WO Circular 60/96 for policy on impacts on archaeology.
- 2.2.9 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance PPW, by current Development Plan Policy and by other material considerations. Appendix D paragraph 3.5. also refers to Cultural Heritage, and gives advice on consulting local authority advisors.

Local Planning Policy

- 2.2.10 The local plan framework is provided by Carmarthenshire County Council, and the Local Development Plan is currently (October 2014) undergoing Examination. Until the proposed new plan is adopted, active planning policy is contained within the Carmarthenshire Unitary Development Plan (CUDP), which was adopted in July 2006.
- 2.2.11 The CUDP contains one strategic policy relating specifically to the historic environment:

POLICY CUDP 13 – BUILT/HISTORIC ENVIRONMENT

IT IS THE POLICY OF CARMARTHENSHIRE COUNTY COUNCIL TO PROTECT AND WHERE APPROPRIATE TO ENHANCE IMPORTANT FEATURES OF THE BUILT/HISTORIC ENVIRONMENT.

- 2.2.12 Chapter 8 of the CUDP, 'Environment – Built and Historic Environment', contains the following policies relating to the historic environment within the county, which are relevant to this assessment:

BE1 – SCHEDULED ANCIENT MONUMENTS AND ARCHAEOLOGICAL REMAINS OF NATIONAL IMPORTANCE:

IT IS THE POLICY OF CARMARTHENSHIRE COUNTY COUNCIL THAT DEVELOPMENTS OR WORKS WHICH WOULD ADVERSELY AFFECT THE PRESERVATION, ARCHAEOLOGICAL POTENTIAL, AMENITY, HISTORIC VALUE OR THE SETTING OF SITES OF A SCHEDULED ANCIENT MONUMENT OR ARCHAEOLOGICAL REMAINS CONSIDERED OF NATIONAL IMPORTANCE WILL NOT BE PERMITTED.

BE2 – ARCHAEOLOGICAL SITES

IT IS THE POLICY OF CARMARTHENSHIRE COUNTY COUNCIL THAT DEVELOPMENTS OR WORKS WHICH WOULD ADVERSELY AFFECT THE PRESERVATION, ARCHAEOLOGICAL POTENTIAL, AMENITY, HISTORIC VALUE OR THE SETTING OF SITES OF LOCAL OR REGIONAL ARCHAEOLOGICAL IMPORTANCE WILL NOT BE PERMITTED. EXCEPTIONS WILL ONLY BE MADE WHERE THE PLANNING AUTHORITY, IN CONSIDERING THE RELATIVE IMPORTANCE OF THE REMAINS AND THE LIKELY EFFECT OF AND NEED FOR THE PROPOSAL, IS SATISFIED THAT:

(i)THE ADVERSE IMPACTS ARE MINIMISED; AND

(ii)THE NEED FOR THE PROPOSAL OUTWEIGHS ANY LIKELY HARM.

THE COUNCIL WILL SEEK WHERE POSSIBLE TO PRESERVE THE REMAINS IN SITU. WHERE PRESERVATION IN SITU IS NOT PRACTICABLE THE COUNCIL MAY REQUIRE EXCAVATION AND RECORDING OF THE ARCHAEOLOGICAL REMAINS.

BE3 – ARCHAEOLOGICAL ASSESSMENT

IT IS THE POLICY OF CARMARTHENSHIRE COUNTY COUNCIL THAT WHERE DEVELOPMENT IS PROPOSED ON OR NEAR SITES OF ARCHAEOLOGICAL INTEREST AN ARCHAEOLOGICAL ASSESSMENT WILL BE REQUIRED PRIOR TO THE DETERMINATION OF THE APPLICATION.

BE4 – SITE OF ARCHAEOLOGICAL INTEREST

IT IS THE POLICY OF CARMARTHENSHIRE COUNTY COUNCIL TO SEEK WHERE APPROPRIATE THE DESIGNATION OF THOSE SITES OF REGIONAL AND/OR LOCAL ARCHAEOLOGICAL INTEREST WITHIN THE PLAN AREA AS SITES OF ARCHAEOLOGICAL INTEREST.

BE8 – SETTING OF A LISTED BUILDING

IT IS THE POLICY OF CARMARTHENSHIRE COUNTY COUNCIL THAT DEVELOPMENT PROPOSALS WHICH WOULD ADVERSELY AFFECT THE SETTING OF A LISTED BUILDING WILL NOT BE PERMITTED.

2.2.13 The Emerging Local Development Plan has a strategic objective which relates specifically to the historic environment:

SO4: TO ENSURE THAT THE NATURAL, BUILT AND HISTORIC ENVIRONMENT IS SAFEGUARDED AND ENHANCED AND THAT HABITATS AND SPECIES ARE PROTECTED.

2.2.14 The emerging plan also contains one strategic policy and one specific policy relevant to this assessment:

POLICY SP13 - PROTECTION AND ENHANCEMENT OF THE BUILT AND HISTORIC ENVIRONMENT

DEVELOPMENT PROPOSALS SHOULD PRESERVE AND ENHANCE THE BUILT AND HISTORIC ENVIRONMENT OF THE COUNTY, ITS CULTURAL, TOWNSCAPE AND LANDSCAPE ASSETS (OUTLINED BELOW), AND, WHERE APPROPRIATE, THEIR SETTING. PROPOSALS RELATING TO THE FOLLOWING WILL BE CONSIDERED IN ACCORDANCE WITH NATIONAL GUIDANCE AND LEGISLATION:

- A) SITES AND FEATURES OF RECOGNISED HISTORICAL AND CULTURAL IMPORTANCE;**
- B) LISTED BUILDINGS AND THEIR SETTING;**
- C) CONSERVATION AREAS AND THEIR SETTING;**
- D) SCHEDULED ANCIENT MONUMENTS AND OTHER SITES OF RECOGNISED ARCHAEOLOGICAL IMPORTANCE.**

PROPOSALS WILL BE EXPECTED TO PROMOTE HIGH QUALITY DESIGN THAT REINFORCES LOCAL CHARACTER AND RESPECTS AND ENHANCES THE LOCAL SETTING AND THE CULTURAL AND HISTORIC QUALITIES OF THE PLAN AREA.

POLICY EQ1 - PROTECTION OF BUILDINGS, LANDSCAPES AND FEATURES OF HISTORIC IMPORTANCE

PROPOSALS FOR DEVELOPMENT AFFECTING LANDSCAPES, TOWNSCAPES BUILDINGS AND SITES OR FEATURES OF HISTORIC OR ARCHAEOLOGICAL INTEREST WHICH BY VIRTUE OF THEIR HISTORIC IMPORTANCE, CHARACTER OR SIGNIFICANCE WITHIN A GROUP OF FEATURES MAKE AN IMPORTANT CONTRIBUTION TO THE LOCAL CHARACTER AND THE INTERESTS OF THE AREA WILL ONLY BE PERMITTED WHERE THE DISTINCTIVENESS, INTEGRITY OR SETTING OF THE FEATURE, LANDSCAPE, TOWNSCAPE OR BUILDING ARE NOT ADVERSELY AFFECTED.

2.2.15 Until the submitted LDP becomes formally adopted, the policies in the CUDP will remain in force. However, the emerging LDP policies make clear the local authority's thinking and intentions towards the continuing protection of the historic environment, and should therefore be considered alongside the active policies.

2.2.16 This assessment therefore seeks to establish whether archaeological evidence from the PDA or its vicinity suggests that the PDA contains significant elements

of the historic environment, and falls within the scope of policies contained within PPW, the adopted 'Carmarthenshire Unitary Development Plan (July 2006)', and emerging policy contained within the submitted Local Development Plan.

2.3 **Definitions and Guidance**

Definition of the historic environment

2.3.1 There is no single agreed definition of the historic environment or its components. For the purposes of this assessment, useful definitions are found in the Cadw 'Conservation Principles for the sustainable management of the historic environment in Wales' (March 2011).

2.3.2 In this document the historic environment is defined as: all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried, or submerged, and deliberately planted or managed (Cadw 2011).

Heritage assets

2.3.3 Heritage assets are defined as:

- An identifiable component of the historic environment. It may consist of or be a combination of an archaeological site, an historic building, or a parcel of historic landscape. Nationally important historic assets will normally be designated (Cadw 2011)

2.3.4 A useful additional definition is contained within the National Planning Policy Framework for England (2012), which defines 'Archaeological Interest' as a heritage asset which holds or potentially could hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.

2.3.5 A Designated Heritage Asset is considered to be a: World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area. In Wales areas of landscape have been designated and included in the non-statutory Register of Landscapes of Historic Interest in Wales.

Significance

2.3.6 Significance in relation to heritage policy considerations is defined as:

- The sum of the cultural heritage values (Cadw 2011).

2.3.7 The 'Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process, (Revised Edition 2007)' outlines Categories A – U which are used to place historic environment assets in order of relative importance. These terms are used in this report (see below in Section 5).

Setting

2.3.8 There is as yet (September 2014) no specific guidance published in Wales relating to the assessment of the impact of development on the settings of historic environment assets, although Welsh policy makes it clear that setting must be considered in any assessment of the historic environment (PPW 6.4.2, 6.5.1). The Setting of Heritage Assets (English Heritage, 2011) is regarded as an industry standard which can be applied across the UK, pending the publication of guidance specific to Wales, currently in preparation. It sets out guidance on the management of change within the settings of heritage assets. Key to this document is that the protection of the setting of heritage assets need not prevent change but the impact of change needs to be properly assessed. In summary, the key points from the guidance are:

- Setting is the surroundings in which a heritage asset is experienced. Elements of the setting may make a positive, negative or neutral contribution to the significance of an asset.
- Setting is often described in visual terms but it can include other factors such as noise, smell, dust and historic associations between heritage assets.

- Setting is usually more extensive than curtilage, and is distinct from historic character and context.
- Setting exists irrespective of public access.

- The setting of heritage assets change over time. Where the surroundings of a heritage asset are relatively unaltered from when the asset was first constructed/used, the contribution of the setting to the significance is likely to be higher than where the setting has been subject to high levels of change from its original state. However, the process of change can enhance the significance of a heritage asset.

2.3.9 The guidance sets out a five staged process for assessing the implications of proposed developments on setting, of which Stages 1 and 2 are used in the identification and assessment of a heritage baseline:

1. **Identification of heritage assets which are likely to be affected by proposals** – The guidance states that if development is capable of affecting the contribution of a heritage asset's setting to its significance, or the appreciation of its significance, it can be considered as falling within the asset's setting. Importantly, it is made clear that an impact on setting does not necessarily equate to harm to the asset, and may be positive or neutral. This judgement of impact instead depends upon a detailed understanding of the individual heritage asset's significance, of which setting may form a greater or lesser part.
2. **Assessment of whether and what contribution setting makes to the significance of a heritage asset** – This depends upon an understanding of the history and development of the site, utilising historic mapping where possible. This assessment should also be informed by the physical surroundings of the asset, including its relationship with other heritage assets, the way in which the asset is experienced and the asset's associations and patterns of use. All this information will provide a baseline for establishing the effects of a proposed development on the significance of a heritage asset.
3. **Assessing the effects of proposed development on the significance of a heritage asset** – With the baseline information gathered at Stage 2 it will be possible to identify a range of effects a proposed development may have on the setting of a heritage asset, which will be evaluated as

beneficial, neutral or harmful to the significance of the heritage asset. The location and siting, form and appearance, permanence and any other effects of proposals will all inform the assessment process.

