

# Snowdonia Business Park, Penrhyndeudraeth

## Archaeological Assessment



Ymddiriedolaeth Archaeolegol Gwynedd  
Gwynedd Archaeological Trust

# Snowdonia Business Park, Penrhyndeudraeth

## Archaeological Assessment

Project No. G2365

Report No.1164

Prepared for: Cyngor Gwynedd Council

February 2014

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Published by Gwynedd Archaeological Trust  
Gwynedd Archaeological Trust  
Craig Beuno, Garth Road,  
Bangor, Gwynedd, LL57 2RT

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Mae Ymddiriedolaeth Archaeolegol Gwynedd yn Gwmni Cyfyngedig (Ref Cof. 1180515) ac yn Elusen (Rhif Cof. 508849)  
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## SUMMARY

*Gwynedd Archaeological Trust has been asked by Cyngor Gwynedd Council to complete an Archaeological Assessment of a 3.44 ha L-shaped plot within the Snowdonia Business Park, Penrhyndeudraeth, Gwynedd (centred on **NGR SH60253833**).*

*Gwynedd Archaeological Planning Services (GAPS) have requested an archaeological desk-based assessment and walkover survey to be undertaken in accordance with guidelines set out in Planning Policy Wales 2012 and Welsh Office Circular 60/96 (Planning and the Historic Environment: Archaeology).*

*The archaeological assessment identified an area of post-medieval agricultural activity that had been encroached by modern development. The surrounding area was characterised by post-medieval industrial development and prehistoric findspots. The identification of a peat bed 170m to the north of the assessment area during the Tremadog, Porthmadog and Minffordd Bypass Scheme, suggested the potential for similar activity within the assessment zone. Due to the limited improvements within the assessment zone and the potential for undisturbed below ground remains, it is recommend that a staged programme of archaeological evaluation is completed prior to development, as well as a record of all upstanding remains and walls. An assessment and analysis strategy for potential peat deposits is also recommended prior to development. Based on the results of the evaluation stage, an appropriate mitigation strategy is also recommended.*

## 1. INTRODUCTION

Gwynedd Archaeological Trust has been asked by *Cyngor Gwynedd Council* to complete an Archaeological Assessment of a 3.44 ha L-shaped plot within the Snowdonia Business Park, Penrhyndeudraeth, Gwynedd (centred on **NGR SH60253833**; Figure 01). The plot is currently vacant pastureland at the southern end of the business park. The assessment will be completed as part of the pre-planning process for a special education centre.

Gwynedd Archaeological Planning Services (GAPS) has prepared a mitigation brief for the scheme (ref. D1773; reproduced as Appendix I) and have requested an archaeological desk-based assessment and walkover survey to be undertaken in accordance with guidelines set out in *Planning Policy Wales 2012* and *Welsh Office Circular 60/96 (Planning and the Historic Environment: Archaeology)*. The mitigation brief states that the assessment will use “existing information to establish the archaeological significance of the site; to assess the impact of the development proposals on surviving monuments or remains; and to help inform future decision making, design solutions and potential mitigation strategies” (D1773: 02).

Gwynedd Archaeological Planning Services will monitor the works and will be responsible for advising the Local Authority on the suitability of the work recommended and subsequently undertaken.

This assessment will also conform to the guidelines specified in *Standard and Guidance for Historic Environment desk-based assessment* (Institute for Archaeologists, 1994, rev. 2001, 2009, 2011 and 2012).

## 2. DESIGN BRIEF AND SPECIFICATION

GAT has prepared a project specification that details the methodology and assessment criteria used for the current report (GAT, January 2014; reproduced as Appendix II).

A desk-based assessment is defined as 'a programme of assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater. It consists of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate'. (*Standard and Guidance for Archaeological Desk-based Assessment*, IFA 2001{revised 2012}, 2). This report follows the criteria laid down in this guidance document.

The aims of the assessment as given in the specification are:

- to identify and record the cultural heritage within the defined study area;
- to evaluate the importance of what has been identified;
- to recommend ways in which impact upon the cultural heritage can be avoided or minimised.

