

# Land to the east of the A48 and Land to the south west of Tycroes, Ammanford, Carmarthenshire

Heritage and Setting Impact Assessment



By John Davey, PhD MCIfA MIScT (RSci)

Report No.1854a



Archaeology Wales Limited The Reading Room, Town Hall, Llanidloes, SY18 6BN Tel: +44 (0) 1686 440371 Email: admin@arch-wales.co.uk Web: arch-wales.co.uk

# Archaeology Wales

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Heritage Impact and Setting Assessment Report

Prepared For: SpringCHE Ltd

Edited by: Rowena Hart				
Signed:	Have .			
Position: Regional Director				
Date:	30/03/2020			

Authorised by:	Mark Houliston
Signed: Marl	Howlet
Position: Mana	ging Director
Date: 30/0	3/2020

By John Davey PhD MCIfA **RS**ci

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#### Summary

Archaeology Wales (AW) was commissioned by Spring CHE Ltd to carry out a Heritage Impact Assessment and site visit on Land to the east of the A48 and Land to the south west of Tycroes, adj. to Clawdd Ddu Solar farm, Tycroes, Ammanford, SA18 3RE centred on NGR SN5923109417. This assessment is made in relation to proposals for the installation of ground mounted PV solar panels at three separate but neighbouring sites at NGRs SN 59973 09580; SN 59239 09509 & SN 57416 09350.

The guidance offered within Managing Heritage Impact Assessment in Wales (Cadw 2017) has been utilised within this assessment, which advocates examining the Evidential, Historical, Aesthetic and Communal values of the historic assets. The guidance within Managing the Setting of Historic Assets in Wales (Cadw, 2017) has also been used in conducting a stage 1 assessment of how the proposed development will impact on the setting of nearby designated heritage assets. Four particular heritage assets had been identified in this instance: The scheduled Monuments at Bryn Maen Standing Stone (CM192); Bryn Y Rhyd Standing Stone (CM193); The Earthwork on Graig Fawr (GM386); and Two Burial Chambers on Graig Fawr (GM513). The impact in seven nearby listed buildings is also considered.

The proposed development site has low to medium evidential and historic value at present, due to the absence of recorded archaeological sites, but good cartographic and LiDAR evidence suggesting there is archaeological potential for medieval and post-medieval field systems and dispersed settlement. The site does not lie within any designated historic landscape or conservation area. However, a medium aesthetic value, is evident due to its well preserved agrarian landscape with irregular enclosed fields and hedgerows. It also provides an important aesthetic setting for scheduled monuments on Graig Fawr. The communal value of the site is generally low, with public access only available along footpaths within Area 1.

The proposed development will impact upon some of these values, most notably a low to moderate impact on the aesthetic values in the setting of two scheduled monuments on Graig Fawr (GM386 & GM513), with a lesser impact on two Listed Building (LB18453 Plas Mawr; LB19451 Plas-Newydd Mill). No impact on the remaining highlighted designated sites could be identified. The development may also provide the opportunity to enhance the historic and evidential value of the site through geophysical survey and archaeological recording, thus mitigating against and off-setting some of the impacts.

#### Crynodeb

Comisiynwyd Archaeology Cymru gan Spring CHE Cyf i gynnal Asesiad o'r Effaith ar Dreftadaeth ac ymweliad â'r safle, sydd i'r dwyrain o'r A48 a'r tir i'r de-orllewin o Tycroes, sydd ger Fferm Solar Clawdd Ddu, Tycroes, Rhydaman, SA18 3RE, y mae canol y lleoliad yn NGR SN5923109417. Gwneir yr asesiad hwn mewn perthynas â chynigion i osod panelau solar ffotofoltaig ar y ddaear ar dri safle ar wahân ond sy'n agos at ei gilydd yng Nghyfeirnodau Grid Cenedlaethol SN 59973 09580; SN 59239 09509 & SN 57416 09350.

Mae'r canllawiau a gynigwyd yn 'Rheoli Asesiadau Effaith Etifeddiaeth yng Nghymru' (Cadw 2017) wedi'u defnyddio o fewn yr asesiad hwn, sy'n cefnogi archwilio gwerthoedd Tystiolaethol, Hanesyddol, Esthetig a Chymunedol yr asedau hanesyddol. Mae'r canllawiau o fewn Rheoli Gosod Asedau Hanesyddol yng Nghymru (Cadw, 2017) hefyd wedi'i ddefnyddio wrth gynnal asesiad cam 1 o sut y bydd y datblygiad arfaethedig yn effeithio ar osod asedau treftadaeth dynodedig gerllaw. Mae pedwar ased treftadaeth wedi'u nodi yn yr achos hwn: Yr Henebion Cofrestredig ym Maen Hir Bryn Maen (CM192); Maen Hir y Rhyd (CM193); y Cloddwaith ar Graig Fawr (GM386); a Dwy Siambr Gladdu ar Graig Fawr (GM513). Mae'r effaith ar saith adeilad cofrestredig gerllaw hefyd wedi'u hystyried.

Mae gan y safle datblygu arfaethedig werth tystiolaethol a hanesyddol isel i ganolig ar hyn o bryd, oherwydd diffyg safleoedd archeolegol a gofnodwyd, ond ceir tystiolaeth gartograffeg a LiDAR da sy'n awgrymu bod potensial archeolegol ar gyfer systemau caeau a setliad gwasgaredig canoloesol ac ôl-ganoloesol. Nid yw'r safle'n gorwedd o fewn unrhyw dirwedd hanesyddol ddynodedig nac ardal gadwraeth. Fodd bynnag, mae gwerth esthetig canolig iddo oherwydd ei dirwedd amaethyddol a ddiogelwyd gyda chaeau a choetyrch caeedig afreolaidd. Mae hefyd yn darparu lleoliad esthetig pwysig ar gyfer henebion cofrestredig ar Graig Fawr. Mae gwerth cymunedol y safle yn isel yn gyffredinol, gyda mynediad cyhoeddus ar gael yn unig ar hyd y llwybrau o fewn Ardal 1.

Bydd y datblygiad arfaethedig yn effeithio ar rai o'r gwerthoedd hyn, ac yn fwyaf nodedig yw'r effaith isel i ganolig ar werthoedd esthetig yn lleoliad dwy heneb gofrestredig ar Graig Fawr (GM386 & GM513), gydag effaith lai ar ddau Adeilad Rhestredig (LB18453 Plas Mawr; LB19451 Melin Plas-Newydd). Ni nodwyd unrhyw effaith ar y safleoedd dynodedig a oedd yn weddill a amlygwyd. Mae'n bosibl y bydd y datblygiad hefyd yn rhoi'r cyfle i wella gwerth hanesyddol a thystiolaethol y safle drwy arolwg geoffisegol a chofnod archeolegol, a fydd yn lliniaru ac yn gwrthbwyso rhai o'r effeithiau.

#### 1 Introduction

1.1 Archaeology Wales (AW) was commissioned by Spring CHE Ltd to carry out a Heritage Impact Assessment and site visit on Land to the east of the A48 and Land to the south west of Tycroes, adj. to Clawdd Ddu Solar farm, Tycroes, Ammanford, SA18 3RE. (henceforth "the site"), (Figures 1 & 2). This assessment is made in relation to proposals for the installation of ground mounted PV solar panels at three separate but neighbouring sites centred on NGRs SN 59973 09580 (Area 1); SN 59239 09509 (Area 2) & SN 57416 09350 (Area 3). The local planning authority is Carmarthernshire County Council (CCC). The proposal is currently in the pre-application consultation stage. Cadw have recommended that:

Having carefully considered the information provided with this planning application, we consider that it is inadequately documented.

#### **Scheduled Ancient Monuments**

CM192 Bryn Maen Standing Stone CM193 Bryn-y-Rhyd Standing Stone GM386 Earthwork on Graig Fawr GM513 Two Burial Chambers on Graig Fawr

#### **Listed Buildings**

14812 Pantyffynnon Station 14813 Pantyffynnon Signal Box 19449 Church of Saint Edi 19451 Plas-Newydd Mill 19453 Plas Mawr (formerly known as Cwrt y Ceidrim) 22211 Capel Hendre and Vestry 81059 Circular pigsty at Craig Fawr Farm

The applicants are preparing a desk-based Heritage Impact Assessment and we recommend that this work should include an assessment of the impact of the proposed development on the settings of the above designated heritage assets. This assessment should be carried out following the methodology given in the Welsh Government document "The Setting of Historic Assets in Wales". A stage 1 assessment will identify any of the heritage assets that require further assessment to determine the scale of the impact of the development on their settings.

Finally, there may also be undesignated historic assets that could be affected by the proposed development... we would advise that you consult the Historic Environment Record held by the Dyfed Archaeological Trust.

1.2 This HIA has been undertaken to assess the impact of the proposal on the historic environment and to provide CCC with the information they are likely to need in respect of the proposed development, the requirements for which are set out in a number of policies outlined in Section 3.1.

#### 2 Site Description

# 2.1 Location (Figures 1 and 2)

- 2.1.1 The proposed development site occupies three separate but neighbouring locations which, for the purposes of clarity within this report, have been labelled: Areas 1, 2 and 3. In addition a cable trench will link the three main areas. All of the sites lie between 4 and 6km WSW of Ammanford and have a combined total area of approximately 45.8 hectares. These sites occupy several parcels of pasture and heath. Area 1 comprises approximately 21.6ha of pastureland centred on NGR SN 59973 09580, between Tycroes Business Park and the Clawdd Ddu solar farm. Area 2 comprises approximately 2.2ha of heath land centred on SN 59239 09580, approximately 300m south of the junction of the A483 and B4297 roads at Coopers. Area 3 comprises one large and one small parcel of pastureland in close proximity measuring approximately 20.2ha and 1.5ha respectively centred on SN 57416 09350 and lying east of the A48 trunk road approximately 1.6km north of the M4 Junction 49.
- 2.1.2 Area 1 comprises 7 conjoined pasture fields, each bounded by low hedges and with a total area of 21.6ha. The combined plot has an irregular elongated shape with a long axis aligned approximately NW-SE and dimensions of up to 900m long and 140-300m wide. The site lies between 115m and 90m above Ordnance Datum and has a gently sloping SE facing aspect with views across the Loughor valley towards the hill of Graig Fawr. Towards the south the valley opens out in the vicinity of Pontardulais. Area 1 is bounded on the west by the Clawdd Ddu Solar Farm, on the south by a minor road connecting the villages of Tycroes and Llanedi; on the north and on all other sides by enclosed pasture fields.
- 2.1.3 Area 2 comprises a single field with an area of approximately 2.2ha. The plot has an irregular square shape with maximum dimensions of 185m x 135m. This area also includes provision for an access route linking it to the main A483 Pontardulais Road measuring 5m wide x 120m long. This site lies between 135m and 110m above Ordnance Datum on a slight NE-SW aligned ridge. Thus, the northern part of the site has a NW facing aspect and the southern part has a similar SE facing aspect to Area 1 above. The site is bounded on all sides by enclosed pasture fields.
- 2.1.4 Area 3 comprises 9 enclosed parcels of pastureland, 7 of which are conjoining and have a total area of 20.2ha. The other one is separated from the main site to the east by between 25m and covers an area of 1.5ha individually. The main plot is irregular and elongated in shape with maximum dimensions of 825m (N-S) x 315m (E-W). The site occupies the top, south facing and east facing slopes of a N-S aligned ridge running between the Afon Gwili (Loughor) on the east and one of its tributaries on the west. The site, including the two small satellite plots, is almost entirely surrounded by mature trees. The A48 trunk road lies approximately 30m to the west of the site at its closest point but is separated by mature tree cover. The site has a gently sloping South and Southeast facing aspect with views down the narrow valley of the Afon Gwili.
- 2.1.5 The Cable Trench will measure approximately 930m long, 0.6m wide and 1.4m deep. It connects the three main areas as well as the two separate parts of Area 3. It is proposed to run eastwards from the east side of Area 3, up the east side of the Gwili Valley to Cefn Gwili, from where it will run north east along the northern side of the A483 as afar as Greynor Isaf. From here it will tunnel across the A483 to Area 2. It then links to Area 1 from where it heads northwards towards the electricity substation at Tycroes.

# 2.2 Geology

2.2.1 According to the British Geological Survey the underlying solid geology varies subtly across the three main site areas:

The solid geology of Area 1 comprises Mudstone, Siltstone and sandstone of the South Wales Middle Coal Measures Formation in the northern part of the site, interbedded with Sandstones. This sedimentary bedrock formed approximately 310 to 318 million years ago in the Carboniferous Period. The southern part of the site comprises interbedded sandstone with Mudstone, Siltstone and Sandstone of the Lynfi Member, part of the wider Pennant Sandstone Formation. These sedimentary rocks formed approximately 310 to 315 million years ago in the Carboniferous Period.

The solid geology of Area 2 comprises interbedded sandstone with Mudstone, Siltstone and Sandstone of the Lynfi Member.

The solid geology of Area 3 comprises Mudstone, Siltstone and Sandstone of the South Wales Middle Coal Measures Formation, formed approximately 310 to 318 million years ago in the Carboniferous Period (BGS 2019).

# 3 Legislation & Methodology

#### 3.1 Legislation

- 3.1.1 Applications for planning permission are considered in light of the Welsh Government's land use planning policy and guidance contained in Planning Policy Wales (PPW), Technical Advice Notes and related guidance.
- 3.1.2 PPW (Chapter 6 The Historic Environment) explains that It is important that the planning system looks to protect, conserve and enhance the significance of historic assets. This will include consideration of the setting of an historic asset which might extend beyond its curtilage. Any change that impacts on an historic asset or its setting should be managed in a sensitive and sustainable way.
- 3.1.3 The conservation of archaeological remains and their settings is a material consideration in determining a planning application, whether those remains are a scheduled monument or not. Where nationally important archaeological remains are likely to be affected by proposed development, there should be a presumption in favour of their physical protection in situ. It will only be in exceptional circumstances that planning permission will be granted if development would result in a direct, adverse impact on a scheduled monument (or an archaeological site shown to be of national importance).
- 3.1.4 Technical Advice Note 24: The Historic Environment elaborates by explaining that when considering development proposals that affect scheduled monuments or other nationally important archaeological remains, there should be a presumption in favour of their physical preservation *in situ*, *i.e.* a presumption against proposals which would involve significant alteration or cause damage, or would have a significant adverse impact causing harm within the setting of the remains.

#### 3.2 Method

3.2.1 The objective is to assess the impact of the development proposals on the historic environment, by means of the desk-based HIA, Historic Assets Settings Assessment

(stage 1) and Site Visit. This work will be undertaken using the guidance laid out within *Managing Heritage Impact Assessment in Wales*, and *Managing the Setting of Historic Assets in Wales*, produced by Cadw in 2017.

- 3.2.2 This assessment will take full account of the merits of the existing designated heritage assets, including any associated non-designated assets, and their settings. It will gather enough information to understand the significance of any heritage assets affected and assess the impact of the proposals on those assets. This will help inform future decision making, design solutions and potential mitigation strategies.
- 3.2.3 Cadw have specifically asked that impact of the proposed development be considered on the settings of the following nearby designated assets:

#### **Scheduled Ancient Monuments**

CM192 Bryn Maen Standing Stone CM193 Bryn-y-Rhyd Standing Stone GM386 Earthwork on Graig Fawr GM513 Two Burial Chambers on Graig Fawr

#### Listed Buildings

14812 Pantyffynnon Station
14813 Pantyffynnon Signal Box
19449 Church of Saint Edi
19451 Plas-Newydd Mill
19453 Plas Mawr (formerly known as Cwrt y Ceidrim)
22211 Capel Hendre and Vestry
81059 Circular pigsty at Craig Fawr Farm

3.2.4 The report will assess the impact of the proposed development on the settings of the above designated heritage assets by means of a Stage 1 assessment *following the methodology given in the Welsh Government document "Managing the Setting of Historic Assets in Wales" (Cadw, 2017).* The assessment will provide information of sufficient detail to allow informed planning decisions to be made; it will establish the historical significance of the asset, and its relationship to the wider historical environment.

#### 3.2.5 The assessment will consider the following:

a) The significance of the site and existing assets and their setting, including views and their relationship to adjacent and non-designated heritage assets, through assessment of various readily available primary sources:

1. Collation and assessment of all relevant information held in the regional Historic Environment Record (HER) at Dyfed Archaeological Trust (DAT). All designated sites within a 5km search radius will be considered (Figure 3). All non-designated sites within a 500m search radius from a central point within each of the proposed development sites (Areas 1, 2 and 3) will be considered (Figure 4).

2. Assessment of all available reports and archives including unpublished and unprocessed material affecting the site and its setting.

3. Assessment of all relevant extant photographic evidence, including available historic photos.

4. All sources indexed in the County Archives as appropriate, site files held by the RCAHMW.

5. Map regression analysis using all relevant cartographic sources e.g. all editions of the Ordnance Survey County Series, tithe and early estate maps (as available).

- 6. Place name evidence.
- 7. Historic documents (e.g. Charters, registers, estate papers).

b) The potential impact of any proposed development on existing historical assets and their setting.

c) A Stage 1 Assessment on the impact of the proposed development on the settings of the designated heritage assets will consider the following:

- the details of the location, size and scale of the proposed change or development
- the location of the identified historic assets
- plans overlaying the zone of theoretical visibility on the sites of the historic assets (Figures 12-15).

#### 4 Understanding Significance: Archaeological and Historical Background

#### 4.1 General Background

4.1.1 Research for this report into the history and archaeology of the area has examined all sites and previous archaeological studies that are recorded on the regional Historic Environment Record (HER), held and maintained by Dyfed Archaeological Trust, within a 500m search radius from a central point within each of the proposed development sites (Areas 1, 2 and 3) (DAT HER Enquiry Reference 1191). This has been supplemented by further information held within the National Monuments Record (NMR), the Portable Antiquities Scheme database, an examination of historic maps from the 19<sup>th</sup> and 20<sup>th</sup> centuries, aerial photographs from 1940 onwards, along with documents and references held in local and regional archives and internet resources. What follows is a summary of the general background to the area drawn from these sources.

#### <u>Prehistory</u>

4.1.2 Areas 1 & 2:

There are no prehistoric archaeological sites recorded on the Historic Environment Record (HER) within the proposed development areas 1 and 2. There is one possible prehistoric site recorded within the 500m search radius, at Bryn Du Farm, Tycroes at NGR SN60630981 (DAT HER 1193). This identification is based on place name evidence, however a geophysical survey and archaeological evaluation associated with the proposed Ammanford Outer Relief Road failed to produce any evidence for the barrow. Nevertheless, one of the trenches did recover charcoal from an archaeological feature that produced a calibrated radiocarbon date of 4440-4320 BCE (at 2 sigma or 95% probability) suggesting there was human activity in the region

during the late mesolithic period. Within the wider landscape a relatively large number of Prehistoric archaeological sites have been recorded. These include the standing stone at Bryn Y Rhyd (CM193) which is situated less than 1km south of the site. The date and function of these monuments is not fully understood, but it is thought that they may have some ritual or religious significance and are most likely to date from the Neolithic or Bronze Age. A prehistoric earthwork has been recorded at Waun Fawr (DAT HER 11867) at NGR SN5874808740 approximately 750m SW of Area 2. The Dshaped enclosure on Graig Fawr (GM386) was deliberately sited on a prominent ridge overlooking the Loughor valley. The view from this monument encompasses the proposed development site.