4. **Maximising enhancement and reduction of harm on the setting of heritage assets** – Measures to reduce harm could include relocation of all or parts of a development, changes to the layout, screening, etc. Where harm cannot be eliminated, design quality of the proposed development may be one of the main factors in assessing the balance of harm and benefit.
5. **The final decision about the acceptability of proposals** – This will depend on the range of circumstances that apply to a heritage asset and the relative sensitivity to change. Decisions are therefore made on a case by case basis, recognising that all heritage assets are not of equal importance and the contribution made by their setting to their significance also varies.

2.3.10 This assessment considers Stages 1 to 3 for each asset or group of assets. Following this, Stage 4 will be considered for those assets where there is a potentially significant affect on their settings.

3.0 GEOLOGY AND TOPOGRAPHY

3.1 Geology

- 3.1.1 The underlying geology of the PDA comprises interbedded mudstone and sandstone, of the Silurian Glanyrafon Formation (BGS online geology viewer).
- 3.1.2 Superficial till deposits of Devensian Diamicton are present over part of the PDA.
- 3.1.3 The soil coverage of the PDA is 'freely draining slightly acid loamy soils' (LandIS Soilscape 6) over the northern part, with slowly permeable seasonally wet acid loamy and clayey soils (LandIS Soilscape 17) over the southern part. (www.landis.org.uk/soilscales).

3.2 Topography

- 3.2.1 The topography of the PDA has a distinct overall downwards slope from north to south. The proposed turbine locations are towards the northern end of the PDA, at a height of approximately 350m Above Ordnance Datum (AOD). There is a hill here which slopes away on all sides, but more steeply to the south; the land runs into a narrow valley, carrying a stream southwards towards Esgairliving Farm. Much of the land immediately around the PDA is rough upland pasture.
- 3.2.2 The surrounding landscape is one of hills riven by steep valleys, with substantial blocks of woodland to the west and south. The valley of the River Tywi lies 4.3km to the north.

4.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND INCLUDING **ASSESSMENT OF SIGNIFICANCE**

Timescales used in this report:

Prehistoric

Palaeolithic	c. 800,000	-	10,000	BC
Mesolithic	c. 10,000	-	4,400	BC
Neolithic	c. 4,400	-	2,300	BC
Bronze Age	c. 2,300	-	700	BC
Iron Age	c. 700	-	AD 43	

Historic

Roman (Romano-British) Period	AD	43	-	AD 410
Post-Roman/Early Medieval Period	AD	410	-	AD 1066
Medieval Period	AD	1066	-	AD 1536
Post Medieval Period	AD	1536	-	AD 1750
Industrial	AD	1750	-	AD 1899
Modern				20 th century onwards

4.1 Introduction and methodology

- 4.1.1 This assessment is based on a consideration of evidence in the Dyfed Archaeological Trust Historic Environment Record (HER) and the National Monuments Record for Wales (NMR) for the PDA, and a zone 2km in extent around its boundary (the study area). Aerial photographs were also examined at the Central Register of Air Photography for Wales.
- 4.1.2 The Dyfed Archaeological Trust HER was also visited (September 2014) in order to examine historic maps and other documents relating to the PDA. Informal discussions were also held with Mike Ings, Planning Archaeologist at the Dyfed Archaeological Trust, with reference to the PDA, its archaeological potential, and possible requirements for further investigations within the PDA.
- 4.1.3 Archaeological data from the 2km radius area around the PDA has been reviewed to produce a predictive model of the PDA's potential for the presence of additional, as-yet undiscovered below-ground archaeological features. Heritage assets are considered in the relevant sections below and are identified as either

HER or NMR depending on the data source followed by the unique reference number. Plans showing the location of data mentioned in the text can be found in Appendix 1.

- 4.1.4 This section reviews existing archaeological evidence for the PDA, and the archaeological/historical background of the general area, and, in accordance with the policy background outlined above, considers the potential for as yet undiscovered archaeological evidence within the PDA. Section 6 subsequently considers the site conditions of the PDA and whether the theoretical potential identified in this chapter is likely to survive. Designated heritage assets and the potential impact of the proposed development upon their significance are considered in Section 5.

4.2 **Previous Archaeological Investigations**

- 4.2.1 No archaeological investigations are recorded within the PDA. No intrusive archaeological investigations are recorded in the wider study area. Two Tir Gofal farm visits have taken place within 5km of the PDA. They are:

- Frondeg - Tir Gofal Farm Visit (Ref 49858), 3.5km north-west of the PDA. This reported a great time-depth of archaeological sites on the farm holdings, including a possible Iron Age enclosure.
- Maesllan/Pantyfen – Tir Gofal Farm Visit (Ref 39469), 1.25km north-east of the PDA.

4.3 **Prehistoric (Palaeolithic - Iron Age)**

- 4.3.1 No records dating to the Prehistoric period are recorded within the PDA. Within the wider study area there is evidence of Bronze Age and Iron Age activity, with nothing reported from earlier Prehistoric periods.
- 4.3.2 There are 8 heritage assets recorded within 2km of the PDA which relate to Bronze Age standing stones or barrows. These include a possible site of a standing stone at Rhydycymerau (HER 3386, 1km south of the PDA), and the Pen-Teg standing stone, in Brechfa Forest 1.7km west of the PDA (NMR Scheduled Monument CM196).
- 4.3.3 There are extant Bronze Age barrows 100m west of the PDA (HER 820), 1km east of the PDA (NMR 416576), and as a loose cluster 1.6 to 2km north-east of the PDA (HER 9613, HER 822, NMR 416581). The Scheduled Monument Crug y

Bwdran barrow (NMR CM074) lies on the edge of Brechfa Forest 1.6km south-west of the PDA. There are other barrows in the wider landscape, mainly on ridge tops to the north-west and north-east of the PDA.

4.3.4 While evidence of Bronze Age activity is not extensive, assets do occur across the landscape surrounding the PDA, placing the PDA within an area of active Bronze Age occupation. The standing stones are indicative of land divisions through their use as boundary markers, and the barrows are indicative of settlement in the wider area, through their use as burial places.

4.3.5 The only other Prehistoric asset noted within 2km of the PDA is a possible Iron Age hillfort lying 1km to the south (HER 732), although the evidence for this is slight, with no sign visible on the ground. More definitive Iron Age evidence is in the Teifi valley to the north, such as the Pen y Gaer hillfort (NMR CM101) on the fringe of Llanybydder, 4.9km northwest of the PDA. There is no strong evidence of settlement in the area around the PDA.

4.3.6 Based on current evidence, there is considered to be a low to moderate potential for the presence of as yet undiscovered archaeological remains from the Bronze Age, and a low potential for material from other Prehistoric periods, within the PDA.

4.4 **Roman**

4.4.1 No evidence for Roman remains is currently known within the PDA, and no Roman assets are recorded within the 2km study area.

4.4.2 Beyond the study area, the PDA is 9km north-west of the Roman gold mining area at Dolaucothi, and the nearby Pumpsaint Fort. The major Roman military and urban centre at Carmarthen (Latin *Moridunum*), which became the cantonal capital of the tribal area of the Demetae after its foundation as a military fort in the 1st century AD, is 26km to the south-west. While there may have been Roman period occupation in the Teifi valley, there is no evidence of dense occupation in the general area of the PDA during the Roman period, and no Roman settlement has been identified close to the PDA. The PDA was most likely woodland or upland grazing during this period.

4.4.3 The evidence suggests a low potential for the presence of as yet undiscovered significant archaeological remains from the Roman period within the PDA.

4.5 **Post-Roman/Early Medieval**

- 4.5.1 The HER records no evidence of Post-Roman/Early Medieval date within or in close proximity to the PDA.
- 4.5.2 The PDA lay in the Early Medieval Welsh kingdom of Seisyllwg until it was absorbed into the newly-created kingdom of Deheubarth in 920, but it was not in close proximity to any identified settlement during this period (Davies 1982).
- 4.5.3 It is, therefore, considered that on current evidence the PDA has a low potential for significant remains from this period.

4.6 **Medieval**

- 4.6.1 No evidence for Medieval activity is recorded by the HER or NMR for the PDA itself, or within the 2km search area.
- 4.6.2 The wider landscape around the PDA developed during the Medieval period, with the Norman invasions bringing castles and larger urban settlement. Carmarthen was the site of a Norman castle by the end of the 11th century, and Lampeter also had an early castle – destroyed in 1187 by Owain Gwynedd.
- 4.6.3 The nearest town, Llanybydder was developed in the Medieval period, and the parish church dates from at least the 13th century. There was possibly a monastic foundation begun by Gwenllïan of Blaen Tren in the 14th century.
- 4.6.4 The PDA lies in Pencarreg parish, another nearby focus of Medieval settlement, 5km north-west of the PDA.
- 4.6.5 The Medieval evidence from around the PDA is sparse. Based on the available evidence, the PDA does not appear to have been a focus for settlement - and was most likely agricultural/common land. It is therefore considered that the PDA has a low potential for significant remains from the Medieval period.

4.7 **Post-Medieval, Industrial and Modern**

- 4.7.1 In these periods understanding of settlement, land-use and the utilisation of the landscape is enhanced by cartographic sources, which can give additional detail to data contained within the HER and NMR.

- 4.7.2 The first evidence recorded in the HER for the PDA is its depiction on the 1841 Pencarreg Parish tithe map (Figure 2). The PDA is shown as a complete blank, and recorded as 'common', with no ownership reported. This blank area extends to the north and north-east, occupying the upland area of Mynydd Pencarreg. More 'blank' territory lies to the west. The PDA might in fact have belonged in the neighbouring parish of Llynbydder to the west, but the parish boundary is not clearly demarcated, giving further evidence of the unenclosed/undivided nature of the land in which the PDA lay.
- 4.7.3 This 'blankness' is in stark contrast to the pattern of enclosed fields clustering around the PDA to the east and south. The distinctive triangular-shaped farmstead at Cefnblaenau, 950m north-east of the PDA, was present in 1841. This pattern is indicative of land brought in to cultivation via unregulated encroachment onto common land.
- 4.7.4 The great majority of the extant farmsteads across the study area are recorded in the HER as Post-Medieval in origin. Most of those recorded in the HER lay to the south of the PDA, and several have 18th century origins. Rhydcymerau is the closest village to the PDA, 1.2km to the south. The road system developed during this period, and the road bridge below Esgairliving, the farmstead in the southern part of the PDA, was present on the 1st edition OS map of 1886 (Figure 3).
- 4.7.5 The field pattern of the earlier Post-Medieval settlement is of irregular fields, in contrast to the very regular rectilinear fields of the Parliamentary enclosures of Mynydd Pencarreg, which began in the mid-19th century. The PDA was not shown as enclosed land until the 1907 OS map (Figure 4).
- 4.7.6 The subsequent mapping throughout the 20th and 21st centuries (Figures 5 – 7) reveal that the 19th century enclosures represent almost the only change to the landscape since 1841; the only other notable alteration has been in the amount of woodland cover. This has greatly increased since the late 20th century, with plantations occupying the narrow valley at the southern end of the PDA. An extensive area of plantations has expanded to the south and west of the PDA, known as Brechfa Forest. Most of the surviving internal field boundaries date to at least the time of the early 20th century mapping.
- 4.7.7 There are no Post-Medieval assets mapped within the PDA.

