Results of Archaeological Works (Walk Over Survey and Desk Based Assessment)

Penmynydd Farm, Caergeiliog, Anglesey



NGR SH 31781 78854 (Centre Point)

Project Number CR167-2018



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Planning Application Number: National Grid Reference: Client: Report Authors: Report Number: Date: 13C198A/TR/SCR NGR SH 31781 78854 (Centre Point) Mr N. Oldham C. Rees CR167-2018 21-08-2018

Contents

1.0 Introduction

2.0 **Project Aims**

3.0 Scheme of Works – Methodology

- 3.1 Desk Based Research
- 3.2 Walk Over Survey
- 3.2.1 Equipment
- 3.3 Timetable for Proposed Works
- 3.4 Staffing
- 3.5 Monitoring
- 3.6 Health and Safety
- 3.7 The Report
- 3.7.1 Copyright

4.0 **Topographic and Geological Background**

- 4.1 Topography
- Geology 4.2

5.0 **Historical Background**

- 5.1 Prehistoric
- chaeolog' 5.1.1 Prehistoric - Mesolithic/Neolithic (500m Search Radius)
- 5.1.2 Prehistoric Neolithic/Bronze Age (500m Search Radius)
- 5.1.2.1 Prehistoric Neolithic/Bronze Age (1000m Search Radius)
- 5.1.3 Prehistoric Bronze Age (500m Search Radius)
- 5.1.3.1 Prehistoric Bronze Age (1000m Search Radius)
- 5.1.4 Prehistoric Iron Age (500m Search Radius)
- 5.1.4.1 Prehistoric Iron Age (1000m Search Radius)
- Roman (500m Search Radius) 5.2
- Early Medieval (1000m Search Radius) 5.3
- 5.4 Medieval (1000m Search Radius)
- 5.5 Post-Medieval (100m Search Radius)
- 5.6 Multi Period (1000m Search Radius)
- 5.7 Records of Unknown Date
- **Cartographic Sources** 5.8

6.0 **Results of Archaeological Works**

- 6.1 Walkover Survey, Aerial Imagery & Coring
- 6.1.1 Area 1
- 6.1.2 Area 2
- 6.1.3 Area 3
- 6.1.4 Area 4
- 6.1.5 Potential of Site for Geophysical Survey
- 6.2 Results of Examination of the Impact on the Setting of Known Heritage Assets
- 6.2.1 World Heritage Site Status
- 6.2.2 Scheduled Ancient Monuments
- 6.2.3 Listed Buildings
- 6.2.4 Conservation Area
- 6.2.5 Known Sites of Archaeological Interest

7.0 **Discussion of Archaeological Potential**

8.0 Conclusion

9.0 **Bibliography**

Illustrations

Figure 1. Site Location Map

Figure 2. 1840 Tithe Map Boundaries Marked on Current Site Plan

Figure 3. 1901 Ordnance Survey Map of Site

Figure 4. 1920 Ordnance Survey Map of Site

Figure 5. 1949 Ordnance Survey Map of Site

rchaeolog Figure 6. Site Areas and Annotated Constraints on Site Plan

Appendices.

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Appendix A. Specification for Archaeological Works

Appendix B. Proposed Development Plans

Appendix C. Location and Direction of Photographic Plates

1.0 Introduction

C.R Archaeology were instructed by Mr N. Oldham to conduct an Archaeological Desk Based Assessment, Walkover Survey and Geophysical Survey at the proposed site of a tourist development (figure 1). It is proposed that a fishing lake be excavated which will be surrounded by 30 chalets with associated parking, access and drainage works be constructed on the site (see Appendix B).

This document has been prepared to supply the Local Planning Authority Archaeologist with information as to the potential archaeological impacts of the aforementioned scheme.

A specification (included as Appendix A) was written with reference to a brief prepared by Jenny Emmett of GAPS as a methodology for an initial programme of works. It is intended that the results of the works recorded in this document will inform decisions as to the nature of any further archaeological mitigation strategies or evaluation methodologies which may be required at the site.

The site is located immediately to the north of the A55, and to the north-east of Penmynydd Farm, near Ceirgeiliog, Anglesey. The proposed development area is an irregular shape and comprises roughly bounded fields with overgrown hedgerows. The site is currently in use as rough grazing and is heavily rutted and waterlogged in places. There are several prominent rock outcrops and extensive drainage ditches on the site. There is a gas-mains in the south-western area of the site.

It has been noted that evidence of prehistoric activity – primarily in the form of burnt mounds was recorded during archaeological work associated with the construction of the A55 adjacent to Penmynydd Farm. It was however also noted that there may also have been more discreet prehistoric features in this area which were missed due to the nature of the previous site methodologies. This hypothesis is supported by the results of works to the south-east of Penmynydd, which identified evidence of occupation during the early Neolithic, late Neolithic/early Bronze Age, late Roman/early medieval period, and 18th century (GAPS letter. Ref: 1129je01/D3206).

The letter further highlights the high potential for prehistoric archaeology stating "as the proposed development site lies immediately north of a trio of burnt mounds, it may be viewed as having a particularly high potential for associated activity. Work elsewhere on the island has demonstrated that prehistoric occupation is often located at wetland peripheries and in the sheltered hollows between outcrops and drumlins, i.e. in a landscape setting comparable to the proposed development site" (ibid).

Archaeological works at the site will take a phased approach and this first phase is comprised of a desk-based assessment, walk over survey (with coring) and field walking for finds recovery. The desk-based assessment examined the historic context and archaeological potential of the proposed development area and determined the possible impact of the development on the setting of any known heritage assets in the vicinity. The site walkover survey had two functions – the first was to examine any stripped areas for artefacts and the second was to identify areas of higher and lower potential for archaeological remains and to determine the suitability of site areas for geophysical survey.

The results of the works undertaken to date will inform the scope and location of the geophysical survey. Should it be undertaken, the results of the geophysical survey will be compiled in a second report which will be read in conjunction with the first to inform further archaeological mitigation strategies.

Despite intensive investigation, and a systematic walkover no artefactual material was encountered that had been uncovered during the stripping works. The stripping works at the site were extensive, and this together with rock outcrops, drainage ditches, trackways, electricity cables and a gas main have resulted in an area with very limited suitability for geophysical survey.



Figure 1. Site Location Map (Source: OS Open Data Mapping. Contains Ordnance Survey data © Crown copyright and database right [2018])

Although the proposed development site is considered to be in an area of very high archaeological potential it is probable that should any discreet features have been present on the site, they are likely to have been at least partially destroyed by the stripping and subsequent movement of vehicles. On balance it is felt that in general evaluation trenching would also yield limited results unless specifically targeted on higher potential areas such as around the rock outcrops and the wetland area. This is due to issues of access due to the network of drainage ditches and lack of soil cover meaning that over much of the site survival is likely to be very limited and fragmentary and the chances of it being encountered during trenching is low. On balance, should further archaeological mitigation be considered a watching brief to excavate and record any surviving features which may be uncovered, especially around the rock outcrops would yield the best results.

2.0 Project Aims & Objectives

This phase of works for the development site aimed to undertake a desk-based assessment, walkover survey and geophysical (gradiometer) survey. It aimed to examine the potential archaeological resource surviving on the site and to provide information which will be utilised to determine an appropriate methodology for any further archaeological mitigation or evaluation methodologies which may be required.

The first aim of this scheme of works was to undertake desk based historical research exploring the history/archaeology of the site. This information included a HER search, map progression and archival research in order to compile a coherent narrative history of the site and its environs.

The second aim of this archaeological investigation was to undertake a walkover survey. This had two functions – the first was to examine all stripped areas for artefacts, and the location and any concentrations of items collected recorded for later evaluation. The second function of the walkover was to identify areas of higher and lower potential for archaeological remains, and to determine the suitability of site areas for geophysical survey.