4.1.3 Area 3:

There are no prehistoric archaeological sites recorded on the Historic Environment Record (HER) within the proposed development area 3. There are also none recorded within the 500m search radius. In the wider landscape there is a standing stone recorded at Bryn Maen (CM 192) approximately 2.8km SW of the proposed development site.

#### <u>Roman</u>

4.1.4 There are no Romano-British period archaeological sites recorded in the Historic Environment Record (HER) within any of the proposed development areas. There are also none recorded within the 500m search radius, or the wider landscape. A search of the Portable Antiquities database also produced no results for Romano-British period findspots within the area. Further afield, Carmarthen (Moridunum) was the regional centre during the Romano-British period, with forts at Loughor and Neath and a road linking the three sites. Whilst little physical evidence is known for this road and the exact route is uncertain its existence is attested by the Antonine Itinerary (Iter XII) (Sherman and Evans, 2004, 27). The section of this route between Carmarthen and the crossing of the River Loughor at Pontraddulais passes approximately 5km to the west of the proposed development site at Area 3 (Allen et al, 2018).

#### Early Medieval/Medieval

- 4.1.5 The centuries following the end of Roman administration in the late 4<sup>th</sup>/early 5<sup>th</sup> century, are thinly documented. There is a group of church dedications in the area for possible 'celtic' saints such as *Edi* and *Non*. The latter is thought to have been the 5<sup>th</sup> century mother of St David, the patron saint of Wales. Both Lanedi and Llannon parish churches are located within curvilinear enclosures suggestive of early ecclesiastical sites. These parochial churches were both chapelries in the Deanery of Kidwelly during the medieval period.
- 4.1.6 The economy of the region was largely agrarian during the medieval period and this has left little trace in the archaeological record. A medieval strip field system may be preserved in modern field boundaries at Waun Fawr (DAT HER 11719) approximately 300m south of Area 2. Evidence for medieval ridge and furrow earthworks fitted in to a pre-existing pattern of small irregular enclosures can also be seen on LiDAR images throughout the study area but notably within Area 3 and close to Area 1 at Clawdd Ddu. Clawdd Ddu lies adjacent to Area 1, to the west. This site is now the location of a

ground mounted solar farm. A geophysical survey was conducted during November 2013 as part of archaeological mitigation in advance of this development (Fry, 2013). This revealed evidence for a relict agrarian landscape comprising medieval ridge and furrow, field boundaries visible on 19<sup>th</sup> century maps and other potentially earlier linear features. A subsequent archaeological watching brief during groundworks associated with the construction of the solar farm was not located on any of these anomalies and was therefore unable to confirm or refute the suggested nature and date of any of the archaeological features (Carlsson, 2014).

4.1.7 This part of Carmarthenshire lies within the northern edge of the South Wales Coalfield and it is possible that coal was mined on a small scale from the 14<sup>th</sup> century, often in small shafts associated with individual farms.

# Post Medieval/modern

4.1.8 The post medieval period was one of great expansion in the region in terms of both the economy and the population. This is clearly reflected in the Historic Environment Record which lists 34 post medieval sites within a 500m search radius of the proposed development site and a further 3 of modern date. This is out of a total of 39 sites recorded in the search area for all periods.

Areas 1 and 2:

- 4.1.9 One site lies within the proposed development area itself. A post medieval quarry is recorded on the 1<sup>st</sup> edition OS county series map within Area 1 (DAT HER 55468) (Figure 4 & 5). Further disused quarries and coal mines are recorded just outside areas 1 and 2 but within the 500m search area at Pen Crug (DAT HER 28157), Park Farm (DAT HER 28177) and Heol Du, Tycroes (DAT HER 18373).
- 4.1.10 On further site lies on the line of the proposed cable trench linking areas 1 and 2. This is the site of a post medieval cottage (DAT HER 43473). It is recorded as Ty Copa on the Llanedi Tithe Map of 1842 and the 1<sup>st</sup> and 2<sup>nd</sup> edition OS maps (Figure 5) although it does not appear on the 3<sup>rd</sup> edition map suggesting that it was demolished between 1906 and 1916.
- 4.1.11 In fact, the majority of post medieval sites listed on the HER within the search area relate to farmsteads, cottages and other commercial buildings such as a public house and a smithy, recorded on 19<sup>th</sup> century historic maps. Many of these buildings have survived into the modern landscape. However, one post medieval building, within Area 1 is recorded on the Llanedi Tithe Map as 'Bryn' but does not appear on the 1<sup>st</sup> edition OS map of 1879. The site of this lost building is not listed on the HER, although earthwork remains are visible on LiDAR images (Figure 8).

Area 3:

- 4.1.12 There are no post medieval archaeological sites recorded on the HER within the proposed development area 3. There are 17 sites recorded within the 500m search radius of Area 3, all of which are post medieval in date.
- 4.1.13 The nearest is Tir Isaf farmstead (DAT HER 11609) which lies on the SW edge of Area 3. This farmstead is visible on the 1<sup>st</sup> edition OS maps of 1879. The remaining sites in the search area include six more farmsteads, cottages or Lodge; two sites associated with communications (Cross Hands to Pontardulais toll road and Pont Rhyd Sarnan);

and five sites associated with Plas Newydd Mill including the weir, mill race, Aqueduct, pond and mill itself (DAT HER 102933-6 & 16783).

# 4.2 Designated Archaeological assets (Figure 3)

4.2.1 Designated archaeological assets in the surrounding area have been examined, based upon data provided by Cadw.

# **Conservation Areas**

- 4.2.2 Conservation Areas, introduced by the Civic Amenities Act in 1967, are defined as "areas of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance". Planning Authorities are required to give special attention to preserving and enhancing Conservation Areas. Planning consent must also be gained for a wider range of developments, as well the demolition of buildings, and additional controls over trees, and such requirements are laid out in the legislation highlighted in Section 3.1.
- 4.2.3 The proposed development site does not lie within any designated conservation area. There are also no Conservation Areas within a 5km search radius of the proposed development site.

# Listed Buildings

- 4.2.4 There are 54 listed buildings within 5km of the site, none of which are grade I, two of which are grade II\* (The Crosshands Public Hall, Crosshands Village LB 21086 & The Church of St Non, Llannon, LB 11871). The remaining 52 listed buildings are all grade II.
- 4.2.5 There are only three listed buildings within 2km of the site. The closest of which is Plas Newydd Mill (LB 19451), A grade II late 18<sup>th</sup> century mill lying approximately 450m south of the southern tip of the site at Area 3. This mill lies within the Afon Gwili valley obscured from Area 3 by topography and surrounding mature trees.
- 4.2.6 The grade II listed Plas Mawr, formerly known as Cwrt y Ceidrim (LB19453), is a substantial 16<sup>th</sup> century storeyed house with lateral chimney and great chamber. It lies approximately 900m east of the SE corner of the site at Area 1. Whilst the proposed development site is not visible from this building, it is visible from the drive approaching the property, which is also a public right of way (Plate 15).
- 4.2.7 The grade II listed Capel Hendre (LB22211) is a Welsh Calvanisitc Methodist Chapel in the village of Capel Hendre. The current chapel dated 1879 is built in the Sub-Classical style of the gable entry type and lies approximately 1.5km north of the northern tip of the site at Area 1. No part of the development site is visible from this chapel.
- 4.2.8 The above three listed buildings area all on the list of designated sites supplied by Cadw as potentially at risk from the impact of the proposed development. However, no part of the development sites is visible from these buildings, and no historic or other tangible link could be identified between these buildings and the sites, therefore their settings would remain essentially unaltered by the development.

- 4.2.9 The remaining four listed buildings on the list of designated sites potentially at risk from the impact of the development all lie between 2km and 2.5km from any part of the proposed development sites.
- 4.2.10 A grade II listed circular pigsty at Graig Fawr Farm (LB81059) lies just over 2 km SE of the site at Area 1. This corbelled pigsty probably dates from the 18th century or early 19th century. Although it lies across the River Loughor valley from the site, views are restricted because it is situated within a farmyard surrounded by Farm buildings. The site is visible from the vicinity of the Farm in general, however.
- 4.2.11 Two of the listed buildings lie approximately 2.5km from the site at Area 1 to the NE. These are Pantyffynon Station and signal box (LB14812 &14813). These buildings are still in use but are low lying in the River Loughor valley and the site is not visible from them.
- 4.2.12 The final listed building on the Cadw list is the Church of St Edi (LB19449) in the village of Llanedi. This represents a grade II listed late 18<sup>th</sup> and 19<sup>th</sup> century church on the site of a medieval predecessor. No part of the proposed sites is visible from the church.

# Other listed buildings

4.2.13 The remaining 47 listed buildings all lie in an arc relative to the site from the NE round to the South of the site between 3 and 5km distant. None of these listed buildings will be either directly or indirectly affected by the development. All views either towards or from the site are restricted either by tree cover or topography.

#### Landscapes

- 4.2.14 The site does not lie within a registered Historic Landscape Area, and no registered Historic Landscape Character Area lies within 5km of the site.
- 4.2.15 However, Areas 1 and 2 lie within the Landmap Historic Landscape Character Area of Bryniau Llanedi (Llanedi Hills) (CRMRTHL39551). This aspect area is characterised as a rural environment with agricultural land use in the form of irregular fieldscapes, nucleated villages, hedgerows and archaeological potential. This includes relict earthworks, prehistoric, medieval and post medieval archaeology. The overall historic value of this aspect area was categorised as High.
- 4.2.16 Area 3 lies within the Landmap Historic Landscape Character Area of Cwm Gwili (Gwili Valley) (CRMRTHL39549). This aspect area is characterised as a rural environment with agricultural land use in the form of irregular fieldscapes, hedge banks and archaeological potential. This includes relict earthworks, prehistoric, medieval and post medieval archaeology. The overall historic value of this aspect area was categorised as High.
- 4.2.17 These Landmap areas are not designated landscapes but contain objective and subjective information designed to enable landscape quality to be taken into account in decision making.

#### Parks & Gardens

4.2.18 The proposed development site does not lie within any designated Historic Park and Garden. There are also no Historic Parks and Gardens within a 5km search radius of the proposed development site.

#### **Scheduled Ancient Monuments (SAMs)**

- 4.2.19 Scheduled Ancient Monuments are sites considered to be of national importance and have statutory protection under the Ancient Monuments and Archaeological Areas Act 1979.
- 4.2.20 No Scheduled Ancient Monuments lie within the boundary of the proposed development area. There are 8 SAMs within a 5km search radius of the site. The nearest SAM to the site is the standing stone at Brn Y Rhyd (CM193) located just under 1km south of Area 2. Three further SAMs lie within 3km of the site; Bryn Maen standing stone (CM192); Earthworks on Graig Fawr (GM386) and Two Burials Chambers on Graig Fawr (GM513). These four closest monuments to the site are all on the list of designated sites supplied by Cadw as potentially at risk from the impact of the proposed development. The remaining 4 SAMs, not on the Cadw list lie between 3 and 5 km distant from any part of the proposed development site and are not intervisible with it. They include Tir Y Dail Motte and Bailey Castle (CM067); Cairn 250n W of Banc LLyn Mawr (GM384); Ring Cairn on Craig Fawr (GM380); and Mynydd Psygodlyn Round Barrow (GM202).
- 4.2.21 The standing stone at Brn Y Rhyd (CM193) is a massive, unshaped erect prehistoric monolith, measuring c.2.4m high & 1.9m wide and located in the community of Llanedi at NGR SN58830835. It is located on the same SE facing upper slope of the Loughor valley as both Areas 1 and 2 but approximately 1km south of Area 2. Views to all parts of the proposed development site are obscured by intervening topography and mature trees.
- 4.2.22 The standing stone at Bryn Maen (CM192) is a standing stone, 3.5m high, 1.1m wide and 0.4m thick, whose form is suggestive of facing. It is located at NGR SN55520676 in the community of Llannon, approximately 2.8km SW of Area 3. Views to Area 3 from this monument are obscured by a ridge of slightly higher ground between them at Pentwyn Farm.
- 4.2.23 The earthwork on Graig Fawr (GM386) comprises the remains of a D-shaped enclosure; likely to be of later prehistoric date (c. 800BC AD74). It is enclosed by a single bank and ditch 0.3m to 0.5m high but flattened on north-east side. It is located on the summit of Graig Fawr at NGR SN618068, 270m above OD, overlooking the Loughor Valley and the Llanedi Hills beyond. Areas 1 and 2 area clearly visible from this vantage point, as is the existing solar Farm at Clawdd Ddu (plate 12). The monument is of national importance for its potential to enhance our knowledge of later prehistoric defensive organisation and settlement. The site forms an important element within the wider later prehistoric context and within the surrounding landscape. The site is well preserved and retains considerable archaeological potential.
- 4.2.24 The Two Burial Chambers on Graig Fawr (GM513) Have a very similar aspect to that of the earthwork above in respect to the proposed development sites. It is located at NGR SN 608062, 1.1km SW of the D shaped enclosure described above. The site

comprises two chambered tombs dating from the Neolithic Period. The tombs are set less than 3m apart and are likely to have been covered by a single mound. Tomb A has two chambers, both formed from large upright stones, with a possible capstone nearby. Tomb B also consists of two chambers, one formed from upright stones, and the other from boulder walling. The tombs are of national importance as surviving remains of prehistoric burials offering great potential for demonstrating several phases of ritual activity at the site, suggesting long term use and continuity.

# 4.3 Aerial Photographs and Lidar

# Aerial Photos

4.3.1 Aerial Photos available on the Welsh Government's Historic Aerial Photography WMTS Service (Lle, 2019) were consulted. Full coverage of the development area was only available from 1945 and 1969, with partial coverage of Area 1 from 2013. Of these, the only photograph to clearly show any significant archaeological features were those dating from 1945 in which the southwestern field in Area 3 appears to contain ridge and furrow earthworks:

(http://d3rykcmoi4kytu.cloudfront.net/apu/1945/17/64054/43433.png).

Google Earth historic imagery is available from 2006 for Areas 1 and 2 and from 1999 for Area 3. The only one of these satellite images to show any archaeological features was the 2009 imagery from Area 3 which showed evidence for surviving Ridge and Furrow earthworks in the NE corner of the southwestern field (Getmapping plc, 2019).

# LiDAR

4.3.2 Lidar data at 1.0m DTM is available for the whole proposed development area.

Area 1 (Figure 8):

- 4.3.3 The LiDAR data shows a series of parallel breaks of slope running approximately SW-NE, with the contours. It is not clear whether these represent agricultural lynchets; archaeological earthwork features marking the position of relict field boundaries. If these earthworks were archaeological then they could range in date from the late prehistoric to the medieval period. In some instances, these lynchets coincide with modern field boundaries. However, it is equally possible that they represent features of a natural origin. The geology of the region is known to comprise bands of rock of varying hardness, the orientation and position of which approximately coincides with those of the lynchets. This phenomenon could produce natural breaks of slope similar to those seen on the LiDAR images. It is perhaps most likely that the lynchets are formed through a combination of both processes. Agricultural field boundaries often follow geological boundaries.
- 4.3.4 The site of a former quarry marked on the Ordnance Survey county series map of 1879 and listed in the HER (PRN 55468) is visible on the LiDAR image.
- 4.3.5 There is one further slight earthwork of archaeological significance near the centre of Area 1 at the point where the public footpath from the north of the site forks in to two. Here on the Llanedi Tithe map of 1842, a small house or farmstead called *Bryn* is recorded. This structure has gone by the time of the 1<sup>st</sup> edition OS county Series map

in 1879. Slight earthworks are discernible at this point on the LiDAR plot, although they were not visible during the site visit. These may represent the archaeological remains of a building of early 19<sup>th</sup> century or earlier date.

Area 2 (Figure 9):

4.3.6 It is more difficult to clearly interpret the LiDAR images in this area due to the scrubby and uneven nature of the ground here. Nevertheless, there are indications that slight linear depressions may represent the earthwork remains of relict field boundaries and small irregular enclosures. There are no earthworks associated with the lost post medieval cottage of Ty Copa (DTA HER 43473) visible on the LiDAR data.

# Area 3 (Figure 10):

- 4.3.7 The LiDAR images suggest the remains of a medieval field system survive in this area. This comprises former field boundaries, also visible on the 1<sup>st</sup> edition OS County Series map dated 1879 and the Llannon Tithe Map of 1841. These relict fields contain the slight remains of medieval ridge and furrow earthworks. There are also a few fragmentary sections of banks and lynchets that are not visible on the 1<sup>st</sup> edition maps and may represent the partial remains of an earlier, potentially prehistoric, system of land division. It proved difficult to confirm their presence on the ground during the site visit, due to a covering of long grass and scrub.
- 4.3.8 The satellite field on the east side of Area 3 lies within the floodable part of the Afon Gwili valley and does not form part of the field system identified above. Nevertheless, there are potentially the remains of a former channel running N-S through the middle of this field. The field is known as *Ynis Maur* (Great Island) on the Llanedi Tithe Apportionment of 1842.

# 4.4 Site Visit (Plates 1-16) Jerry Bond

#### Introduction

- 4.4.1 A site visit was undertaken over two days on the 31<sup>st</sup> October and 1<sup>st</sup> November 2019 by Jerry Bond and James Evans (AW). Conditions over the two days were variable, ranging from misty and overcast but with moderate visibility, to clear and with good visibility. The site is centred on NGR SN 1336 0844 in the county of Carmarthenshire communities of Llanedi (Areas 1 and 2) and Llannon (Area 3). The site has been proposed as the location for the installation of a ground mounted Photo Voltaic (PV) solar farm. A solar farm already exists directly adjacent to Area 1 at Clawdd Ddu.
- 4.4.2 The site visit consisted of a walkover survey and photographic record of the proposed development area, and an assessment of the visual impact of the proposed development on designated heritage assets in the locality.

# The results of the site visit (Figure 11).

<u>Area 1</u>

4.4.3 Area 1 was visited on 1/11/2019, The pre-existing solar Farm at Clawdd Ddu was clearly visible, adjacent to Area 1 on the west (plate 1). Area 1 comprises 6 pasture fields enclosed by hedge banks within a rolling landscape (plate 2). Two suspected sites of archaeological remains, an old farm called 'Bryn' and a quarry, were not clearly visible on the ground, although slight earthworks close to the former quarry are of unknown origin (plate3). They may be associated with the quarry, geological features, or possible agricultural lynchets.

# <u>Area 2</u>

4.4.4 Area 2 was visited on 31/10/2019, it is located to the west of and close to the existing solar farm at Clawdd Ddu, which was visible to the east thru the hedge banks and woodlands, with the uplands at Graig Fawr beyond (plate 4). Area 2 comprises a single pasture field (plate 5) surrounded by scrub which was very difficult to access (Plate 6). Topographically, the pasture field occupies a low NE-SW aligned ridge so that the southern part of the site has a south east facing aspect, but the northern part of the site faces to the NW and is hidden from the hill of Graig Fawr. The fields are enclosed by overgrown hedge banks and thickets. No archaeological remains were noted within this area of the proposed development site.