- 4.7.8 Current evidence indicates that the PDA has been used solely for agricultural purposes throughout the Post-Medieval, Industrial and Modern periods. The PDA was an area of upland common up until the late 19th century, and has since been enclosed, but retaining its use primarily as rough pasture. There has been very little change to the PDA since 1907. No development has taken place within the PDA. The archaeological potential of the PDA is low for these periods.

4.8 **Historic Landscape**

- 4.8.1 The PDA does not lie in an area registered as a historic landscape.
- 4.8.2 The PDA lies within the Landmap Aspect Area CRMTHL42429 Mynydd Pencarreg. Landmap is a Wales-wide landscape characterisation tool developed by the Countryside Council for Wales, and describes the Aspect Area as follows:

‘Mynydd Pencarreg is relatively high land that was enclosed by Act of Parliament in the mid 19th century... The very distinctive rectilinear field system and the farm date to this period... A coniferous plantation has been established over some of these fields. Most significant archaeological element(s): Bronze Age round barrows, Iron Age hillfort. ’

- 4.8.3 The implication of these assessments is that the current landscape containing the PDA had its origins in Post-Medieval enclosures, and the area was probably uncultivated common, possibly woodland prior to this. While there is a general spread of Bronze Age activity across the landscape around the PDA, there is no indication that the PDA was ever a focus of settlement.

4.9 **Assessment of Significance**

- 4.9.1 From the available evidence, this assessment shows that the PDA has a limited archaeological and historic interest, and a low potential for buried remains from all periods, other than the Bronze Age. Field boundaries survive from the late 19th century enclosure.
- 4.9.2 There is nothing in the history of the PDA which would indicate remains of high significance would be present there. It is therefore considered that any remains which may be found within the PDA would likely be of local significance, and related to agricultural practices post-1850.

- 4.9.3 The exception to this is the low to moderate potential for Bronze Age material to be present in the PDA, as a result of the generalised spread of evidence from this period across the surrounding landscape. However, there is nothing to suggest that any Bronze Age remains encountered in the site would be of more than regional significance.

5.0 DESIGNATED HERITAGE ASSETS INCLUDING ASSESSMENT OF SIGNIFICANCE AND IMPACT ASSESSMENT

5.1 Establishing the Significance and Setting of Heritage Assets

5.1.1 The starting point for evaluating the impact of a proposed development on heritage assets is to establish the significance of those assets, as well as the contribution their setting makes to that significance. The guidance used is discussed above in section 2.3.

5.2 Methodology for Assessment of Predicted Impacts on Asset Significance

Assessment of impacts

5.2.1 The assessment of the overall impact of the proposed wind turbines on the significance of historic environment receptors (i.e. heritage assets), is evaluated by taking into account both the sensitivity (heritage significance as defined above, 2.3) of the receptor and the magnitude of the predicted change.

5.2.2 The assessment of the magnitude of change to the significance of designated assets is based upon the extent to which factors that contribute to the significance of the assets would be affected (Table 1). The nature of the proposed development is such that there will be no physical impacts on designated assets, but there is the potential to affect the setting of the assets. Setting may make a positive or negative contribution to the significance of the asset, may affect the ability to appreciate significance, or may be neutral.

Table 1: Criteria for Appraisal of Magnitude of Change on Heritage Resources	
Impact Significance	Definition
Major	- Total or substantial loss of the significance of a heritage asset. - Substantial harm to a heritage asset's setting, such that the significance of the asset would be totally lost or substantially reduced (e.g. the significance of a designated heritage asset would be reduced to such a degree that its designation would be questionable; the significance of an undesignated heritage asset would be reduced to such a degree that its categorisation as a heritage asset would be questionable).
Moderate	Partial loss or alteration of the significance of a heritage asset.

Table 1: Criteria for Appraisal of Magnitude of Change on Heritage Resources	
Impact Significance	Definition
	Considerable harm to a heritage asset's setting, such that the asset's significance would be materially affected/considerably devalued, but not totally or substantially lost.
Minor	- Slight loss of the significance of a heritage asset. This could include the removal of fabric that forms part of the heritage asset, but that is not integral to its significance (e.g. the demolition of later extensions/additions of little intrinsic value). - Some harm to the heritage asset's setting, but not to the degree that it would materially compromise the significance of the heritage asset. - Perceivable level of harm, but insubstantial relative to the overall interest of the heritage asset.
Negligible	- A very slight change to a heritage asset. This could include a change to a part of a heritage asset that does not materially contribute to its significance. - Very minor change to a heritage asset's setting such that there is a slight impact not materially affecting the heritage asset's significance.
No Impact	No change to a heritage asset or its setting.

5.2.3 The predicted impacts and their effect on the significance of designated heritage assets has been established using the matrix in Table 2 below, which combines the ratings for the sensitivity of the heritage asset and magnitude of change. All designated heritage assets, and those of a quality that might invite designation (equating to Categories A and B as outlined in the 'Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process, (Revised Edition 2007)'), are considered to be of high sensitivity regardless of their form and grading. This process is not quantitative, but relies upon professional judgement at each step. However the factors considered in informing these judgments and in arriving at the various rankings of value and magnitudes of impacts are observable facts (i.e. numbers of assets, spatial relationships, designations, impacts).

Table 2: Criteria for assessing significance of impact				
Sensitivity of receptor	Magnitude of change			
	Major	Moderate	Minor	Negligible
High	Major	Moderate	Minor	Negligible

5.3 **All Designated Heritage Assets**

Zone of Theoretical Visibility

- 5.3.1 This assessment has been informed by a model Zone of Theoretical Visibility (ZTV) for the surrounding area (see Appendix 2).
- 5.3.2 The Zone of Theoretical Visibility (ZTV) image illustrates the theoretical extent of where the proposed development would be visible from, assuming 100% visibility. For the purposes of this assessment, the two turbines are considered as a single proposed turbine location (PTL), as they are only 250m apart.
- 5.3.3 The site visit confirmed that the ZTV model produced for the PTL represents a "safe" representation of potential intervisibility, with several areas indicated as tentatively intervisible, which in practice were well screened.

Impacts other than visual

- 5.3.4 At distances further than 1km from the PTL, it is considered that the wind turbines would not produce noise or light pollution, or generate increased traffic, which could adversely affect these assets in a way unrelated to visibility. Therefore where these assets fall outside a 1km radius of the PTL, it is considered that the proposed development would not affect their significance.

Designated assets within the PDA

- 5.3.5 No designated heritage assets such as Scheduled Ancient Monuments, Conservation Areas, Listed Buildings, Registered Parks and Gardens or Registered Battlefields, are present within the PDA. A number of designated assets are situated in the wider area.

Designated assets beyond the PDA

- 5.3.6 Potential setting impacts to the significance of all designated heritage assets are generally assessed for an area of 1km around the turbine locations. Beyond this distance, professional judgement is used to decide whether assets of lesser significance are assessed. There are no designated assets within 1km of the PTL.

5.3.7 In order to define a reasonable limit for the search area, and in keeping with current industry practice, no assets have been considered for assessment beyond 5km from the PTL. Beyond this distance it is considered very unlikely that any measurable effects on the significance of designated assets would arise.

5.4 **Listed Buildings**

5.4.1 There are no listed buildings within 1km of the PTL (see Appendix 1).

5.4.2 The following listed buildings are situated within 5km of the PTL, but are clearly outside of the ZTV and therefore would not be affected by the proposed development.

Table 3 – Listed Buildings (grades I and II*) outside ZTV			
ID	Name	Distance, direction	Grade
80705	Peithyn, including attached garden walls	1.8km NW	II
81235	Old house with attached farm buildings at Felin Fach	5.0km N	II
81231	Monumnet to Daniel Evans, Pencarreg	5.0km NW	II
81234	Plas Cottage, Pencarreg	5.0km NW	II
15638	Church of St Patrick	5.0km NW	II
81232	Pen-rhiw, Pencarreg	5.0km NW	II
81233	Troed-rhiw, Pencarreg	5.0km NW	II
80707	The Vicarage, Llanybydder	5.0km NW	II
80702	Dolgwm Stores, Llanybydder	5.0km NW	II
9381	Church of St Peter, Llanybydder	5.0km NW	II
9382	Cross Hands Hotel, Llanybydder	5.0km NW	II
16006	Barn range at Cilwenau Uchaf, Llansawel	4.8km SE	II

5.4.3 Given the lack of any strong associative relationships with the PTL, and the lack of intervisibility between these assets and the PTL, and the distance involved, it is considered that the proposed development would result in **no impact** to their significance. As such they are not considered further.

5.4.5 The Grade II Gelli Uchaf farmhouse (NMR 14410) and associated Grade II barn, cart shed and stable (NMR 80701) lie at the boundary of the ZTV, 1.4km south of the PTL. The site visit has confirmed, however, that the farmstead is focussed inwards on its farmyard, and is tightly enclosed by mature trees on its northern side. In practice there would be no views of the turbines from the assets. As a

result, it is considered that there will be **no impact** to the significance of these assets, and they are not considered further.

- 5.4.6 The three remaining listed buildings (all Grade II) which lie within the ZTV and have the potential to be affected by the development are assessed in detail in the table below.

Table 4 – Listed Buildings Assessment

ID	Name and grade	Distance from PTL	Description, significance and setting	Impact assessment
80706	Rhiw, II	2.4km S	Description: An early 19th century farmhouse. Built of rubble stone with a slate roof, 2-storey. Later 19th century extensions in the form of a cow house and other agricultural buildings have since been demolished. Setting: The house is on the southern side of a steep-sided valley at 260m AOD, but is enclosed within a tight ring of mature trees. Other woodland lies on the valley slope to the north. As a result of this enclosure, the wider setting with views over the landscape to the north (towards the PTL) is not as significant as the situation of the house might at first suggest. Summary of significance: The house has significance as a rare early 19th century regional farmhouse retaining original character and detail. Its significance lies in the survival of original fabric, and not primarily in its setting. Assessment of PTL relationship to asset: The PTL lies within the wider setting of the house, but this wider setting is limited by enclosing trees. While the upper parts of the turbines might be visible from the asset, they would form a relatively small part of extensive views from the asset.	The PTL lies within the wider setting of the asset, but these wider views are not an essential element of the asset's significance. The PTL would make a small contribution to the setting of the asset. It is therefore considered that proposed development would result in a Negligible magnitude of change to the setting of the house, resulting in a Negligible impact to the significance of the asset.
80703	Former cottage W of Beehive Cottage, II	3.3km NW	Description: An early 19th century labourer's cottage, of limewashed rubble stone and corrugated iron roof, now partly ruinous. Single-storey. Setting: The cottage is within the village of Ty Mawr, and enclosed by other buildings and trees. The asset does not enjoy a wide setting. Summary of significance: The house has significance as a rare surviving small labourer's cottage virtually unaltered since the 19th century. It has significance as a document of the local rural society of the 19th century. Assessment of PTL relationship to asset: The PTL potentially lies within the wider setting of the asset, but the surrounding buildings and	The location of the cottage, and the surrounding buildings, trees, intervening topography and distance mean that the PTL could not form a part of the setting of the asset. It is therefore considered that proposed development would result in No Impact to the setting of the asset, resulting in No Impact to the significance of the asset.

