# Archaeoleg Brython Archaeolog





Archaeological Desk Based Assessment Gwynedd & Anglesey Park & Share Sites: Llanwnda Document Number B1801B.01

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Archaeological Desk Based Assessment

Prepared for YGC

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# Contents

| Cr | vno                            | deb   |   | 3  |
|----|--------------------------------|-------|---|----|
| Su | тn                             | nary. |   | 4  |
| 1  | lr                             | ntroc | duction   | 5  |
|    |                                | Fig   | ure 1: Location map   | б  |
|    |                                | Fig   | ure 2: High Value designated assets within 1km  | 7  |
|    |                                | Fig   | ure 3: Identified assets within 500m  | 8  |
| 2  | Ν                              | leth  | odology   | 9  |
|    | 2.1                            | ۵     | Desk Based Research   | 9  |
|    | 2.2                            | ٧     | Nalkover Survey   | 9  |
|    | 2.3                            |       | Assessment of Value and Impact  |    |
|    |                                |       | ble 1: Criteria for assessing the value of heritage assets  |    |
|    |                                |       | ble 2: Criteria for the assessment of magnitude of impact   |    |
|    |                                |       | ble 3: Significance of Effect Matrix  |    |
|    | 2.4                            |       | Recommended Mitigation  |    |
| 3  |                                | -     | ground  |    |
|    | 3.1                            |       | Project Background  |    |
|    |                                |       | ۲۰۰۶ میلین المان الم<br>المان المان الم |    |
|    |                                |       | Geology<br>Historical and Archaeological  |    |
|    | 3.4.1                          |       | -   |    |
|    |                                |       | Palaeolithic (500,000BC – 10,000BC)   |    |
|    |                                | .4.2  | Mesolithic (10,000BC – 4,000BC)   |    |
|    | 3                              | .4.3  | Neolithic (4,000BC – 2,300BC)   |    |
|    | 3.4.4                          |       | Bronze Age (2,300BC – 700BC)  | 14 |
|    | 3                              | .4.5  | Iron Age (700BC – 43AD)   | 14 |
|    | 3.4.6                          |       | Roman and Romano-British (43AD – 450AD)   | 15 |
|    | 3                              | .4.7  | Early Medieval & Medieval (450AD – 1547AD)  | 15 |
|    | 3                              | .4.8  | Post-Medieval and Modern (1547 AD – Present)  | 16 |
| 4  | R                              | esul  | ts  |    |
|    | 4.1                            | Ν     | Nap Regression  | 18 |
|    | Figure 4: Lla<br>Figure 5: Orc |       | ble 4: Llanwnda Tithe schedule (1841)   |    |
|    |                                |       | ure 4: Llanwnda Tithe Map (1839)  |    |
|    |                                |       | ure 5: Ordnance Survey 2 <sup>nd</sup> Edition 6″ Map (1901)  | 20 |
|    |                                |       | .iDAR   | 21 |
|    | 4.3                            | ٧     | Nalkover Survey   | 21 |
|    |                                | Pla   | te 1: Earth bank (PRN 69824) on eastern side of Lôn Eifion, view from south, scale 1m   | 22 |
|    |                                |       | te 2: Wall (PRN 69825) on western side of proposed development area, view from south e  |    |
|    |                                |       | ura 6. LiDAR DCM 1m   |    |
|    |                                | гıg   | ure 6: LiDAR DSM 1m   |    |

|   |     | Figure  | 7: LiDAR DTM 1m   | 24 |
|---|-----|---------|---|----|
|   | 4.4 | Higł    | n Value Designated Assets   | 25 |
|   | 4.  | 4.1     | Conservation Areas  | 25 |
|   | 4.  | 4.2     | Scheduled Ancient Monuments   | 25 |
|   | 4.5 | Oth     | er Identified Assets  | 26 |
|   | 4.  | 5.1     | Grade II Listed Buildings   | 26 |
|   | 4.  | 5.2     | Undesignated Assets   | 27 |
|   |     | Table S | 5: Undesignated assets within 500m of the proposed development  | 28 |
|   |     | Table d | 6: Newly identified assets within the proposed development area   | 28 |
| 5 | In  | npact a | nd Proposed Mitigation  | 30 |
|   |     | Table 2 | 7: Impact and proposed mitigation   | 31 |
|   |     |         | ?: View towards Hen Gastell from southern end of proposed development area, rough exte<br>shown, view from north-east |    |
|   |     | Plate 4 | l: View from Hen Gastell towards proposed development area, view from south-west                                      | 34 |
| 6 | Co  | onclusi | on  | 35 |
| 7 | So  | ources  | Consulted   | 36 |
|   | 7.1 | Arch    | nival Sources   | 36 |
|   | 7.  | 1.1     | National Library of Wales, Aberystwyth  | 36 |
|   | 7.2 | Unp     | ublished Sources  | 36 |
|   | 7.  | 2.1     | Reports   | 36 |
|   | 7.  | 2.2     | Images and Data   | 36 |
|   | 7.3 | Pub     | lished Sources  | 36 |
|   | 7.4 | Web     | osites  | 37 |

Appendix I – Client Drawing 6160/GA/101DRAFT

# Crynodeb

Gofynnwyd i Archaeoleg Brython Archaeology gan Ymgynghoriaeth Gwynedd Consultancy i gwblhau asesiad ben-desk archaeolegol i gyfarwyddo cais gynllunio ar gyfer safle Parcio a Rhannu i'r de-orllewin o gylchfan 'Y Goat' yn Llanwnda, Gwynedd. Mae'r asesiad yn canolbwyntio ar glustogfa 1km o ffin y datblygiad arfaethedig.

Mae'r asesiad yn nodi pum ased o werth uchel yn y glustogfa. Mae rhan o'r datblygiad o fewn Ardal Cadwraeth Llanllyfni ac mae tair Heneb Restredig o fewn 1km i'r datblygiad arfaethedig. Mae heneb o'r enw Hen Gastell, anheddiad gydag amddiffynfeydd sy'n dyddio o'r canoloesoedd, sydd yn y broses o gael ei ddynodi fel Heneb Restredig.

Mae chwe Adeilad Rhestredig Gradd II o fewn 500m i'r datblygiad arfaethedig, ni fu effaith ar unrhyw un ohonynt.

Mae ymchwil o fapiau Arolwg Ordnans cynnar a map degwm Llanwnda wedi darganfod tystiolaeth o adeiladau a all fod yn bresennol yn ffin y datblygiad. Hyd at 1964 roedd y rheilffordd Sir Gaernarfon (Rheilffordd Nantlle gynt) yn rhedeg trwy'r safle, heddiw mae llwybr beicio Lôn Eifion yn dilyn yr un llinell. Mae adeiladau fferm 'Hendre' yn ymddangos ar y map degwm ac mae adeiladau sy'n debygol i berthyn i reilffordd Nantlle ar fapiau Ordnans hyd at 1901.

Yn ystod ymweliad i'r safle nodwyd clawdd sy'n rhedeg ar yr un llinell a'r hen reilffordd, ni chredir ei fod digon llydan i fod wedi cario'r rheilffordd ond gallai fod yn gysylltiol. Mae hefyd yn bosib bod wal gerrig gyda physt haearn ar ochr orllewinol y ffin arfaethedig yn ymwneud â'r rheilffordd.

*Os yw'r datblygiad yn parhau bu'n cael effaith uniongyrchol ar dros 26% o'r Ardal Gadwraeth, bydd arwyddocâd yr effaith yn Gymedrol/Mawr. Bu rhannau o'r datblygiad yn weladwy o Hen Gastell. Gall plannu coed leihau effaith y datblygiad, bu'r effaith mwyaf sylweddol yn ystod y gwaith adeiladu. Wedi cwblhau'r gwaith bydd arwyddocâd yr effaith ar Hen Gastell yn ddibwys. Bydd rhaid cofnodi'r nodweddion gweladwy yn y ffin datblygiad cyn cychwyn adeiladu a bydd angen briff gwylio archaeolegol yn ystod gwaith clirio'r safle.* 

# Summary

Archaeoleg Brython Archaeology have been asked by Ymgynghoriaeth Gwynedd Consultancy to undertake an archaeological desk-based assessment to inform a planning application for a Park and Share site to the south-west of the Goat roundabout in Llanwnda, Gwynedd. The assessment focused on a 1km buffer zone around the boundary of the proposed development.

The assessment identified five high value designated assets within the buffer zone. Part of the development will be within the Llanwnda Conservation Area, three Scheduled Ancient Monuments also lie within 1km of the proposed development. The site of Hen Gastell, a medieval defended settlement, is in the process of being designated as a Scheduled Ancient Monument.

*Six Grade II Listed Buildings are located within 500m of the proposed development, none would be impacted.* 

A review of early edition Ordnance Survey maps and the Llanwnda tithe map has identified evidence of buildings which may be present within the proposed development boundary. Until 1964 the Caernarvonshire Railway (previously the Nantlle Railway) ran through the site, the Lôn Eifion cycle track now follows the same route. A farm, Hendre, is shown on the tithe map and buildings which are likely to be associated with the railway are shown on Ordnance Survey maps up to 1901.

During the walkover survey a bank running on the line of the railway was noted, this does not appear to be wide enough to have carried the railway but it may be associated. It is also possible that a stone wall with iron posts on the western side of the proposed development boundary may be associated with the railway.