# <u>Area 3</u>

- 4.4.5 Area 3 consists of a large block of 8 fields and a single satellite field separated from the main area to the east. The area consists primarily of pastoral land (plate 7), much of it, at the time of the site visit, being very boggy and waterlogged. It is currently used for the grazing of both sheep and cattle with patches of woodland, scrub and bog. The major part of the site lies on the western slopes of the valley of the Afon Gwili with restricted views to the wider landscape beyond (Plate 8). Although the easternmost satellite field lies within the river's flood plain and contains the earthwork remains of a possible relict river channel or leat.
- 4.4.6 The field boundaries comprise hedge banks and post and wire fencing with a small number of metaled trackways and streams on the SW (plate 9) and east sides. Visibility was moderate to good. Access was partially restricted by some closed gates and the presence of stock as well as waterlogged conditions underfoot.
- 4.4.7 In the eastern half of the area, no archaeological remains were noted, however in the western half possible traces of ridge and furrow agriculture were observed (plate 10) as well as a low earthwork, the remains of a 19<sup>th</sup> century field boundary (plate 11).

# Designated sites

4.4.8 The monuments on Graig Fawr were visited on 31/10/2019. The upland is located to the south east of the proposed development site and is the location of a series of significant archaeological remains. Of particular relevance to the proposed development are two scheduled monuments with views towards the site; the prehistoric earthwork (GM386) and chambered tombs (GM513). These monuments

are located close to the summit of the northwestern slopes providing views to the north across the Loughor valley and the Llanedi Hills beyond. Visibility was variable but in the breaks in the weather it was possible to see the existing solar farm at Clawdd Ddu and the proposed development sites from the earthwork on Graig Fawr (plate 12). Area 1 is clearly visible as green pasture adjacent to the solar farm on the right. Area 2 is only partially visible behind the solar farm. Area 3 was not clearly visible from Graig Fawr (plate 13) it is just obscured within the folds of the Gwili valley.

- 4.4.9 The standing stone at Bryn Y Maen (GM192) (plate 14), was located within an area of very waterlogged ground. None of the proposed development areas were visible from it, lying approximately 3-5km to the northeast.
- 4.4.10 The standing stone at Bryn Y Rhyd (GM193) also has no intervisibility with any part of the proposed development site. It lies at approximately the same contour as Clawdd Ddu solar Farm and approximately 2km west of it but views to the solar farm, and the proposed development site are obscured by a series of slight valleys and a ridge topped with mature trees. Views to Area 3 to the north are obscured by the intervening Hill of Pen Crug.
- 4.4.11 The Grade II\* listed church of Saint Edi at Llanedi (LB19449) is located at the top the lower slopes on the north side of the Loughor valley, lower in the landscape than Areas 1 and 2, but on the same side of the valley. Views to Area 1 and 2 over 3km to the NE are obscured by the intervening hill of Pentre Hardd. Views towards Area 3 are obscured by fact that the site is low lying in the neighbouring Gwili Valley.
- 4.4.12 The grade II chapel at Capel Hendre (LB22211) Is located within the village of Capel Hendre, with views on all sides obscured by adjacent buildings and associated fences, trees and hedges.
- 4.4.13 The railway station and signal box at Pantyffynon (LB14812 & LB14813) is located at the bottom of the Loughor Valley and long-distance views out of the valley to the lower and middle slopes are restricted in most directions. Views west to Areas 1 and 2 are restricted by the intervening hills at Bryn Ddu. Area 3 is located approximately 5km away in a separate river valley.
- 4.4.14 The circular pigsty (LB81059) on the lower slopes of Graig Fawr near Garnswllt is located within a farmyard surrounded by barns which themselves are located within a slight sheltered fold in the hillside. There are no clear views across the Loughor valley towards areas 1 and 2 approximately 2km to the NW, nor to Area 3 in a valley beyond.
- 4.4.15 The listed building at Plas Mawr (LB19453) is also located within a fold in the landscape and has no clear views to the proposed development area, although Area 1 and the existing solar farm at Clawdd Ddu were visible from a position a short distance to the west along the access track to the farm (plate 15). In this photograph Area 1 sits immediately in front of the existing solar farm. Area 2 lies largely obscured, adjacent to the solar farm, on the right.
- 4.4.16 The site of the old water mill at Felin Plas Newydd (LB19451) is located low in the Gwili valley, next to the river. Any potential views to Area 3 up the valley were obscured by mature trees. The only direction of view away from this site, not obscured by mature trees, is up the access lane to the north east (plate 16) away from the development site.

#### 5 Assessment of Significance

5.1 The significance of the proposed development area is assessed on two interconnected levels; the significance of the surviving heritage assets within the site itself; and the significance of the setting within the wider landscape, particularly in relation to the setting of scheduled monuments and listed buildings identified by Cadw as potentially at risk from the development.

#### Evidential Value

- 5.2 There is very little in the way of recorded archaeological evidence for the proposed development sites themselves, other than two former post medieval structures and the site of a former quarry, all within Area 1 and its associated cable trench. Cartographic evidence has demonstrated the former existence of a small quarry (PRN 55468) within the area as well as a small building during the 19<sup>th</sup> century. Slight earthwork evidence survives for both and is visible on the LiDAR images. The former cottage at Ty Copa, along the line of the cable trench between areas 1 and 2, has also been shown to date from before 1842 and to have been demolished between 1906 and 1916 from cartographic evidence.
- 5.3 The evidence from historic maps suggests that the basic agrarian nature of the proposed development site remains relatively unaltered from the last two centuries. This includes developed irregular field boundaries comprising hedge banks and hedgerows and a dispersed system of farmstead and cottages. Subsequent alterations to this landscape can be relatively well-charted from the 19<sup>th</sup>-20<sup>th</sup> century plans, maps, and aerial photographs, which contribute to its evidential value. Furthermore, there is evidence from LiDAR images that even earlier elements of the agrarian landscape may have survived in the form of ridge and furrow earthworks set within a pre-existing pattern of small enclosed fields. The boundaries of some of these pre-existing fields survive as low earth banks and are occasionally fossilised in the line of modern field boundaries. This survival is most notable within Area 3, but also to the west of Area 1 beneath Clawdd Ddu Solar Farm and further to the west, just outside the development area at Waun Fawr where modern field boundaries are thought to preserve the outline of a system of medieval strip fields.
- 5.4 The evidential value of the development site itself for medieval agrarian archaeology can be considered to be medium, however, overall the evidential value for previous archaeological activity is low. It should be noted that evidential value is different from archaeological potential, which currently remains unknown.
- 5.5 The evidential value of the four scheduled monuments listed by Cadw as potentially at risk from the proposed development is high. The earthwork and chambered tombs on Graig Fawr (GM386 & GM513) are of national importance for their potential to enhance our knowledge of later prehistoric defensive organisation and settlement (Cadw scheduling description).

#### Historical value

5.6 There are few known documents that relate directly to the proposed development site, other than the usual 19<sup>th</sup> century maps and associated documents such as the Tithe

apportionment. A search of documents held in the Carmarthenshire Archives, currently housed with the Glamorgan Archives has produced limited results. Other than the usual parish records, there are articles relating to a sale of coal mining property in the parish of Llanedi which includes the mine at Brynddu, Llety-Newydd, within 500m of Area 1 (DSA/12/900). These documents back up the archaeological evidence for small scale coal extraction held in the HER.

5.7 The historical value of the proposed development site can be considered to be low.

# Aesthetic Value

- 5.8 The proposed development site does not lie within any designated Conservation Area or Historic Landscape Character Area. Areas 1 and 2 do lie within the Landmap Historic Landscape Character Area of Bryniau Llanedi (Llanedi Hills) (CRMRTHL39551). Area 3 lies within the Landmap Historic Landscape Character Area of Cwm Gwili (Gwili Valley) (CRMRTHL39549). These areas are characterised as High value rural environments with agricultural land use in the form of irregular fieldscapes, hedgerows, hedge banks and archaeological potential. These Landmap areas are not designated landscapes but contain objective and subjective information designed to enable landscape quality to be taken into account in decision making.
- 5.9 Nevertheless, there are some factors which have reduced the aesthetic value of the site. These include the construction of a solar farm at the neighbouring site of Clawdd Ddu, and the encroachment of piecemeal settlement on the edge of Tycroes and along the A483 and A48 road corridors.
- 5.10 The site also has an aesthetic value, for its agrarian landscape of enclosed fields and hedgerows within a pattern of dispersed and nucleated settlement, when viewed from neighbouring designated historic assets. Mostly, the presence of mature trees or neighbouring buildings serves to obscure views to the proposed development site from these designated heritage assets. The only exception to this rule is the setting of the prehistoric monuments on Graig Fawr (GM513 & GM386). These monuments are set on the upper NW facing slopes of Graig Fawr with panoramic views over the Loughor Valley and the Llanedi Hills beyond, including the proposed development site at Area 1 and a small part of Area 2.
- 5.11 The overall aesthetic value of this aspect area can be categorised as medium.

#### Communal Value

- 5.12 The proposed development site is located on private land with no formal public right of way through the site, except for public footpaths with Area 1. These footpaths take the form of a farm track along much of their route, often with thick hedgerows along one side and open views of the pasture fields on the other. Generally however, the lack of access serves to reduce the communal value for the proposed development site as a whole. This means that the site does not feature as a current source of social interaction, and is unlikely to have improved communal value in the future.
- 5.13 However, Areas 1 and 2 also have communal value when viewed as part of the wider landscape from Graig Fawr, which is an open access upland area used by the general

public for recreational purposes. Views across the Loughor valley to the Llanedi Hills from this vantage point enhance the experience of visitors.

5.14 The communal value of Area 1 can be considered to be medium, with that of Areas 2 and 3 being low.

# 6 Assessment of the impact of the proposed development on the setting of Designated Heritage Assets.

# 6.1 General

The setting of an historic asset includes the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape (Cadw, 2017, 2). Setting may include a range of factors:

• functional and physical relationships with other structures/historic assets and how these have changed over time

topographic features that influenced its location

• physical character of the surrounding landscape or townscape, including any formal design or land use

- the original layout of the historic asset and how this has changed
- potential buried or archaeological elements surrounding the historic asset
- views to, from and across the historic asset or place
- formal or planned vistas
- the prominence of the historic asset in views throughout the surrounding area

• views associated with the aesthetic, functional or ceremonial purpose of the asset; for example, defensive sites, beacons or designed landscapes

• historical, artistic, literary, place name, cultural or scenic associations might all contribute to the significance of a historic asset

- other sensory elements noise or smell associated with the historic asset
- tranquillity, remoteness, 'wildness'. (ibid, 3)

# 6.2 location, size and scale of the proposed development

The proposed development site occupies three separate but neighbouring locations (Areas 1, 2 and 3). In addition a cable trench will link the three main areas. The cable trench however will not have a permanent visual impact on the setting of the nearby designated heritage assets, although it may have a minor impact on the potential buried or archaeological elements within the trench itself. The three sites have a combined total area of approximately 45.8 hectares and occupy several parcels of pasture. Area 1 comprises approximately 21.6ha of pastureland; Area 2 comprises approximately 2.2ha; and Area 3 comprises one large and one small parcel of pastureland in close proximity measuring approximately 20.2ha and 1.5ha respectively.

6.2.1 Area 1 comprises 7 conjoined pasture fields, each bounded by low hedges and with a total area of 21.6ha. The site lies between 115m and 90m above Ordnance Datum and has a gently sloping SE facing aspect with views across the Loughor valley towards the hill of Graig Fawr. Towards the south the valley opens out in the vicinity of Pontardulais. Area 1 is bounded on the west by the Clawdd Ddu Solar Farm, on the south by a minor road connecting the villages of Tycroes and Llanedi; on the north and on all other sides by enclosed pasture fields. ZTV analysis carried out by Amalgam Landscapes (2019) (Figure 13) indicates that the proposed development at Area 1 may be visible from the following scheduled heritage assets:

#### Scheduled Ancient Monuments

GM386 Earthwork on Graig Fawr GM513 Two Burial Chambers on Graig Fawr CM193 Bryn-y-Rhyd Standing Stone

#### Listed Buildings

22211 Capel Hendre and Vestry 81059 Circular Pigsty at Craig Fawr Farm

It should be noted that the Zone of TheoreticaL Visibility (ZTV) shown on Figure 13 represents a worst-case scenario. The height of the object has been set at 3.5m above ground in this analysis. This represents the maximum height of the solar panels above ground. However, landscape mitigation already incorporated into the design of the project indicates that all existing hedgerows around and within the solar farm will also be maintained to a minimum height of 3.5m (Amalgam Landscapes, 2019, 33). These hedgerows are not taken into account in the DTM model. The analysis has been conducted using a digital terrain model (DTM) which removes intervening obstacles such as mature trees and buildings. Heritage assets on the fringe of the ZTV area then will experience a very small impact on their setting as a result of the development at Area 1. This is supported by the results of the site visit which indicate that Area 1 would not be visible from Scheduled Monument CM193 (Bryn y Rhyd standing stone). Similarly, LB 22211 – Capel Hendre lies within a village centre and views to Area 1 are largely obscured in reality by the presence of nearby buildings. LB 81059 (Circular pigsty at Craig Fawr Farm is situated within a farmyard in a slight topographical dip with other farm buildings obscuring the views towards Area 1.

The site visit on the other hand, confirmed that Area 1 is clearly visible across the Loughor Valley from the position of the two Scheduled monuments on Graig Fawr (GM386 & GM513). Whilst Area 1 is of moderate size, it is also of considerable distance (2.7km) from these monuments. Furthermore, it lies adjacent to a pre-existing solar farm at Clawdd Ddu. Nevertheless, these prehistoric monuments were deliberately located on prominent sites; designed to be highly visible. The surrounding landscape in which these monuments were originally set has witnessed up to four millennia of change and modification throughout their existence. Although through most of this period the landscape is likely to have retained a largely rural and agrarian character of enclosed fields and dispersed settlement, it has also witnessed more recent episodes of industrial modification including the construction of the railway which runs through the valley and historic mineral extraction in close proximity to Area 1.

Area 1 will not be visible from the Listed Building 19453 Plas Mawr (formerly known as Cwrt y Ceidrim) itself, although part of it will be visible from the drive leading to the

listed building and thus will have a minor impact on its setting. There are no other impacts on the setting of these monuments, or any other heritage asset from the proposed development at Area 1.

6.2.2 Area 2 comprises a single field with an area of approximately 2.2ha. This area also includes provision for an access route linking it to the main A483 Pontardulais Road. This site lies between 135m and 110m above Ordnance Datum on a slight NE-SW aligned ridge. Thus, the northern part of the site has a NW facing aspect and the southern part has a similar SE facing aspect to Area 1 above. The site is bounded on all sides by enclosed pasture fields. ZTV analysis carried out by Amalgam Landscapes (2019) (Figure 14) indicates that the proposed development at Area 2 may be visible from the following scheduled heritage assets:

#### **Scheduled Ancient Monuments**

GM386 Earthwork on Graig Fawr GM513 Two Burial Chambers on Graig Fawr

#### Listed Buildings

22211 Capel Hendre and Vestry 81059 Circular pigsty at Craig Fawr Farm

Again, it should be noted that the Zone of Theoretical Visibility (ZTV) shown on Figure 14 represents a worst-case scenario. The height of the object has also been set at 3.5m in this analysis. Furthermore, trees and buildings have been removed from the digital terrain model.

LB 22211 – Capel Hendre lies within a village centre with theoretical views to Area 2 largely obscured in reality by the presence of nearby buildings. LB 81059 (Circular pigsty at Craig Fawr Farm is situated within a farmyard in a slight topographical dip with other farm buildings obscuring the views towards Area 2.

Furthermore, Area 2 is a much smaller area than Area 1 and only the southern part of it will be visible from the Scheduled Monuments on Graig Fawr, These monuments are also located more than 3.5km distant from Area 2, suggesting that the visual impact on their setting from the proposed development at Area 2 will be lower than the impact from Area 1. There are no other impacts on the setting of these monuments, or any other heritage asset from the proposed development at Area 2.

6.2.3 Area 3 comprises 9 enclosed parcels of pastureland, 7 of which are conjoining and have a total area of 20.2ha. The other one is separated from the main site to the east by between 25m and covers an area of 1.5ha individually. The site occupies the top, south facing and east facing slopes of a N-S aligned ridge running between the Afon Gwili (Loughor) on the east and one of its tributaries on the west. The site, including the two small satellite plots, is almost entirely surrounded by mature trees. The A48 trunk road lies approximately 30m to the west of the site at its closest point but is separated by mature tree cover. The site has a gently sloping South and Southeast facing aspect with views down the narrow valley of the Afon Gwili. ZTV analysis carried out by Amalgam Landscapes (2019) (Figure 15) indicates that the proposed development at Area 3 may be visible from the following scheduled heritage assets:

#### **Scheduled Ancient Monuments**

GM386 Earthwork on Graig Fawr GM513 Two Burial Chambers on Graig Fawr

# Listed Buildings

19451 Plas-Newydd Mill

Again, it should be noted that the Zone of TheoreticaL Visibility (ZTV) shown on Figure 15 represents a worst-case scenario. The height of the object has been set at 3.5m in this analysis. Furthermore, trees and buildings have been removed from the digital terrain model. It has been noted above that Area 3 is surrounded by mature trees, as is Listed Building *19451 Plas-Newydd Mill.* The site visit to Area 3 indicates that in reality there is no inter-visibility between Area 3 and any of the heritage assets listed above. However, if in the future the mature tree cover should be lost, then there could be a theoretical impact on the setting of these monuments.

There are no other impacts on the setting of these monuments, or any other heritage asset from the proposed development at Area 3.

6.2.4 The Cable Trench will measure approximately 930m long, 0.6m wide and 1.4m deep. It connects the three main areas as well as the two separate parts of Area 3. It is proposed to run eastwards from the east side of Area 3, up the east side of the Gwili Valley to Cefn Gwili, from where it will run north east along the northern side of the A483 as afar as Greynor Isaf. From here it will tunnel across the A483 to Area 2. It then links to Area 1 from where it heads northwards towards the electricity substation at Tycroes. Once excavated the surface will be restored to its original condition so there will be no permanent visual impact from the laying of the cable trench on any designated heritage assets.

# 6.3 location of the identified historic assets

#### 6.3.1 Listed Buildings

- 6.3.1.1 The closest listed building to the proposed development is **Plas Newydd Mill (LB 19451)**, A grade II late 18<sup>th</sup> century mill lying approximately 450m south of the southern tip of the site at Area 3. This mill lies within the Afon Gwili valley currently obscured from Area 3, or any other part of the proposed development by topography and surrounding mature trees. Whilst there will not be any visual impact of the setting of the mill, Area 3 lies on the banks of the Afon Gwili, upstream of the mill. There may be the potential for the development to impact on the flow of water to the mill by increasing short term run off rates in times of flood.
- 6.3.1.2 The grade II listed **Plas Mawr, formerly known as Cwrt y Ceidrim (LB19453)**, is a substantial 16<sup>th</sup> century storeyed house with lateral chimney and great chamber. It lies approximately 900m east of the SE corner of the site at Area 1. Whilst the proposed development site is not visible from this building, a small part of it is visible from the drive approaching the property, which is also a public right of way (Plate 15).
- 6.3.1.3 The grade II listed **Capel Hendre (LB22211)** is a Welsh Calvanisitc Methodist Chapel in the village of Capel Hendre. The current chapel dated 1879 is built in the Sub-Classical style of the gable entry type and lies approximately 1.5km north of the northern tip of the site at Area 1. Whilst the ZTV analysis suggests that this building lies within the zone of theoretical visibility, the modelling does not take the presence of neighbouring buildings into account. In reality these buildings and associated fences, hedges and trees obscure the views from the Chapel to the development site. It is difficult to imagine a scenario where these intervening buildings will be removed during

the lifespan of the solar farm, and if they were, that would in itself represent a greater impact on the setting of the chapel than that of the proposed solar farm.