ID	Name and grade	Distance from PTL	Description, significance and setting	Impact assessment
22265	Capel Rhydybont, II	4.4km NW	trees, the intervening topography, and distance from the asset, mean that in practice the turbines would not form a part of the asset's setting. Description: Early 20th century independent chapel. Designed by W Beddoe Rees. Built in Gothic style with Forest of Dean stone dressings and a slate roof. It is plain rendered and 2 storeys high. It has a lofty interior with a gallery on four sides. Setting: The chapel lies on the north side of the B4337 at Rhyd-y-bont. Its façade is to the south-west, and not in the direction of the PTL. It lies in the south-east corner of its associated graveyard. Other buildings of the village lie immediately to the south-east, towards the PTL. The chapel has a setting focussed on the graveyard, with open agricultural land to the south-east forming the views from the main entrance. Summary of significance: The house has significance as a scarce rural work by one of the leading Welsh chapel architects, with good Gothic detail externally and complete interior. The significance is vested in the survival of historic fabric, and associations with the local community. The wider setting and long-distance views are not a significant part of its setting. Assessment of PTL relationship to asset: The PTL is theoretically visible from the asset, but the wider views in the direction of the PTL are not an important part of the significance of the asset. The PTL would not be visible from the main entrance of the chapel, or from its interior where the heart of its significance lies.	The location of the chapel, the orientation of its outlook, and the distance from the PTL indicate that the PTL would not form a part of the setting of the asset. It is therefore considered that proposed development would result in Negligible to the setting of the asset, resulting in Negligible to the significance of the asset.

5.5 **Scheduled Monuments**

5.5.1 Scheduled Monuments have been considered for a radius of up to 5km from the PTL, and a total of 9 are present within that area. The location of these in relation to the PTL can be seen in Appendix 2b.

5.5.2 The following 3 Scheduled Monuments lie outside of the ZTV and cannot be affected by the development. As a result, they are not considered further in the report:

Table 5 – Scheduled Monuments outside ZTV		
ID	Name	Distance/ direction
Scheduled Monuments		
CM196	Pant-teg Standing Stone	1.75km SW
CM173	Caer Pencarreg Hillfort	3.7km NW
CM312	Derlwyn Round Barrows	

5.5.3 The Crug y Bwdran Round Barrow (CM074, 1.9km SW) is modelled by the ZTV as having potential intervisibility with the PTL. However, the site visit has confirmed that it is contained within the fringe of the Brechfa Forest, and effectively surrounded by trees. The only open aspect is to the south-east. The setting has no views to the north-east towards the PTL. It is therefore considered that the proposed development would result in **no impact** to the significance of this monument. It is not considered further.

5.5.4 The Crugiau Edryd Round Barrows group (CM073, 3.9km SW) is modelled by the ZTV as having potential intervisibility with the PTL. However, the site visit has confirmed that the barrows lie hard against the western edge of the Brechfa Forest, which effectively cuts out any views to the north-east, in the direction of the PTL. The barrows are within a cluster of communications masts, which have already severely compromised the integrity of their setting, which remains open to the south-west. The PTL would not form a part of the setting of the barrows. It is therefore considered that the proposed development would result in **no impact** to the significance of this monument. It is not considered further.

5.5.5 Pen y Gaer Hillfort (CM101, 5km NW) is modelled by the ZTV as having potential intervisibility with the PTL, but lies at the periphery of both the ZTV and the assessment radius. The PTL could be visible in part from the south-eastern

quadrant of the hillfort, although the wooded hill immediately to the north-west of the PTL (Llwyndrissi, 369m AOD) effectively masks much of the projected turbine height. The setting of the hillfort is a very wide one, with views on all sides, and with perhaps its most significant relationship with the Teifi valley to the north-east. The proposed turbines would make a very small contribution to this extensive setting, especially given the 5km distance and partial visibility. It is therefore considered that the proposed development would result in **no impact** to the significance of this monument. It is not considered further.

- 5.5.6 The other 3 Scheduled Monuments within 5km, and within the ZTV, are assessed in detail in the table below.

Table 6 – Scheduled Monument Assessment

ID	Name	Distance from PTL	Description, significance and setting	Impact assessment
CM313, 416556	Pen Lan Round Barrow Cemetery	3.6km NW	Description: A line of three round barrows, lying to the north of a wood, in agricultural land. The cairns are in a poor state of survival, and are now low mounds up to 0.75m high. They are close to the top of a hill overlooking the Teifi valley to the north. Setting: The close setting is contained within the hedgerows and the field(s) in which the barrows lie. They have relatively open aspects to the north and north-east. They have a wide setting, which does include some views over the landscape to the south-east, towards the PTL. Summary of significance: The barrows have significance in their retention of material from their original date of construction, and as being representative of spiritual, religious and cultural practices in the Bronze Age. They also have a group significance, and a significance as long-lasting features in the wider landscape. The setting of the barrows is therefore a major contributor to their significance. Assessment of PDA relationship to asset: While the PTL does lie within the wider setting of the monument, any views of the turbines would be of the upper parts, beyond the high ground of Lwyndrissi hill, which masks the PTL from view. The turbines would form only a very small part of an extensive wider setting.	While the PTL would lie within the wider setting of the barrows, and the setting is a contributor to the significance of the asset, the significance of the asset, the turbines would form only a very small part of that setting, and not make a significant change. It is therefore considered that proposed development would result in a Negligible magnitude of change to the setting of the Scheduled barrows, resulting in a Negligible impact to the significance of the asset.
CM084 303865 303866 303867	Three Round Cairns SE of Blaen Carreg	3.4km NW	Description: A line of three round barrows, lying in agricultural land. The cairns are in a poor state of survival, and are now low mounds up to 0.80m high. They are on the north-western end of a ridge which slopes down towards the Teifi valley. Setting: The close setting is contained within the hedgerows and the field(s) in which the barrows lie. Hedgerows and overgrowth restrict views from the barrows to a large extent. They thus have only partial access to a wider setting, which does include some views over the landscape to the south-east, towards the PTL. Summary of significance: The barrows have significance in their	The setting is a contributor to the significance of the asset, although limited by surrounding vegetation. While the Application Site would lie within the wider setting of the barrows, it would form only a very small part of that setting, and not make a significant change. It is therefore considered that proposed development would result

ID	Name	Distance from PTL	Description, significance and setting	Impact assessment
			retention of material from their original date of construction, and as being representative of spiritual, religious and cultural practices in the Bronze Age. They also have a group significance, and a significance as long-lasting feature in the wider landscape. The setting of the barrows is therefore a contributor to their significance, but of lesser significance than the Pen Lan barrows (for example) due to the masking effect of the surrounding hedgerows. Assessment of PDA relationship to asset: While the PTL does lie within the wider setting of the monument, any views of the turbines would be partial, and of the upper parts. This is due to the masking effects of the surrounding vegetation, and the high ground of Lwyndrissi hill, which partially masks the PTL from view. The turbines would form only a very small part of a limited wider setting.	in a Negligible magnitude of change to the setting of the Scheduled barrows, resulting in a Negligible impact to the significance of the asset.
CM064	Gelli Dewi Uchaf linear round barrow cemetery	3.5km NE	Description: A line of 5 to 6 much mutilated and disturbed round barrows, lying on the western slope of a low ridge. The surrounding land is mainly enclosed upland pasture. The barrows are known from aerial photographs, and not all have been surveyed on the ground. The cairns are in a poor state of survival, and are now low mounds up to 0.80m high. Setting: The setting is quite open, without substantial hedgerows. The barrow cemetery has an extensive setting across a large area of countryside, including views south-west towards the PTL. Summary of significance: The barrows have significance in their retention of material from their original date of construction, and as being representative of spiritual, religious and cultural practices in the Bronze Age. They also have a group significance, and a significance as long-lasting feature in the landscape. The setting of the barrows is therefore a major contributor to their significance, as they command wide views (to and from) across the countryside. Assessment of PDA relationship to asset: While the PTL does lie within the wider setting of the monument, any views of the turbines would be partial, and only of the upper parts. This is due to the masking effects of the surrounding topography, as the ground rises up considerably between the barrow cemetery and the PTL, which are at	The PDA lies within the wider setting of the asset, but at a considerable distance (3.5km). While the setting is an important element of the asset's significance, the PTL makes a very small contribution to the setting. It is therefore considered that proposed development would result in a Negligible magnitude of change to the setting of the standing stone, resulting in a Negligible impact to the significance of the asset.

Historic Environment Desk-Based Assessment
Proposed Wind Turbines, Pencarreg, Carmarthenshire

ID	Name	Distance from PTL	Description, significance and setting	Impact assessment
			approximately the same elevation. The barrows are not all within the ZTV, and of those that nominally are, three lie on the periphery of the ZTV. As a result, the turbines would form only a very small part of a limited wider setting, of a portion of the barrow group.	

6.0 SITE CONDITIONS, THE PROPOSED DEVELOPMENT AND IMPACT ON HERITAGE ASSETS

6.1 Site Conditions

6.1.1 The PDA/PTL was visited in September 2014 and comprises a series of fields used as rough pasture for sheep or cattle, flanked along the eastern side by a small steep-sided valley. This valley is planted with coniferous trees along its western side, giving much of the southern part of the PDA a wooded appearance. Towards the southern end of the PDA is the farmstead of Esgairliving. The B4337 separates a small area at the extreme southern end of the PDA from the main part.

6.1.2 The proposed location for the turbines is in the northern field, a large open field covered in coarse grass/scrub, which is the highest point of the PDA. The whole PDA has a general slope from north to south. There are no obvious visible archaeological surface features, although there are extant field boundaries which have been present since the late 19th century enclosure of the land. The historic field boundaries take the form of fence lines and hedgerows, with some mature trees. No hitherto unknown earthworks or other surface features were noted during the site visit, but the scrub cover over the area around the turbine locations could potentially mask any low mounds.

6.1.3 The surrounding area was also visited to assess the impact of the scheme on the setting of the designated heritage assets in the wider study area.

6.2 The Proposed Development

6.2.1 It is proposed to install a wind farm comprising 2 Enercon E70 turbines, with a 98m tip height. The proposal would also involve installation of a transformer station(s) located within the PDA, with service trenching linking the turbines to the national grid. An access track would also be constructed across the site, which would have minimal impact.