To comply fully with the aims expressed above it can be necessary to undertake a programme of Field Evaluation following the Desktop study and Field Visit. This is because some sites cannot be assessed by desktop or field visit alone, and additional fieldwork is therefore required. This typically takes the form of geophysical survey or trial excavation, although measured survey is also a possible option. A full programme of assessment and evaluation may therefore consist of:

- Desktop study
- Field walkover
- Initial report
- Field evaluation
- Draft report
- Final report

**This phase of the project concerns the first three phases, and recommendations are made concerning further archaeological evaluation and/or mitigation.**

### **3. METHODS AND TECHNIQUES**

#### **3.1 Desk top study**

The desktop study comprised the consultation of maps, documents, computer records, written records and reference works, which form part of the Historic Environment Record (HER), located at Gwynedd Archaeological Trust (GAT), Bangor. The archives held by Gwynedd Archives, Dolgellau and Bangor University were also consulted. Information about listed buildings was consulted by means of the CARN (Core Archaeological Index), which is the online index of the Royal Commission on Ancient and Historic Monuments, Wales.

The desk-based archaeological assessment studied a 500m wide radius of the site with significant contextual archaeological sites from further afield. The field walkover survey subsequently targeted the 3.4 hectares proposed development area.

Sites and find spots listed in the regional HER were identified (Figure 1), with PRN referring to the unique Primary Record Number given to each individual site.

#### **3.2 Field Search**

The field search was undertaken on 13th February 2014, in the area of the proposed development. Notes were taken, sketches and measurements were taken of sites of potential archaeological interest and a photographic record was made. Weather was fine for a site visit and ground conditions were waterlogged in the marshy areas and there were fallen trees in the area due to the recent storms and gale force winds. There was an area of overgrown bracken that was difficult to survey and a wooded area along to the south east and south west of the area which was unattainable due to health safety concerns, such as steep slopes and fallen trees and lack of visibility.

#### **3.3 Report**

The available information was synthesised to give a summary of the archaeological and historic background and of the assessment and recommendations, as set out below. The separate features, their evaluation and recommendations are listed separately, and a summary of the overall assessment of the area is given at the end.

The criteria used for assessing the value of features was based upon those used by the Secretary of State for Wales when considering sites for protection as scheduled ancient monuments, as set out in the Welsh Office circular 60/96.

## **4. ARCHAEOLOGICAL RESULTS**

### **4.1 Geology and Topographic description**

The area had quite a number of undulations and small bedrock outcrops littered throughout the locale. There was an area of very wet marsh and reeds to the north close to the two man made pond features. A dry stone wall runs along the south and curves towards the north. There is a wooded area to the south east of the vicinity which slopes down towards the south east and another wooden/overgrown area to the south west.

There are three definable landscapes in close proximity to the proposed development area, the upland areas to the north and the west of close by Tremadog, the reclaimed Traeth Mawr, and the Penrhyndeudraeth Peninsula. The former and latter areas are rugged rocky terrain but Traeth Mawr (the Great Sand) is flat reclaimed estuary land.

The geology of the immediate area is bedrock of Dol-cyn-afon formation of mudstone and siltstone forming sedimentary bedrock. This formed approximately 479 to 488 million years ago. The area would have previously been dominated by open seas with pelagite deposits. These were made on the deep ocean floor and often consist of mine material from pelagic organisms ([www.bgs.ac.uk](http://www.bgs.ac.uk))

The geology of the surrounding area has been little altered since the end of The Great Ice age some 11,000 years ago and the main changes have been due to slight subsidence of the land. Between the coastline of Criccieth and Porthmadog and up to five miles inland is a small triangular outcrop of Upper Cambrian rocks with an outcrop of intrusive igneous rock close to Porthmadog itself. This is the site of Minffordd Quarry, which is a granite quarry and was open for setts in the 1870's (Bassett and Davies 1977).