The third aim of this initial phase of archaeological works was to undertake a geophysical survey on suitable areas within the proposed development area. Should this be undertaken the results of the geophysical survey will be compiled separately from this desk-based assessment/results of the walkover survey and will be informed by the results of this report.

The objectives of this programme of works were:

- To locate and describe, by means of desktop analysis, a walkover survey, geophysical prospecting archaeological features which may be present within the development area
- To make full and effective use of existing information to establish the archaeological significance of the site
- To help inform future decision making, design solutions, further evaluation & mitigation strategies

The Gwynedd Historic Environment Record (HER), the Royal Commission on the Ancient and Historical Monuments Wales (RCAHMW) database, Bangor University and Anglesey Archives and relevant publications were consulted to compile a record of known archaeological sites in the vicinity. Aerial images were also examined.

It is intended that these documents be utilised to inform further archaeological planning decisions and conditions at the site.

3.0 Scheme of Works - Methodology

The archaeological works detailed in this report were conducted in two sections and each is detailed separately below.

3.1 Desk Based Research

A complete and coherent history of the site was compiled utilising material sourced from Anglesey Archives and the Bangor University Archives. This has allowed as comprehensive a history as possible to be compiled. A full map progression of the area was undertaken. Where appropriate the archive information has been supplemented with information from local libraries and specialist interest websites & journals.

In order to identify the character of archaeological remains in the vicinity of the site, a search of the Gwynedd HER was conducted examining an area within a 1000m radius of the proposed works (the grid reference for the search is taken as the centre point of the development area). The RCAHMW database of the site was also examined. The information collected has been discussed within the main report text. Online Lidar data was consulted as were aerial sources.

The works were carried out accordance with the CIfA Standards and Guidance for Historic Environment Desk-based Assessment (CIfA (Revised 2014).

This material forms the historical background for this archaeological report which also includes the results of the walkover survey.

3.2 Walk Over Survey

Site visits were conducted on 23/04/2018, 17/05/2018, 20/06/2018 and 08/08/2018. A photographic record was compiled which detailed any above ground features and showed the general topography of the site. Further photographs were taken to illustrate the setting of the site. The locations of all features were noted on a site plan.

The site walkover survey had two functions – the first was to examine all stripped areas for artefacts, and to record the location and any concentrations of items collected for later evaluation. The stripped areas of the site were field walked in a systematic grid format and the locations of artefacts/artefact concentrations were to be recorded using a handheld GPS. However, in this instance, no artefactual material was recovered during the fieldwalking at the site.

The second function of the walkover survey was to identify areas of higher and lower potential for archaeological remains and to determine the suitability of site areas for geophysical survey. A site plan was annotated to show the results of this work and these results are discussed in section **6.1.5**.

As it was concluded that a geophysical survey would not be an appropriate evaluation methodology, an alternative method of examining the archaeological potential of the marsh areas on the site was devised. Coring was carried out on the 08/08/2018 using a Dutch auger. The purpose of this work was to establish the presence/absence of peat or water-logged material in the large wet area previously identified in the walk over surveys. A 30m transect was laid across this area on a south-west to north-east axis. Samples were taken every 3m starting at 0m and the results (soil descriptions and depths to natural) were recorded.

3.2.1 Equipment

Photographs were undertaken using a 20 mega-pixel A58 digital camera with a variety of standard and other lenses. Images were captured in RAW format for later processing into high resolution JPG and TIF files. The handheld GPS used was a Garmin GPS Mapper 64.

3.3 Timetable for Proposed Works

The walkover surveys were undertaken on 23/04/2018, 17/05/2018 and 20/06/2018. The coring at the site was undertaken on 08/08/2018. Additional time was allotted for archive research, report compilation and site archiving.

3.4 Staffing

The project was managed by Catherine Rees (BA (Archaeology), MA (Archaeology) Postgraduate Diploma (Historic Environment Conservation) & Matthew Jones (BA (Archaeology), MA (Archaeology).

All staff have a skill set equivalent to the CIFA ACIFA/MCIFA level. C.Vs for all staff employed on the project can be provided on request. All projects are carried out in accordance with CIFA *Standard and Guidance* documents.

3.5 Monitoring

The project was subject to monitoring by Gwynedd Archaeological Planning Services.

3.6 Health and Safety

A risk assessment was conducted prior to the commencement of works and site staff were familiarised with its contents. A first aid kit was located in the site vehicle.

All staff were issued with appropriate Personal Protective Equipment (PPE) for the site work. This consisted of:

- Hi-visibility vests (EN471)
- Mobile Telephone
- Suitable Walking Boots & Waterproofs

All staff will have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363). C.R Archaeology staff will also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

3.7 The Report

The report clearly and accurately incorporates information gained from the programme of archaeological works. It presents the documentary evidence gathered in such a way as to create a clear and coherent record. This includes illustrations of cartographic/pictorial sources. The report contains a site plan showing the locations of photographs taken.

The desk-based assessment considers the following:

- the nature, extent and degree of survival of archaeological sites, structures, deposits and landscapes within the study area
- the significance of any remains in their context both regionally and nationally
- the history of the site including the dates of any buildings on the site
- the potential impact of any proposed development on the setting of known sites of archaeological/historic importance
- the potential for further work with appropriate recommendations

It is intended that this report will inform decisions as to the necessity and/or nature of any further archaeological mitigation strategies which may be required.

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted to GAPS as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

3.7.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project.

4.0 Topographical and Geological Background

4.1 Topography

The eastern site boundary is located immediately to the north of the A55 and is separated from the road by a large earthen bank. The remainder of the site is bounded by hedgerows. It is located on the outskirts of the Caergeiliog. The site is currently in use as rough grazing within an enclosed field boundary system and is characterised by large schist outcrops and areas of marshland.

4.2 Geology

The bedrock geology at the site is recorded as "New Harbour Group - Mica Schist and Psammite. Metamorphic Bedrock formed approximately 541 to 635 million years ago in the Ediacaran Period. Originally sedimentary rocks formed in deep seas. Later altered by low-grade metamorphism. These rocks were sedimentary in origin, possibly graded sediments or turbiditic flows in a deepmarine environment but have subsequently undergone metamorphism" (www.bgs.ac.uk).

The superficial geology is recorded as "Till, Devensian - Diamicton. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions. These sedimentary deposits are glacigenic in origin. They are detrital, created by the action of ice and meltwater, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary" (www.bgs.ac.uk).

5.0 Historical Background

Searches of the Gwynedd Historic Environment Record were conducted at 500m and 1000m radii of the site (central point). The 500m search returned 24 results, 9 of Prehistoric date, 1 of Roman date, 8 of Post Medieval date, 1 of multiperiod date and 5 of unknown date. When the search was expanded to 1000m the search results increased to 42 - 15 of Prehistoric date, 1 of Roman date, 15 of Post Medieval date, 1 of Modern date, 1 of multiperiod date and 9 of unknown date. The large number of entries for the vicinity of this site is however, at least in part, a result of the extensive archaeological works carried out prior to the construction of the A55 which runs adjacent to the proposed development site.

5.1 Prehistoric

There are 9 records of Prehistoric date within a 500m search radius of the development site. When this search area is extended to 1000m the number rises to 15. There are a further 2 sites within the 500m search radius which have been recorded as being of unknown date, but which have descriptions which would allow them to be assigned a secure Prehistoric date. A third site of unknown date is also mentioned as being of a likely Prehistoric date and has been included below.

Of the 18 records discussed below, 11 were generated as a result of the works undertaken on the A55 road scheme. The results of the HER search have been further subdivided by period.