6.2.1 No large scale ground reduction or landscaping is planned for the development.

6.3 **Summary of Heritage Impacts**

Potential Archaeological Impacts

- 6.3.1 The impact of the proposed development on the PDA is limited and very localised, and would not involve large scale ground reduction or landscaping. While the development proposals have the potential to impact on any sub-surface remains which may survive within the PDA, this impact is considered to be minimal, comprising a combined impact of less than 1% of the area of the PDA.
- 6.3.2 Current evidence suggests a low potential for such remains, other than for the Bronze Age. Any remains, other than for the Bronze Age, which may be present within the PDA are likely to be of local significance at best. Bronze Age remains may be of regional significance.
- 6.3.3 When considering the minimal impact of the proposed development, and the significance of the known and potential remains, it is considered that buried archaeological remains should not preclude the development of the PDA as planned.
- 6.3.4 Any potential impacts on the archaeological interest could be minimised or eliminated through appropriate mitigation measures, for example a watching brief could be carried out during the excavations for the turbine bases and cable trenching.
- 6.3.5 The local authority Archaeological Planning Advisor may require further works to investigate the potential for Bronze Age features to survive within the PDA. This would most likely take the form of a geophysical survey, which would identify any areas of archaeological activity. These could then be mitigated, most simply by exclusion from the development area.
- 6.3.6 Any such additional works could be dealt with as part of a condition applied to planning permission.

Potential Impacts on Designated Heritage Assets

- 6.3.7 The setting of the designated heritage assets in the wider area has been assessed in detail (see Section 5, above) and it has been shown that the proposed development would have no more than a **Negligible** impact on the significance of any assets. The use of a ZTV has eliminated most designated

assets from the possibility of adverse impact on the grounds of lack of intervisibility caused by the topography and intervening vegetation.

7.0 SUMMARY AND CONCLUSIONS

- 7.1 The known archaeological interest of the PDA consists of surviving late 19th-century field boundaries.
- 7.2 This assessment has established that the impact from the proposed development would be minimal, comprising a combined impact of less than 1% of the area of the PDA. It has the potential to have a limited impact on any sub-surface remains which may survive within the PDA. However current evidence suggests a low to medium potential for Bronze Age remains with a low potential for all other periods. Any remains which may be present within the PDA are likely to be of local significance at best, apart from the Bronze Age, which have the potential to be of regional significance.
- 7.3 When considering the minimal impact of the proposed development, and the significance of the known and potential remains, it is considered that buried archaeological remains should not preclude the development of the PDA as planned.
- 7.4 The setting of the designated heritage assets in the wider area has been assessed in detail and it has been shown that the proposed development would have no more than a **Negligible** impact on the significance of any assets.
- 7.5 The archaeological and historical interest of the PDA could be preserved by appropriate mitigation. The low to moderate potential for Bronze Age remains within the site could be dealt with by an archaeological watching brief, which would be an appropriate level of investigation commensurate with the overall archaeological potential of the PDA.
- 7.6 The local authority Archaeological Planning Advisor may, however, require further works to investigate the potential for Bronze Age features to survive within the PDA. This would most likely take the form of a geophysical survey, which would identify any areas of archaeological activity. These could then be mitigated, most simply by exclusion from the development area.
- 7.7 Any such additional works could be dealt with as part of a condition applied to planning permission.

- 7.8 This report forms the initial archaeological assessment required by the planning authority and has identified the known heritage assets, the potential for as yet unknown heritage assets and the effect of the proposed development on those assets.
- 7.9 The assessment has not revealed potential adverse effects on the historic environment at a scale which would preclude the proposed development in accordance with Local Plan policies CUDP 13, BE1, BE2 and BE3.

SOURCES CONSULTED

General

Dyfed Historic Environment Record (HER)

Central Air Photographic Archive, Cardiff

National Monuments Record, Wales

Planning Policy Wales

Register of Landscapes of Historic Interest in Wales

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1841 Pencarreg Tithe Map

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<http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>

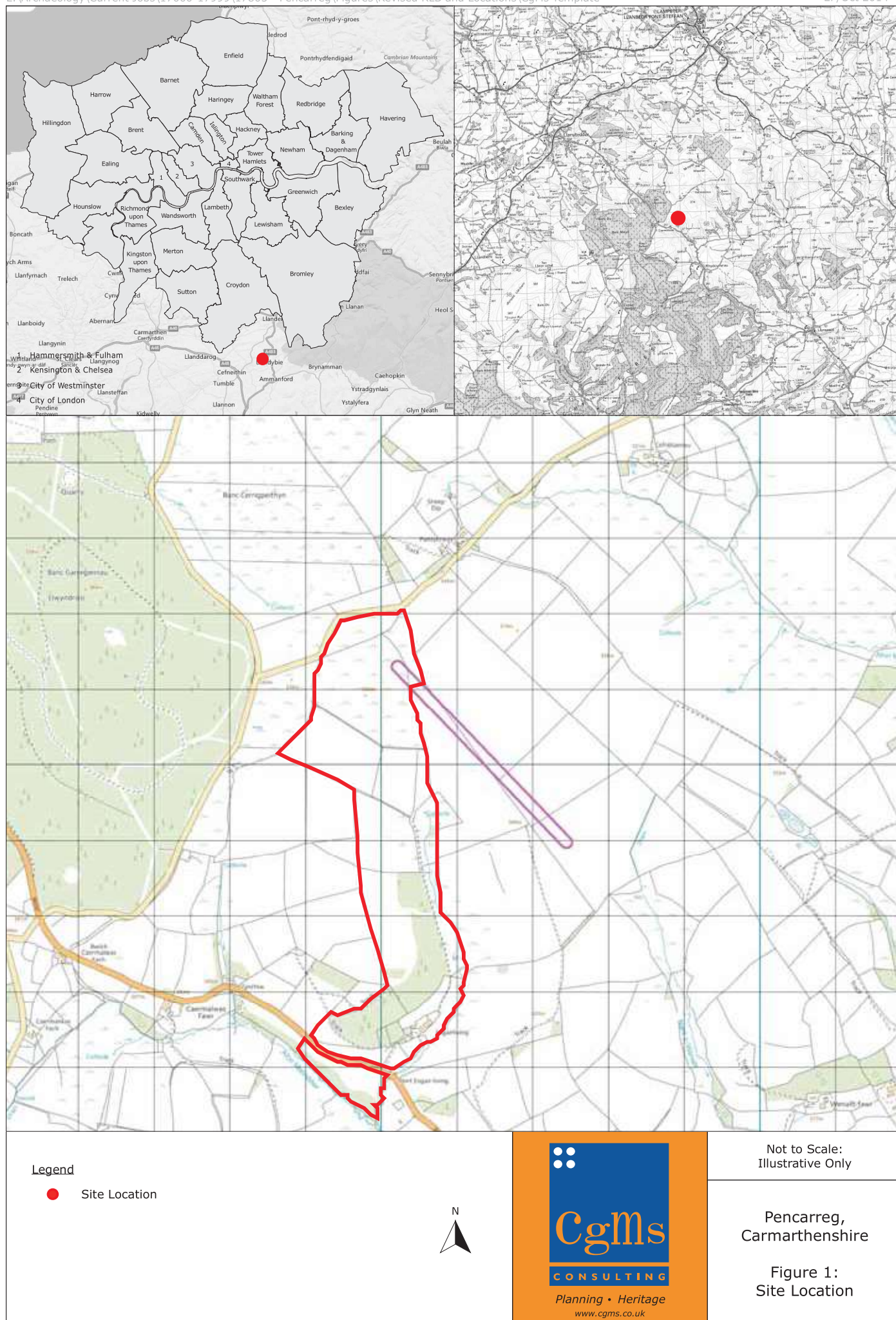
COFLEIN (RCAHMW on-line archive) - www.coflein.gov.uk

Archwilio (GGAT HER on-line) - <http://www.cofiadurcahcymru.org.uk/arch>

<http://www.landis.org.uk/soilscapes/>

Appendices: Heritage Assets Data Maps

- Appendix 1a: Designated heritage assets (all categories) within 2km of the site
- Appendix 1b: Designated heritage assets (all categories) within 5km of the site
- Appendix 1c: HER data points within 2km of the site
- Appendix 1d: NMR data points within 2km of the site
- Appendix 2a: Designated heritage assets (all categories) within 2km of the PDA + ZTV
- Appendix 2b: Designated heritage assets (Category A) within 5km of the PDA + ZTV