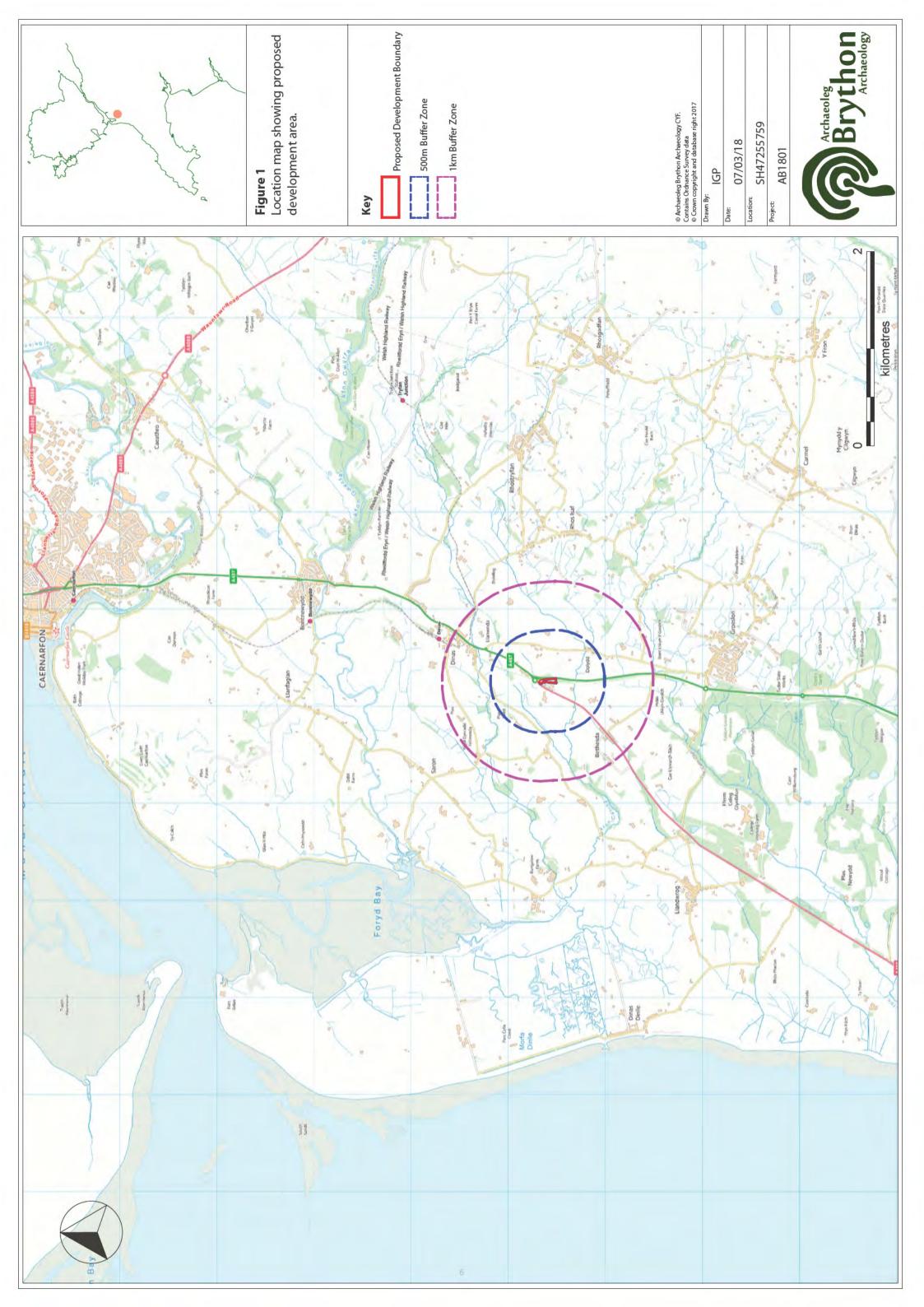
If the development proceeds it would have a direct physical impact on over 26% of the Conservation Area, the significance of this impact would be Moderate/Large. Parts of the development would be visible from Hen Gastell. Planting could reduce the impact of the development, the impact would be greatest during construction. Once completed the significance of the impact would be Negligible. Features identified within the development boundary would need to be recorded prior to construction and an archaeological watching brief would be required during clearance works.