- 6.3.1.4 A grade II listed **circular pigsty at Graig Fawr Farm (LB81059)** lies just over 2 km SE of Area 1. This corbelled pigsty probably dates from the 18th century or early 19th century. Although it lies across the River Loughor valley from the site, views are restricted because it is situated within a farmyard surrounded by Farm buildings. Again, were these intervening farm buildings to be removed at some point in the future, that would have a greater impact on the setting of the pigsty than the proposed development. The site is visible from the vicinity of the Farm in general, however and may have a minor impact on its setting.
- 6.3.1.5 Two of the listed buildings lie approximately 2.5km from the site at Area 1 to the NE. These are **Pantyffynon Station and signal box (LB14812 &14813).** These buildings are still in use but are low lying in the River Loughor valley and no part of the proposed development site is visible from them.
- 6.3.1.6 The final listed building on the Cadw list is the **Church of St Edi (LB19449)** in the village of Llanedi. This represents a grade II listed late 18<sup>th</sup> and 19<sup>th</sup> century church on the site of a medieval predecessor. No part of the proposed development site is visible from the church.

#### 6.3.2 Scheduled Ancient Monuments

- 6.3.2.1 The standing stone at Brn Y Rhyd (CM193) is a massive, unshaped erect prehistoric monolith, measuring c.2.4m high & 1.9m wide and located in the community of Llanedi at NGR SN58830835. It is located on the same SE facing upper slope of the Loughor valley as both Areas 1 and 2 but approximately 1km south of Area 2. Figure 13 suggests that Area 1 would be theoretically visible from a point approximately 1m above the top of the stone. Nevertheless, in reality, current views from ground level to all parts of the proposed development site are obscured by intervening topography and mature trees. The site forms an important element within the wider later prehistoric context and within the surrounding landscape. The site is well preserved and retains considerable archaeological potential.
- 6.3.2.2 **The standing stone at Bryn Maen (CM192)** is a standing stone, 3.5m high, 1.1m wide and 0.4m thick, whose form is suggestive of facing. It is located at NGR SN55520676 in the community of Llannon, approximately 2.8km SW of Area 3. Views to all parts of the proposed development area from this monument are obscured by a ridge of slightly higher ground between them at Pentwyn Farm.
- 6.3.2.3 **The earthwork on Graig Fawr (GM386)** comprises the remains of a D-shaped enclosure; likely to be of later prehistoric date (c. 800BC AD74). It is enclosed by a single bank and ditch 0.3m to 0.5m high but flattened on north-east side. It is located on the summit of Graig Fawr at NGR SN618068, approximately 2.7km SE of Area 1. It is situated at a height of 270m above OD, overlooking the Loughor Valley and the Llanedi Hills beyond. Areas 1 and 2 are clearly visible from this vantage point, as is the existing solar Farm at Clawdd Ddu (plate 12). The monument is of national importance for its potential to enhance our knowledge of later prehistoric defensive organisation and settlement. The site forms an important element within the wider later prehistoric context and within the surrounding landscape. The site is well preserved and retains considerable archaeological potential.

6.3.2.4 **The Two Burial Chambers on Graig Fawr (GM513)** Have a very similar aspect to that of the earthwork above in respect to the proposed development sites. It is located at NGR SN 608062, 1.1km SW of the D shaped enclosure described above. The site comprises two chambered tombs dating from the Neolithic Period. The tombs are set less than 3m apart and are likely to have been covered by a single mound. Tomb A has two chambers, both formed from large upright stones, with a possible capstone nearby. Tomb B also consists of two chambers, one formed from upright stones, and the other from boulder walling. The tombs are of national importance as surviving remains of prehistoric burials offering great potential for demonstrating several phases of ritual activity at the site, suggesting long term use and continuity.

# 7 Potential Impacts of the Proposed Development

# 7.1 General

7.1.1 The proposed development is for the installation of a ground mounted Photo Voltaic (PV) solar farm development over three separate but neighbouring sites (Areas 1,-3) and a cable trench linking them to the electricity substation, covering a total area of 45.8 hectares. Area 1 is adjacent to and east of another pre-existing solar farm at Clawdd Ddu constructed in 2014. The proposed development will require groundworks associated with the concrete footings for the docking stations along with the cable trenches and access routes. This work will potentially have an impact on sub-surface archaeology, the aesthetic setting of the agrarian landscape and a visual impact on the setting of the scheduled monuments on Graig Fawr (GM386 - earthworks on Graig Fawr; GM513 – Two burial chambers on Graig Fawr).

# 7.2 Impact on evidential and historic value.

- 7.2.2 The proposed development will involve groundworks associated with the concrete footings for the docking stations, cable trenches, as well as topsoil stripping for the access road.
- 7.2.3 One archaeological site is recorded on the HER within the bounds of the proposed development site in Area 1. This is the site of a post medieval quarry recorded on the 1<sup>st</sup> edition OS county series map (DAT HER 55468). A second site is recorded on the HER along the proposed line of the cable trench linking Areas 1 and 2. This is the site of a former cottage 'Ty Copa' dating from the early 19<sup>th</sup> century or earlier. There are also a number of other potential archaeological features not yet listed on the HER that would also be at risk. These include the site of a post medieval building called 'Bryn' on the Llanedi Tithe map located within Area 1 and the earthwork remains of medieval ridge and furrow and other possibly earlier field boundaries in area 3.
- 7.2.4 The development therefore will have an impact on the current evidential value of the site with respect to its sub-surface archaeology. Development at this stage does however offer the positive opportunity for the site to be appropriately recorded and to increase the recorded element of its evidential value before deterioration progresses to a point where the site is harder to understand. The potential archaeological remains are already at risk from modern agricultural processes. As undertaken at the neighbouring solar farm of Clawdd Du, a geophysical survey of the site coupled with an archaeological watching brief during the groundworks phase of the development,

would go some way towards mitigating against these impacts and increasing recorded evidential value. This archaeological work was undertaken as a condition of the planning approval for Clawdd Du.

# 7.3 Impact on aesthetic value.

- 7.3.1 Similarly, the development will result in the insertion of a prominent modern structure, utilising modern materials within a landscape of predominately agrarian character. This will affect the aesthetic value of the Llanedi Hills as well as the significant views towards the site (Areas 1 and 2 only) from the scheduled monuments on Graig Fawr. The site at Area 3 is within a narrow valley and surrounded by mature trees and the visual impact of development there will be negligible.
- 7.3.2 It is important to note that there is already a solar farm, of a similar scale to that proposed at Area 1, located next to it and visible from Graig Fawr. The impact then will be to approximately double the size of a pre-existing development rather than the imposition of a brand-new impact on the aesthetic value of the landscape and the setting of heritage assets. This impact could potentially be reduced, but not eliminated, through ensuring that all existing hedgerows be maintained and, where possible enhanced through allowing the growth of intermittent standard trees to maturity. The impact of the proposed development at Area 2 on the setting of the monuments on Graig Fawr will be slightly lower. This is partly because the size of the development at Area 2 is smaller. The visual impact will also be lower due to the topography of the site. A low NE-SW aligned ridge bisects Area 2 so that the northern part has a north west facing aspect and is hidden from Graig Fawr.

# 7.4 Impact on communal value.

7.4.1 The communal value of the proposed development site is currently medium (Area 1) to low (Areas 2 and 3). The only public access on to any of the sites is along a public right of way through Area 1. The preservation of and enhancement of existing hedgerows could help maintain the value of views across the site from publicly accessible points.

Reference	Site Name		Site Type	Value	Magnitude of Impact
GM386	Earthworks Graig Fawr	on	Scheduled Ancient Monument	High	Area 1: Moderate visual impact on setting and aesthetic value Area 2: Low visual impact on setting and aesthetic value Area 3: Low theoretical impact on setting.

GM513	Two Burial Chambers on Graig Fawr	Scheduled Ancient Monument		High	Area 1: Moderate visual impact on setting and aesthetic value Area 2: Low visual impact on setting aesthetic value Area 3: Low theoretical impact on setting
CM193	Bryn-y-Rhyd Standing Stone	Scheduled Ancient Monument		High	Area 1: Low theoretical impact on setting Area 2: none Area 3: none
LB19453	Plas Mawr	Grade II building	listed	Medium	Area 1: Low visual impact on setting Area 2: Low visual impact on setting Area 3: none
LB22211	Capel Hendre	Grade II building	listed	Medium	Area 1: Low theoretical impact on setting Area 2: Low theoretical impact on setting Area 3: none
LB81059	Circular pigsty at Graig Fawr Farm	Grade II building	listed	Medium	Area 1: Low theoretical impact on setting Area 2: Low theoretical impact on setting Area 3: none
LB 19451	Plas Newydd Mill	Grade II building	listed	Medium	Area 1: none Area 2: none Area 3: Low theoretical impact on setting.

# 7.5 Impact on Setting of Designated Heritage Assets

The Welsh government's document *Managing t*he Setting of Historic Assets in Wales (2017) indicates a number of ways in which development or changes to an historic asset can affect its setting (Cadw, 2017, 8)

7.5.1 Impact on functional and physical relationships with other structures/historic assets and how these have changed over time.

Because the proposed development does not alter the physical state of any designated heritage asset it is considered that the functional and physical relationships between designated heritage assets will not be impacted in any way by the development.

# 7.5.2 Impact on topographic features that influenced their location

On the broadest scale, the location of the scheduled monuments on Graig Fawr (GM386 & GM513) and the standing stone of Bryn y Rhyd (CM193) have all been influenced by the dominant landscape feature of the Loughor Valley above which they sit. This valley is historically characterised by irregular enclosed fields and small dispersed settlements. However, from the 19<sup>th</sup> century onwards it has also featured small scale industrial developments such as the railway, small scale mineral extraction and larger urban settlements. In more recent times this has included a solar farm at Clawydd Ddu, neighbouring Area 1. Thus, the proposed development at Areas 1 and 2 will have a moderate impact on this landscape feature. This impact will be greatest on the South facing side of the valley when viewed from the upland of Craig Fawr.

# 7.5.3 Impact on physical character of the surrounding landscape or townscape, including any formal design or land use.

The proposed development will not directly impact on any landscape or townscape that immediately surrounds the designated heritage assets. Nevertheless, as indicated above, the proposed development of areas 1 and 2 will impact on the wider landscape of the Scheduled monuments on Graig Fawr (GM386 & GM513) into which they are set. Furthermore, the designed landscape of Plas Newydd Mill (LB 19451) includes the Afon Gwili river and associated leats and ponds which have the potential to be impacted by the proposed development at Area 3 by way of minor alterations in flow rates and water quality. However, a Surface Water Drainage Strategy has been designed by Clive Onions who is the Applicant's consultant flood risk engineer on the project. This strategy would mitigate against minor alterations in flow rates and therefore mitigate the risk of a potential impact to Plas Newydd Mill. For further information on surface water management, please refer to Chapter 6 of the Clive Onions report titled 'Flood Consequence Assessment'.

#### 7.5.4 Impact on the original layout of the historic asset and how this has changed

Because the proposed development will not alter the physical state of any designated heritage asset it is considered that the original layout of designated heritage assets will not *be impacted in any way by the development.* 

#### 7.5.5 Impact on potential buried or archaeological elements surrounding the historic asset

Because the proposed development will not alter the physical state of any designated heritage asset it is considered that potential buried or archaeological elements surrounding the assets will not be impacted in any way by the development.

#### 7.5.6 Impact on views to, from and across the historic asset or place

As indicated above the most significant impact of the proposed development will be on views from the scheduled monuments on Graig Fawr (GM386 & GM513) to Areas 1 and 2. However, because there is a pre-existing solar farm adjacent to Area 1; the distances between the monuments and the development are at least 2.7km; and Area 2 will only be partially visible; then it is considered that this impact will be low for Area 2 and moderate for Area 1. There may also be Minor visual impacts on the setting of the grade II listed building *Plas Mawr* and theoretical visual impacts on other heritage assets as shown in Table 1 *above.* 

#### 7.5.7 Impact on formal or planned vistas

There are no formal or planned vistas associated with any of the identified designated heritage assets.

7.5.8 Impact on the prominence of the historic asset in views throughout the surrounding area.

Views towards any of the designated heritage assets will be unaffected by the proposed development.

7.5.9 Impact on views associated with the aesthetic, functional or ceremonial purpose of the asset; for example, defensive sites, beacons or designed landscapes

As mentioned in section 6.3.2 above, the earthwork on Graig Fawr (GM386) is currently interpreted as a defensive earthwork, located on the highest point of Graig Fawr. Similarly, the Two Burial Chambers on Graig Fawr (GM513) are considered to have a ceremonial aspect to their design and function with their location on Graig Fawr designed to be prominent and visible from the surrounding landscape of the Loughor valley. Views towards these monuments will not be affected by the proposed development, although views outwards towards the loughour valley will be moderately impacted by the development at Area 1 and a potential minor impact from that at Area 2.

7.5.10 Impact on historical, artistic, literary, place name, cultural or scenic associations might all contribute to the significance of a historic asset

There are no known historical, artistic, literary, place name, cultural or scenic associations with any of the designated heritage assets that will be impacted by the proposed development

# 7.5.11 Impact on other sensory elements — noise or smell associated with the historic asset

There are no known permanent sensory elements associated such as noise or smell associated with the proposed solar farm that will impact on the designated heritage assets.

# 7.5.12 Impact on tranquillity, remoteness, 'wildness'.

There are no known permanent impacts on tranquillity or wildness associated with the proposed solar farm that will impact on the designated heritage assets. The development will be sited within pre-existing enclosed fields whose boundaries will be maintained and enhanced.

# 7.6 Other risks/benefits.

7.6.1 The neighbouring solar farm at Clawdd Ddu was granted planning permission in 2013, with one of the conditions of approval (Planning Application S/27987, Condition 4) requiring a programme of archaeological work to protect elements of the historic environment whilst enabling development. This work included a geophysical survey and watching brief. This programme of work was able to accurately map the presence and layout of a medieval ridge and furrow field system as well as other field boundaries

dating from the 19<sup>th</sup> century or earlier, including one or two considered to be of potential significance (Fry, 2013). This work has enhanced the evidential and historical value of the site, and could likewise do the same for the current proposed development sites. The communal value of the site could also be enhanced by making the results of the work publicly accessible, perhaps through the placement of historical story boards along the public footpath through Area 1, or even on Graig Fawr, showing the results and interpretation of the various surveys.

# 8 Conclusions

- 8.1 This Heritage Impact Assessment has examined the impact of the proposed installation of a ground mounted Photo Voltaic (PV) solar farm development and associated infrastructure over three separate but neighbouring sites on the sites themselves and the surrounding landscape. It has also considered the impact of the development on designated heritage assets within the wider historic environment. The guidance offered within *Managing Heritage Impact Assessment in Wales* (Cadw 2017) has been used, which advocates examining the Evidential, Historical, Aesthetic and Communal values of the historic assets.
- 8.2 The sites themselves do not lie within any Conservation Area or designated historic landscape. Neither do any conservation area or designated landscape lie within 5km of the site. The site does not contain any listed buildings or scheduled monuments. Cadw have identified a list of 4 Scheduled Ancient Monuments and 8 listed buildings within 3km of the site that may potentially be impacted by the development. Of these, only the Scheduled monuments on Graig Fawr (*The Earthwork on Graig Fawr* (*GM386*); and Two Burial Chambers on Graig Fawr (GM513)) have clear views to the proposed development sites at Area 1 and 2, but not Area 3. The grade II listed building at Plas Mawr (LB19453) has clear views to the site at Area 1 from the approach road to the property. These views have the potential to detrimentally affect the setting of these heritage assets. The scheduled monuments are of national importance for their potential to enhance our knowledge of later prehistoric defensive organisation and settlement. The monuments form an important element within the wider later prehistoric context and within the surrounding landscape (Cadw monument schedule).
- 8.3 The proposed development of the solar farms and associated structures will undoubtedly impact upon the evidential and historical value of the site itself, by removing archaeological potential. This however may be mitigated against by an appropriate level of archaeological recording to add in a positive way to the existing evidential value. The site does not contain known archaeological features of sufficient significance to preclude development of the site. However, the possible presence of archaeological remains may require further archaeological mitigation as part of the development process, a process utilised at the nearby Clawdd Du solar farm site where a programme of archaeological work was included as a Condition in the planning approval. This work comprised a geophysical survey before groundworks commenced, and an archaeological watching brief during the groundworks, a similar scheme on this proposed development could help to better understand and record the potential archaeological resource.
- 8.4 Development will also have an impact on the aesthetic value of the site, and most notably the setting of the scheduled monuments on Graig Fawr (GM386 & GM513). The more visible proposed development in Area 1 is considered to have a moderate

impact on this particular aesthetic aspect of the setting, due to its distance from the heritage assets and its proximity to an existing solar farm. The impact from Area 2 is substantially smaller and the impact from Area 3 negligible. These impacts could be partially offset by enhancing the hedgerows and designing the solar farm so that it fits in to the existing pattern of enclosed fields and blends into the mature trees in front and behind to more reflect the character of the surrounding field scape. Other than the views from Graig Fawr, the communal value of the site is low and will not be significantly impacted by the development, especially if sympathetic design features are incorporated.