**Legend**

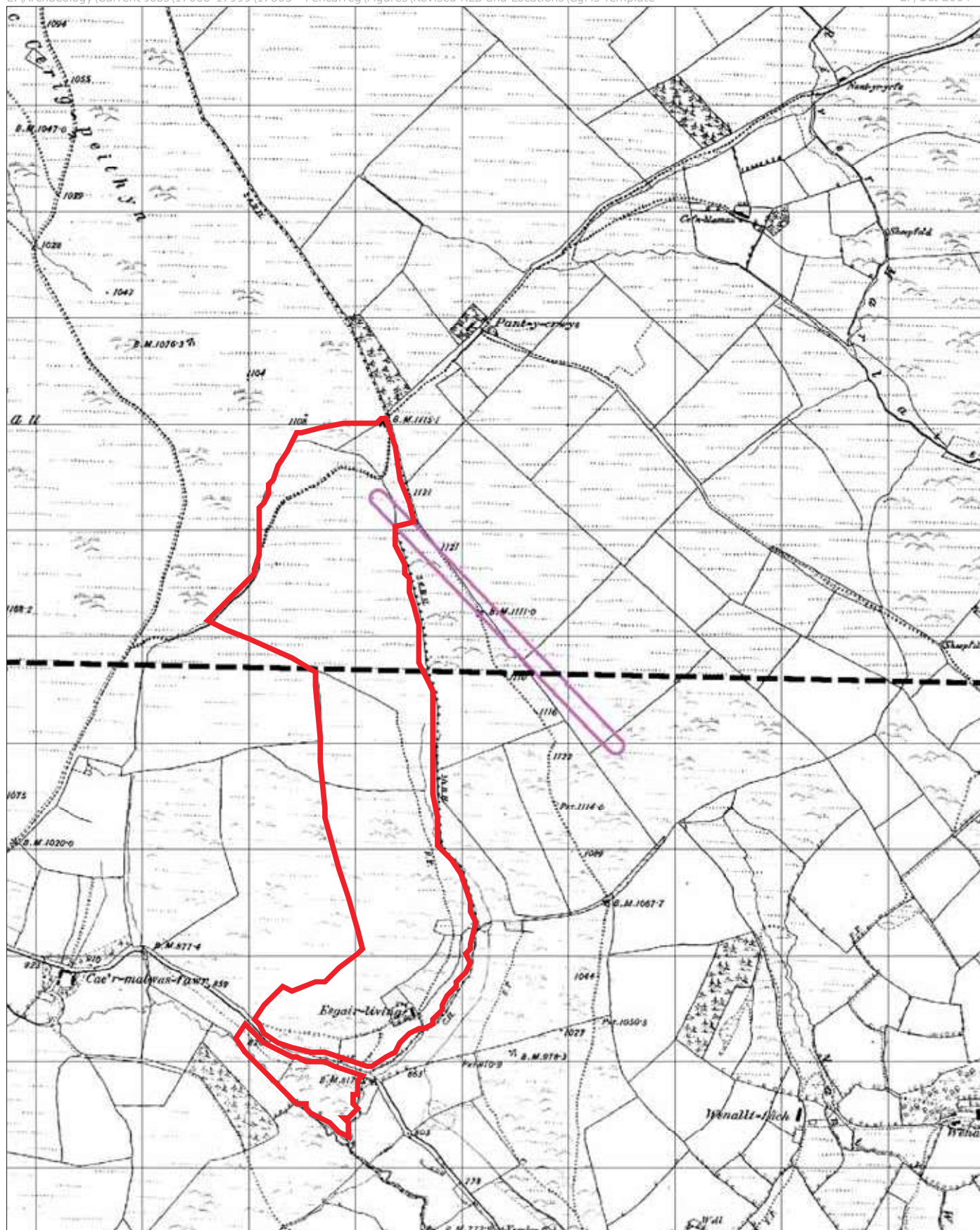
 Site Boundary



Not to Scale:
Illustrative Only

Pencarreg,
Carmarthenshire

Figure 2:
1841 Pencarreg Tithe
Map



Legend

— Site Boundary

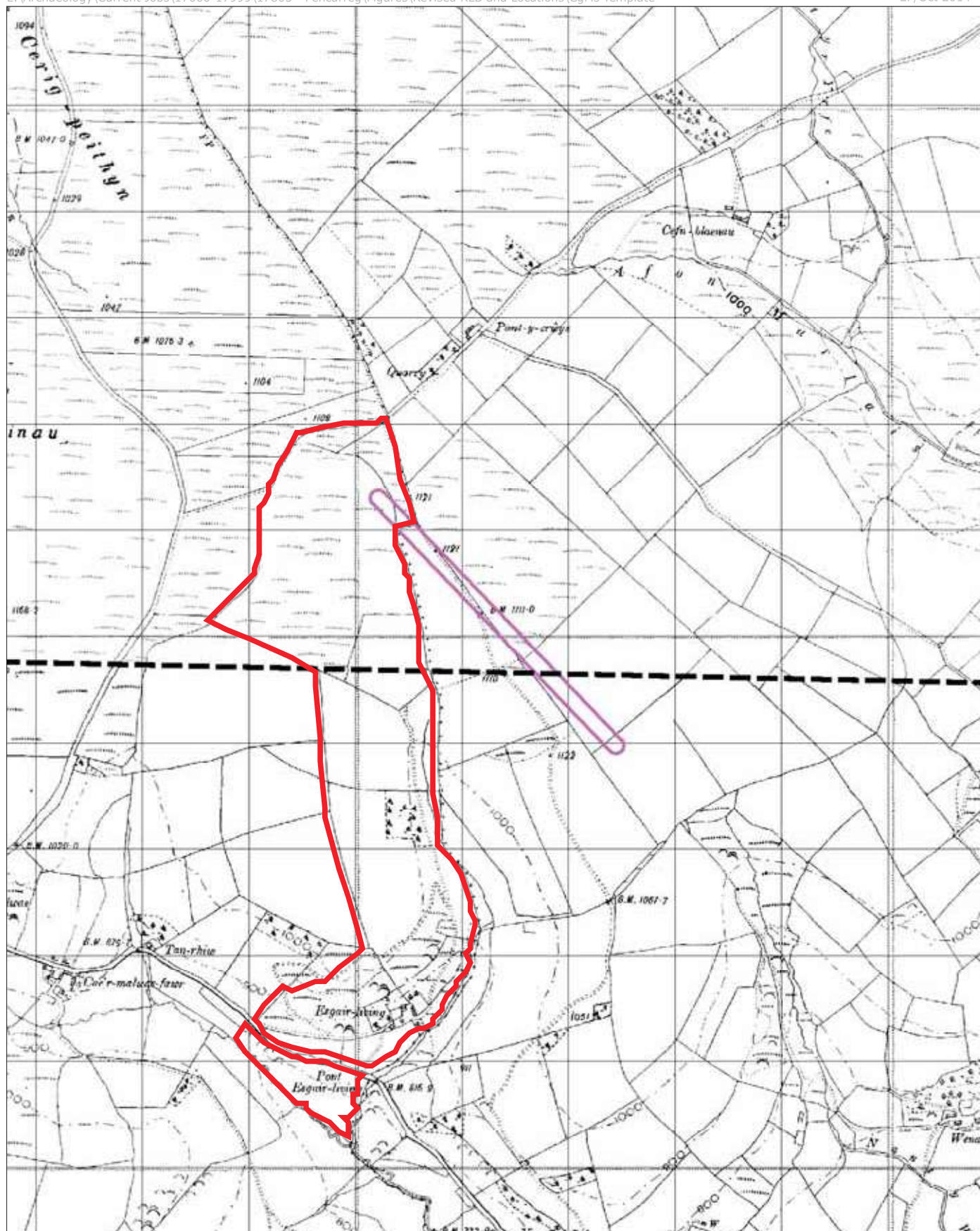


Not to Scale:
Illustrative Only

Pencarreg,
Carmarthenshire

Figure 3:
1886-1888 Ordnance
Survey Map





Legend

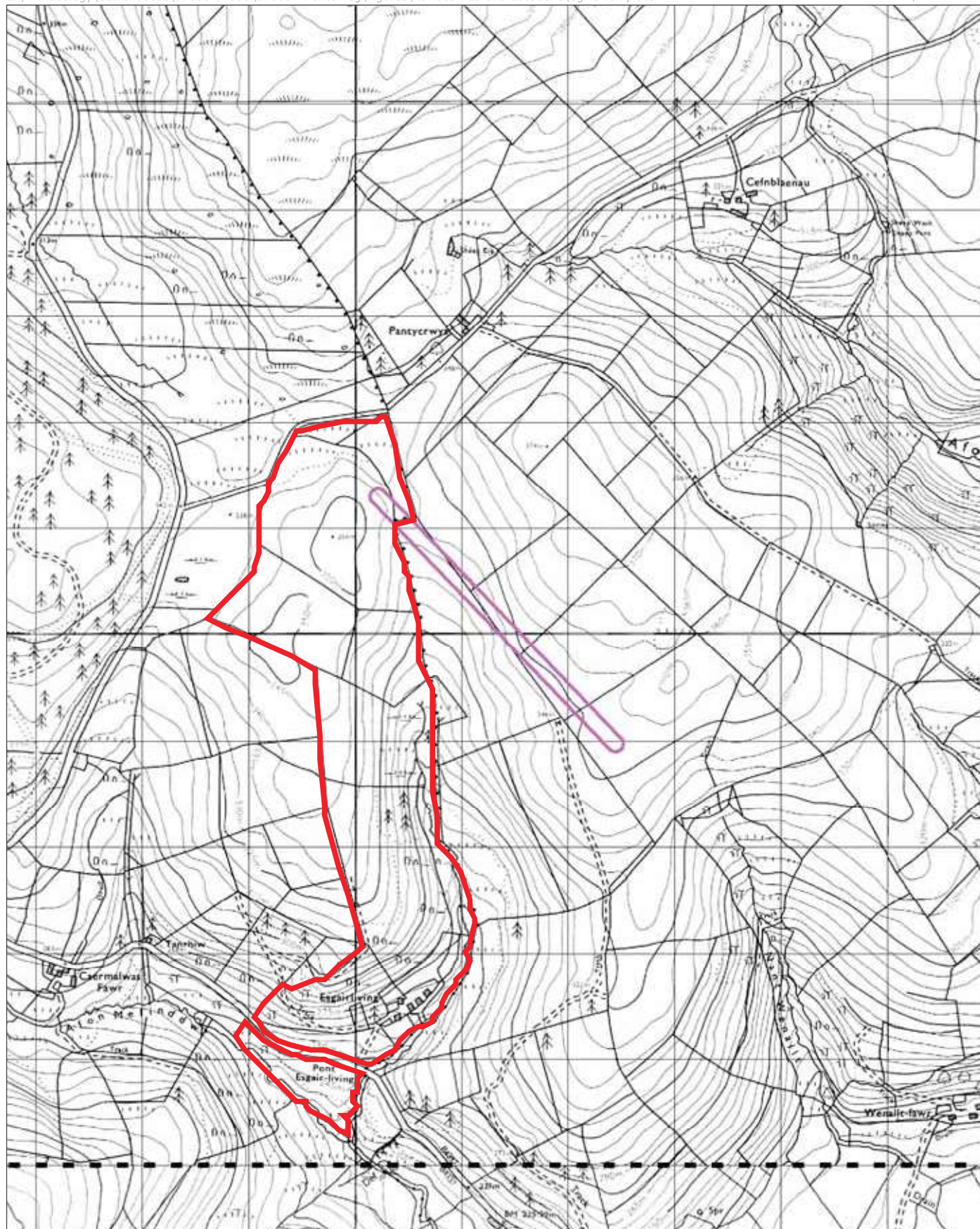
— Site Boundary



Not to Scale:
Illustrative Only

Pencarreg,
Carmarthenshire

Figure 5:
1953 Ordnance Survey
Map



Legend

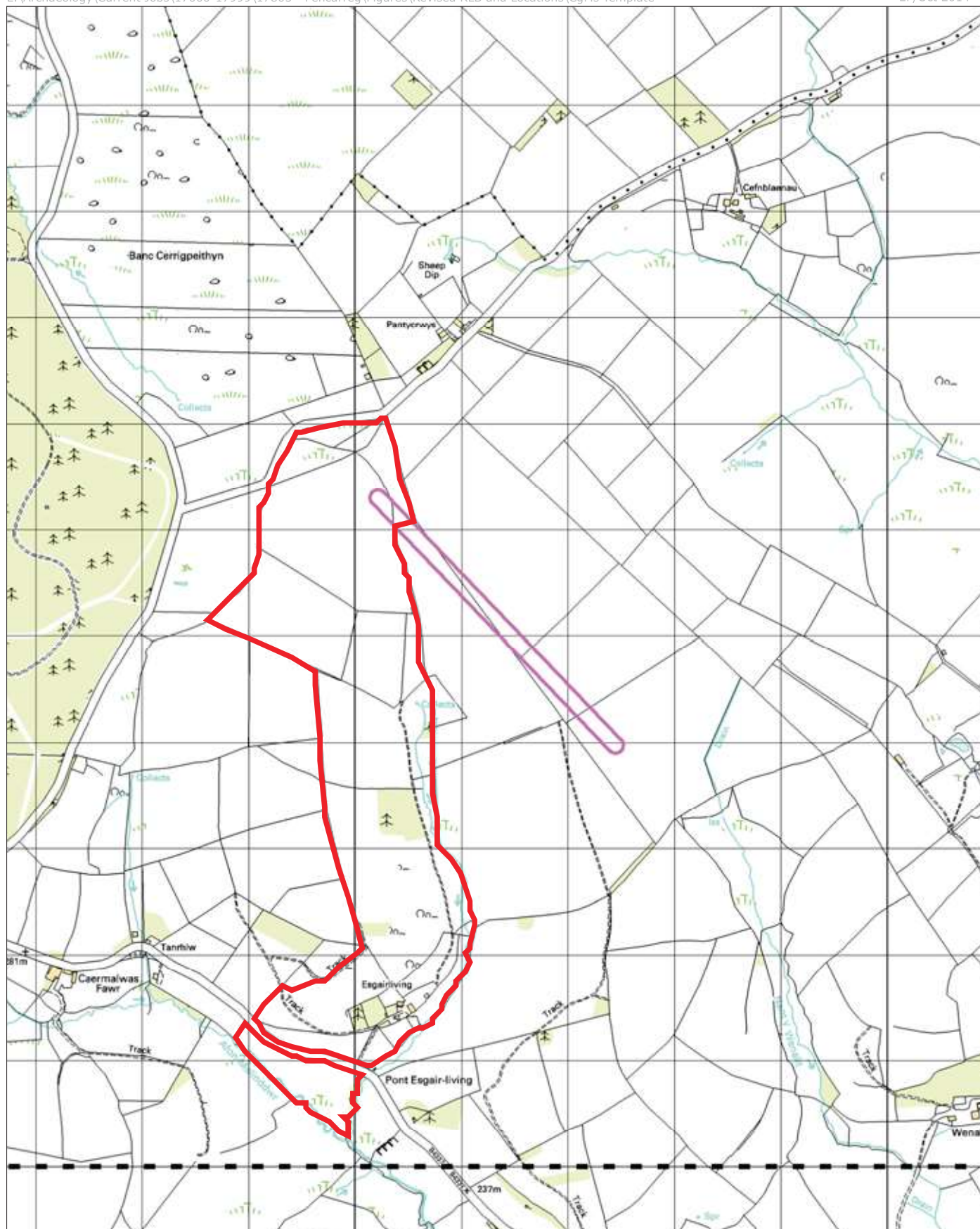
— Site Boundary



Not to Scale:
Illustrative Only

Pencarreg,
Carmarthenshire

Figure 6:
1976-1979 Ordnance