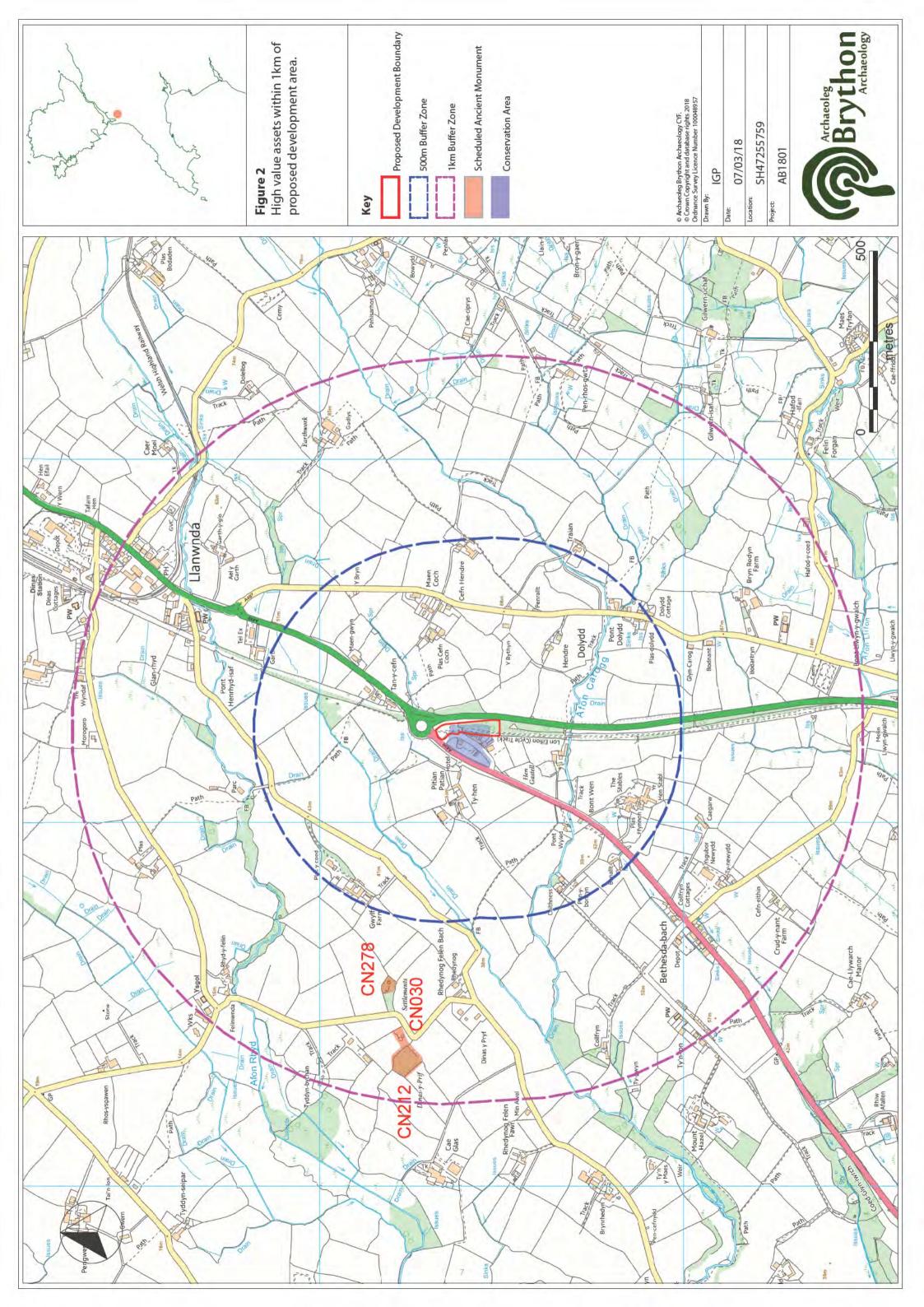
# 1 Introduction

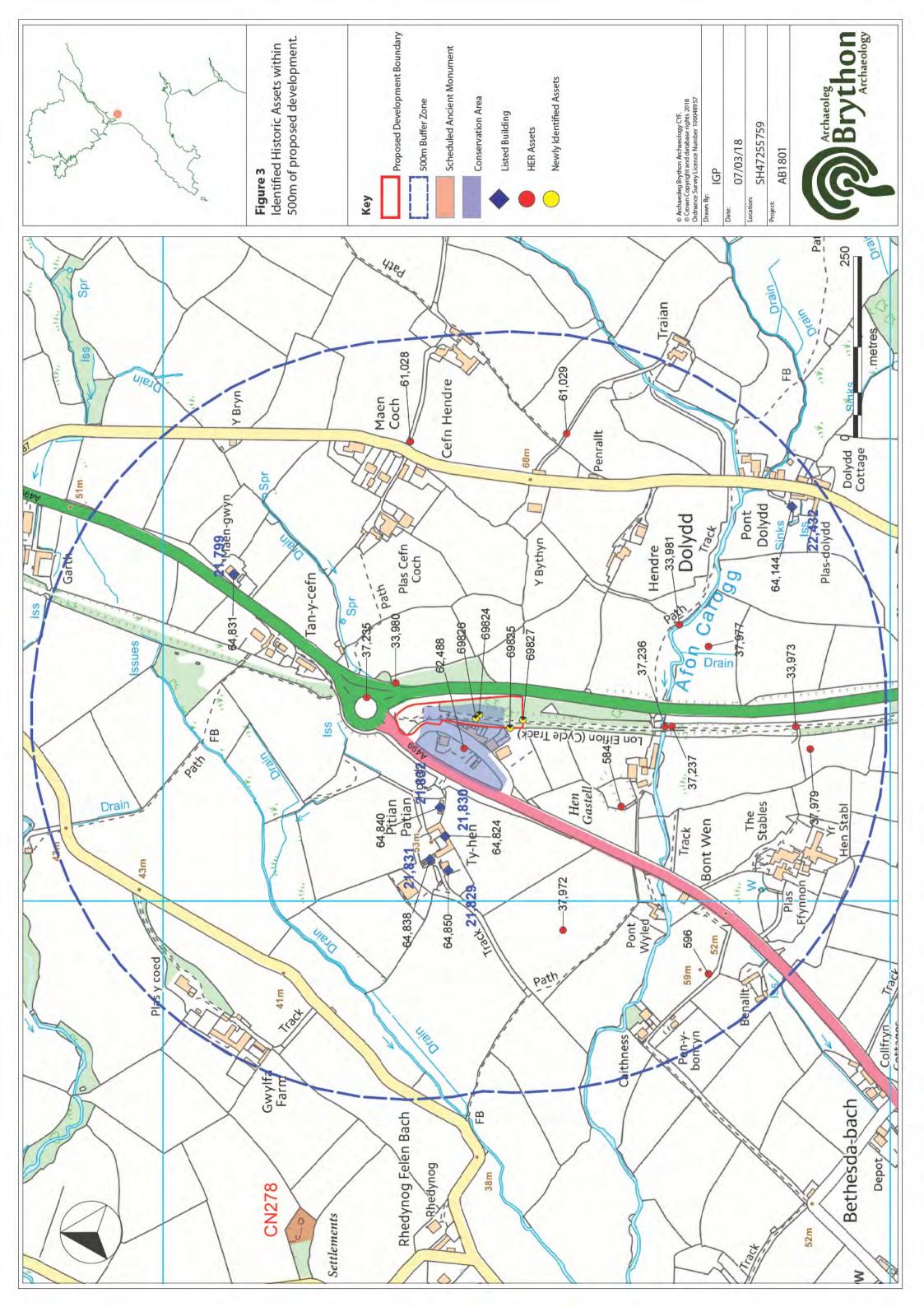
Archaeoleg Brython Archaeology (ABA) have been asked by Ymgynghoriaeth Gwynedd Consultancy (YGC) to prepare an archaeological desk-based assessment (DBA) for a proposed park and share site at Llanwnda, Gwynedd (SH47265757), see Figure 1. The development would create parking for approximately 91 vehicles and is intended to provide a dedicated hub for commuters to share lifts to and from their workplaces and help reduce the number of vehicles on the local road network.

The assessment is based on two catchment areas around the proposed development. A search was made of all non-designated heritage assets and Grade II Listed Buildings (LBs) within a 500m buffer of the development limits and all high value designated heritage assets including Scheduled Ancient Monuments (SAM), Grade I and II\* Listed Buildings, Registered Parks and Gardens and Conservation Areas within a 1km buffer (Figures 2 & 3).

This DBA has been completed to meet the Chartered Institute for Archaeologists' (ClfA) Standard and Guidance for Desk-Based Assessment (2017).







# 2 Methodology

## 2.1 Desk Based Research

The purpose of this DBA is to trace the development of the area and determine the potential for unknown archaeology by assessing available sources. The repositories consulted for this assessment were:

- Gwynedd Historical Environment Record, Craig Beuno, Ffordd Garth, Bangor, Gwynedd LL57 2RT
- Gwynedd Archives, Caernarfon Record Office, Gwynedd Archive Service, Gwynedd Council, Caernarfon, LL55 1SH
- Coflein.gov.uk Online database of the National Monuments Record of Wales (NMRW)
- Lle.gov.wales Geo-portal for government data including Natural Resources Wales LiDAR data
- National Library of Wales, Aberystwyth

After an initial assessment of the archaeology within 3km of the proposed development area it was decided that research should focus on three buffer zones:

- A walkover survey was undertaken assess the condition of any recorded assets and to check for unrecorded assets within the proposed development area, all assets were assessed for potential impact and proposed mitigation measures suggested.
- All recorded assets within a 500m buffer of the proposed development area were briefly assessed for potential impact, undesignated sites to which there would be no impact were scoped out of any further assessment. Where necessary mitigation measures are suggested.
- High value designated assets within a 1km buffer of the proposed development boundary were assessed for potential impact. These include Scheduled Ancient Monuments, Listed Buildings at Grade I or II\* and Registered Parks and Gardens. Where necessary mitigation measures are suggested.

## 2.2 Walkover Survey

The site was visited to determine whether any evidence of assets identified during the desk-based research were present and to identify any previously unrecorded assets which may have been present. Photographs were taken as a record of the site and of individual features of interest.

## 2.3 Assessment of Value and Impact

The value and importance of each identified heritage asset has been determined by assessing against the criteria in Table 1.

| Value                               | Definition  |  |  |  |  |
|-------------------------------------|---|--|--|--|--|
| Very High<br><i>(International)</i> | <ul> <li>World Heritage Sites <i>(including nominated sites)</i></li> <li>Assets acknowledged of having international importance</li> <li>Assets that can contribute significantly to acknowledged international research objectives</li> </ul>   |  |  |  |  |
| High<br><i>(National)</i>           | <ul> <li>Scheduled Ancient Monuments (SAM) <i>(including proposed sites)</i></li> <li>Grade I and Grade II* Listed Buildings <i>(including proposed sites)</i></li> <li>Unscheduled sites which are of schedulable importance or quality</li> <li>Unlisted buildings and some Grade II Listed Buildings which are of a standard or importance to warrant listing at Grade I or Grade II*</li> <li>Historic Landscapes of outstanding interest <i>(including designated and undesignated)</i></li> </ul> |  |  |  |  |
| Medium<br><i>(Regional)</i>         | <ul> <li>Grade II Listed Buildings <i>(including proposed sites)</i></li> <li>Archaeological sites which are not schedulable but are of regional importance</li> <li>Buildings which fulfil the criteria for listing at Grade II</li> <li>Designated special historic landscapes or those worthy of designation</li> </ul>  |  |  |  |  |
| Low<br>(Local)                      | <ul> <li>Components of the historic environment which help define local distinctiveness and character <i>(including features such as walls, gateposts, tracks etc.)</i></li> <li>'Locally Listed' buildings</li> <li>Historic (unlisted) buildings of modest quality or historic association</li> <li>Historic landscapes of local interest</li> </ul>  |  |  |  |  |
| Negligible                          | <ul> <li>Sites of minor importance</li> <li>Sites which have been so badly damaged that not enough remains to justify their inclusion in a higher category</li> <li>Buildings of no architectural or historical note or buildings of an intrusive character</li> <li>Landscapes with little or no significant historic interest</li> </ul>  |  |  |  |  |

## Table 1: Criteria for assessing the value of heritage assets

Landscapes with little or no significant historic interest
 Unknown
 Sites or features whose character, importance or location is undetermined
 Includes unevaluated buried archaeology
 Sites in this category will be allocated a value category from Very High to Negligible following evaluation

The likely impact of the proposed development on each identified heritage asset has been estimated using the assessment criteria for magnitude of impacts stated in Table 2.

| Table 2: Criteria | for the | assessment | of | magnitude | of impact |
|-------------------|---------|------------|----|-----------|-----------|
|-------------------|---------|------------|----|-----------|-----------|

| Magnitude  | Definition   |
|------------|--|
| Major      | <ul> <li>Change to most or all of the key archaeological materials or<br/>historical building elements such as the resource is totally altered</li> <li>Comprehensive changes to setting</li> </ul>                          |
| Moderate   | <ul> <li>Changes to many key archaeological materials or historic building elements, such as the resource is clearly modified</li> <li>Considerable changes to the setting that affect the character of the asset</li> </ul> |
| Minor      | <ul> <li>Changes to key archaeological materials or historic building elements, such as the asset is slightly altered</li> <li>Slight changes to setting</li> </ul>  |
| Negligible | Minor changes to archaeological materials, historic building elements or setting   |
| No Change  | No change  |

The significance of effect is determined by considering the archaeological and historical importance of the asset and the magnitude of the impact upon it, this is done using the matrix in Table 3.

| Table 3 | 3: | Significance | of | Effect | Matrix |
|---------|----|--------------|----|--------|--------|
|---------|----|--------------|----|--------|--------|

|                        | Cultural Asse      | t Value             |                      |                     |                              |
|------------------------|--------------------|---------------------|----------------------|---------------------|------------------------------|
| Magnitude of<br>Impact | Negligible         | Low<br>(Local)      | Medium<br>(Regional) | High<br>(National)  | Very High<br>(International) |
| Major<br>Change        | Slight             | Slight/<br>Moderate | Moderate/<br>Large   | Large/Very<br>Large | Very Large                   |
| Moderate<br>Change     | Neutral/<br>Slight | Slight              | Moderate             | Moderate/<br>Large  | Large/ Very<br>Large         |
| Minor<br>Change        | Neutral/<br>Slight | Neutral/<br>Slight  | Slight               | Moderate/<br>Slight | Moderate/<br>Large           |
| Negligible<br>Change   | Neutral            | Neutral/<br>Slight  | Neutral/<br>Slight   | Slight              | Slight                       |
| No Change              | Neutral            | Neutral             | Neutral              | Neutral             | Neutral                      |

## 2.4 Recommended Mitigation

The most appropriate methods of mitigation for each identified asset will be determined to minimise adverse impact, where direct impact is unavoidable the mitigation will aim to gather the maximum amount of information. The offsetting of negative impacts with compensatory measures may also be considered suitable options in some circumstances.

# 3 Background

## 3.1 Project Background

The proposed Llanwnda site would form part of a wider network of park and share sites across Gwynedd and Anglesey. The sites would provide dedicated hubs for commuters to share lifts to and from their workplaces and reduce the number of vehicles on the local road networks and within key employment centres. As well as at Llanwnda, sites would also be located at Llandegai in Gwynedd and Gaerwen and Four Crosses on Anglesey.

The Llanwnda site would be created through the expansion of an existing car park which is largely utilised by cyclists and pedestrians using the Lôn Eifion route.