5.1.1 Prehistoric - Mesolithic/Neolithic (500m Search Radius)

Although named "Bronze Age Site, Penmynydd" PRN 61578 relates to a site of Mesolithic/ Neolithic date. It is described as "*Phase I: Neolithic. This phase is tentatively assigned to the late Mesolithic and the Neolithic period on the basis of the pottery and stone tools. Although it has not yet been possible to identify complete structures, there are a number of features which confirm their presence, particularly linear features which appeared in both the assessment trenches and in the main excavation. For example, context 028 consisted of two shallow linear depressions, running east to west, with a single trapezoid inclusion outlined in charcoal, which is typical of a large, split timber burnt in situ.*

Approximately 9 m. to the south a partial structure of stake and post construction, also oriented east to west, had been recorded in assessment trench 148, but it did not survive to be re-excavated. Both features were associated with a spread of very red silt and it is possible that they form part of the same straight sided building. Linear features 004 and the curvilinear arrangement of features 182 to 190 also represent the truncated remains of structures, with a number of round, flat based post holes. Pits were scattered over the area of the excavation, some of which contained dateable evidence in the form of pottery, charcoal and worked stone. Several had burnt bases and are interpreted as having contained a fire. Three of these (151,110 and I 00) have provisionally been interpreted as ovens, and the environmental data will be crucial to this identification. All three were ovoid, had a burnt earth base and had a clear, charcoal filled slot running into them which may have been a flue. Other pits were interpreted as being the base of trees which had been burnt in situ. In one case a tree hole was cut by prehistoric features, thus dating tree clearance to prehistoric times".

PRN 69266 is a group of 17 irregular hollows which may represent Neolithic tree clearance and sherds of Peterborough Ware were found within the features.

PRN 69267 is the site of a possible trough, Caerceiliog. It is recorded as two shallow depressions lined with charcoal which may represent the remains of a timber trough. It has been attributed a Neolithic date.

5.1.2 Prehistoric - Neolithic/Bronze Age (500m Search Radius)

Although recorded as being of unknown date the most likely date for PRN 69273 – a flint scatter find spot, Caergeiliog, is Neolithic or Bronze Age. This site was comprised of an assemblage of 24 flint pieces, 22 worked and 2 with secondary retouch. The context for these finds is uncertain and the majority of the flints were found at the base of the plough soil but that no plough damage was noted. They are interpreted as "*likely transported from elsewhere but worked on site because of the presence waste pieces and cores*".

PRN 69274 (ditches, possible, Caergeiliog) is also recorded as being of unknown date - but it is noted that this entry is possibly of Prehistoric date and related to the adjacent flint scatter. The ditches are shallow and nearly parallel with one measuring 11m in length, and the second 5.2m. The fills of the two ditches were different and it is suggested that they belong to different site phases.

PRN 69268 is a pit, possible, Caergeiliog. It is recorded as being of unknown date although pottery sherds from two vessels – one possibly Peterborough Ware and the other a Collared or Cordoned Urn Were recovered from within the feature. It is also noted that this feature maybe related to PRN 69270, post holes attributed a Bronze Age date.

PRN 69270 is the site of possible postholes, Caergeiliog. Described as a group of Early Bronze Age postholes connected with urn sherds. The interpretation was that these postholes may have been part of a small structure and it was connected with urn sherds.

5.1.2.1 Prehistoric - Neolithic/Bronze Age (1000m Search Radius)

When the search area is extended to 1000m it includes two additional records from this period. Both are artefact findspots although the precise locations where these artefacts were found is not known.

PRN 2575 is a stone axe found at Caer Elen, Bodedern. No further information is provided.

PRN 2524 is a Bronze Agedolerite axe hammer found at Bodowyr. No further information is provided.

5.1.3 Prehistoric – Bronze Age (500m Search Radius)

Within the 500m search radius, 4 of the 12 records are burnt mound sites. PRN's 31812, 31813, 31814 and 31815 all relate to burnt mounds uncovered during the archaeological works undertaken as part of the A55 road scheme.

5.1.3.1 Prehistoric – Bronze Age (1000m Search Radius)

When the search area is extended to 1000m it includes two further burnt mound sites – PRN 31816 (Caer Elen) and PRN 31811 (Ysbylltir).

Also lying within the 1000m search area was PRN 7624 – the findspot of an Early-Middle Bronze Age unlooped palstave which was found in boggy disturbed ground.

5.1.4 Prehistoric – Iron Age (500m Search Radius)

There is a single entry of Iron Age date within the 500m site radius. PRN 69286 – Melin Y Plas, Bryngwran is described as "*at least one roundhouse of presumed Iron Age or Romano-British date*".

5.1.4.1 Prehistoric – Iron Age (1000m Search Radius)

When the search area is extended to 1000m it includes a second Iron Age site – PRN 2517 Enclosure: Caer Helen, Bodedern. This site was recorded in 1997 as "the ploughed out remains of an enclosure which once encircled the low hill, the summit of which is now occupied by a radio mast. Some traces were still visible in 1970, and slight traces are visible on aerial photographs. The age of the enclosure is nor known, but it is assumed to be Iron Age and possibly Roman (c. 500 BC to 350 AD)".

5.2 Roman (500m Search Radius)

The is a single entry of Roman date located within the 500m search radius of the proposed development site. PRN 69276 refers to an irregular hollow associated with late Roman activity uncovered during the A55 works. The description records "*Roman activity indicated by charcoal, burnt root system. Situated close to a similarly dated hearth*".

5.2.1 Roman (1000m Search Radius)

When the search area is extended to 1000m no further sites of Roman date are present.

5.3 Early Medieval (1000m Search Radius)

There are no entries of Early Medieval date recorded within a 1000m search radius of the centre of the proposed development site. It is noted that there have been numerous Early Medieval cemetery sites discovered on Anglesey within the last decade and although there are none recorded in the area their presence is always a possibility.

5.4 Medieval (1000m Search Radius)

There are no entries of Medieval date recorded within a 1000m search radius of the centre of the proposed development site.

5.5 Post-Medieval (1000m Search Radius)

There are 8 entries of Post-Medieval date within 500m of the proposed development site. This rises to 15 when the area is extended to 1000m.

These entries are a mixture of entries identified from historic mapping, possible historic field systems, rubbing stones and historic buildings.

Of particular relevance due to its proximity to the proposed development site is Penmynydd House (PRN 59729) which the land is associated with. It is recorded that "the proposed road passes across the track which connects Perunynydd to the A5. The house is referred to as both Mynydd Machdwn and Mynydd Machdun on the 1762 estate map, but as Mynydd Marchdun in the map schedule; it is referred to as Penmynydd Machno on the first edition 2" ordnance survey map (c. 1820), but is called Penmynydd on the tithe map and the first edition 1" ordnance survey. The drive between the A5 and the house appears to pre-date the construction of the A5 from the way it is indicated on the ordnance survey map, but the approach road to the house is not clearly indicated on the 1762 map".

5.6 Multi Period (1000m Search Radius)

There is a single multiperiod site located within 1000m of the proposed development area. PRN 11074 was an "occupation site" and the entry covers PRN's 69269 & 69272 and was discovered during the works in advance of the construction of the A55. It is recorded as "*The site at Penmynydd contains a number of features of interest, including post-holes, stake holes, pits and a hearth. Their location at the foot of a glacial drumlin is of interest.*

The poorly defined site was excavated as part of the A55 road scheme on Anglesey. Two features were excavated and dated and they at least indicate some form of settlement activity belonging to the later Romano-British and early medieval period. These include a burnt root system which produced a dateable sample of AD130-530, and more significantly, a hearth was identified and dated to AD 340-630. The latter feature may well belong to a post-Roman and early medieval settlement".