Survey Map



Legend

— Site Boundary



Not to Scale:
Illustrative Only

Pencarreg,
Carmarthenshire

Figure 7:
2006 Ordnance Survey
Map



Plate 1 – View south along narrow valley at southern end of PDA



Plate 2 – View north over the PDA, from the northern end of the narrow valley



Plate 3 - View westwards, over central fields of PDA



Plate 4 – View northwards along eastern boundary of PDA



Plate 5 – View north from the PTL



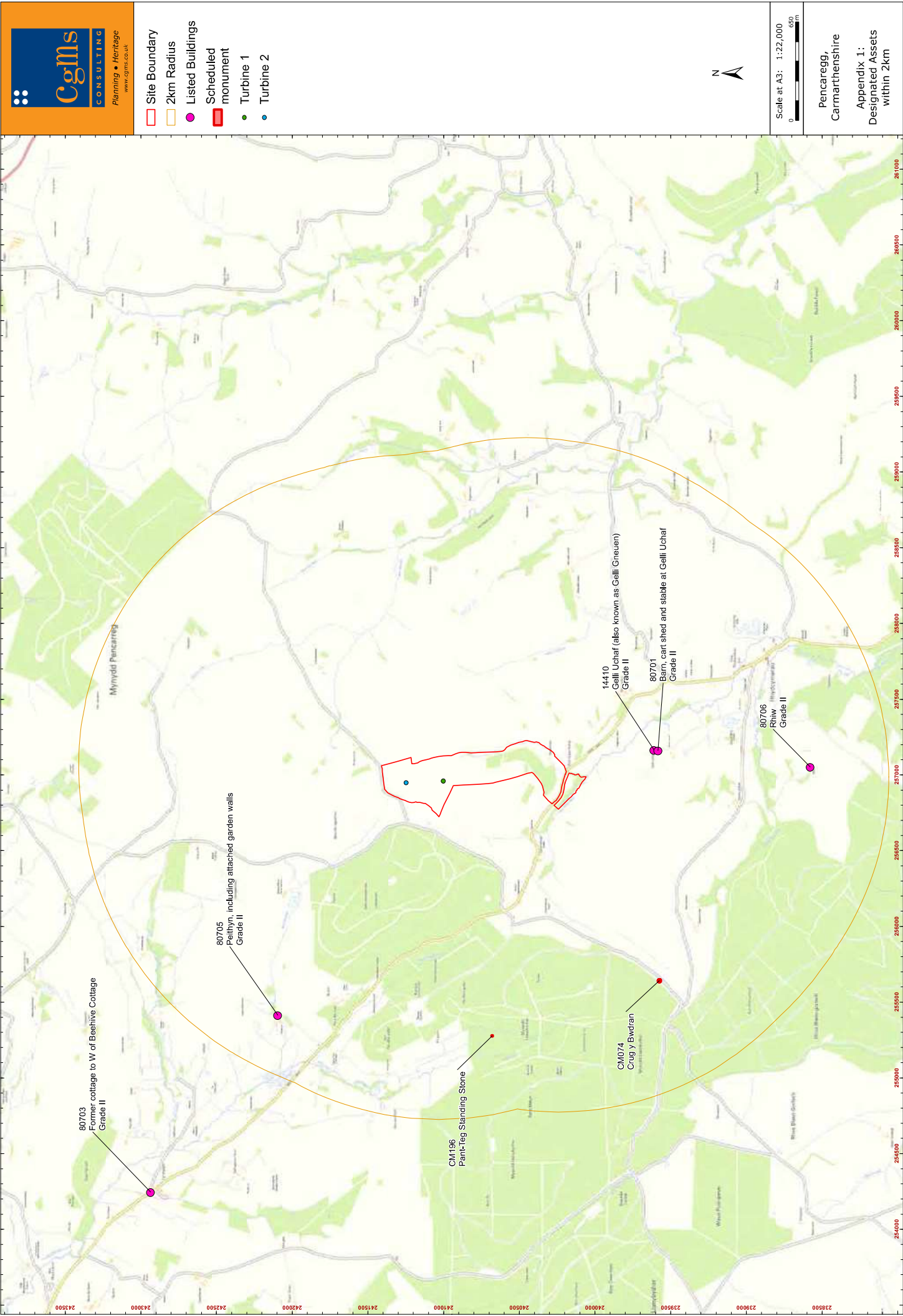
Plate 6 – View east from the PTL

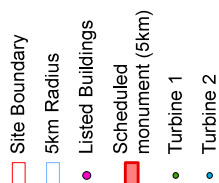


Plate 7 – View south from the PTL



Plate 8 – View west from the PTL

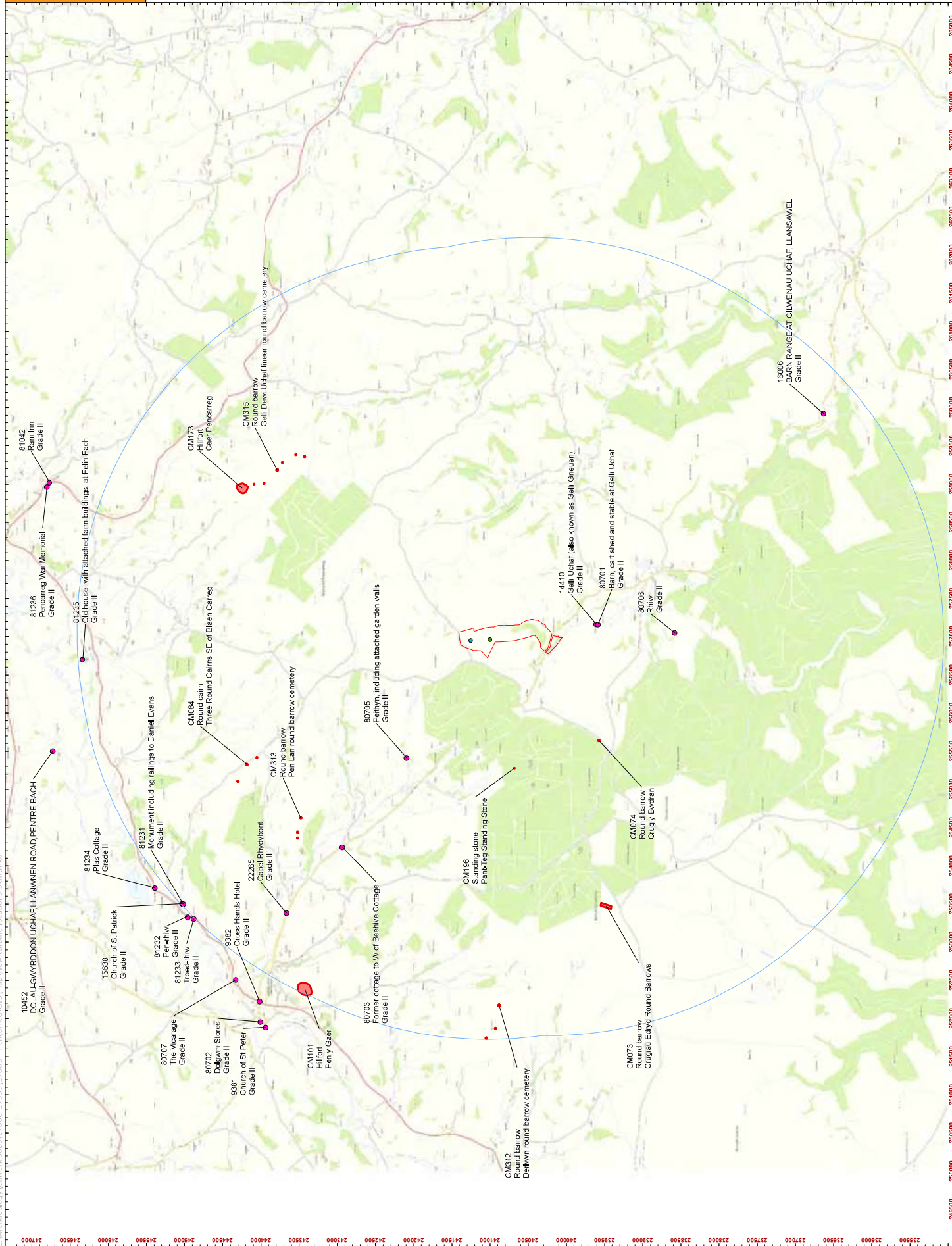