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#### Maps

*BGS 1921,* Geological Survey of England and Wales 1:63,360/1:50,000 geological map series, sheet 245. *Llanedi Tithe Map, 1842* 

Llannon Tithe Map, 1841 Ordnance Survey original surveyors drawings 1811-12 Ordnance Survey County Series, Carmarthenshire 1879-80 edition, 1:2500 Ordnance Survey County Series, Carmarthenshire 1906 edition, 1:2500 Ordnance Survey County Series, Carmarthenshire 1915-16 edition, 1:2500

#### **Aerial Photography**

1945 – RAF <u>http://d3rykcmoi4kytu.cloudfront.net/apu/1945/17/64054/43433.png</u> accessed 14/11/2019

# **Glamorgan Archives**

- DSA/12/900 Stephenson and Alexander, Auctioneers and Chartered Surveyors, Records c.1710-c.2012.
  - 12 clients files

The Plas Llanedy estate 1901-1912 Sale of anthracite property

Particular 189 (Captain John Morgan Peny of Bath)

Mines and minerals underlying...Bynddu, Llety Newydd....Plas Mawr...in the parishes of Llanedy and Llandarog, Carmarthenshire

#### **National Library of Wales**

- LIGC De MAP SALE CATALOGUES Carms. 330 Filing Cabinets Plans, particulars, and conditions of sale of the Plas Llanedy Estate. 99382167302419 (1902)
- LIGC De MAP SALE CATALOGUES Glam. 061 Filing Cabinets Glamorganshire and Carmarthenshire Particulars plans and conditions of sale of valuable and important freehold & leasehold farms ground rents and lands situate in the parishes of Llanedy and Betws. (1892)

LIGC De MAP TITHE MAPS WCC Tithe maps Llanedi Row 043 Llanedy parish in the County of Carmarthen

LIGC De MAP SALE CATALOGUES Carms. 081 Filing Cabinets Allotments on Waun-fawr [cartographic material] Plan and particulars of sale of valuable freehold estates in the parishes of Llanedy and Llandarog, in the county of Carmarthen, and Langyfelach, in the county of Glamorgan (1876)

#### Glossary of Terms used in the text

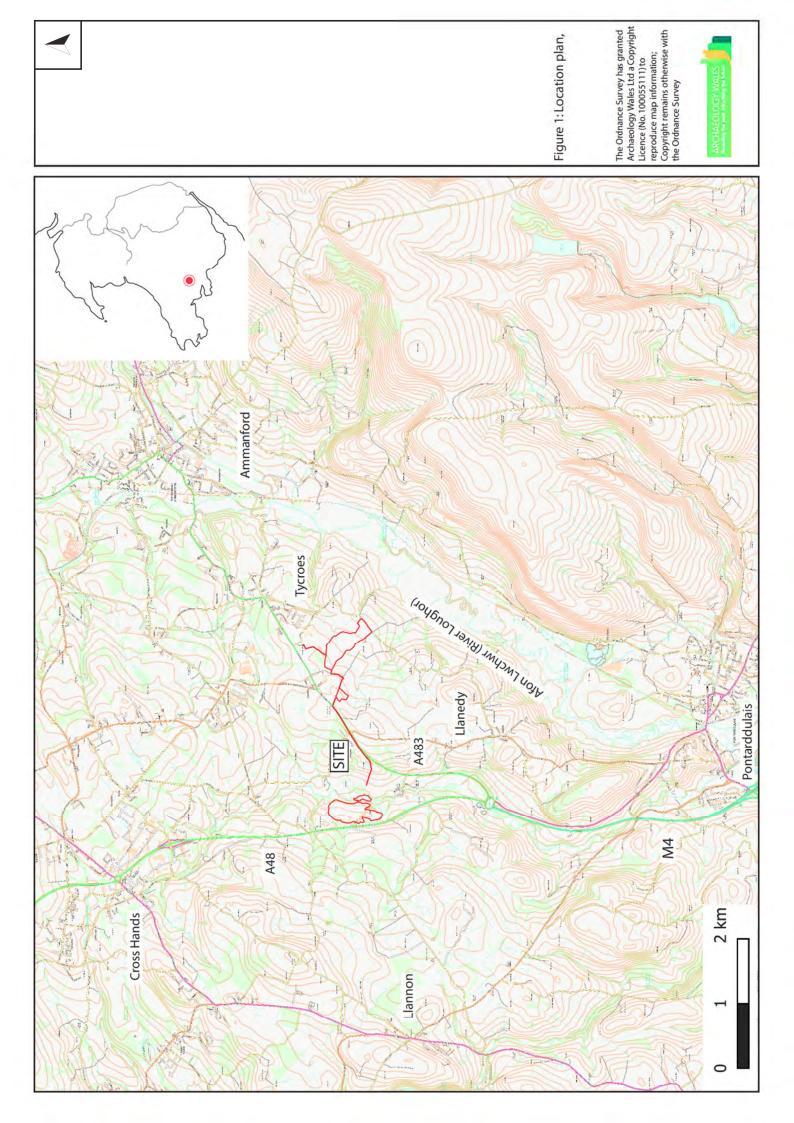
- AD AnnoDomini
- AoD Above Ordnance Datum
- AW Archaeology Wales
- AP Aerial Photograph/ Aerial photography

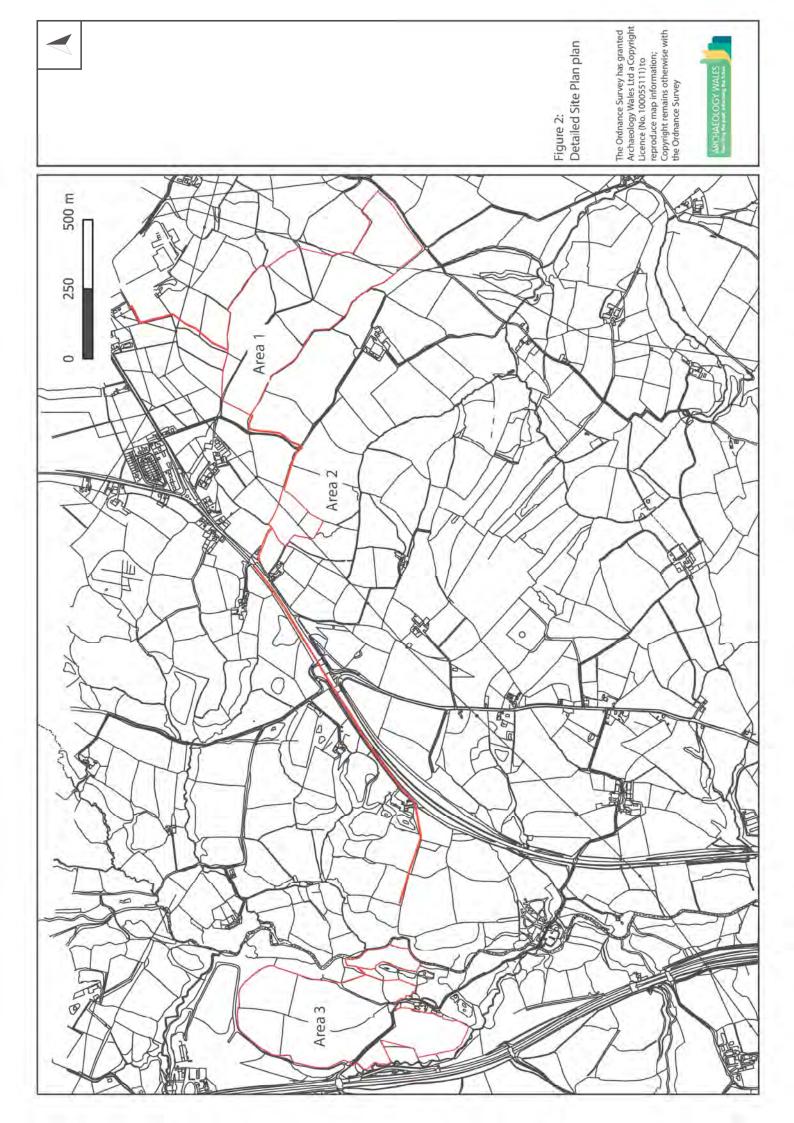
- BCE Before the Common Era. Equivalent to BC (Before Christ)
- BGS British Geological Survey
- BP Before Present
- c. Circa
- CA Conservation Area
- Cadw the historic environment service of the Welsh Government
- CCC Carmarthenshire County Council
- CIfA Chartered Institute for Archaeologists
- DAT Dyfed Archaeological Trust
- DTM Digital Terrain Model
- HER Historic Environment Record
- HIA Heritage Impact Assessment
- HLCA Historic Landscape Character Area
- Km Kilometre
- LB Listed Building
- LiDAR Light Detection and Ranging
- LPA Local Planning Authority
- Mesolithic Middle stone age (approx. 11,000-5,500 BP in Britain)
- NGR National Grid Reference
- OS Ordnance Survey
- PRN Primary Record Number (Historic Environment Record)
- SAM Scheduled Ancient Monument

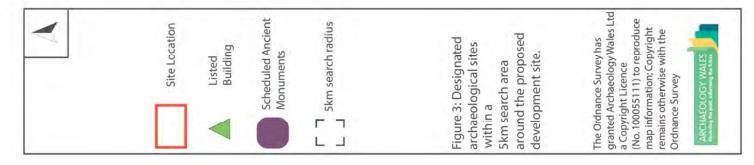
Other acronyms including *MLS, SLS, ELS, LIGC De CON3, LHCLA NCL5, RAF CPEUK,* form part of unique identifying numbers and have no specific meaning relevant to this text.

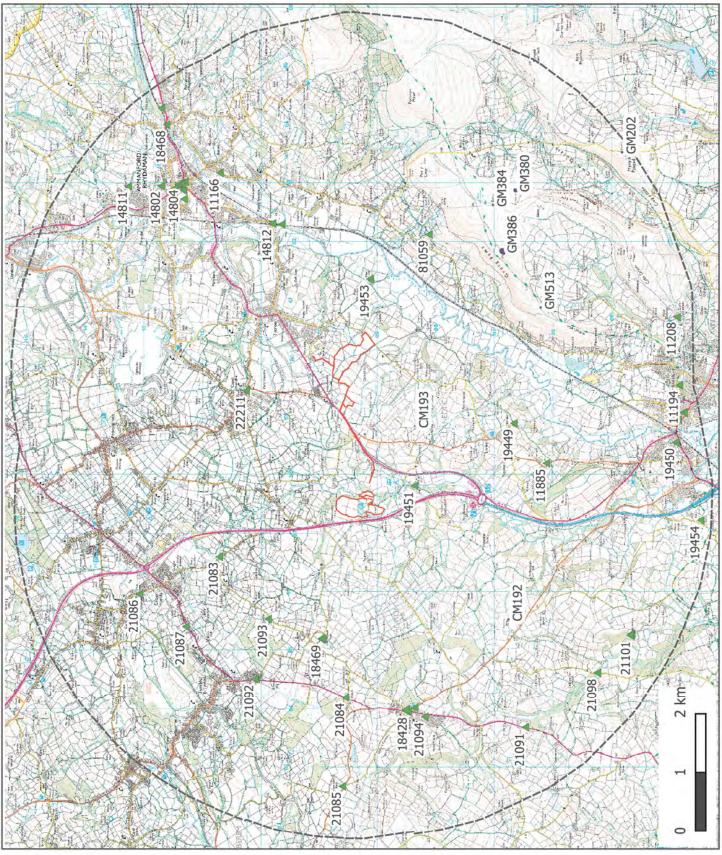
#### Adopted Chronology

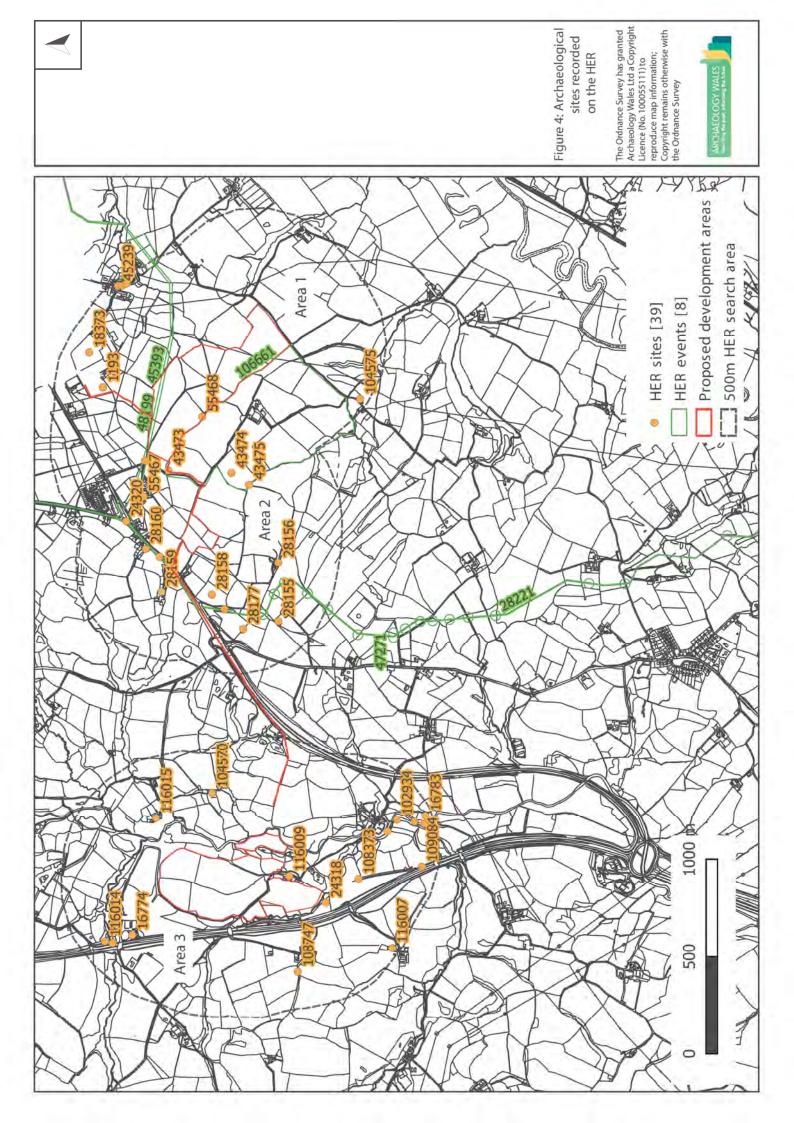
Prehistoric	Before AD43
Romano-British	AD43-410
Anglo Saxon/Early Medieval	AD410-1066
Medieval	AD1066-1540
Post medieval	AD1540-1900
Modern	AD1900-Present











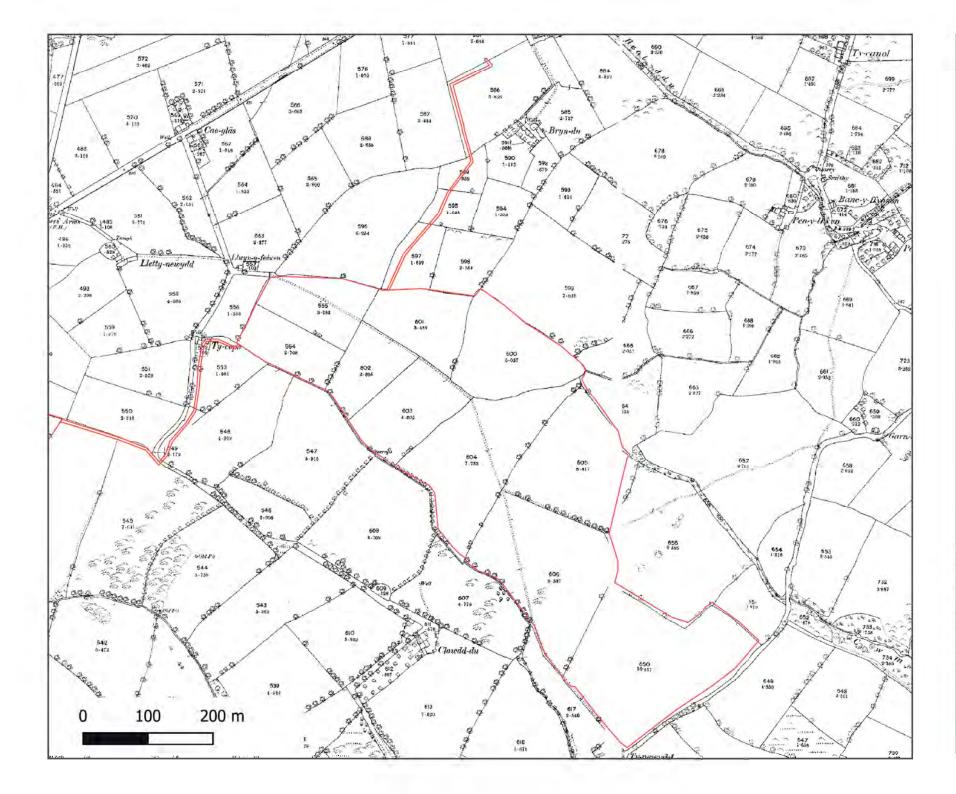


Figure 5: Area 1 Extract from the Ordnance Survey county series map of Carmarthenshire. Originally printed at 1:2,500, 1879-80.



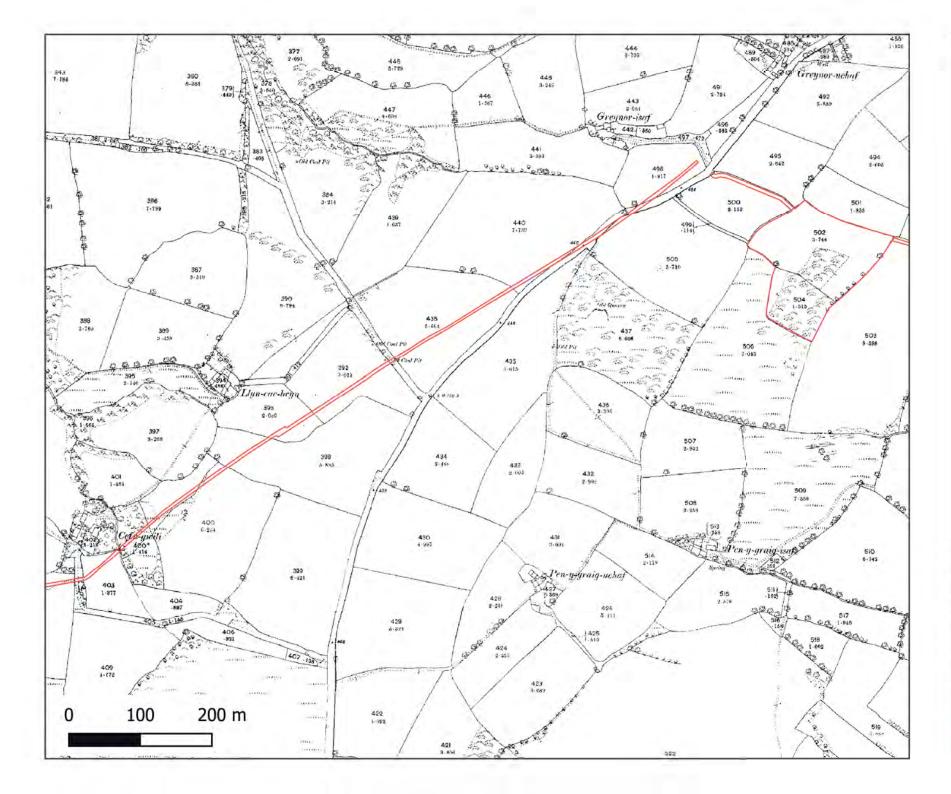


Figure 6: Area 2 Extract from the Ordnance Survey county series map of Carmarthenshire. Originally printed at 1:2,500, 1879-80.



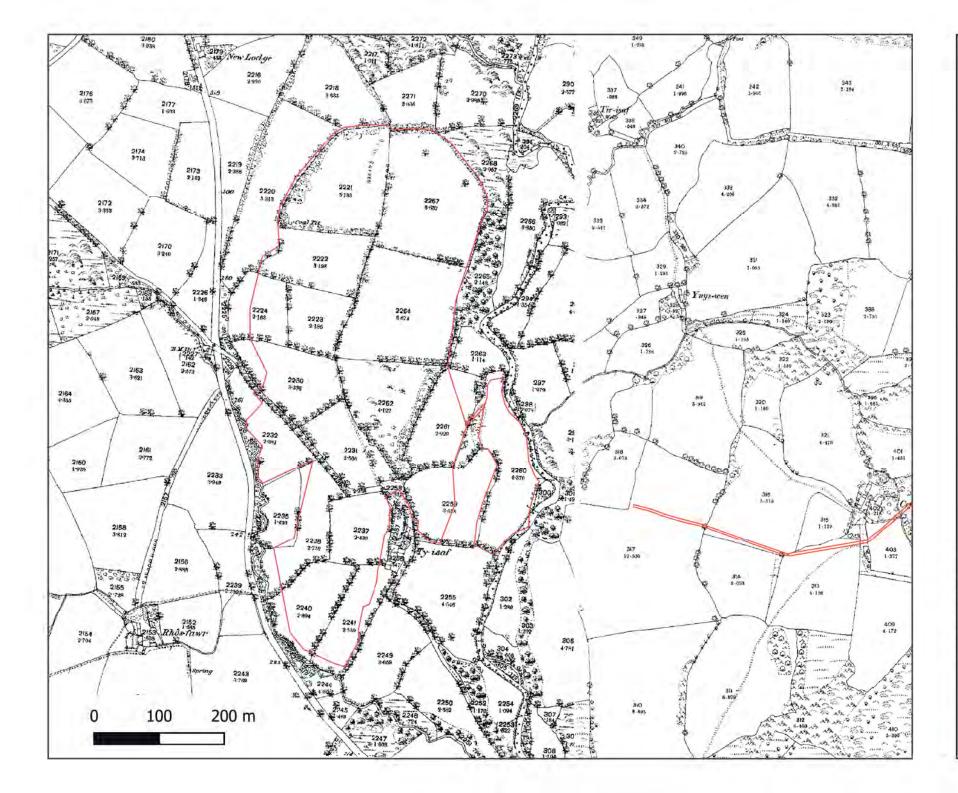


Figure 7: Area 3 Extract from the Ordnance Survey county series map of Carmarthenshire. Originally printed at 1:2,500, 1879-80.