5.7 Records of Unknown Date

There are 5 sites of unknown date within the 500m search radius which rises to 9 when extended to 1000m. As discussed above 3 of the sites of unknown date were likely to have been of Prehistoric date.

Other features recorded as being of unknown date were undated archaeological features uncovered during the A55 works, place names and field systems.

5.8 Cartographic Sources

Although Davidson & Riley 1996 mention that Penmynydd Farm is shown on a 1762 Estate Map, this parcel of land originally belonged to Cerrig-y-Baban Farm which is not illustrated on the map.

The report details "The proposed road passes across the track which connects Penmynydd to the A5. The house is referred to as both Mynydd Machdwn and Mynydd Machdun on the 1762 estate map, but as Mynydd Marchdun in the map schedule; it is referred to as Penmynydd Machno on the first edition 2" ordnance survey map, but is called Penmynydd on the tithe map and the first edition 1" ordnance survey. The drive between the A5 and the house appears to pre-date the construction of the A5 from the way it is indicated on the ordnance survey map, but the approach road to the house is not clearly indicated on the 1762 map" (Davidson & Riley, 1996).

The earliest cartographic source identified which shows the proposed development area in detail was the 1840's Tithe. This document shows that the land belonged to Cerrig-y-Baban Farm rather than Penmynydd. The plot of land has been cut off from Cerrig-y-Baban Farm by the construction of the



A55. The plot divisions shown on Tithe have been added to figure 2 which shows that the current field boundaries survive largely intact from this period. The exception is that the boundaries for fields 122 and 124 appear to have changed. This may however be because of an inaccuracy in producing the Tithe rather than a real change and the number of fields remains constant until the 1949 Ordnance Survey map (figure 5) which shows that the boundary between fields 122 and 124 has been removed.

Unfortunately, the Tithe only lists the owner/tenant of the land for this part of Anglesey and neither field names or state of cultivation are recorded. The farm name – Cerrig-y-Baban roughly translates as the baby stones and is presumably a reference to all the low stone outcrops in the surrounding lands. The 1901 Ordnance Survey (figure 3) is partially good at illustrating this and the proposed development area is shown as very rocky.

6.0 Results of Archaeological Works

Figure 6 shows the site layout and for ease of discussion the proposed development site has been subdivided into four areas (marked on the aforementioned figure). The location and direction of photographic plates are marked on Appendix C.

Aerial imagery was examined for the site. The rock outcrops and marshland areas could easily be identified on satellite photographs, as could the field boundaries which are shown on the historic mapping. No additional features were identified.

Lidar data held by Natural Resources Wales covers the study area with the eastern third mapped with a digital spatial model (DSM) at 25cm resolution and the remainder of the site at a resolution of 1m. Again this data was able to accurately show the locations of the schist outcrops and field boundaries but no further features were identified (www.lle.gov.wales/map).

6.1 Walkover Survey

All areas where the ground had been stripped/disturbed were walked over in a grid pattern to search for archaeological artefacts. It had been proposed that the location of any individual finds and concentrations of items would be recorded for later evaluation. Despite intensive examination of the site no artefactual material was encountered, although it must be noted that there was at least some regrowth of rough grass in most areas. Spoil heaps on the site were also examined.

6.1.1 Area 1 (Plates 1 - 4)

The site is accessed from the south-west via a gravel track which widens at the gate. As you enter the site there is small flattened area which is being used for the storage for farm equipment.

Area 1 is defined to the south-west by the remains of a stone wall which is overgrown with shrubs and trees. It is bounded to the west, north-west and north by a large, freshly cut drainage ditch which is approximately a metre in width and a metre and half deep. To the east the area is enclosed by a wire and wooden post fence. There has been some dumping of building materials, stone and metal along the edge of this fence and this area is heavily over grown.

Covering over a third of the area is a large rock outcrop covered in shrubs which is located to the south-west of Area 1.

Running either side of this outcrop are tracks with heavy rutting which show the underlying natural in this area to be a grey clay.

It was clear that, with the exception of the field edges and over the rock outcrop, this area had been topsoil stripped, although new patches of grass had grown in and were well established by the third site visit.



6.1.2 Area 2 (Plates 5 – 12)

Area 2 is defined to the north by the remains of the stone wall which is heavily over grown and has been cut through in two places. Running parallel with the southern side of this wall is a large freshly cut drainage ditch approximately a metre wide a metre and half deep. The sections of this drain cut showed the drain was cut into the underlying grey clay natural and that there was very little other soil cover. It was clear that the majority of this area had been topsoil stripped, although new patches of grass had grown in.

The southern boundary of Area 2 was an earthen bank and beyond that the A55. The southern boundary bank was heavily overgrown with metal material dumped along the eastern edge.

Topsoil stripping had been carried out in Area 2, but it was unclear how far towards the A55 the limits of this stripping had been due to extensive bramble cover. There were at least three spoil heaps dotted along the edge of the southern bank. There were brambles covering a possible rock out crop along this boundary.

The western area has been cut off by a freshly cut drainage ditch approximately a metre wide a metre and half deep. The area inside had been soil stripped. It was not possible to examine the western boundary as it was cut off by the drainage ditch and although a hedgerow was evident, it was unclear as to whether there was an associated wall.

There were two gas mains markers recorded in Area 2, showing the services running parallel to the A55.

6.1.3 Area 3 (Plates 13 – 20)

Area 3 is defined to the south by the remains of the heavily overgrown stone wall. To the west and east it is defined by a large, freshly cut drainage ditch approximately a metre in width and a metre and half deep. To the north this area is bounded by a wire and wooden post fence.

There is a large marshy area with standing water along the eastern boundary of Area 3 and a small marshy area located in the south-western corner.

There four protruding rock outcrops in this area which are heavily over grown with shrubs and bushes. There is evidence of this area having been topsoil stripped and due to the thin soil coverage, this has reached the underlying grey clay natural. Also noted were rutted trackways.

There are the remains of stone walls belonging to previous field boundaries running on a north-south axis.

6.1.3.1 Area 3 Auger Transect

To ascertain more information as to the archaeological potential of the marshland area coring was carried out on 08/08/2018 using a Dutch auger. The purpose of this work was to establish the presence/absence of peat and/or water-logged material within the large wet area identified. It was also considered possible that this method could identify burnt mound deposits.

When the coring was conducted it was following a period of record high temperatures and low rainfall, which together with the excavation of relatively new drainage ditches, had resulted in the water levels at the site being at a much lower level than during the walkover survey, and the area was considerably drier than would be usual.









The marsh area had almost completely dried out at this time showing that, in contrast to the observations made on the previous visits it was not permanently wet (although to what extent this was a result of the newer drainage is unknown) and therefore not favourable to the survival of waterlogged deposits. The unpredictable nature of the current weather and the ground cover does however render it a complicated exercise to undertake geophysical survey of this area, and the observations made as to the unsuitable geology of the site still stand.

A 30m transect was laid across this area on a south-west to north-east axis. Samples were taken every 3m starting at 0m the results are listed in the table below (see also Appendix C). The maximum depth column records the maximum depth that was achieved using the auger not the maximum depth of deposits. In one auger hole (9m point) the coring was continued well into what was believed to be the underlying natural to confirm that this was the case.