Scale at A3: 1:46,048

Pencaregg,
rmarthenshire

Appendix 1: Designated Assets within 5km





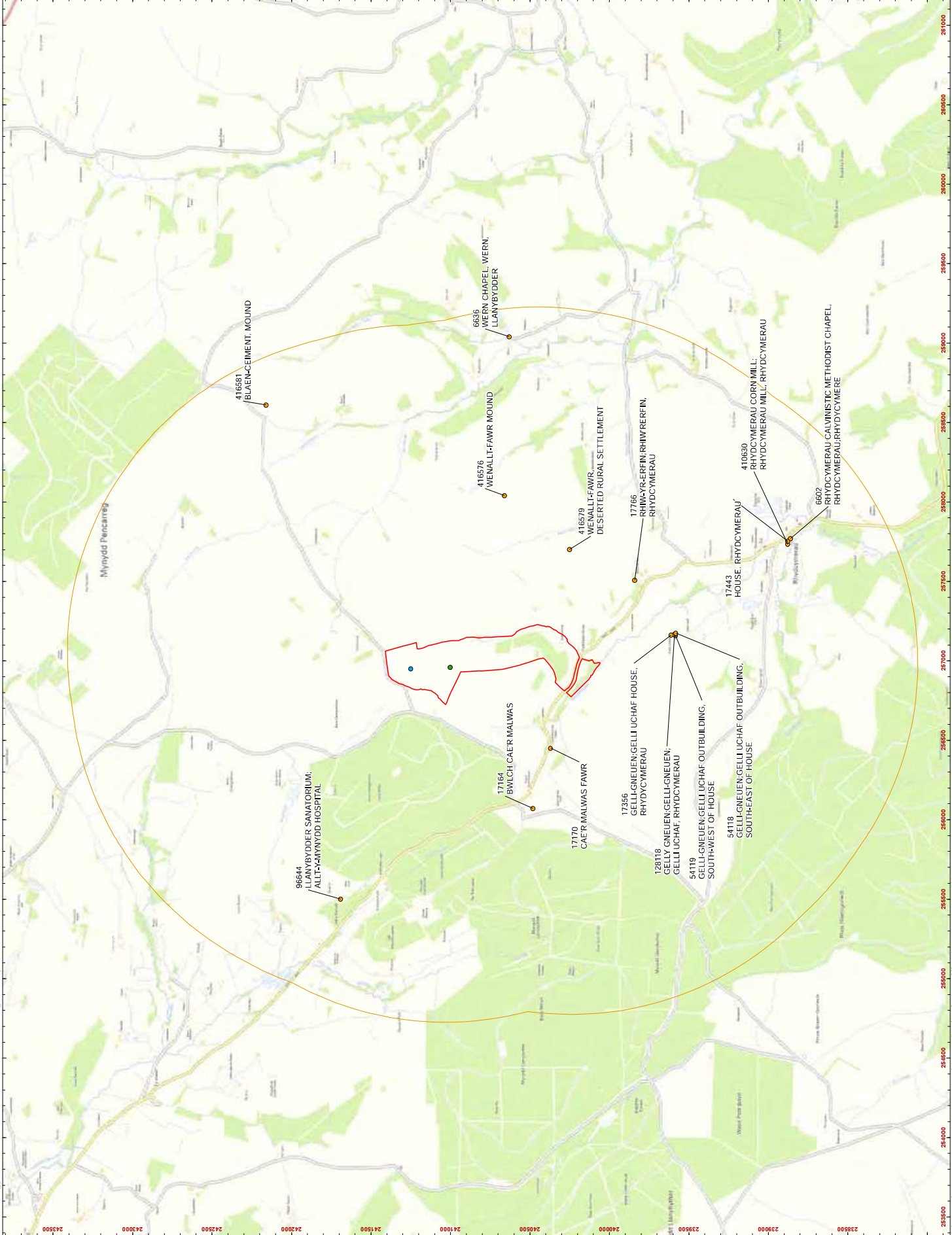
- Site Boundary
- 2km Radius
- NMRW
- Turbine 1
- Turbine 2



Scale at A3: 1:22,000

Pencarreg,
Carmarthenshire

Appendix 1:
NMRW data
(2km)



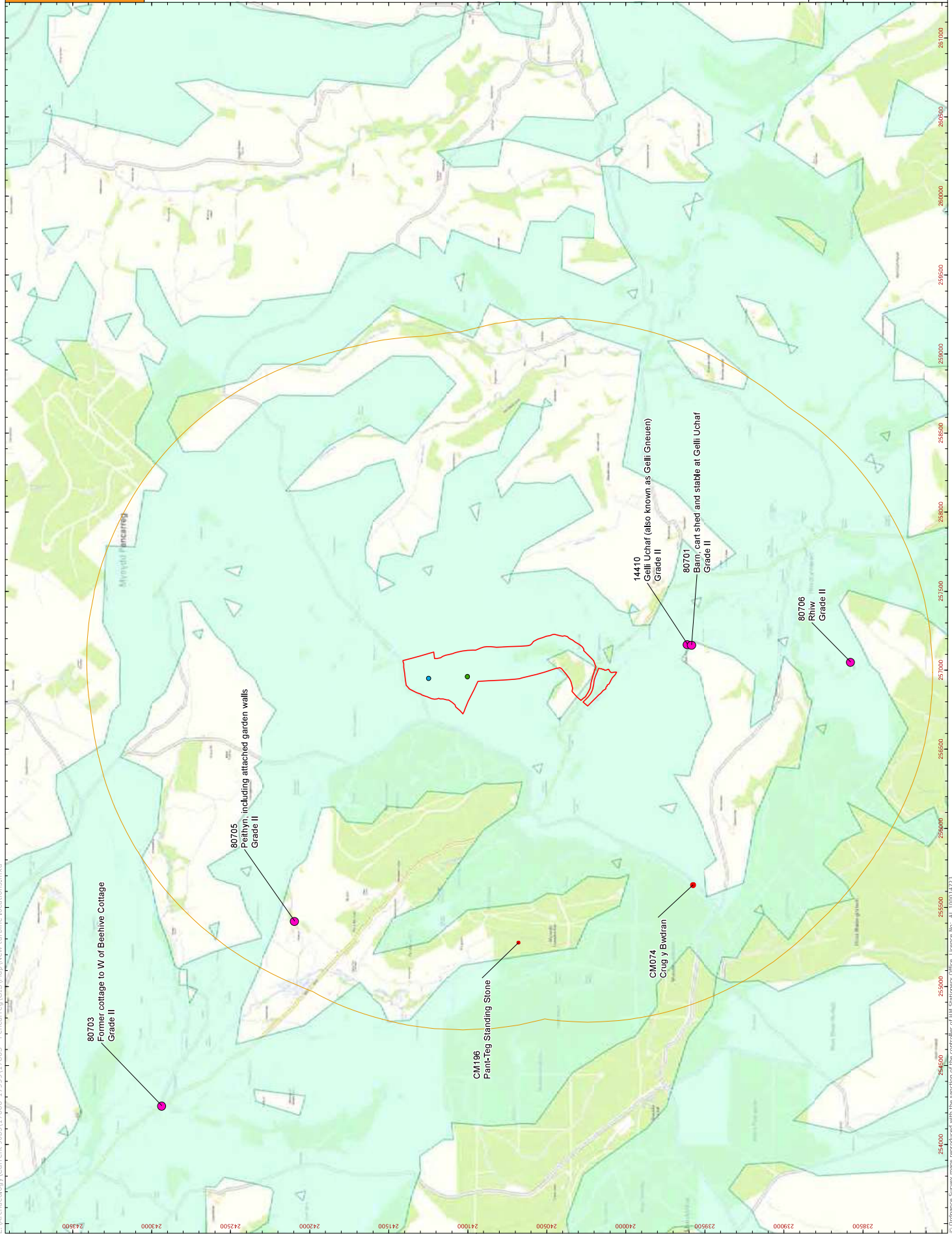


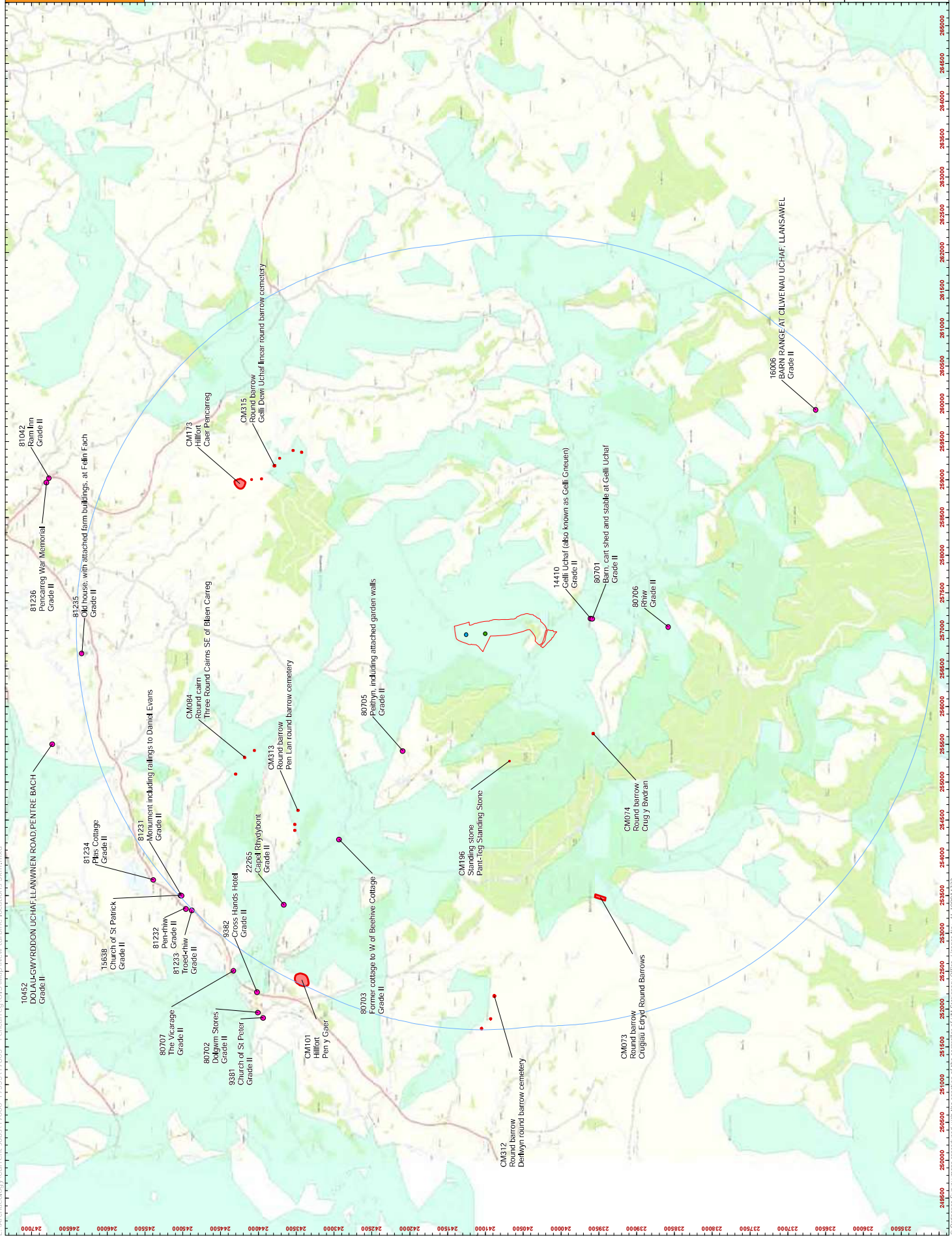
- Site Boundary
- 2km Radius
- Listed Buildings
- Scheduled monument
- Turbine 1
- Turbine 2
- Revised ZTV



Scale at A3: 1:22,000
0 650 1300 m

Pencarreg,
Carmarthenshire
Appendix 2:
Designated Assets
within 2km
Showing ZTV





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