## 3.2 Topographic Description

The study area lies within the Arfon Plateau Historic Character Landscape Area (PRN 15735) which is largely characterised by large enclosures of improved pasture with associated scattered farmsteads. The area generally consists of rolling hills bordered by Moel Tryfan to the east and low lying marshy ground at Morfa Dinlle approximately 3km to the west. The Royal town of Caernarfon and the Menai Strait lie approximately 5km north and the coastal plain continues largely unbroken for approximately 10km to the south until it reaches the hills of Gyrn Goch and Yr Eifl beyond.

## 3.3 Geology

The British Geological Survey's Geology of Britain Viewer shows that the superficial deposits consist of Devensian – Diamicton Till which formed 2 million years ago in Ice Age conditions during the Quaternary Period. The underlying bedrock consists of interbedded sandstone and siltstone of the Fachwen Formation formed during the Cambrian and Ediacaran Periods approximately 508 to 635 million years ago in a landscape dominated by rivers.

## 3.4 Historical and Archaeological

The information presented below has been compiled and summarised from the information gained during the desk-based research and walkover.

## 3.4.1 Palaeolithic (500,000BC - 10,000BC)

No sites of Palaeolithic date are recorded in the vicinity of the scheme, the nearest sites dating from this period are found on the Great Orme in Llandudno approximately 40km to the north-east.

## 3.4.2 Mesolithic (10,000BC - 4,000BC)

No sites of Mesolithic date are recorded in the vicinity of the scheme but a scattering of sites from this period have been recorded in a number of locations, mostly coastal, around Gwynedd. Evidence of activity from this period is often in the form of flint scatters which are identified in areas of coastal erosion. Pits containing charcoal (PRN 59788) found during an archaeological evaluation in Penrhosgarnedd, Bangor were also found to date from this period demonstrates the presence of activity in areas further inland.

Although sites of this period haven't been recorded in the vicinity of the proposed development it is likely that groups of hunter gatherers would have been active in the area during this period.

## 3.4.3 Neolithic (4,000BC - 2,300BC)

It is during the Neolithic that humans first build features that can still be seen in the landscape today.

Although no features dating to the Neolithic are recorded in the study area a number of sites are known nearby. Approximately 2.6km to the north in Llanfaglan is the site of the Cae'r Efail burial chamber (PRN 3131) which was recorded in 1769 but has since been destroyed. Further chambered tombs can be found to the south at Penarth (PRN 199) and Bachwen (PRN 101).

Probable domestic activity from the Neolithic has been found on the site of Ysgol y Hendre in Caernarfon where a pit (PRN 34067) containing heat fractured stones, flint working debitage and a single sherd of pottery produced late Neolithic dates. More extensive activity was found in Llandegai in the 1960s when an early Neolithic building, likely to be a house, was found in close proximity to later Neolithic ritual complex which included two henge monuments and a cursus (PRN 2314). During the construction of Parc Bryn Cegin nearby a second Neolithic rectangular building (PRN 31750) and numerous pit groups were identified.

## 3.4.4 Bronze Age (2,300BC – 700BC)

One site dating to the Bronze Age lies within 500m of the proposed development. A Barrow (PRN 596) is recorded at Benallt, Bethesda Bach. It was first mentioned in Archaeologia Cambrensis in 1853 where it was stated that although ploughed regularly it retained its form and an urn had been recovered from the monument. A scattering of other funerary monuments and antiquarian reports of urn discoveries are recorded in the HER beyond the search area. Many funerary monuments from this period are located in the hills to the west demonstrating that higher ground was often favoured for burial.

Approximately 700m to the east of the proposed development at Cefn Hendre a Middle Bronze Age burnt mound (PRN 59427) was discovered during the installation of a gas main. These features, which consist of a mound of heat fractured stones which is usually accompanied by a trough for water, are probably the most common Bronze Age features encountered in North-West Wales yet their use is poorly understood and frequently debated. What can be said with certainty is that they were used to boil water (and possibly other liquids) by repeatedly placing stones which were heated in a hearth into a container with the liquid to be heated, the process results in the stones fracturing and becoming unusable at which point they are discarded and over time form the mound. Possible uses include brewing, cooking and saunas.

The other monument type from this period which is common in the surrounding area are standing stones. A number of examples, including PRN 12904 & PRN 1313, are recorded approximately 2.4km to the south-west around Glynllifon.

Although the presence of other monuments from this period demonstrate that communities were present in the area during the Bronze Age evidence of domestic sites is less visible. It is possible that some of the hut groups attributed to the Iron Age may have their origins in the Bronze Age but due to the limited amount of recent excavations this cannot be said with certainty.

## 3.4.5 Iron Age (700BC – 43AD)

No Iron Age sites are recorded within 500m of the proposed development area but within 1km a number of sites recorded as being 'prehistoric' are likely to date from this period.

Approximately 690m to the west is a hut group (PRN 587) which is a SAM (CN 212). The site consists of three hut circles and associated banks, there is also evidence of an enclosure which probably surrounded the entire settlement. Although the site hasn't been excavated it is likely to date to the Iron Age and Romano British period.

Approximately 850m to the north-east is a circular defended enclosure which is also likely to date from the Iron Age period. The fortified enclosure at Gadlys (PRN 585) is now completely filled by a post-medieval farmhouse and associated buildings but the 2m high ditch enclosing the site is still recognisable. It is likely that a ditch is present on the outer edge of the bank, there are two gaps in the bank to the west and the north-east either, or both, of which could be the original entrance. A sunken trackway (PRN 60926) and field system (PRN 60927) associated with the enclosure could also date from the Iron Age.

The presence of sites of significant size such as the enclosure and field system at Gadlys demonstrates the presence of fairly large communities nearby during the Iron Age, as such it is likely that many features from this period remain unrecorded in the area.

## 3.4.6 Roman and Romano-British (43AD – 450AD)

One site of Roman date is recorded as being within the proposed development area although it is only theorised and no definitive evidence has been discovered. PRN 17823 is the Roman road from Segontium to Nefyn as suggested by Waddelove, there is no evidence that the road exists and fieldwork to assess the theorised route did not find any evidence of Roman features and casts further doubt on its proposed route (Hopewell 2007).

A Roman road which has been identified in sections is the route from Segontium to Pen-Llystyn and Tomen y Mur (PRN 17554) which broadly corresponds to the route of the current road between Caernarfon and Porthmadog. The route runs approximately 300m east of the proposed development area, it is not expected that the route or any directly associated features would be present in the development area as none were discovered during the construction of the A487 Penygroes and Llanllyfni Bypass.

Within the 1km study area are two SAMs attributed to the Roman period. Dinas y Prif (PRN 593, CN 030) is a rectangular enclosure with substantial defensive bank and ditch with apparent additional defences at its corners. Early accounts of the monument suggest that the foundations of buildings were visible in the interior but it is now level. Immediately to the east is an enclosed hut circle settlement (PRN 586, CN 212) which contains both circular and rectangular buildings and is though to date from broadly the same period as Dinas y Prif itself.

Further settlement sites are located on higher ground to the east, including a number of substantial hut circle settlements and associated field systems. It is possible that some of the enclosures and settlements attributed to the Iron Age could have continued in use throughout the Romano-British period and beyond.

## 3.4.7 Early Medieval & Medieval (450AD - 1547AD)

Excavations, such as those at Cefn Graianog approximately 8km south of the study area, have demonstrated that many Romano-British settlements and farmsteads continued to be occupied or re-occupied during the Early Medieval period. It has been suggested that Dinas y Prif may have been active during this period and the mix of circular and rectangular structures in the adjacent enclosed hut circle settlement may support this theory.

Until recently little was known about Hen Gastell (PRN 584), a defended enclosure on a promontory on the northern bank of Afon Carrog, which has been partially destroyed by the construction of a later farm. Until recent evaluation of the feature was completed it was thought to be an Iron Age or Romano-British settlement which may have originated as a Neolithic henge, however it has now been proved that it is significantly later. The excavation revealed that a substantial timber building once stood within the enclosure and a smithing hearth and associated pits provide evidence of contemporary metalworking. Artefacts recovered during the excavation and radiocarbon dates from the features show that the site was in use for up to for generations

during the 11<sup>th</sup> and 12<sup>th</sup> centuries and is likely to be a defended site of fairly high status with a timber tower or hall (Kenney 2017). The site is currently in the process of being scheduled and as such must be considered as a SAM in the assessment.

The HER point for the medieval township of Llanwnda (PRN 7334) lies 1km north of the proposed development boundary, no known archaeological features within the study area are directly associated with the township. The Church of St Gwyndaf (ID 14925), which is immediately outside the 1km buffer, was built in 1847 on the site of the medieval church. Although no physical evidence of the earlier building survives a written description was made before its demolition and a number of fittings remain within the current building.

## 3.4.8 Post-Medieval and Modern (1547 AD – Present)

The proposed development lies partially within the Llanwnda Conservation Area, the main features of which are a terrace of Victorian houses and the former Goat Hotel. The tithe map for Llanwnda records the terrace as six poor cottages which were owned by William Evans, it isn't clear whether these are the existing terrace of six houses, which appear too substantial to be poor cottages, but they appear to occupy the same plots (Figure 4). The hotel isn't present on the tithe map (1841) but is on the Ordnance Survey 1<sup>st</sup> edition of 1888. The tithe map also shows a homestead known as Hendre (PRN 69827) at the southern edge of the proposed development boundary (SH4724757501) which was owned by William Evans and occupied by Hugh Evans. Its location suggests that any evidence of the dwelling may have been removed with the development of the railway, it is not shown on the 1888 map.