SAMPLE	MAXIMUM	DEPTH	DEPOSIT DESCRIPTION/NOTES
POINT	DEPTH	TO NATURAL	
0m	0.50m	0.50m	Mid-brown silty clay
3 m	0.15m	0.15m	Hit a large stone/ outcrop
6m	0.60m	0.50m	Mid-brown silty clay 0.50m/Grey clay with iron panning 0.10m, Hit stone
9m	1m	0.46m	Mid-brown silty clay 0.46m/Grey clay with iron panning 0.54m
12m	0.95m	0.86m	Mid-brown silty clay 0.86m/Grey clay with iron panning 0.09m
15m	0.78m	0.65m	Mid-brown silty clay 0.65m/Grey clay with iron panning 0.13m
18m	0.47m	0.42m	Mid-brown silty clay 0.42m/Grey clay with iron panning 0.05m
21m	0.48m	0.40m	Mid-brown silty clay 0.40m/Grey clay with iron panning 0.08m
24m	0.41m	0.38m	Mid-brown silty clay 0.38m/Grey clay with iron panning 0.03m
27m	0.40m	0.40m	Mid-brown silty clay 0.40m, soil was too dry to be held in the corer
30m	0.47m	0.43m	Mid-brown silty clay 0.43m/Grey clay with iron panning 0.04m, Hit stone

Conclusion

There was no evidence of peat, waterlogged deposits or burnt mound material within the area. No artefacts were recovered from the auger head.

Two contexts were identified below the turf/marsh grass layer. Context (01) was a mid-brown silty clay layer varying in depth between 0.15m and 0.86m, with most deposit depths clustering around 0.40m. Context (02) was a soft grey clay with iron pan inclusions. This was considered to be the natural geology. In three places it was not possible to continue to core below the depths reached (3m, 6m & 30m) due to the presence of stone.

The wet area is low lying and during three of the four site visits was found to be inaccessible due to the standing water. The wet winter and spring may have meant this area was wetter than normal. During the fourth site visit, which was made following a period of record high temperatures and low rainfall, the marsh area had all but dried out demonstrating that whilst it was a generally wet area it was not permanently waterlogged and therefore is unlikely to yield intact waterlogged deposits.

This survey did however reveal that, in contrast to much of the remainder of the site, there are surviving deposits within this area and the top/subsoil has not been stripped.

6.1.4 Area 4 (Plates 21 – 24)

Area 4 is defined by the remains of a heavily overgrown stone wall to the south and by a low fragmentary stone wall running over a rock outcrop to the west. To the east it is defined by a large freshly cut drainage ditch approximately a metre wide a metre and half in depth. The northern boundary was a stone wall which was heavily overgrown with gorse bushes. The south-western corner is marshy with overgrown marsh grass and shrubs. There are two large rock outcrops with thin corridors of land in between. As noted in Area 3, there is evidence of this area having been topsoil stripped and due to the thin soil coverage this reached the underlying grey clay natural. Also noted were rutted trackways and electricity pylons.

6.1.5 Potential of Site for Geophysical Survey

Following initial site visits it was felt that the site presented very limited potential for geophysical survey, with large rock outcrops dominating the area. Other limiting factors include areas of marsh, a gas main, large drainage ditches, areas of dumping and hardstanding and electricity pylons.

In order to confirm this interpretation a second opinion was sought and Thomas Welicome accompanied Matthew Jones to the site on 20/06/2018. The following report was prepared by Thomas following this visit.

Regarding the requirement for a geophysical survey at Penmynydd Farm, Caergeiliog, there are a number of issues with undertaking a survey which I thought I should bring to your attention. I currently undertake geophysical surveys in partnership with C.R Archaeology, and was asked by them to independently assess the potential for geophysics on the site. Having recently visited the site, within the last two weeks, I noted a number of problems that would make geophysical survey a poor choice for determining the level of archaeological potential.

Firstly, approximately half the site is rock outcrop, with extremely thin or non existent top-soils, and completely physically un-surveyable (much of the rock is steeply sloped). The exposed rock is generally igneous (formed by lava) in origin; with some interspersed schist; and as such the survey could be subject to thermoremanent effects which can make geophysics unsuitable (HE Guidelines 2008, 15).

Secondly, almost half the remainder of the site is marshland and due to physical difficulties also unsurveyable (regardless that the underlying geology is probably the same igneous rock, which would explain the poor drainage). Even with the dry weather, parts of the marsh are still waterlogged and the ground is uneven and covered in thick reed beds. Given the slight bowl shape to the area containing the marsh, it seems likely that this may well have formerly been a wetland environment, possibly even a small lake. Gradiometer survey is not recommended over wetland environments (HE guidelines 2008, 16 - 17, and the suggested alternative, GPR could not physically be carried out due to the difficult uneven ground conditions).

The areas of the site not covered by these two issues are primarily around the periphery. A thin section of level ground is present around the southern part of the site, along the boundary with the A55. This is the width of a track (i.e. less width that a $10 \times 10m$ grid), and windy, which would make laying out any grid over this area impossible. This area has also been recently topsoil stripped, which may well, given the nature of the surrounding rock, have removed all but natural deposits. In addition to this there is a gas main running along this section of the development, directly along the route of the track.



An area along the extreme east of the site could potentially be surveyed, although this area has some tree cover, is crossed by a deep drainage ditch, and the area is small, some 4 - 6 grid squares could be squeezed in here, although forming a continuous grid would be difficult. However, once again this area has recently been topsoil stripped (although the foliage has now regrown and would need to be cut prior to survey). Most likely, surviving soils overlie igneous rock, and the results of the survey are therefore likely to be limited; and will not give much insight into any archaeological remains on the site.

Given these restrictions it is my personal opinion that geophysical survey is not a practical method for investigating the sites archaeological potential.

6.2 Results of Examination of the Impact on the Setting of Known Heritage Assets

There are a number of different landscape and site-specific designations of heritage assets which are of direct relevance to the proposed development site. The following section has been subdivided to detail the different statutory heritage designations, protections and considerations which are applicable for consideration when evaluating the possible impacts of the development of the site under consideration.

6.2.1 World Heritage Site Status

There are no sites with World Heritage Status within the site limits. This confirms that the proposed works will have no direct physical impact on this class of heritage asset. There are no World Heritage Sites located in the vicinity of the proposed development site and therefore there will be no indirect impact on the setting of this class of heritage asset.

6.2.2 Scheduled Ancient Monuments

There are no Scheduled Ancient Monuments (SAM) within the site limits. This confirms that the proposed works will have no direct physical impact on this class of heritage asset. In order to examine the potential indirect, visual impact of the scheme on known assets in the vicinity, a list of monuments was compiled using a combination of the analysis of the results of desk-based research and a site visit.

This work determined that there were no SAMs within the vicinity of the proposed development site and that the nearest, AN099 Bodedern Early Christian Cemetery, is over 2500m from the site and does not overlook the proposed development area.

6.2.3 Listed Buildings

There are no Listed Buildings within the site limits. This confirms that the proposed works will have no direct physical impact on this class of heritage asset. In order to examine the potential indirect, visual impact of the scheme on known assets of this type in the vicinity, a list of monuments was compiled using a combination of the analysis of the results of desk-based research and a site visit.

There are 3 Listed Buildings (all Grade II Listed) within a 1000m search area of the proposed development site. They are as follows:

Caergeiliog Chapel, Cadw ID 20418 (Grade II Listed)

Located in a slightly elevated position, set back slightly from the S side of the A5(T) Holyhead Road at the SW end of the village of Caergeiliog. Chapel house is at W side of walled yard to front of chapel; cast iron gate to E.

The original chapel building was constructed in 1780, with re-building and alterations carried out in 1818 and 1872, commemorated by the inscription on a slate plaque set above the entrance.

A single storey, gable entry, Calvinistic Methodist chapel. Walls built with rubble, rendered, with rendered dressings; front angles with stressed quoins. Modern slate roof. Gable entrance front is symmetrically planned; a central round-arched entrance with square-headed doorway under a radial

bar fanlight and flanking, tall, round-arched, slightly recessed windows; openings with moulded hoodmoulds on shaped brackets. Similarly detailed windows to each of the 3 side bays and 2 windows to rear, without hoodmoulds; side windows with slightly stressed keystones.