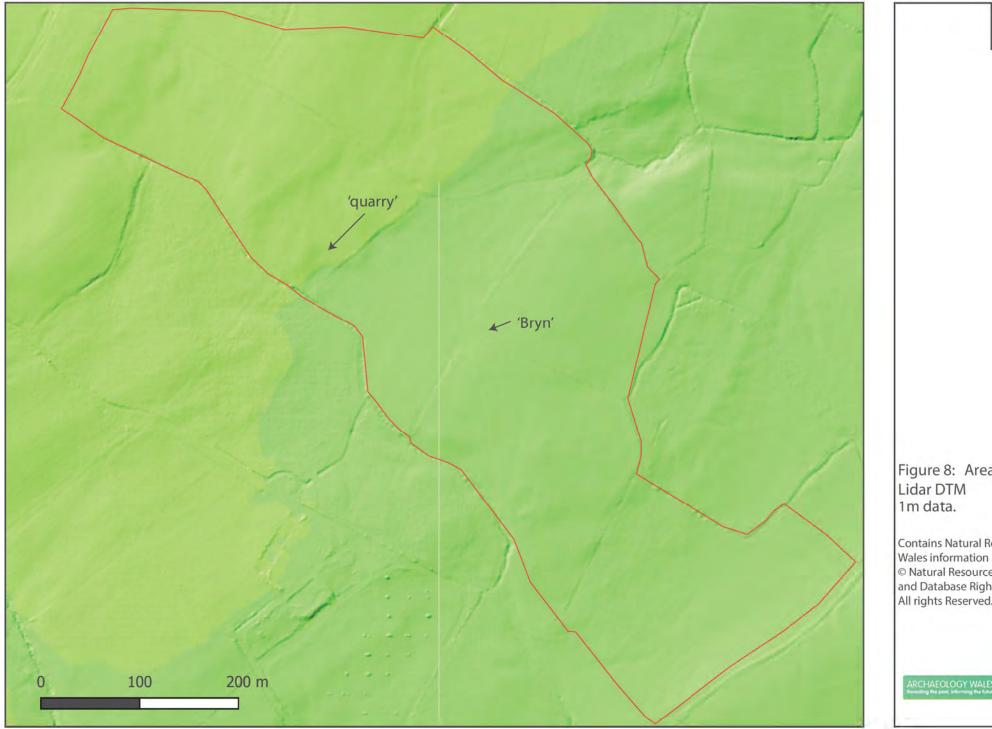
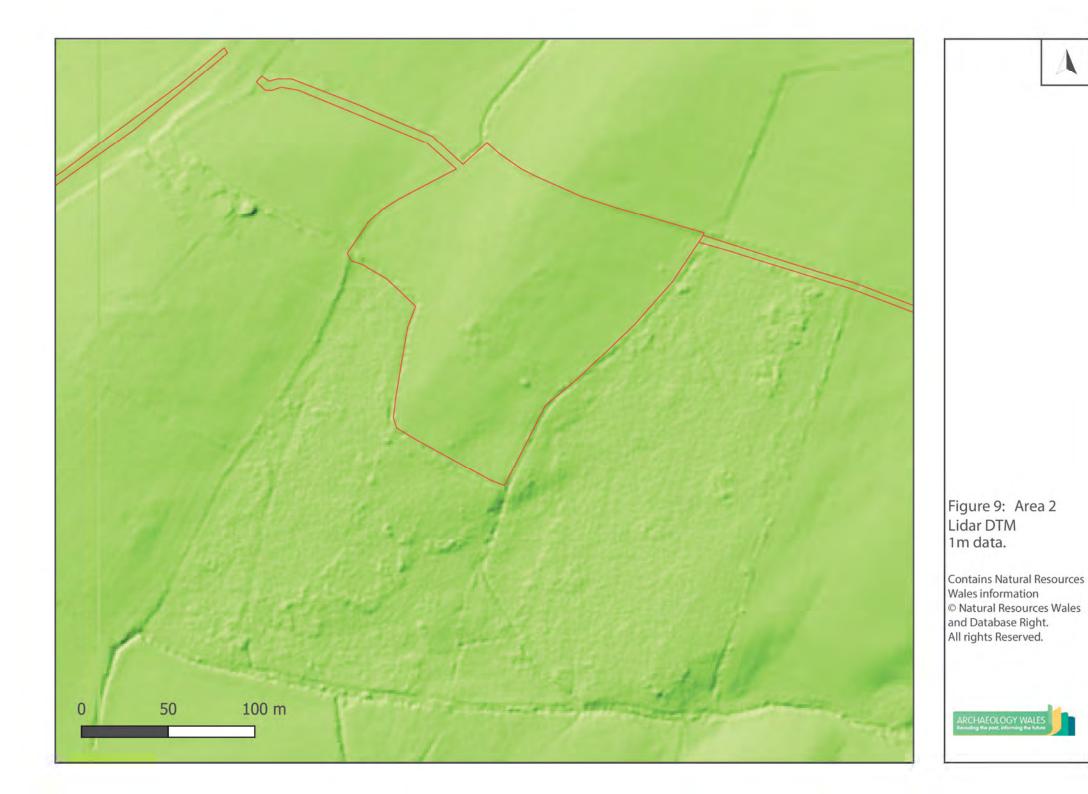


Figure 8: Area 1 Lidar DTM 1m data.

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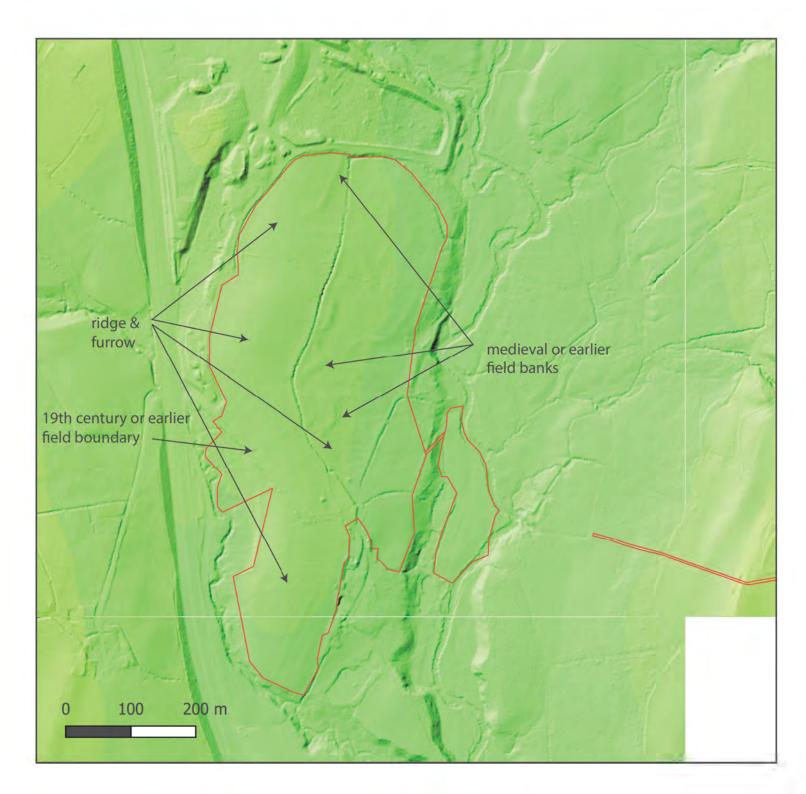
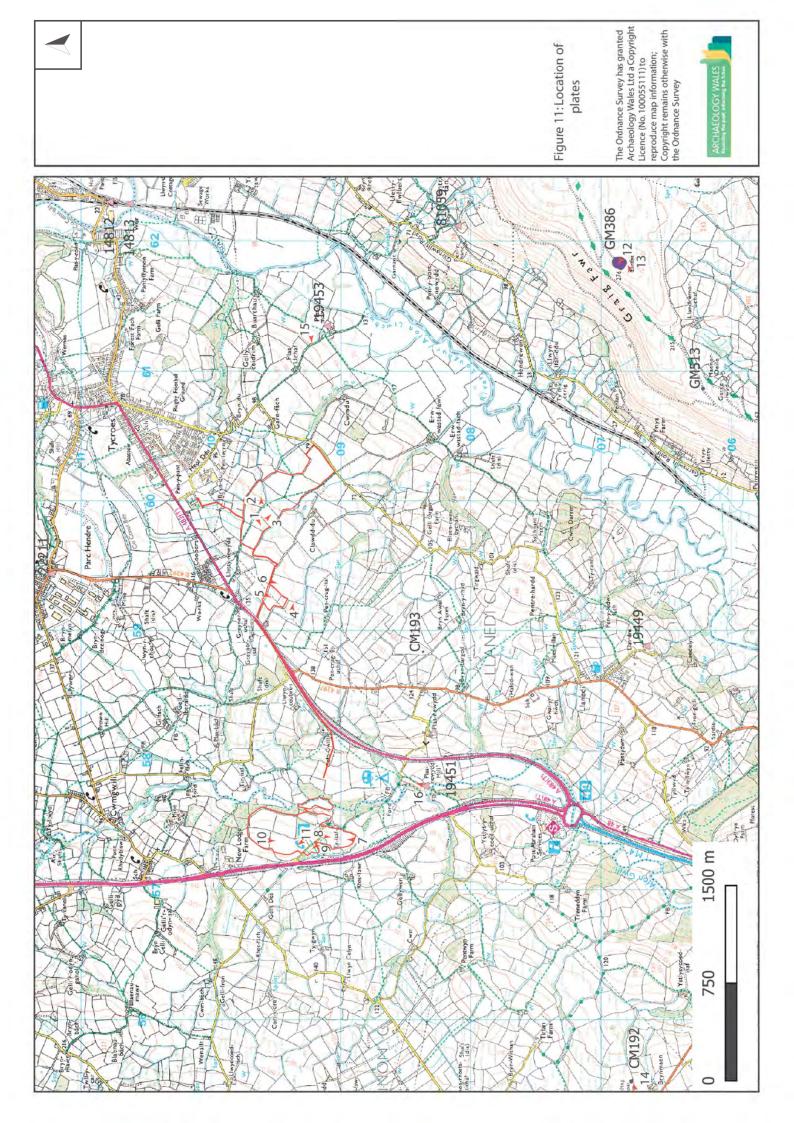
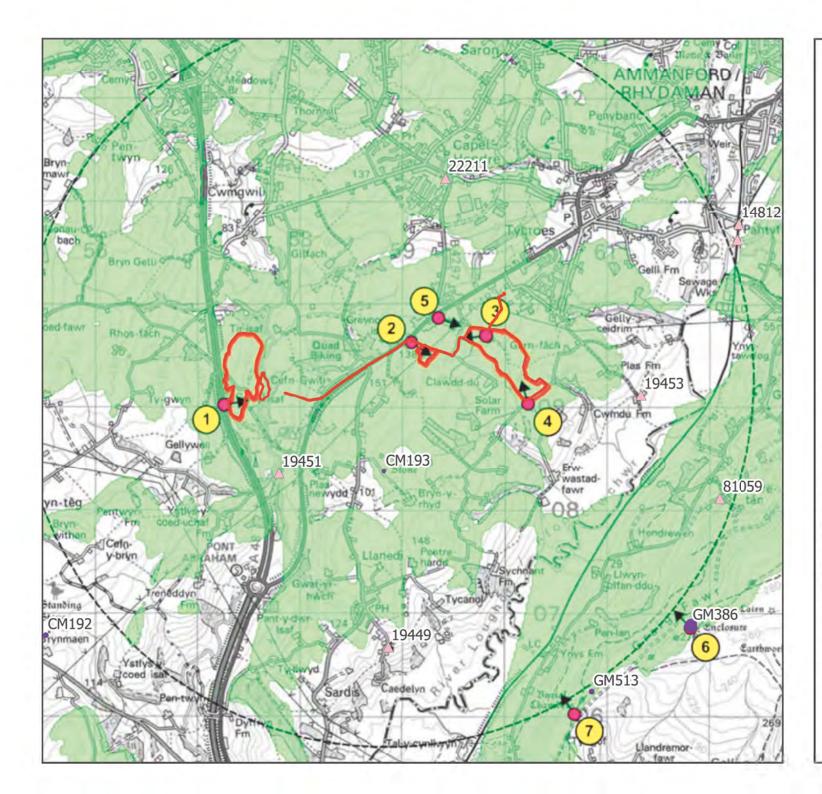
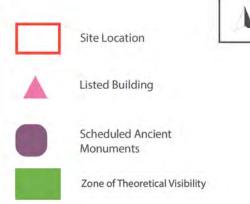


Figure 10: Area 3 Lidar DTM 1m data.

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# Figure 12: Zone of Theoretical Visibility (ZTV) to 3.5m height

#### Note:

The ZTV illustrates an area of theoretical visibility of any part of the development, calculated to a height of 3.5m. The ZTV is based on landform data only, with any ridgelines, plateaus and valleys reflected in the extent of predicted visibility.

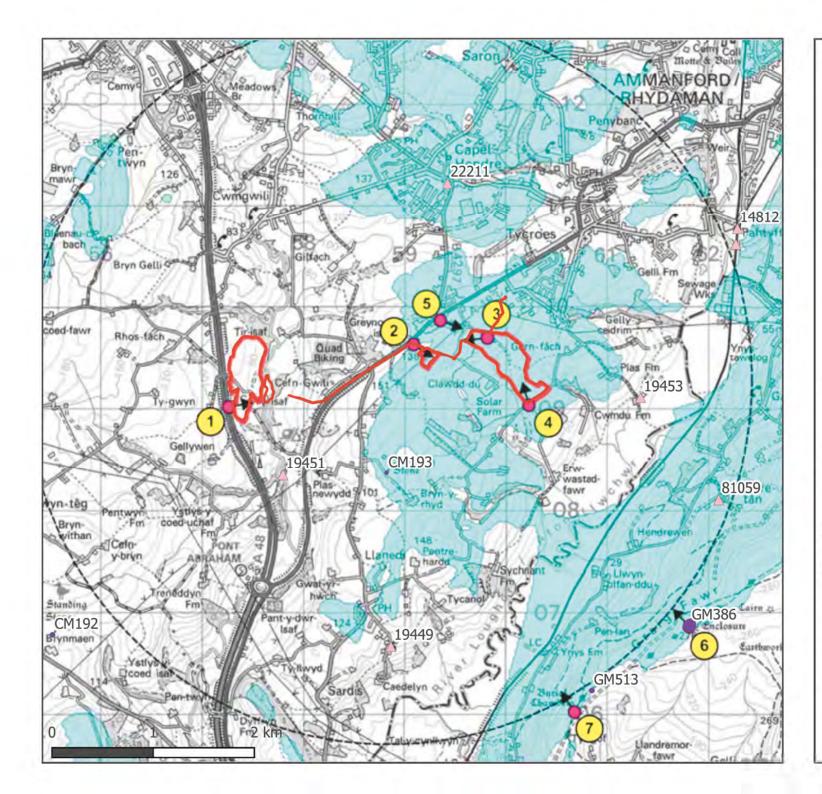
The ZTV represents a 'worse-case' scenario with regard to the visibility of the development. The ZTV however does form an appropriate starting point for undertaking the landscape and visual impact assessment and selection of viewpoints.

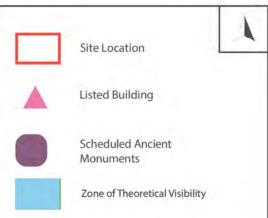
The ZTV was calculated using Resoft WindFarm software on Ordnance Survey (OS) raster tiles of 1:50,000 scale and OS Terrain 50 DTM grid data based on a 50m grid with 10m contour intervals.

Numbers in yellow circles refer to text of Landscape and Visual Impact Assessment (Amalgam Landscape, 2019)

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#### Figure 13: Zone of Theoretical Visibility (ZTV) to 3.5m height: Area 1

#### Note:

The ZTV illustrates an area of theoretical visibility of any part of the development, calculated to a height of 3.5m. The ZTV is based on landform data only, with any ridgelines, plateaus and valleys reflected in the extent of predicted visibility.

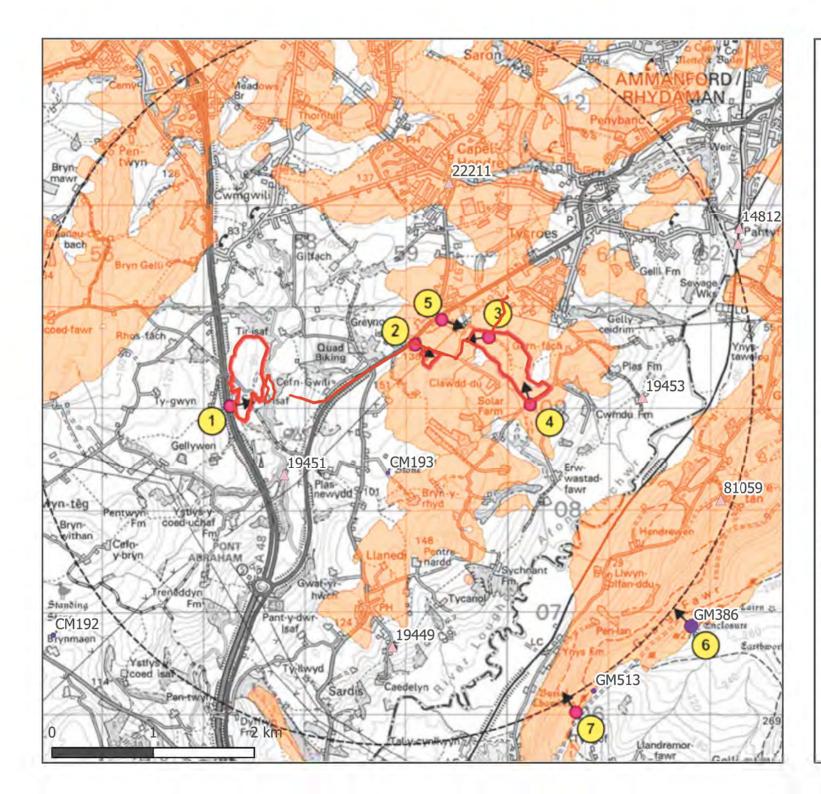
The ZTV represents a 'worse-case' scenario with regard to the visibility of the development. The ZTV however does form an appropriate starting point for undertaking the landscape and visual impact assessment and selection of viewpoints.

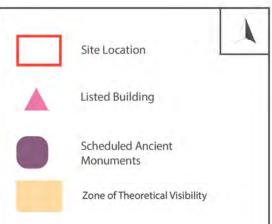
The ZTV was calculated using Resoft WindFarm software on Ordnance Survey (OS) raster tiles of 1:50,000 scale and OS Terrain 50 DTM grid data based on a 50m grid with 10m contour intervals.