A section of the Nantlle Railway (or Tramway), opened in 1828 to transport slate from the Nantlle Valley quarries to Caernarfon, passes through the development area from south to north. The narrow gauge railway started carrying passengers in 1856, when it became a part of the Caernarvonshire Railway in 1865 it was converted to standard gauge effectively connecting it to the wider rail network, it later became part of the London and North Western Railway. A station was located in Llanwnda (PRN 37235), approximately at the location of the current roundabout, no evidence of the station remains. The route closed in 1964.

Although not recorded in the HER the 1<sup>st</sup> and 2<sup>nd</sup> edition Ordnance Survey maps of 1888 and 1899 both show a building (or buildings) within the proposed development boundary (Figure 5). It is likely that these were associated with the railway although it is not known whether any evidence of them remains.

A bank (PRN 69824) which correlates with the location of the railway trackbed on the map of 1899 can be seen on the ground and in LiDAR data but it appears to be too narrow to have accommodated the railway track (Figures 6 & 7). This may be the result of clearance work during the construction of Lôn Eifion cycle route, although this cannot be said with certainty without further investigation.

A number of other features associated with the railway are located within 500m of the proposed development boundary. These include a level crossing (PRN 37236) and bridge (PRN 37237) 150m to the south and a second bridge (PRN 33973) 330m south.

Six Listed Buildings, all Grade II, are located within 500m of the proposed development boundary, all of which are post-medieval in date. Four (ID 64850, ID 64838, ID 64824, ID 64840) form a group of farm buildings at Tŷ Hen, approximately 150m to the west. The group is typical of mid 19<sup>th</sup> century model farms set up by the Newborough estate but is likely to have earlier origins, especially given the name which translates as 'Old House'. 300m to the north-east is Maengwyn (ID 21799) which is a symmetrical two storey house, probably built in the 1820s on the turnpike road. Approximately 450m to the south-east is a disused cottage (ID 22432) which dates to the 18<sup>th</sup>

century and was probably adapted for use as accommodation for farm workers in the 19<sup>th</sup> century, it is now used for storage.

Map regression and the walkover survey shows that there is a possibility of encountering some post-medieval and modern archaeology within the proposed development area.

# 4 Results

## 4.1 Map Regression

The 1841 Llanwnda tithe map (Figure 4) shows that the proposed development would lie within five fields/land parcels which are detailed in the table below.

| Landowner          | Occupier               | Numbers<br>Referring to the<br>Plan | Field Name          | Use       |
|--------------------|------------------------|-------------------------------------|---------------------|-----------|
| Lord<br>Newborough | Thomas Edwards         |                                     | Tyhen               |           |
|                    |                        | 507                                 | Cae Tan Yard        | Arable    |
| William Evans      | Richard Parry & others | 508                                 | 6 Poor Cottages     | Gardens   |
| William Evans      | Hugh Williams          |                                     | Hendre              |           |
|                    |                        | 1161                                | Cae Lon Isaf        | Pasture   |
|                    |                        | 1162                                | Garden etc.         | Homestead |
|                    |                        | 1163                                | Cae Merddyn<br>Bach | Arable    |

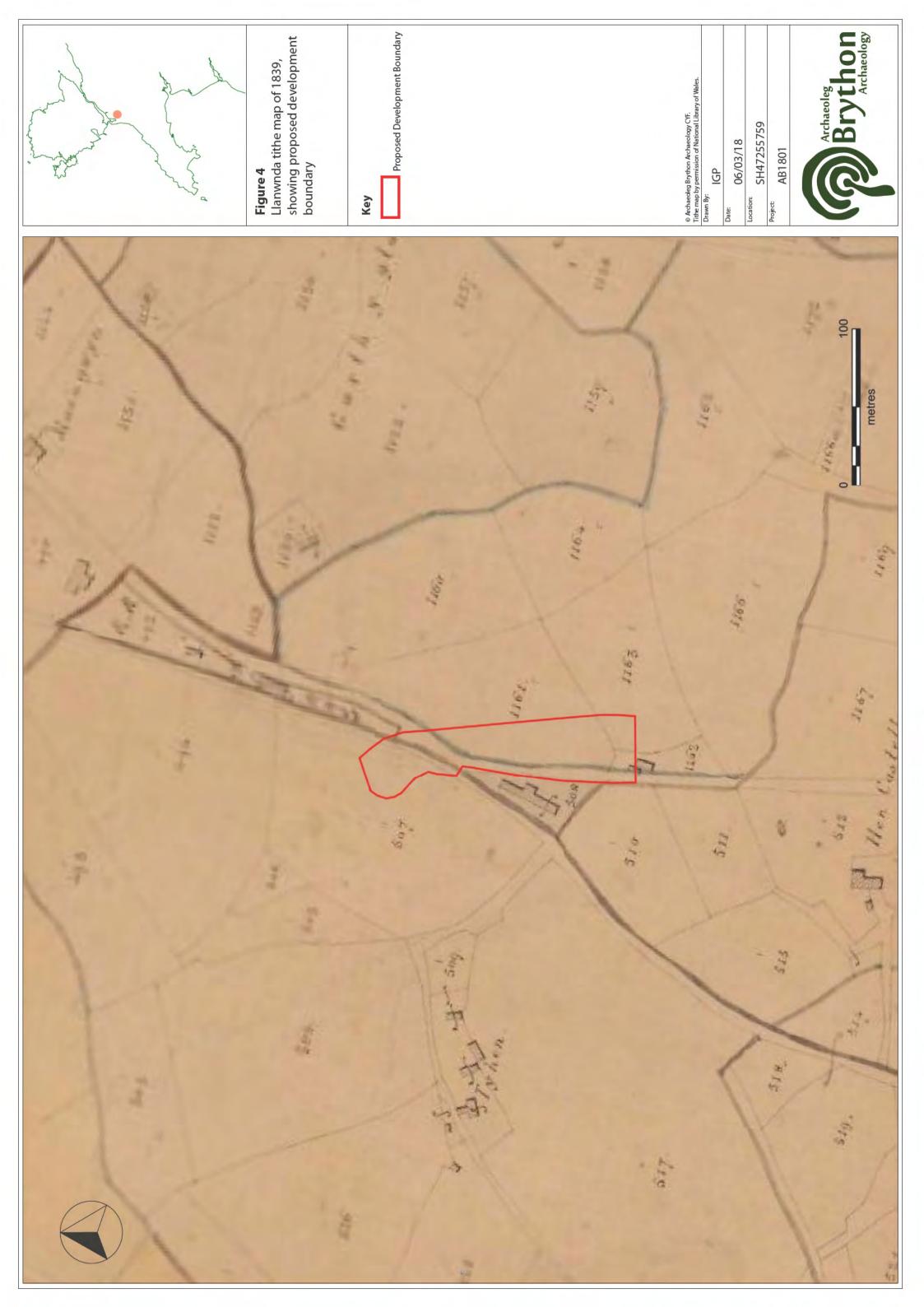
Table 4: Llanwnda Tithe schedule (1841)

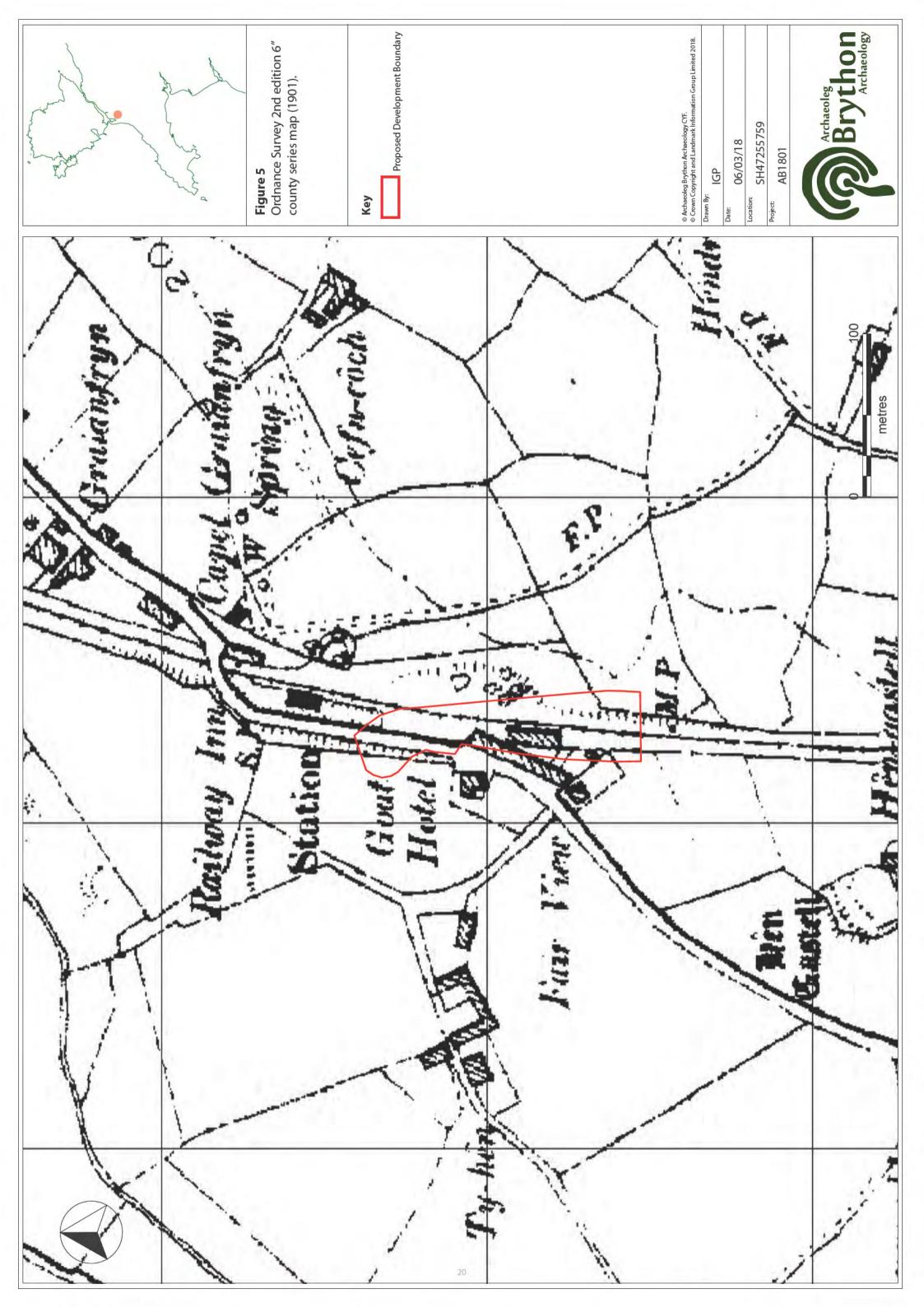
Hendre, field 1162, is within the proposed development boundary but it is possible that any trace of the dwelling may have been removed by the development of the railway during the latter half of the 19<sup>th</sup> century.