Entrance leads into small rectangular vestibule with side entrances leading into main body of chapel. Set fawr at entrance end, raised by one step, sub-rectangular with opposing side entrances. Recessed panelling to lower part with turned balusters under a moulded rail above; turned newel posts at entrances. Pulpit is rectangular, raised by 3 steps, similarly detailed to set fawr with advanced central canted bay of recessed panelling. All fittings are of pitch pine, including 3 ranks of raking box pews. Walls are plastered, painted, with the arched window surrounds painted in a darker colour. This is mirrored in the panel behind the pulpit, the arch following the line of the ceiling of the vestibule, forming a central arch with moulded cornice. Ceiling plastered with moulded cornice; each bay with relief moulding of radiating acanthus leaf to each light fitting, similarly detailed central ventilation grilled with moulded, decorative surround.

Listed as a good example of a simple early C19 chapel with later enhancements, which forms a coherent group with the adjacent chapel house (source http://cadwpublic-api.azurewebsites.net /reports/listedbuilding/FullReport?lang=en&id=20418).

Caergeiliog Chapel House with stables and cartshed, Cadw ID 20419 (Grade II Listed)

Located in a slightly elevated position, set back slightly from the S side of the A5(T) Holyhead Road at the SW end of the village of Caergeiliog. Chapel house is at W side of walled yard to front of chapel; cast iron gate to E.

Early C19, probably built when the chapel was re-built in 1818.

A 2-storey, 2-window range with lofted 2-window cartshed at right (N) end. Built with rubble, pebbledashed rendered; modern slate roof with rendered gable stacks with cornices. Principal elevation to house is symmetrically planned with central square-headed doorway (in added porch) under a shallow rectangular fanlight. Windows are slightly recessed 12-pane hornless sashes. Cartshed range with slightly recessed, small-paned, bottom-hung casement windows beneath the eaves and 2 doorways, a double door to left end with single doorway to right.

Listed as a good example of an early C19 vernacular house (notwithstanding alterations) which forms a coherent group with the adjacent chapel (source http://cadwpublic-api.azurewebsites.net /reports/listedbuilding/FullReport?lang=en&id=20419).

Siloh Baptist Chapel and Chapel House with walls, railings and gates, Cadw ID 20420 (Grade II Listed)

Located in the centre of the village of Caergeiliog, set back from the S side of the A5(T) Holyhead Road. The chapel and chapel house are set within enclosed grounds bounded by a low rubble wall with wrought iron railings and gates.

The chapel was founded in 1847, the present building built in 1866; dated by slate tablets set in the wall above the entrance.

A single storey, gable entry Baptist chapel with 2-storey chapel house set back at right angles to the right (W) side. Walls built with rubble, rendered, with rendered dressings; slate roof with ball finials at gable ends. Gable entrance elevation is strongly symmetrical; front angles with stressed, rendered, quoins and a moulded cornice forming a gable pediment. Central segmental-headed entrance with square-headed doorway under a fanlight with radial bars. Flanking windows are slightly recessed,

segmental-headed sashes with glazing bars. Openings with Tuscan architraves supporting moulded hoodmoulds with keystones on shaped brackets. Above the doorway is a slate tablet with roundheaded moulded surround, with a rectangular tablet with shaped surround in the tympanum above. Return elevations each of 2 bays with similarly detailed windows (without moulded architraves), a further 2 windows to the rear. The chapel house is set at right angles to the right (W) side of the chapel. A 2-storey, 2-window range with doorway to the left (E) end and gable stack to right (W). Built of similar materials, ground floor openings with eared architraves; first floor windows, set under the eaves, with plain rendered architraves. Windows are slightly recessed 2-pane sashes. The chapel grounds are bounded by a low rubble wall; front wall rendered with wrought iron railings above. Central gateway with Chinoiserie style gate piers surmounted by ball finials and linked by an ascending arch decorated with fleur de lys finials. Double gates between with round-headed arched head rails, upper rail and lock rails with interspersed railings of differing heights terminating in fleur de lys finials.

Listed as a good example of a simple mid C19 Baptist chapel with a balanced and composed design articulated by finely detailed features; forms a coherent group with the adjacent chapel house (source http://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=en&id=20420).

All three sites are located on the opposite side of the A55 from the proposed development site, and within the small town of Caergeiliog. The proposed development will have no effect on any of the Listed Buildings or upon their settings.

6.2.4 Conservation Area

The site is not located within a Conservation Area. The proposed works will therefore have no direct physical impact on this class of heritage asset. There are no Conservation Areas in the vicinity of the proposed development site and therefore there will be no indirect impact on the setting of this class of heritage asset.

6.2.5 Known Sites of Archaeological Interest

There are no known sites of archaeological interest recorded within the site limits. The proposed works will therefore have no direct physical impact on known examples of this class of heritage asset.

Should there be archaeological remains surviving on the site then it is possible that they would be affected by the development. The area has been shown to be within an area of known high archaeological potential and numerous sites, particularly of Prehistoric date, were identified in the vicinity during the construction of the A55. The topography of the site with its areas of wetland and rock outcrops is of a type which has been shown elsewhere to be a favoured location for Prehistoric activity. It must however be noted that due to the high levels of disturbance on the site through topsoil stripping, drainage trenching and excavation for services that there is a more limited chance of the survival of features on the site and any remains may be heavily truncated.

No remains or artefactual material was noted during the walk over survey and the area is considered to be of very low potential for geophysical survey.

7.0 Discussion of Archaeological Potential

The archaeological works conducted in association with the construction of the A55 have revealed this to be an area with high potential for archaeological remains, especially those of a Prehistoric date.

Numerous burnt mounds sites are known in the surrounding area along with more discreet occupation areas with pits, flint scatters and more ephemeral features also identified. The landscape features favoured by these features – in particular wetland peripheries and sheltered hollows between rock outcrops, are prevalent on the proposed development site and had the site been undisturbed it would have been considered as being of very high potential.

The level of site disturbance does significantly lower this potential and it is likely that features which may have been present would have been either destroyed or heavily truncated. This does not completely negate the possibility of there being areas/pockets of survival – particularly of larger/deeper features but it does lower the archaeological potential of the site.

The areas around the schist outcrops may be considered slightly more favourable to the survival of features although the speed at which the shrub vegetation could regrow may mask stripping here too. Should features survive within the wetland areas then preservation may be good as coring showed this area to be at least partially unaffected by the topsoil stripping elsewhere. The coring did not however reveal any waterlogged or peat deposits and it is therefore unlikely that they survive at the site due to the intermittent drying of the wet areas.

With the extensive topsoil stripping of the site, and where soil profiles are visible in ditch sides there was no evidence that any burnt mounds had been located within the disturbed areas of the site.

8.0 Conclusion

The objectives of this phase of archaeological works were primarily to establish the archaeological significance and potential of the proposed development site and to inform future decision making, design solutions, further evaluation & mitigation strategies.

The conclusion of the works undertaken is that although the proposed development site is situated within an area of very high archaeological potential, particularly for Prehistoric remains, the site-specific conditions act as a limiting factor on their survival.

Despite the extensive topsoil stripping/drainage trenching at the site there was no evidence for burnt mounds encountered during the walkover, and no artefactual material was discovered during intensive fieldwalking.

Coring at the site did not reveal any waterlogged deposits/peat/burnt mound material but it did demonstrate that there were areas of the site which had not been topsoil stripped and the soils in this area were on average around 0.40m in depth, with one test area recording a soil depth of 0.86m.

It was proposed that the walkover survey would identify areas which would be suitable for geophysical survey and an examination of the area was conducted. This concluded that the development site would be extremely unlikely to yield any meaningful results should this form of archaeological mitigation be undertaken due to a combination of negative factors present. If required, further mitigation in the form of evaluation trenching or an archaeological watching brief would likely provide better results and increase the possibility of increasing our understanding of the potential archaeology of this site.