Numbers in yellow circles refer to text of Landscape and Visual Impact Assessment (Amalgam Landscape, 2019)

#### ©Amalgam Landscape 2019







#### Figure 14: Zone of Theoretical Visibility (ZTV) to 3.5m height: Area 2

#### Note:

The ZTV illustrates an area of theoretical visibility of any part of the development, calculated to a height of 3.5m. The ZTV is based on landform data only, with any ridgelines, plateaus and valleys reflected in the extent of predicted visibility.

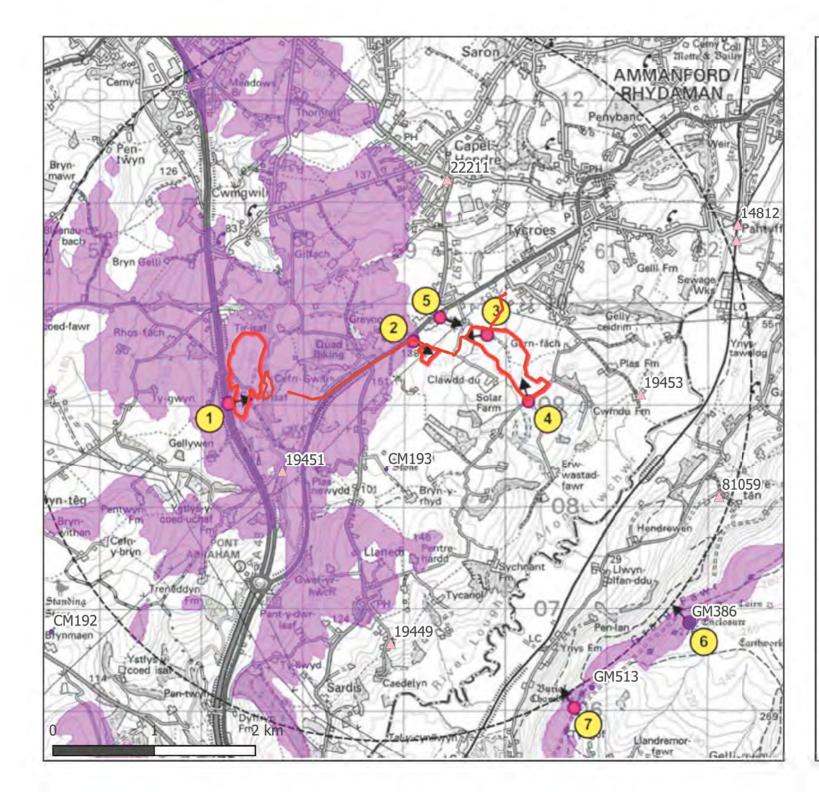
The ZTV represents a 'worse-case' scenario with regard to the visibility of the development. The ZTV however does form an appropriate starting point for undertaking the landscape and visual impact assessment and selection of viewpoints.

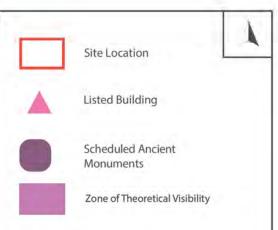
The ZTV was calculated using Resoft WindFarm software on Ordnance Survey (OS) raster tiles of 1:50,000 scale and OS Terrain 50 DTM grid data based on a 50m grid with 10m contour intervals.

Numbers in yellow circles refer to text of Landscape and Visual Impact Assessment (Amalgam Landscape, 2019)

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#### Figure 15: Zone of Theoretical Visibility (ZTV) to 3.5m height: Area 3

#### Note:

The ZTV illustrates an area of theoretical visibility of any part of the development, calculated to a height of 3.5m. The ZTV is based on landform data only, with any ridgelines, plateaus and valleys reflected in the extent of predicted visibility.

The ZTV represents a 'worse-case' scenario with regard to the visibility of the development. The ZTV however does form an appropriate starting point for undertaking the landscape and visual impact assessment and selection of viewpoints.

The ZTV was calculated using Resoft WindFarm software on Ordnance Survey (OS) raster tiles of 1:50,000 scale and OS Terrain 50 DTM grid data based on a 50m grid with 10m contour intervals.

Numbers in yellow circles refer to text of Landscape and Visual Impact Assessment (Amalgam Landscape, 2019)

#### ©Amalgam Landscape 2019





Plate 1: Area 1 with Clawdd Ddu solar Farm beyond. View to the West



Plate 2: Area 1. View to the East.



Plate 3: Area 1 showing possible lynchets. View to the SE.



Plate 4: Area 2 View towards Clawdd Ddu Solar Farm and the Loughor Valley beyond. View to the ESE.



Plate 5: Area 2, pasture field and mature boundaries. View to the SSW.



Plate 6: Area 2 showing scrub field. View to SSW.



Plate 7: Area 3, pasture field with view to the North.



Plate 8: Area 3 view to the south down the Gwili Valley.



Plate 9: Area 3, Western field bounded by a tree lined stream, view to the NW.



Plate 10: Area 3, potential ridge and furrow earthworks in the upper part of the site. View to the SW.



Plate 11: Area 3 showing earthwork remains of a 19<sup>th</sup> century field boundary. View to the North.



Plate 12: View to the NW from the earthwork on Graig Fawr towards Clawdd Ddu solar farm (right background). The pasture fields of Area 1 are visible, on the right side of the solar farm. Area 2 is also visible, foreshortened behind the solar farm.



Plate 13: View from the earthwork on Graig Fawr WNW towards Area 3. The proposed development site is hidden in the distance within the Gwili valley.



Plate 14: Bryn Maen standing Stone with view to the East.



Plate 15: View to the west from the road near to Plas Mawr showing the solar farm at Clawdd Ddu.



Plate 16: View to the NNW from Plas Newydd Mill.

Archaeology Wales

> APPENDIX I: Gazetteer of Sites recorded on the Regional HER



# HISTORIC ENVIRONMENT RECORD INFORMATION

Prepared by Felicity Sage, Dyfed Archaeological Trust

Produced for John Davey from the Regional Historic Environment Record: Dyfed Archaeological Trust, Corner House, 6 Carmarthen Street, Llandeilo, Carmarthenshire, SA19 6AE Tel (01558) 823131, Email <u>info@dyfedarchaeology.org.uk</u>

Pdf file produced - 05.11.19 - from DAT HER, **DAT enquiry number 1191**.

# Use of this information is subject to the terms and conditions of access to Welsh HER data published on DAT's website

www.dyfedarchaeology.org.uk

# HISTORIC ENVIRONMENT FEATURES

Search criteria:

5km radius for designated sites and a 500m radius for HER sites & events around each individual proposed development site.

A search of the regional Historic Environment Record (HER) held by the Dyfed Archaeological Trust has identified the following historic environment features. These are listed and described below. Each feature is allocated a Primary Reference Number (PRN) that should be quoted in any correspondence. Where the identification of a site is not certain then all possible interpretations are given in the type field e.g.'enclosure, henge'. Possible date ranges are also shown in this way in the period field. If a field contains no information then it is either not recorded, not known or not applicable for that site.

Please contact the HER if you have any further questions regarding this information, if you would like any of the sources followed up or if you have information that could improve these records in any way.

Source prefixes: Ph = Published, historic (pre-1900) Mh = Unpublished, historic Pm/Mm = Published/Unpublished modern (post-1899) Desc Text = Descriptive text. GP/AP = Ground photograph/Aerial photograph.

All other source types should be self-explanatory; please contact the HER if you require assistance with them.

PRN 1193 NAME TYCROES TYPE Round Barrow ? PERIOD Bronze Age NGR SN6010 COMMUNITY Llandybie CONDITION Not Known STATUS None recorded EVIDENCE Earthwork

## SUMMARY

GELLI SIFOR; BRYN MARLAIS

#### DESCRIPTION

Access was not gained during the PFRS Project. N Cook PFRS 2003

**SOURCES** Mm List OS 1968 SN61 SW1 Pm List RCAHM 1917 Carm No.289,p.100 **OTHER SOURCES** 

Report Cook, N., Hughes, G., Page, N. & Ramsey, R. 2003 Prehistoric Funerary & Ritual Sites Project: East Carmarthenshire 2002-2003

PRN 11372 NAME MEDDINFYCH TYPE Maenor PERIOD Early Medieval , Medieval NGR SN6010 COMMUNITY Llandybie CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

#### SUMMARY

#### DESCRIPTION

SOURCES Pm Map Copy of map taken from the Book of

St.Chad,A.D.800,DRF Mm List DAT 1990 CR PRN 17401 Pm Desc Text Fisher,J 1926-7 Transactions of the Carmarthenshire Antiquarian Society Vol.20,p.14-15 Mm File Many 1990 and 1991 Development adjacent to Myddyn-Fych Farm DRF Pm Map Rees,W 1932 South Wales & Border in 14th Century SW Sheet Pm Desc Text Roberts,GM 1939 Hanes Plwyf Llandybie p.33-37,110,111 Pm Desc Text Transactions of the Carmarthenshire Antiquarian Society 1926-1927 Meddynfych,Llandebie Vol.20,p.14-15,DRF **OTHER SOURCES** 

**PRN** 16773 **NAME** PONT RHYDSARNAU **TYPE** Bridge **PERIOD** POST MEDIEVAL **NGR** SN57150995 **COMMUNITY** Llannon **CONDITION** Not Known **STATUS** *None recorded* **EVIDENCE** Structure

#### SUMMARY

#### DESCRIPTION

SOURCES Pm Map OS 1965 SN50NE OTHER SOURCES

PRN 16774 NAME NEW LODGE TYPE Lodge PERIOD POST MEDIEVAL NGR SN57190985 COMMUNITY Llannon CONDITION Not Known STATUS None recorded EVIDENCE Building

SUMMARY

#### DESCRIPTION

SOURCES Pm Map OS 1965 SN50NE OTHER SOURCES

#### PRN 16783 NAME PLAS-NEWYDD MILL TYPE Mill PERIOD POST MEDIEVAL NGR SN5780108344 COMMUNITY Llanedi CONDITION Near Intact STATUS Listed Building 19451 II EVIDENCE Building

#### SUMMARY

An 18th century water-powered corn mill (Grade II listed, Cadw ref: 19451) recorded on the 1879 1st edition Ordnance Survey map and as disused on the 1906 2nd ed. O.S. map, with an associated weir, mill race, aqueduct and mill pond. The damaged remains of an iron 19th century wheel and well-preserved machinery, including three millstones, are retained (M.Ings, 2012, from various sources)

#### DESCRIPTION

The water-management features associated with Plas-Newydd Mill were visited during the Cadw funded Mills project of 2012-13 . The mill-race is diverted from the Afon Gwili to the north of the mill by use of a stone-block weir (PRN 102933), which remains intact. The line of the, partially infilled/silted, mill-race (PRN 102934) is discernable on the western side of the river but is obscured by thick vegetation for much of its length. On the eastern side of the river it forms a clear path, cut into the slope of the riverbank, leading to the millpond (PRN 102935), now infilled and grassed over. The mill-race was carried over the river by an aqueduct (PRN 102936) and the supports for this, constructed of semi-dressed stone rubble, are preserved on both banks. (M.Ings, 2012)

# SOURCES Pm Map OS 1965 SN50NE OTHER SOURCES

Map Ordnance Survey 1879 1st edition, 1:2500, Carmarthenshire Sheet 55.02

Map Ordnance Survey 1906 2nd edition, 1:2500, Carmarthenshire Sheet 55.02

#### PRN 18373 NAME TYPE Coal Mine PERIOD POST MEDIEVAL NGR SN60181007 COMMUNITY Llanedi CONDITION Not Known STATUS None

recorded **EVIDENCE** Earthwork

#### SUMMARY

#### DESCRIPTION

# **SOURCES** Pm Map OS 1964 SN61SW **OTHER SOURCES**

PRN 24318 NAME CWM-Y-RHOS TYPE Cottage PERIOD POST MEDIEVAL NGR SN5735408856 COMMUNITY Llannon CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

**SUMMARY** Cottage shown on early 20th century maps. RPS July 2001

# DESCRIPTION

SOURCES Pm Map OS 1921 6" Carm XLVIII SW OTHER SOURCES

PRN 24320 NAME COOPERS' HOUSE TYPE Dwelling , Public House PERIOD POST MEDIEVAL NGR SN59310988 COMMUNITY Llanedi CONDITION Destroyed STATUS None recorded EVIDENCE Documentary Evidence

## SUMMARY

Building shown as a public house on 1841 Llanedy Tithe map. Apparently a private dwelling in 1907 it was demolished in the 1980's for road widening. NL Feb 1994

# DESCRIPTION

**SOURCES** Mh Map 1841 Llanedy parish Tithe Map Mm Desc Text Ludlow,N 1994 Report on the Archaeological Impact of the Proposed Pontardulais to Ammanford Gas pipeline SMR Library,p.14 Ph Map OS 1800 1:2500, 1st ed Pm Map OS 1921 6" Carm XLVIII SW **OTHER SOURCES** 

PRN 28155 NAME PARK FARM TYPE Farmhouse PERIOD POST MEDIEVAL NGR SN588091 COMMUNITY Llanedi CONDITION Intact STATUS None recorded EVIDENCE Building

#### SUMMARY

#### DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N 1994 Archaeological Impact of Pontardulais-Ammanford Gas Pipeline SMR Library, p13 Mh Map OS 1811-12 Original Survey Drawings Sheet 189, 2" to a mile

**OTHER SOURCES** 

PRN 28156 NAME PENCRUG TYPE Farmhouse PERIOD POST MEDIEVAL NGR SN591091 COMMUNITY Llanedi CONDITION Intact STATUS None recorded EVIDENCE Building

#### SUMMARY

Probable early 19th century farmhouse has been abandonned for one built recently. NL 1994.

#### DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N 1994 Archaeological Impact of Pontardulais-Ammanford Gas Pipeline SMR Library, p13 Mh Map NLW 1841 Llanedy Tithe Map **OTHER SOURCES** 

PRN 28157 NAME PENCRUG TYPE Coal Mine PERIOD POST MEDIEVAL NGR SN5886109376 COMMUNITY Llanedi CONDITION Not Known STATUS None recorded EVIDENCE Landform

**SUMMARY** Probably pre-1830 although not marked on tithe. NL 1994.

#### DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N 1994 Archaeological Impact of Pontardulais-Ammanford Gas Pipeline SMR Library, p14

## **OTHER SOURCES**

## PRN 28158 NAME PENCRUG TYPE Quarry PERIOD POST MEDIEVAL NGR SN5893509441 COMMUNITY Llanedi CONDITION Not Known STATUS None recorded EVIDENCE Landform

## SUMMARY

Limestone quarry not marked on 1841 Tithe but shown as disused on 1880 1st Ed OS map. No longer visable. NL 1994.

# DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N 1994 Archaeological Impact of Pontardulais-Ammanford Gas Pipeline SMR Library, p14 **OTHER SOURCES** 

PRN 28159 NAME GREYNOR-ISAF TYPE Farm PERIOD POST MEDIEVAL NGR SN58950970 COMMUNITY Llanedi CONDITION Intact STATUS None recorded EVIDENCE Building

#### SUMMARY

Marked as 'Crinor Issa'in 1812. NL 1994.

## DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N 1994 Archaeological Impact of Pontardulais-Ammanford Gas Pipeline SMR Library, p14 Ph Map OS 1811-12 Original Survey Drawings Sheet 189, 2" to a mile

## **OTHER SOURCES**

PRN 28160 NAME GREYNOR-UCHAF TYPE Farm PERIOD POST MEDIEVAL NGR SN59170978 COMMUNITY Llanedi CONDITION Intact STATUS None recorded EVIDENCE Building

#### SUMMARY

Shown as 'Crinor Ucha' in 1812 alongside the road is a probable 18th century barn. NL 1994.

## DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N 1994 Archaeological Impact of Pontardulais-Ammanford Gas Pipeline SMR Library, p14 Ph Map OS 1811-12 Original Survey Drawings Sheet 189, p14 **OTHER SOURCES** 

PRN 28177 NAME PARK FARM TYPE Coal Mine PERIOD POST MEDIEVAL NGR SN58760928 COMMUNITY Llanedi CONDITION Not Known STATUS None recorded EVIDENCE Landform

#### SUMMARY

Probably pre 1830 although not marked as 1841 Tithe Map. NL 1994.

## DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N 1994 Archaeological Impact Of Pontradulais Ammanford Gas Pipeline SMR Library p13 **OTHER SOURCES** 

**PRN** 43472 **NAME** LLETY FACH **TYPE** Farmstead **PERIOD** POST MEDIEVAL **NGR** SN5962209784 **COMMUNITY** Llanedi **CONDITION** Near Destroyed **STATUS** *None recorded* **EVIDENCE** Building

#### SUMMARY

Identified on Tithe as early 19th century settlement RJ 2001

#### DESCRIPTION

**SOURCES** Ph Map 1841 Llanedi Parish Tithe Ph Map OS 1876 OS 1st ed Carmarthenshire sheet XLVIII SW **OTHER SOURCES** 

PRN 43473 NAME TY COPA TYPE Cottage PERIOD POST MEDIEVAL

#### NGR SN5957209664 COMMUNITY Llanedi CONDITION Near Destroyed STATUS None recorded EVIDENCE Building

#### SUMMARY

Cottage site shown on Tithe as occupied but building seems to have been abandoned by the time of the 1st ed survey, not shown on modern mapping RJ2001

#### DESCRIPTION

**SOURCES** Ph Map 1841 Llanedi Parish Tithe Ph Map OS 1876 OS 1st ed Carmarthenshire sheet XLVIII SW **OTHER SOURCES** 

PRN 43474 NAME OLD PIT SITE A TYPE Shaft PERIOD POST MEDIEVAL NGR SN5956009340 COMMUNITY Llanedi CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

#### SUMMARY

Site identified from 1st ed condition today 2001 unknown RJ 2001

#### DESCRIPTION

**SOURCES** Ph Map OS 1876 OS 1st ed Carmarthenshire sheet XLVIII SW **OTHER SOURCES** 

PRN 43475 NAME OLD PIT SITE B TYPE Shaft PERIOD POST MEDIEVAL NGR SN5950009250 COMMUNITY Llanedi CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

**SUMMARY** Identified on 1st ed

## DESCRIPTION

**SOURCES** Ph Map OS 1876 OS 1st ed Carmarthenshire sheet

#### **PRN** 45239 **NAME**

## TYPE Blacksmiths Workshop **PERIOD** Modern NGR SN6051809923 **COMMUNITY** Llanedi **CONDITION** Intact **STATUS** *None recorded* **EVIDENCE** Building

#### SUMMARY

A rectangular gabled smithy of a single storey, constructed from medium, angular, random shale rubble with red-brick surrounds. PR 2002 based on Ludlow,N and Ramsey,R,2002.

## DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N and Ramsey,R 2002 Penygarn Road, Tycroes, Archaeological Watching Brief ACA Reports **OTHER SOURCES** 

PRN 45240 NAME TYPE Building PERIOD Modern NGR SN60520990 COMMUNITY LLanedi CONDITION Intact STATUS None recorded EVIDENCE Building

#### SUMMARY

A rectangular ancillary building relating to a Smithy, (PRN 45239). Constructed from medium, angular, random shale rubble with redbrick surrounds. PR 2002 based on Ludlow,N and Ramsey,R,2002.

## DESCRIPTION

**SOURCES** Mm Desc Text Ludlow,N and Ramsey,R 2002 Penygarn Road, Tycroes, Archaeological Watching Brief **OTHER SOURCES** 

PRN 45241 NAME BANC-Y-FFYNNON TYPE Platform PERIOD Modern NGR SN60530988 COMMUNITY Llanedi CONDITION Near Destroyed STATUS None recorded EVIDENCE Building

## SUMMARY

The building is now only represented by the lowest seven courses of a brick cavity wall from the mid-late 20th century. PR 2002 based on Ludlow,N and Ramsey,R,2002.