The following editions of the Ordnance Survey Caernarvonshire XV.SE 6 inch maps were consulted to assess the development of the site from the late 19<sup>th</sup> century:

- 1<sup>st</sup> Edition, Surveyed 1888, Published 1888
- 2<sup>nd</sup> Edition, Surveyed 1899, Published 1901 (Figure 5)
- 3rd Edition, Surveyed 1913, Published 1919
- 4<sup>th</sup> Edition, Surveyed 1949, Published 1953

Little changed within the proposed development boundary between each edition. The most notable change occurred between 1899 and 1913 when a building (or buildings) shown on the 1<sup>st</sup> and 2<sup>nd</sup> editions is not present on the later editions.





## 4.2 LiDAR

Both the 1m Digital Surface Model (DSM) and 1m Digital Terrain Model (DTM) were analysed to identify possible features within the proposed development area and in the surrounding area (Figures 6 & 7). The data was analysed in ASCII format, geographically registered in GIS software and manipulated to effectively alter the elevation and direction of the light source to highlight undulations in the terrain which may indicate the location of buried archaeology. Analysis of DTM data also allows possible features to be identified in wooded areas and undergrowth.

The only feature identified on the LiDAR within the proposed development area was a linear bank which appears to run along the same line as the railway is shown on the historic Ordnance Survey mapping. The bank was investigated during the walkover survey and found to probably be too narrow to accommodate the railway trackbed, it may be the result of clearance during the construction of the Lôn Eifion cycle route.

The LiDAR data was also utilised to assess intervisibility between the proposed development area and SAMs in the 1km buffer.

## 4.3 Walkover Survey

The walkover survey was undertaken within the proposed development boundary, conditions during the visit were overcast but visibility was good.

During the survey the linear bank (PRN 69824) identified on the LiDAR data was inspected and photographed (Plate 1). Although the feature appears to be directly on the line of the railway shown on the early editions of the Ordnance Survey maps inspection on the ground showed that the feature was probably too narrow to have carried the trackbed. It is possible that the feature has eroded since abandonment of the railway but the feature may be the result of clearance during the construction of the cycle track.

A second high bank on the eastern side of the proposed development, bordering the A487, is probably the result of earth moving and dumping during the construction of the road.

At the western edge of the proposed development, which is also the western boundary of the cycle route, appears to be the original boundary wall of the railway (PRN 69825, Plate 2). It consists of a well built dry stone wall, acting as a revetment for the field to the west and standing approximately 1.2m high on its eastern side. Iron posts on the eastern side may be associated with the railway.

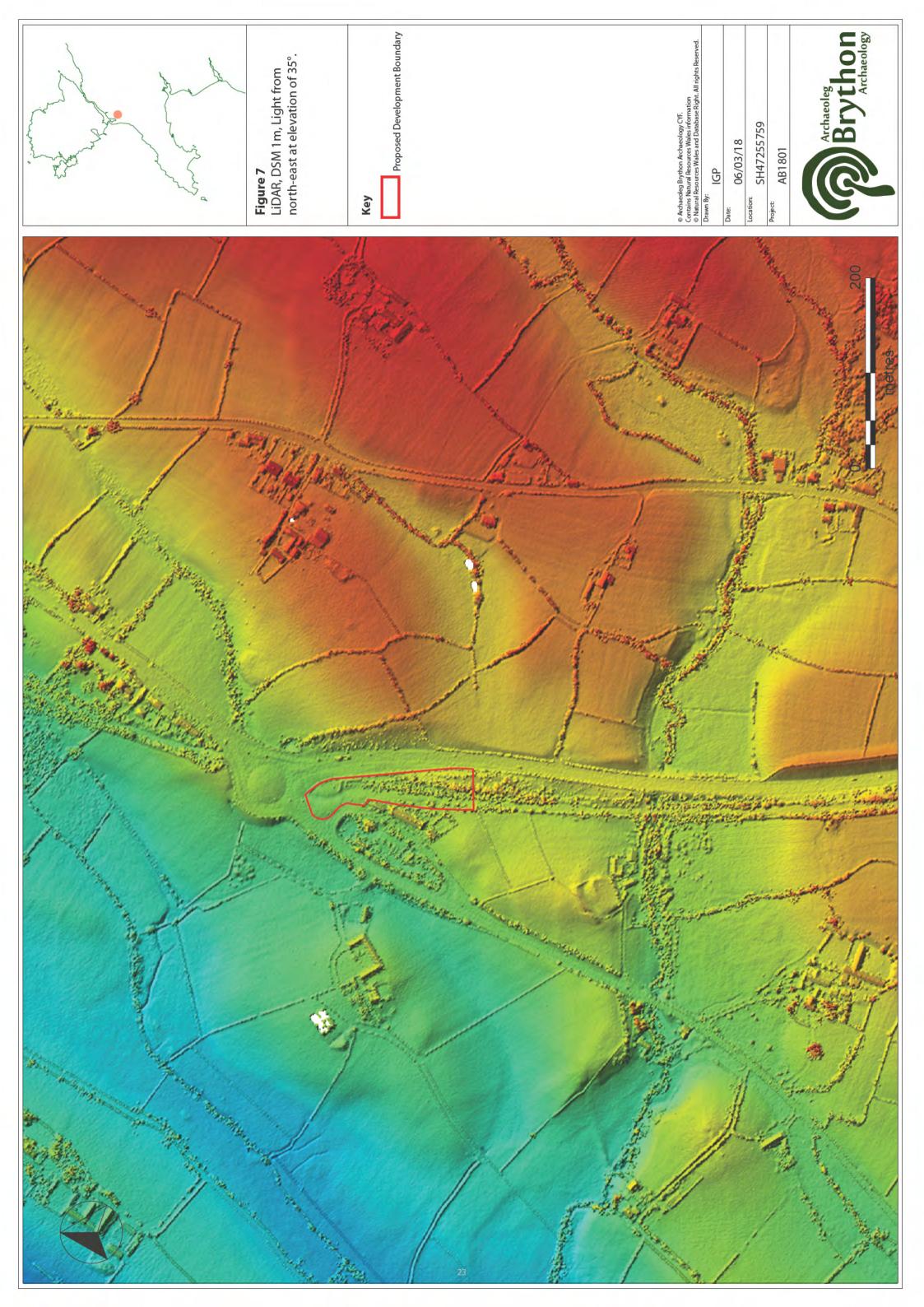
As it was clear that Hen Gastell (PRN 584) was visible from the southern edge of the proposed development area it was noted that there may be some degree of intervisibility between both locations. Hen Gastell was visited to assess the potential visual impact from the site, photos were taken from both locations (Plates 3 & 4).