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Specification for Archaeological Works at

Penmynydd Farm, Caergeiliog, Anglesey

NGR SH 31781 78854 (Centre Point)

Project Number CR167-2018



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C.R Archaeology Compiled by C. Rees On Behalf of Mr N. Oldham

Specification for Archaeological Works: Penmynydd Farm, Caergeiliog, Anglesey

Planning Application Number: National Grid Reference: Client: Report Authors: Report Number: Date: 13C198A/TR/SCR NGR SH 31781 78854 (Centre Point) Mr N. Oldham C. Rees CR167-2018 25-04-2018

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Contents

Archaeolog

- 1.0 Introduction
- 2.0 Project Aims
- 3.0 Brief Historical Background
- 3.1 Topography
- 3.2 Geology

4.0 Scheme of Works – Methodology

- 4.1 Desk Based Research
- 4.2 Walk Over Survey
- 4.2.1 Equipment
- 4.3 Geophysical Survey
- 4.3.1 Equipment
- 4.4 Timetable for Proposed Works
- 4.5 Staffing
- 4.6 Monitoring
- 4.7 Health and Safety
- 4.8 The Report
- 4.8.1 Copyright
- 5.0 **Bibliography**

Illustrations

Figure 1. Site Location Map

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Appendix A.

Appendix A. Proposed Development Plans

1.0 Introduction

C.R Archaeology have been instructed by Mr N. Oldham to conduct an Archaeological Desk Based Assessment, Walkover Survey and Geophysical Survey at the proposed site of a tourist development (figure 1). It is proposed that a fishing lake be excavated which will be surrounded by 30 chalets with associated parking, access and drainage works be constructed on the site (see Appendix A).

This document has been prepared to supply the Local Planning Authority Archaeologist with information as to the potential archaeological impacts of the aforementioned scheme.

This specification has been written with reference to a brief prepared by Jenny Emmett of GAPS as a methodology for an initial programme of works. It is intended that the results of the works outlined in this document will inform decisions as to the nature of any further archaeological mitigation strategies or evaluation methodologies which may be required.

The site is located immediately to the north of the A55, and to the north-east of Penmynydd Farm, near Ceirgeiliog, Anglesey. The proposed development area is an irregular shape and comprises roughly bounded fields with overgrown hedgerows. The site is currently in use as rough grazing and is heavily rutted and waterlogged in places. There are several prominent rock outcrops and extensive drainage ditches on the site. There also appears to be a gas-mains in the south-western area of the site.

It has been noted that evidence of prehistoric activity – primarily in the form of burnt mounds was recorded during archaeological work associated with the construction of the A55 adjacent to Penmynydd Farm. It was however also noted that there may also have been more discreet prehistoric features in this area which were missed due to the nature of the previous site methodologies. This hypothesis is supported by the results of works to the south-east of Penmynydd, which identified evidence of occupation during the early Neolithic, late Neolithic/early Bronze Age, late Roman/early medieval period, and 18th century (GAPS letter. Ref: 1129je01/D3206).

The letter further highlights the high potential for prehistoric archaeology stating "as the proposed development site lies immediately north of a trio of burnt mounds, it may be viewed as having a particularly high potential for associated activity. Work elsewhere on the island has demonstrated that prehistoric occupation is often located at wetland peripheries and in the sheltered hollows between outcrops and drumlins, i.e. in a landscape setting comparable to the proposed development site" (ibid).

Initial archaeological works at the site will take a phased approach and will be comprised of a deskbased assessment, walk over survey/field walking for finds recovery and will be followed by a geophysical survey. The desk-based assessment will examine the historic context and archaeological potential of the proposed development area and will determine the possible impact of the development on the setting of any known heritage assets in the vicinity. The site walkover survey will have two functions – the first will be to examine any stripped areas for artefacts, and the location and any concentrations of items collected will be recorded for later evaluation. The second function of the walkover will be to identify areas of higher and lower potential for archaeological remains and to determine the suitability of site areas for geophysical survey.

The results of these works will be compiled into a report which will then inform the scope and location of the geophysical survey. The results of the geophysical survey will be compiled in a second report, which will be read in conjunction with the first to inform the strategies applied should further archaeological mitigation be required.



Figure 1. Site Location Map (Source: OS Open Data Mapping. Contains Ordnance Survey data © Crown copyright and database right [2018])

2.0 Project Aims & Objectives

This phase of works for the development site aims to undertake a desk-based assessment, walkover survey and geophysical (gradiometer) survey. It aims to examine the potential archaeological resource surviving on the site and to provide information which will be utilised to determine an appropriate methodology for any further archaeological mitigation or evaluation methodologies which may be required.

The first aim of this scheme of works is to undertake desk based historical research exploring the history/archaeology of the site. This information will include an HER search, map progression and archival research in order to compile a coherent narrative history of the site and its environs.

The second aim of this archaeological investigation is to undertake a walkover survey will have two functions – the first will be to examine any stripped areas for artefacts, and the location and any concentrations of items collected will be recorded for later evaluation. The second function of the walkover will be to identify areas of higher and lower potential for archaeological remains and to determine the suitability of site areas for geophysical survey.

The third aim of this initial phase of archaeological works is to undertake a geophysical survey on suitable areas within the proposed development area. The results of the geophysical survey will be compiled separately from the desk-based assessment and the results of the walkover survey.

The objectives of this programme of works are:

- To locate and describe, by means of desktop analysis, a walkover survey, geophysical prospecting archaeological features which may be present within the development area
- To make full and effective use of existing information to establish the archaeological significance of the site
- To help inform future decision making, design solutions, further evaluation & mitigation strategies

The Gwynedd Historic Environment Record (HER), the Royal Commission on the Ancient and Historical Monuments Wales (RCAHMW) database, Bangor University and Anglesey Archives and relevant publications will be consulted to compile a record of known archaeological sites in the vicinity. Aerial images will also be examined.

It is intended that these documents be utilised to inform further archaeological planning decisions and conditions at the site.

3.0 Brief Historical Background

The following section is, through necessity, very brief and is intended to merely place the site in context. A more detailed history of the site will form a key element in the proposed works.

The following text has been taken from GAPS letter 1129je01/D3206 dated 29th November 2017. It highlights the prevalence of prehistoric archaeology in the immediate vicinity of the site.

"Evidence of prehistoric activity was recorded during archaeological work associated with the construction of the A55 adjacent to Penmynydd Farm. The recorded sites primarily comprised burnt mounds of Bronze Age date, but representing quite separate phases of occupation within this broad period. The predominance of burnt mounds is likely to have been a product of the constraints of an archaeological watching brief on a road construction: they are robust, easily recognisable features and smaller, discrete and more subtle features such as pits and postholes, typical of prehistoric archaeology, may not have been identified. This is supported by the results of an advance excavation to the south-east of Penmynydd, which identified evidence of occupation during the early Neolithic,

late Neolithic/early Bronze Age, late Roman/early medieval period, and 18th century. The features were found to have been badly truncated by plough damage over many years, and this will have reduced the visibility of such features under construction conditions. A potential can be inferred for prehistoric archaeology throughout the 2km stretch along which the burnt mounds and other evidence were recorded; as the proposed development site lies immediately north of a trio of burnt mounds, it may be viewed as having a particularly high potential for associated activity. Work elsewhere on the island has demonstrated that prehistoric occupation is often located at wetland peripheries and in the sheltered hollows between outcrops and drumlins, i.e. in a landscape setting comparable to the proposed development site".

3.1 Topography

The eastern site boundary is located immediately to the north of the A55 and is separated from the road by a large earthen bank. The remainder of the site is bounded by hedgerows. It is located on the outskirts of the Caergeiliog. The site is currently in use as rough grazing within an enclosed field boundary system and is characterised by large schist outcrops and areas of marshland.