## DESCRIPTION

The building was clearly a dwelling. The name 'Banc-Y-Ffynnon', used on the 1891 Ordnance Survey map, suggests that its predecessor was also a dwelling. It was largely rebuilt in brick in the mid-late 20th century and largely demolished in the late 20th century. PR 2002 based on Ludlow, N and Ramsey, R, 2002.

**SOURCES** Mm Desc Text Ludlow,N and Ramsey,R 2002 Penygarn Road, Tycroes, Archaeological Watching Brief **OTHER SOURCES** 

**PRN** 55467 **NAME** LLETTY NEWYDD **TYPE** FARMSTEAD **PERIOD** POST MEDIEVAL **NGR** SN59440979 **COMMUNITY** Puncheston **CONDITION** Not known **STATUS** *None recorded* **EVIDENCE** Documentary evidence

# SUMMARY

Identified as a minor farmstead consisting of two buildings and a series of small enclosures on the Ordnance Survey 1st edition map of 1880. Lletty Newydd is still a working farmstead with modern barns added around the historic core.

# DESCRIPTION

SOURCES OTHER SOURCES

PRN 55468 NAME TYPE QUARRY PERIOD POST MEDIEVAL NGR SN59850949 COMMUNITY Nevern CONDITION Not known STATUS None recorded EVIDENCE Documentary evidence

## SUMMARY

A small quarry marked on the Ordnance Survey 1st edition map of 1880. Present condition unknown.

## DESCRIPTION

## PRN 102933 NAME PLAS-NEWYDD MILL TYPE Weir PERIOD POST MEDIEVAL NGR SN57720854 COMMUNITY Llanedi CONDITION Intact STATUS None recorded EVIDENCE Structure

## SUMMARY

Weir on the Afon Gwili built to divert water into the mill-race (PRN 102934) used to power Plas-Newydd corn mill (PRN 16783) Recorded on the 1879 1st edition and 1906 2nd edition Ordnance Survey maps (M.Ings, 2012, from various sources)

## DESCRIPTION

The weir was seen during the Cadw funded mills project (2012). It is intact, constructed from undressed stone blocks set into the river (M.Ings, 2012)

# SOURCES OTHER SOURCES

Map Ordnance Survey 1879 1st edition, 1:2500, Carmarthenshire Sheet 55.02 Map Ordnance Survey 1906 2nd edition, 1:2500, Carmarthenshire Sheet 55.02

**PRN** 102934 **NAME** PLAS-NEWYDD MILL **TYPE** Mill Race **PERIOD** POST MEDIEVAL **NGR** SN57780849 **COMMUNITY** Llanedi **CONDITION** Near Intact **STATUS** *None recorded* **EVIDENCE** Multiple

## SUMMARY

Mill-race diverted from the Afon Gwili used to power Plas-Newydd corn mill (PRN 16783) It is recorded on the 1879 1st edition and 1906 2nd edition (labelled as 'Old Mill Race') Ordnance Survey maps, diverted by weir (PRN 102933) and crossing over the river on an aqueduct (PRN 102936) before reaching the mill-pond (PRN 102935) to the west of the mill (M.Ings, 2012)

## DESCRIPTION

The site was visited during the Cadw funded Mills project of 2012-13. The mill-race is evident at the point where it is diverted from the river and there is a short length of stone wall fronting the water. As it heads southeast, alongside the river, the race comprises an infilled/silted footpath before disappearing into impenetrable woodland. It is traceable again as it reaches the northern side of the aqueduct, recorded as a vegetated and silted earthwork now some 1.00metre wide and 0.35 metres deep. On the eastern side of the river the line of the mill-race is clear as a levelled path cut into the contour of the wooded bank, leading to the mill-pond (M.Ings, 2012)

# SOURCES OTHER SOURCES

Map Ordnance Survey 1879 1st edition, 1:2500, Carmarthenshire Sheet 55.02 Map Ordnance Survey 1906 2nd edition, 1:2500, Carmarthenshire Sheet 55.02

**PRN** 102935 **NAME** PLAS-NEWYDD MILL **TYPE** Mill Pond **PERIOD** POST MEDIEVAL **NGR** SN57760835 **COMMUNITY** Llanedi **CONDITION** Damaged **STATUS** *None recorded* **EVIDENCE** Topography

# SUMMARY

Site of a mill-pond shown on the 1879 1st edition and 1906 2nd edition (where it is labelled as 'Old Mill Pond') Ordnance Survey maps at Plas-newydd corn mill (PRN 16783). It is linked to a mill-race (PRN 102934) diverted from the Afon Gwili. The pond is not depicted on modern mapping (M.Ings, 2012, from various sources).

# DESCRIPTION

The site was visited during the Cadw funded Mills project of 2012-13. It was noted that the area of the mill-pond has now been infilled and grassed over as a lawn and orchard (M.Ings, 2012)

# SOURCES OTHER SOURCES

Map Ordnance Survey 1879 1st edition, 1:2500, Carmarthenshire Sheet 55.02

Map Ordnance Survey 1906 2nd edition, 1:2500, Carmarthenshire Sheet 55.02

**PRN** 102936 **NAME** PLAS-NEWYDD MILL **TYPE** Aqueduct **PERIOD** POST MEDIEVAL **NGR** SN57770840 **COMMUNITY** Llanedi **CONDITION** Damaged **STATUS** *None recorded* **EVIDENCE** Structure

# SUMMARY

Site of an aqueduct carrying a mill-race (PRN 102934) across the Afon Gwili as part of the water-management system powering the Plas-Newydd corn mill (PRN 16783). It is recorded on the 1879 1st edition and 1906 2nd edition Ordnance Survey maps but not shown on modern mapping (M.Ings, 2012, from various sources)

# DESCRIPTION

The site was visited during the Cadw funded Mills project of 2012-13. The supports for the aqueduct survive on either side of the river, comprising structures of semi-dressed stone blocks standing some 1.60metres high and 4.00 metres wide at the base. No evidence survives for any structure spanning the river (M.Ings, 2012)

## SOURCES OTHER SOURCES

Map Ordnance Survey 1879 1st edition, 1:2500, Carmarthenshire Sheet 55.02

Map Ordnance Survey 1906 2nd edition, 1:2500, Carmarthenshire Sheet 55.02

#### **PRN** 104570 **NAME**

**TYPE** Farmstead **PERIOD** POST MEDIEVAL **NGR** SN57920944 **COMMUNITY** Llanedi **CONDITION** Not Known **STATUS** *None recorded* **EVIDENCE** Documentary Evidence

# SUMMARY

Nineteenth century farmstead recorded on the Ordnance Survey 1st edition mapping (Carms Sheet 48.14, 1880). Presumed occupied still. The status of a former building and orchard in neighbouring woodlan

# DESCRIPTION

SOURCES OTHER SOURCES

PRN 104575 NAME TYPE Cottage PERIOD POST MEDIEVAL NGR SN59940868 COMMUNITY Llanedi CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

#### SUMMARY

A cottage recorded on the Ordnance Survey 1st edition mapping (Carms Sheet 55.02, 1879). Now abandoned.

#### DESCRIPTION

## SOURCES OTHER SOURCES

PRN 108373 NAME TYPE Milestone PERIOD POST MEDIEVAL NGR SN5747708688 COMMUNITY Llannon CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

#### SUMMARY

A milestone on the Carmarthen to Swansea turnpike road. Appears on the Ordnance Survey 1st edition 1879 labelled "Carmarthen 14" and "Swansea 13". Also on Ordnance Survey 2nd edition 1906 labelled the same.

#### DESCRIPTION

## SOURCES OTHER SOURCES

map Ordnance Survey 1879 Carmarthenshire 1; 25 000 1st edition map Ordnance Survey 1906 Carmarthenshire 1; 25 000 2nd edition

PRN 108747 NAME TYPE Toll Road PERIOD POST MEDIEVAL NGR SN5709 COMMUNITY Llannon CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

**SUMMARY** Toll road from Cross Hands to Pontarddulais.

#### DESCRIPTION

SOURCES OTHER SOURCES PRN 109084 NAME TYPE Toll Road PERIOD POST MEDIEVAL NGR SN57540836 COMMUNITY Many CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

#### SUMMARY

Toll road from Cross Hands to Pontarddulais. Managed by the Three Commotts Trust.

#### DESCRIPTION

The Three Commotts Trust was established in 1792 and was sponsored by Sir William Paxton. Proposals to repair six roads located in the Great Mountain and Llangendeirne areas were never undertaken. Its main line of road ran from Llandeilo to Carmarthen passing Golden Grove and Middleton Hall, to improve access to sources of lime.

# SOURCES OTHER SOURCES

Map Ordnance Survey 1834 Original Series Book Williams D 1955 The Rebecca Riots

#### **PRN** 109133 **NAME**

TYPE Toll Road PERIOD POST MEDIEVAL NGR SN59130971 COMMUNITY Many CONDITION Not Known STATUS None recorded EVIDENCE Documentary Evidence

#### SUMMARY

Toll road from Amanford to Pontarddulais shown on the OS. Old Series Volume VI pp. 82. Managed by the Llandeilo and Llandybie Trust.

#### DESCRIPTION

Road improvements undertaken by the Llandeilo and Llandybie Trust were included in the 1765 Turnpike Act. The Landybie Trust undertook road improvements centred on Kidwelly and with the intention of improving access to the limekilns at Llandebie and coal from the Amman valley and beyond. They also proposed maintenance of the road from Betws to the Glamorgan boundary near Penlleâ€<sup>™</sup>r Castell, but this was never undertaken.

SOURCES OTHER SOURCES Map Ordnance Survey 1834 Original Series Book Williams D 1955 The Rebecca Riots

PRN 116007 NAME GELLI-WEN TYPE FARMSTEAD PERIOD POST MEDIEVAL NGR SN5712308515 COMMUNITY Llannon CONDITION INTACT STATUS None recorded EVIDENCE COMPLEX

#### SUMMARY

Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.

#### DESCRIPTION

SOURCES OTHER SOURCES

PRN 116008 NAME RHOS-FAWR TYPE FARMSTEAD PERIOD POST MEDIEVAL NGR SN5709508936 COMMUNITY Llannon CONDITION INTACT STATUS None recorded EVIDENCE COMPLEX

#### SUMMARY

Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.

#### DESCRIPTION

#### SOURCES OTHER SOURCES

PRN 116009 NAME TY-ISAF TYPE FARMSTEAD PERIOD POST MEDIEVAL NGR SN5749109044 COMMUNITY Llannon CONDITION DAMAGED STATUS None recorded EVIDENCE COMPLEX

#### SUMMARY

Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.

#### DESCRIPTION

#### SOURCES OTHER SOURCES

PRN 116014 NAME RHYD-SARNAU TYPE FARMSTEAD PERIOD POST MEDIEVAL NGR SN5715809990 COMMUNITY Llandybie CONDITION NEAR DESTROYED STATUS None recorded EVIDENCE COMPLEX

#### **SUMMARY**

Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.

#### DESCRIPTION

SOURCES OTHER SOURCES

PRN 116015 NAME TIR-ISAF TYPE FARMSTEAD PERIOD POST MEDIEVAL NGR SN5779009728 COMMUNITY Llanedi CONDITION DAMAGED STATUS None recorded EVIDENCE COMPLEX

#### SUMMARY

Farmstead recorded on 2nd edition, 1:2500 Ordnance Survey map.

#### DESCRIPTION

#### SOURCES OTHER SOURCES

Archaeological data, from the Regional Historic Environment Record, supplied by The Dyfed Archaeological Trust in partnership with Local Authorities, Cadw and the partners of ENDEX DAT, 2011 (and in part Crown, 2011).

Archaeology Wales

# APPENDIX II: Designated Heritage Sites within 5km of the development site

#### SCHEDULED MONUMENTS

SAM_NO	SAM NAME	MAP REF	COMMUNITY	SITE TYPE	PERIOD
	Tir-y-Dail Motte and Bailey				
CM067	Castle	SN624124	Ammanford	Motte & Bailey	Medieval
CM192	Bryn Maen Standing Stone	SN555067	Llannon	Standing stone	Prehistoric
CM193	Bryn-y-Rhyd Standing Stone	SN588083	Llanedi	Standing stone	Prehistoric
GM386	Earthwork on Graig Fawr	SN618068	Pontardulais	Hillfort	Prehistoric
	Two Burial Chambers on				
GM513	Graig Fawr	SN608062	Pontardulais	Chambered tomb	Prehistoric
	Cairn 250m SW of Banc Llyn-				
GM384	Mawr	SN626070	Mawr	Round cairn	Prehistoric
				Earthwork	
GM380	Ring Cairn on Craig Fawr	SN628066	Mawr	(unclassified)	Prehistoric
	Mynydd Pysgodlyn Round				
GM202	Barrow	SN635048	Mawr	Round barrow	Prehistoric

#### LISTED BUILDINGS

NUMBER	COMMUNITY	NAME	GRADE	Х	Y
11139	Ammanford	OLD PONTAMMON MILL	11	264263	212679
11166	Betws	St David's Parish Church	ll	263161	211679
11194	Pontardulais	Y Bwthyn	11	259526	203823
11208	Pontardulais	Circular Pigsty at Beili Gras		260695	203859
11871	Llannon	Church of St Non	*	253974	208475
11881	Llannon	Drinking Fountain	11		208340
11885	Llanedi	Circular Pigsty at Bryngelli	11		206092
		ALL SAINTS CHURCH, BRYNMAWR			
14802	Ammanford	AVENUE (N SIDE)	П	262937	212682
		NO 9, THE ARCADE, COLLEGE STREET (E			
14803	Ammanford		П	262971	212369
11000		NO 11, THE ARCADE, COLLEGE STREET		202071	212000
14804	Ammanford	(E SIDE)	П	262968	212374
14004	Animanioru	NO 13, THE ARCADE, COLLEGE STREET	11	202300	212374
14805	Ammanford	(E SIDE)	ш	262062	212377
14605	Ammanioru	NO 15, THE ARCADE, COLLEGE STREET	11	202902	212377
4 4 9 9 0		(E SIDE)		000055	040004
14806	Ammanford		11	262955	212384
4 4 0 0 7	A	NOS 1 TO 12 (CONSEC) THE ARCADE,		000000	040000
14807	Ammanford	COLLEGE STREET (E SIDE)			212388
14808	Ammanford	NO 33, COLLEGE STREET (E SIDE)		262897	212464
		ENTRY GATES AND PIERS TO			
		AMMANFORD PARK, ISCENNEN ROAD (S			
14809	Ammanford	SIDE)		262733	212465
		BANDSTAND IN AMMANFORD PARK,			
14810	Ammanford	ISCENNEN ROAD (S SIDE)	II	262711	212293
14811	Ammanford	MYDDYNFYCH, MYDDYNFYCH (NE SIDE)	П	262935	213246
		PANTYFFYNNON STATION,			
14812	Ammanford	PANTYFFYNNON ROAD (S SIDE)	11	262296	210777
		PANTYFFYNNON SIGNAL BOX,			
14813	Ammanford	PANTYFFYNNON ROAD (S SIDE)	П	262281	210623
		THE POST OFFICE, QUAY STREET (E			
14814	Ammanford	SIDE)	П	263017	212279
		LLOYDS BANK BUILDING, QUAY STREET			
14815	Ammanford	(W SIDE)	П	262975	212321
14816	Ammanford	MINERS WELFARE HALL			212298
18428	Llannon	The Old School			208451
18468	Betws	Pontamman Bridge			212592
18469	Llannon	Llwyd Coed Fawr Farmhouse	11		209936
19449	Llanedi	Church of Saint Edi	11		203330
		Neuadd-fach	11 		
19450	Llanedi		11 		203886
19451	Llanedi	Plas-Newydd Mill	11	257801	208344
40450		Plas Mawr (formerly known as Cwrt y			000400
19453	Llanedi	ceidrim)	11	261340	209103
		Hen Gapel (also known as Tynewedd			
19454	Llanedi	Chapel)	11		203454
21081	Llannon	Railings and Gates of St Non's Church	II	253952	208497
		Gravestone with Railings within St Non's			
21082	Llannon	Churchyard	II	253968	208498
21083	Llannon	Milestone near Blaenau Isaf	II	256596	211691
21084	Llannon	Milestone at Bryn Du	II	254180	209530
21085	Llannon	Milestone near Brynwicket Farm	11		209587
21086	Llannon	Crosshands Public Hall	*		213059
	-				
21087	Llannon	Milestone between Crosshands and Tumble	11	255401	212263

NUMBER	COMMUNITY	NAME	GRADE	Х	Y
21088	Llannon	Bridge over Afon Morlais	II	254605	205224
		Lofted stable range at Llwyd Coed Fawr			
21089	Llannon	Farm	II	255176	209915
21090	Llannon	Barn at Llwyd Coed Fawr Farm		255192	209939
21091	Llannon	Milestone near Penderi		253671	206450
21092	Llannon	Milestone south of Upper Tumble		254498	211083
21093	Llannon	Twll y Car Farmhouse and farm-range		255534	210853
21094	Llannon	The Old Vicarage	II	253849	208167
		Bridge over Afon Morlais (partly in Llannon			
21098	Llangennech	Community)	II	254601	205217
		Goitre Wen Farmhouse with adjacent Walled			
21099	Llangennech	Yards and Garden	II	255263	204633
21100	Llangennech	Goitre Wen Stables and Domestic Offices	II	255262	204651
21101	Llangennech	Goitre Wen Farmyard: Cartsheds and Sties	11	255236	204640
21102	Llangennech	Goitre Wen Farmyard: Barn Range	11	255237	204660
22086	Pontardulais	Hope Independent Chapel	11	259058	203752
22211	Llandybie	Capel Hendre and Vestry	11	259432	211227
81059	Mawr	Circular pigsty at Craig Fawr Farm	11	262111	208096
81147	Pontardulais	The War Memorial	11	258934	203841
		Wall and Railings at Hope Independent		1	
81148	Pontardulais	Chapel	II	259051	203738

# **ARCHIVE COVER SHEET**

# Land to the east of the A48 and Land to the south west of Tycroes, Ammanford

Site Name:	Land to the east of the A48 and Land to
	the south west of Tycroes, Ammanford
Site Code:	HSA/19/HIA
PRN:	-
NPRN:	-
SAM:	-
Other Ref No:	-
NGR:	NGR SN 59231 09417
Site Type:	Proposed Construction of Ground
	Mounted Solar Farm on greenfield site
Project Type:	Heritage Impact Assessment
Project Manager:	John Davey
Project Dates:	November 2019
Categories Present:	No archaeological finds or features AW
Location of Original Archive:	RCAHMW, Aberytswyth
Location of duplicate Archives:	-
Number of Finds Boxes:	AW
Location of Finds:	None
Museum Reference:	
Copyright:	
Restrictions to access:	

# Archaeology Wales

Archaeology Wales Limited The Reading Room, Town Hall, Llanidloes, SY18 6BN Tel: +44 (0) 1686 440371

Email: admin@arch-wales.co.uk Company Directors: Mark Houliston MCIfA & Jill Houliston Company Registered No. 7440770 (England & Wales) Registered Office: Morgan Griffiths LLP, Cross Chambers 9 High Street, Newtown, Powys, SY16 2NY