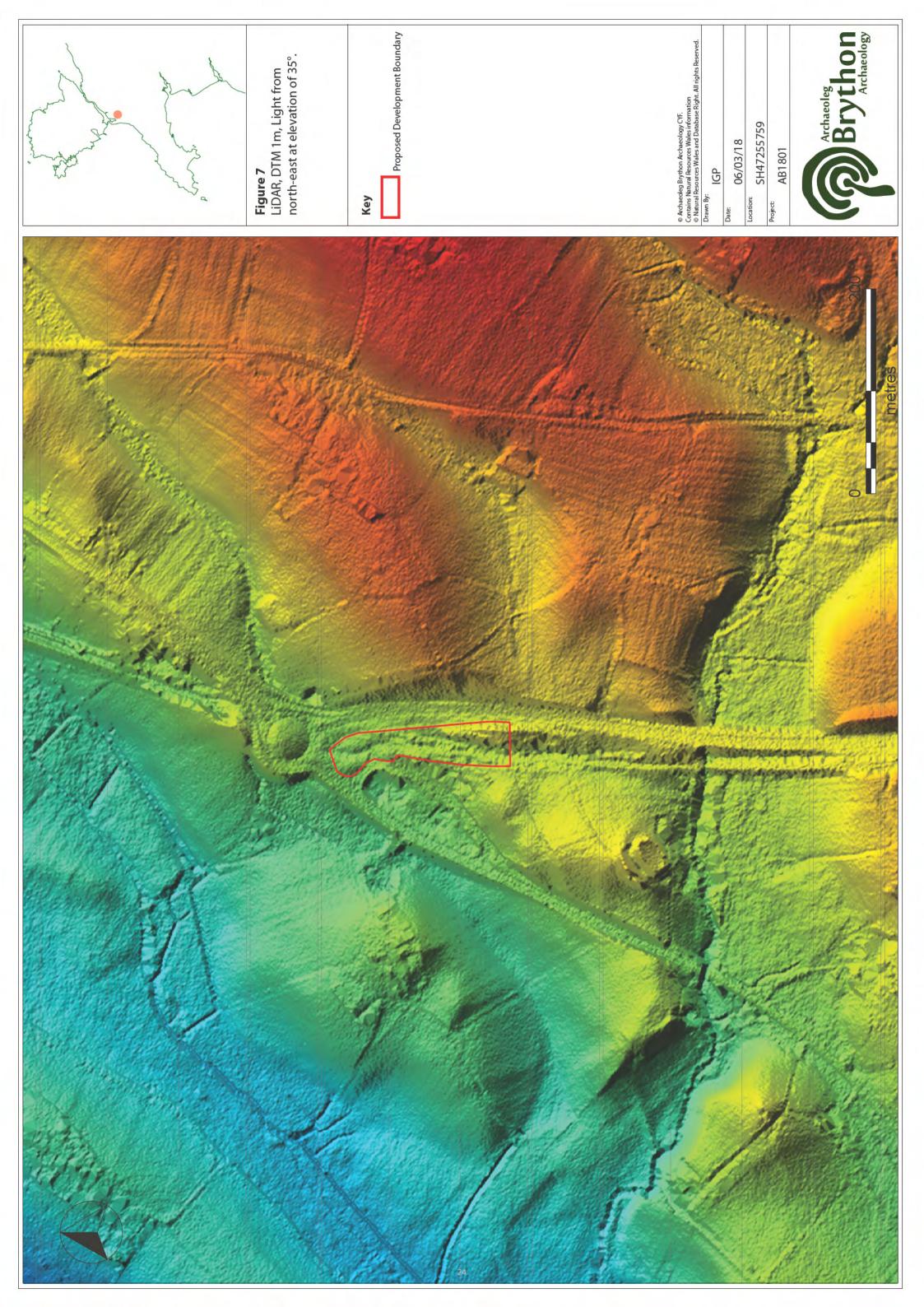


Plate 1: Earth bank (PRN 69824) on eastern side of Lôn Eifion, view from south, scale 1m



Plate 2: *Wall (PRN 69825) on western side of proposed development area, view from south east, scale 1m* 





## 4.4 High Value Designated Assets

All high value designated assets within a 1km buffer of the proposed development area were identified and assessed (Figure 2).

4.4.1 Conservation Areas

**PRN** 62488 **NGR** SH4721057586

## Site Name

Llanwnda, Conservation Area

## Description

The development would lie partially within the Llanwnda Conservation Area (PRN 62488) which is characterised by its Victorian terrace of former poor houses and the Goat Hotel which would have accommodated passengers travelling through Llanwnda station. A small car park is currently located within part of the proposed development but this would be significantly enlarged, the development would also require the removal of a roughly wooded area and a section of the cycle track. It is unlikely that much of the proposed development would be visible when travelling through the conservation area from the south but would be visible when entering from the roundabout from the north.

The development would have a direct physical impact on 26.97% of the Conservation Area and would have a significant negative impact on its character and setting.

## 4.4.2 Scheduled Ancient Monuments

| <b>PRN</b> 584 <b>ID</b> TBC <b>NGR</b> SH4713573 | PRN | 584 | ID TBC | NGR | SH47135737 |
|---|-----|-----|--------|-----|------------|
|---|-----|-----|--------|-----|------------|

## Site Name

Hen Gastell, Llanwnda

## Description

A medieval defended site of fairly high status which was previously thought to be a prehistoric monument. Recent work has shown that a hall or timber tower would have been located in the interior and use of the site was fairly short lived. The construction of the post-medieval farm which occupies part of the site has probably destroyed much of the southern side of the monument. The main visual elements of the monument are a large defensive ditch and bank.

The site is in the process of becoming designated as a Scheduled Ancient Monument.

The proposed development would result in a slight visual impact from the defensive bank to the north of the site, the impact is likely to greater during construction than operation.

| PRN 565 ID CN030 NGR SH463457 |
|-------------------------------|
|-------------------------------|

## Site Name

Dinas y Prif Camp

## Description

A rectangular lowland defended enclosure which is likely to be Roman or Early Medieval in date.

Analysis of the LiDAR date has shown that there would be no intervisibility between the site and the proposed development.

**PRN** 586 **ID** CN212 **NGR** SH46415777

## Site Name

Hut Circle Settlement East of Dinas-y-Prif

## Description

An enclosed settlement of hut circles and rectangular buildings immediately east of Dinas y Prif and likely to be broadly contemporary.

Analysis of the LiDAR date has shown that there would be no intervisibility between the site and the proposed development.

| <b>PRN</b> 587 <b>ID</b> CN278 <b>NGR</b> SH46 |
|--|
|--|

## Site Name

Enclosed Hut Circle Settlement North of Rhedynog Felen Bach

## Description

An enclosed hut circle settlement which probably dates to the Iron Age or Romano-British period.

Analysis of the LiDAR date has shown that there would be no intervisibility between the site and the proposed development.

## 4.5 Other Identified Assets

All historic assets within 500m of the proposed development were identified and assessed for potential impact.

4.5.1 Grade II Listed Buildings

PRN 64850 ID 21829 NGR SH4704257608

## Site Name

Tŷ Hen

## Description

19<sup>th</sup> century farmhouse of the Newborough estate, likely to have earlier origins.

The proposed development would have no impact on the asset.

PRN 64838 ID 21831 NGR SH4705757633

## Site Name

Bothy and Pigsties at Tŷ-hen

## Description

Part of the Tŷ Hen farm complex.

The proposed development would have no impact on the asset.

**PRN** 64824 **ID** 21830 **NGR** SH4709057612

## Site Name

Stables, Cart Shelter and Cowhouse Range at Tŷ-hen

## Description

Part of the Tŷ Hen farm complex.

The proposed development would have no impact on the asset.

**PRN** 64824 **ID** 21832 **NGR** SH4712957619

## Site Name

Hay Barn to east of Tŷ-hen

## Description

Part of the Tŷ Hen farm complex.

The proposed development would have no impact on the asset.

| PRN | 64831 | ID | 21799 | NGR | SH4744957903    |
|-----|-------|----|-------|-----|-----------------|
|     | 0.001 |    |       |     | 01117 11207 200 |

## Site Name

Maengwyn

## Description

An early 19<sup>th</sup> century house which was probably built on the route of the new Turnpike around 1820.

The proposed development would have no impact on the asset.

**PRN** 64144 **ID** 22432 **NGR** SH4754257135

## Site Name

Disused Cottage at Plas Dolydd

## Description

An 18<sup>th</sup> century cottage which appears to have been adapted to house farm workers in the early 19<sup>th</sup> century, it is now used for storage.

The proposed development would have no impact on the asset.

## 4.5.2 Undesignated Assets

Table 5 provides the details of previously recorded undesignated heritage assets within 500m of the proposed development, there would be no impact to any of the sites listed. Table 6 provides details of the newly identified assets which lie within the proposed development boundary and may be impacted.

| PRN   | Site Name                                     | Period                          | Site Type       | NGR          |  |  |
|-------|---|---------------------------------|-----------------|--------------|--|--|
| 596   | Barrow, Benallt, Bethesda Bach                | Bronze Age                      | Mound           | SH46905725   |  |  |
| 33973 | Bridge Over Afon Wen Railway,<br>Llanwnda     | Post-Medieval                   | Bridge          | SH47245713   |  |  |
| 37237 | Bridge, Afon Wen Railway,<br>Llanwnda         | Wen Railway, Post-Medieval Rail |                 |              |  |  |
| 37236 | Level Crossing, Afon Wen Railway,<br>Llanwnda | Post-Medieval                   | Level Crossing  | SH47245731   |  |  |
| 37972 | Lynchet, NW of Hen Gastell                    | Prehistoric                     | Lynchet         | SH46965745   |  |  |
| 33980 | Pond or Possible Quarry,<br>Llanwnda          | Post-Medieval                   | Quarry          | SH47305768   |  |  |
| 37977 | Rubbing Stone, Dolydd                         | Modern                          | Rubbing Stone   | SH47355725   |  |  |
| 37235 | Station, Former Site of, Llanwnda             | Post-Medieval                   | Railway Station | SH47285772   |  |  |
| 61028 | Trackway, Cefn Hendre                         | Post Medieval                   | Trackway        | SH4763257660 |  |  |
| 33981 | Trackway, N of Afon Carogg                    | Unknown                         | Trackway        | SH47385729   |  |  |
| 61029 | Trackway, Traian                              | Post Medieval                   | Trackway        | SH4764357445 |  |  |
| 37979 | Ysgubor Fawr, Former Site of,<br>Dolydd       | Post-Medieval                   | Farmstead       | SH4720957110 |  |  |

## Table 5: Undesignated assets within 500m of the proposed development

## Table 6: Newly identified assets within the proposed development area

| PRN   | Site Name   | Period        | Site Description   | NGR          |  |  |
|-------|---|---------------|--|--------------|--|--|
| 69824 | Earth bank on eastern<br>side of Lôn Eifion       | Post-Medieval | An earth bank which<br>correlates with the line of<br>the Nantlle Railway on early<br>OS mapping, appears too<br>narrow to be an<br>embankment for the<br>trackbed. May have been<br>created during clearance<br>works for Lôn Eifion  | SH472605785  |  |  |
| 69825 | Boundary wall on<br>western side of Lôn<br>Eifion | Post-Medieval | A dry stone wall bordering<br>the western side of Lôn<br>Eifion, likely to be the<br>original boundary of the<br>railway. Metal posts along<br>the wall may be original or<br>may have been made from<br>the railway tracks after<br>decommissioning.<br>Approximately 1.2m high<br>on eastern side but forms a<br>revetment for the fields to | SH4723857529 |  |  |

|       |                               |               | the west where the ground level is significantly higher.  |              |
|-------|-------------------------------|---------------|---|--------------|
| 69826 | Possible Railway<br>Buildings | Post-Medieval | A building or buildings<br>shown on the 1 <sup>st</sup> and 2 <sup>nd</sup><br>edition Ordnance Survey<br>maps but are not present<br>on subsequent editions.<br>The buildings are<br>constructed parallel with<br>the railway and assumed to<br>be associated. | SH4725157571 |
| 69827 | Hendre                        | Unknown       | A farmstead which is shown<br>on the Tithe map of 1841<br>but not on any Ordnance<br>Survey maps. The buildings<br>were probably demolished<br>for the expansion of the<br>Nantlle Railway.   | SH4724857503 |

# 5 Impact and Proposed Mitigation

After scoping out all identified assets which would not be impacted by the proposed development, five could be impacted if the development proceeds. The level of impact, its significance and proposed mitigation for each asset is shown in Table 7.