3.2 Geology

The bedrock geology at the site is recorded as "New Harbour Group - Mica Schist and Psammite. Metamorphic Bedrock formed approximately 541 to 635 million years ago in the Ediacaran Period. Originally sedimentary rocks formed in deep seas. Later altered by low-grade metamorphism. These rocks were sedimentary in origin, possibly graded sediments or turbiditic flows in a deepmarine environment but have subsequently undergone metamorphism" (www.bgs.ac.uk).

The superficial geology is recorded as "Till, Devensian - Diamicton. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions. These sedimentary deposits are glacigenic in origin. They are detrital, created by the action of ice and meltwater, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary" (www.bgs.ac.uk).

4.0 Scheme of Works - Methodology

It is proposed that the archaeological works be conducted in three sections and each is detailed separately below.

4.1 Desk Based Research

A complete and coherent history of the site will be compiled utilising material sourced from Anglesey Archives and the Bangor University Archives. This will allow as comprehensive a history as possible to be compiled. A full map progression of the area will be undertaken. Where appropriate the archive information will be supplemented with information from local libraries and specialist interest websites & journals.

In order to identify the character of archaeological remains in the vicinity of the site a search of the Gwynedd HER will be conducted examining an area within a 1000m radius of the proposed works (the grid reference for the search is taken as the centre point of the development area). The RCAHMW database of the site will be examined. The information collected will be discussed within the main report text. Online Lidar data will be consulted if available as will any aerial sources.

The works will be carried out accordance with the CIfA Standards and Guidance for historic environment desk-based assessment (CIfA (Revised 2014).

This material will form the historical background for an archaeological report which will also include the results of the walkover survey.

4.2 Walk Over Survey

A site visit will be conducted and a photographic record will be compiled which will detail any above ground features and show the general topography of the site. Further photographs will be taken to illustrate the setting of the site. The location of any features will be noted on a site plan.

The site walkover survey will have two functions – the first will be to examine any stripped areas for artefacts, and the location and any concentrations of items collected will be recorded for later evaluation. The second function of the walkover will be to identify areas of higher and lower potential for archaeological remains and to determine the suitability of site areas for geophysical survey.

The stripped areas of the site will be field walked in a systematic grid format and the locations of artefacts/artefact concentrations will be recorded using a handheld GPS.

4.2.1 Equipment

Photographs will be undertaken using a 14.2 mega-pixel Sony A350 or a 20 mega-pixel A58 digital camera with a variety of standard and other lenses. Images will be captured in RAW format for later processing into high resolution JPG and TIF files.

The handheld GPS to be used is a Garmin GPS Mapper 64.

4.3 Geophysical Survey

The areas to be covered by the geophysical survey will be determined by the results of the walkover survey. The first report of the works will include a plan detailing suitable/unsuitable areas for geophysical survey. Therefore the precise location and scope of the works will be separately agreed with Jenny Emmett of GAPS prior to the commencement of the geophysical survey.

Prior to the commencement of works a brief written record of the site will be compiled. This will include a note on any features/elements which may have an impact on the survey results - for example weather, geological features, fencing & overhead cables.

The survey will be carried out in accordance with English Heritage's guidance "Geophysical Survey in Archaeological Field Evaluation" (2008) and the CIfA "Standard and Guidance for Archaeological Geophysical Survey" (2011 Revised 2014).

A survey grid will be established over the site, orientated to provide a best possible fit to the area to be surveyed and to minimise the effects of the slight slope of the ground level on the site. Grids will be walked using a zig-zag method, for maximum speed.

4.2.1 Equipment

The survey will be undertaken using a Bartington Instruments Grad601 fluxgate gradiometer, with dual gradiometer setup. This comprises of two Grad-01-1000L cylindrical gradiometer sensors mounted on a rigid carrying bar with a 1m separation. The grid location will be surveyed using a Leica TCR 1100+ Total Station.

The proposed survey settings for the gradiometer will be as follows:

Sensitivity: 0.1nT Sample Interval: 0.25m Traverse Width: 1m Traverse Method: Zig-Zag Grid Square Size: 20x20m where possible, downsized to 20x10m where necessary It must however be noted that these settings may be have to be adjusted dependant on ground conditions but all changes will be recorded.

Archaeosurveyor will be used to download and manipulate the geophysical data. Minimal processing will be applied to all images to ensure no false results are created by excessive image manipulation. Data will be downloaded to a portable computer during each rest period for the course of the day, to ensure data integrity and check ongoing results.

4.4 Timetable for Proposed Works

It is envisaged that the walkover survey, archival research and site visit will be undertaken as soon as possible. In order to allow time for the geophysical survey area to be determined and approved, it is likely that this element of the project will be undertaken in June/July 2018. Time has been allotted for archive research, report compilation and site archiving.

4.5 Staffing

The project will be managed by Catherine Rees (BA (Archaeology), MA (Archaeology) Postgraduate Diploma (Historic Environment Conservation) & Matthew Jones (BA (Archaeology), MA (Archaeology). The geophysical survey will be conducted by Matthew Jones (C.R Archaeology) & Thomas Wellicome (Archaeological Landscape Investigations Ltd, (BA, Msc, ACIFA).

All staff will have a skill set equivalent to the CIFA ACIFA/MCIFA level. C.Vs for all staff employed on the project can be provided on request. All projects are carried out in accordance with CIFA *Standard and Guidance* documents.

4.6 Monitoring

The project will be subject to monitoring by Gwynedd Archaeological Planning Services. A projected time-scale and copy of the risk assessment can be provided on request to the monitoring body prior to the commencement of works.

4.7 Health and Safety

A risk assessment will be conducted prior to the commencement of works and site staff will be familiarised with its contents. A first aid kit will be located in the site vehicle.

All staff will be issued with appropriate Personal Protective Equipment (PPE) for the site work. Initially this is anticipated to consist of:

- Hi-visibility vests (EN471)
- Mobile Telephone (to be kept in site vehicle)
- Suitable Walking Boots & Waterproofs

Any further PPE required will be provided by C.R Archaeology

All staff will have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363). C.R Archaeology staff will also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

4.8 The Report

The report will clearly and accurately incorporate information gained from the programme of archaeological works. It will present the documentary evidence gathered in such a way as to create a clear and coherent record. This will include illustrations of any cartographic/pictorial sources. The report will contain a site plan showing the locations of any photographs taken.

The desk-based assessment will consider the following:

- the nature, extent and degree of survival of archaeological sites, structures, deposits and landscapes within the study area
- the significance of any remains in their context both regionally and nationally
- the history of the site including the dates of any buildings on the site
- the potential impact of any proposed development on the setting of known sites of archaeological/historic importance
- the potential for further work with appropriate recommendations

In accordance with English Heritage guidelines the geophysical survey results element will include:

- a survey location plan demonstrating relationships to other mapped features (minimum scale 1:2500);
- an image of minimally processed survey data (minimum scale 1:1000);
- where appropriate a trace (or X–Y) plot of raw magnetic data
- a greyscale plot, or dot density plot (minimum scale 1:1000);
- one or more interpretative plans/diagrams (minimum scale 1:1000).

It is intended that this report will inform decisions as to the necessity and/or nature of any further archaeological mitigation strategies which may be required.

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted to GAPS as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

4.8.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project.

5.0 Bibliography

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www.bgs.ac.uk/geologyofbritain/home.html www.data.gov.uk/data/map-preview www.ordnancesurvey.co.uk

- JORYTIC

Appendix A. Proposed Development Works

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Appendix B. Proposed Development Works

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10/08/2017













Appendix C. Location and Direction of Photographic Plates

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