Table 7: Impact and proposed mitigation

| PRN Site Name |  | Value          | Impact   | Significance of<br>Impact | Discussion and Proposed Evaluation/Mitigation  | Significance of<br>Impact After<br>Mitigation |  |
|---------------|--|----------------|----------|---------------------------|--|---|--|
| 62488         | Llanwnda,<br>Conservation Area                 | servation Area |          | Moderate/Large            | An application for Conservation Area consent would<br>need to be made if the development proceeds. There<br>has been some development within the Conservation<br>Area since it was designated, a revised assessment may<br>provide a greater understanding of the impact the<br>proposed development may have. Any development<br>which will directly impact over 26% of a Conservation<br>Area will have a significant impact on its character,<br>mitigation measures such as planting and sympathetic<br>design are unlikely to reduce the significance of the<br>impact. | Moderate/Large                                |  |
| 584           | Hen Gastell                                    | High           | Minor    | Moderate/Slight           | The development would be partially visible from the western and northern part of the site (Plates 3 & 4).<br>Planting along the western and southern boundaries of the site could reduce the visual impact of the development.<br>Offsetting measures could be employed. The site has recently been investigated and a detailed report produced. As the site is visible from the development and Lôn Eifion, but public access is not possible, an interpretation panel could be erected either within the development boundary or further south on the cycle route.         | Negligible                                    |  |
| TBC           | Earth bank on<br>eastern side of Lôn<br>Eifion | Low            | Moderate | Slight                    | The development would remove approximately 115m<br>of the feature, a significant percentage of the feature<br>would remain unaffected as it continues for a<br>considerable distance to the south.   | Negligible                                    |  |

|     |   |         |            |                | <ul> <li>Following tree felling a topographical survey should be made of the feature and others which may become apparent. A cross section should be excavated across the bank during clearance works to record construction and any other elements which may provide information of date and function.</li> <li>A watching brief should be undertaken during ground clearance to record any previously unidentified features.</li> </ul> |                |
|-----|---|---------|------------|----------------|---|----------------|
| ТВС | Boundary wall on<br>western side of Lôn<br>Eifion | Low     | Negligible | Neutral/Slight | If possible the wall should be avoided and preserved in<br>situ. If the wall is to be removed or altered a full record<br>should be made and the metal posts retained and if<br>possible re-used.   | Neutral/Slight |
| твс | Possible Railway<br>Buildings                     | Low     | Unknown    | Unknown        | It is not known whether any evidence of the buildings<br>remain. A watching brief should be undertaken during<br>clearance works, if archaeological remains are<br>encountered they should be subject to an appropriate<br>level of excavation and recording.   | Negligible     |
| твс | Hendre  | Low     | Unknown    | Unknown        | It is not known whether any evidence of the buildings<br>remain. A watching brief should be undertaken during<br>clearance works, if archaeological remains are<br>encountered they should be subject to an appropriate<br>level of excavation and recording.   | Negligible     |
|     | Buried Archaeology                                | Unknown | Unknown    | Unknown        | Significant multi-period activity has been recorded in<br>the vicinity of the proposed development, it is possible<br>that some previously unrecorded archaeology is<br>present within the proposed development area.   | Negligible     |

| T T |  |
|-----|--|
|     | A watching brief should be undertaken during<br>clearance works, if archaeological remains are<br>encountered they should be subject to an appropriate<br>level of excavation and recording. |



Plate 3: View towards Hen Gastell from southern end of proposed development area, rough extent of site shown, view from north-east



Plate 4: View from Hen Gastell towards proposed development area, view from south-west

# 6 Conclusion

An assessment of the available information has shown that the proposed development would have a significant impact on the Llanwnda Conservation Area which could not be effectively mitigated. A revised assessment of the Conservation Area may assist in fully evaluating the impact of the proposed development.

There would be a minor impact on the Medieval site of Hen Gastell which is in the process of becoming a Scheduled Ancient Monument. It is likely that the impact would be greatest during construction and planting could be used to mitigate any long term visual impact. Impact could be offset by providing publicly accessible interpretation panels at a location where the monument can be seen.

The features identified during the walkover should be recorded in detail, including a topographical survey, before construction work commences. Map regression has shown that buildings were present within the development area during the 19<sup>th</sup> and early 20<sup>th</sup> centuries and evidence of them could remain buried. It is likely that features associated with the Nantlle Railway would be encountered during groundworks, it is also possible that earlier archaeology may survive, a watching brief should be implemented to record any such discoveries.

# 7 Sources Consulted

## 7.1 Archival Sources

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Tithe Map, Llanwnda, 1841 (Digital Scan)

## 7.2 Unpublished Sources

## 7.2.1 Reports

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## 7.2.2 Images and Data

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Natural Resources Wales: LiDAR Data, DTM 1m

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## 7.3 Published Sources

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- 2<sup>nd</sup> Edition 6" County Series 1901
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## 7.4 Websites

Arfon Historic Landscape Characterisation

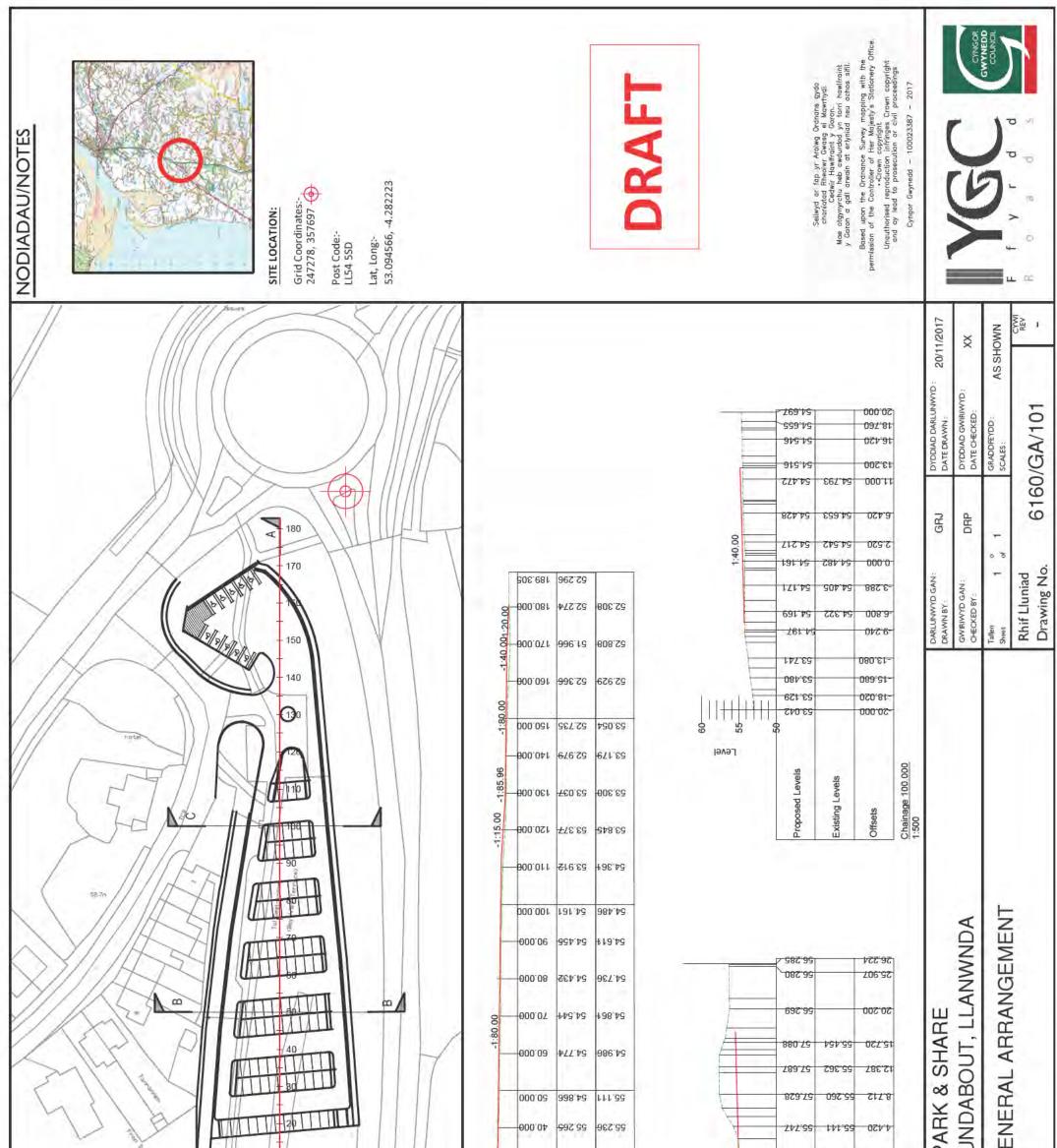
http://www.heneb.co.uk/hlc/arfon.html

British Geological Survey: Geology of Britain viewer www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

Coflein

http://www.coflein.gov.uk/

Appendix I



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