Traeth Mawr was once the estuary of the Afon Glaslyn, with a western bulge where the Nant yr Afon Oer formerly entered the sea. The breadth of the estuary was not related to the size of the rivers but to the fact that these valleys were originally carved out by glaciers. The mouth of the estuary was blocked by the building of an embankment (known as the Great Embankment or the Cob) by William Madocks in the early 19<sup>th</sup> century and the land was reclaimed as farmland. Until recently the only information about the marshes prior to reclamation was on large-scale maps such as John Evans' 1797 map of Wales. A map, drawn by John Salter in 1775, was recently discovered in the Penmaen Ucha Estate papers at the Dolgellau Record Office. This shows Traeth Mawr in detail and is remarkably accurate for its time. It shows the extent of the marshes and sands and the course of the river along with roads, crossing points and early embankments (Parry *et al* 2013).

### **4.2 Archaeological and historical background**

#### *4.2.1. Prehistoric and Roman sites*

PRN refers to the Primary Record Number of the Gwynedd Historic Environment Record. The known distribution of sites of the Neolithic and Bronze Age periods tends to be concentrated on the better agricultural lands south and west of Moel y Gest, the large hill that dominates the west side of Traeth Mawr. These include the three Neolithic chambered cairns of Cist Cerrig (PRN 218), Caerdyni (PRN 1291), and the site of a possible cairn on the coast at Garreg Wen Fach (PRN 1433). Though no Neolithic settlement sites are known, they are most likely to be found in the vicinity of the cairns, that is on the lower lying ground south of Moel y Gest, where a polished stone axe has been found (4065). The megalithic tradition continued into the Bronze Age, and several standing stones survive

(PRN 192, 1300, 1381, 2360) and a possible stone circle (PRN 1383). Cremation burials of the Bronze Age have been found on slightly higher ground to the west (PRN 2377, 2378). Cup marks (round depressions cut into a stone, sometimes with a 'ring' around them) are usually dated to this period, and can be found at several sites in the area, including Cist Cerrig (PRN 218) and Llannerch (PRN 2294). On the route of the scheme, field evaluation at Y Bryn undertaken as part of the EIA process carried out for the 1993 Preferred Route, recovered a number of flint fragments diagnostic of the late Mesolithic and early Neolithic period. The excavation report (Hopewell 1995) concluded that 'the topographic situation ... a low knoll overlooking a broad flat valley floor, would be very suitable for temporary occupation during Later Mesolithic or Neolithic hunting/gathering'.

Finds of Later Bronze Age metalwork include four axes (PRN 2380, 4061, 4181, and 4347) and a sword (PRN 4180). Three of these, including the sword, were found on lower lying ground on the east side of Traeth Mawr, two close together (4181 and 4347) at Penrhyndeudraeth with 4181 findspot located 290m to the south west of the proposed development area. On the higher ground, to the far west of the assessment area, are three burnt mounds, all probably of later Bronze Age date (PRN 1302, 4055, 5773). A trackway (PRN 3887) represented by an earthwork is also located where the Bronze Age axe head PRN 4181 was located, however it is of unknown date.

Settlement within the late Prehistoric and Roman-British periods is considerably more extensive. These are found in both lowland and upland contexts, with a particular distribution around Moel y Gest, which is surmounted by a hillfort (PRN 1290) associated with several round houses. Some of these settlements lie close to the sides of the estuary, including that at Ty'n y Berllan (PRN 1192), and a settlement on Ynysfor (PRN 2392). Immediately north of the proposed roundabout at the Tremadog / Penmorfa end of the scheme at SH55734041, is the site of a Roman bath-house (PRN 1380 and Scheduled Ancient Monument Cn 174). The site was discovered in the 19th century, and excavated in 1908 (Breeze and Anwyl 1909). The site is not visible above ground, although much of it is preserved below ground.

The Roman road between the forts of Segontium (at Caernarfon), via Pen Llystyn (at Bryncir 12km to the north-west of the scheme) and on to Tomen y Mur (near Trawsfynydd 13km to the east) is likely to have passed close to this point, though the exact crossing of Traeth Mawr has not been located. It has been suggested that the bath-house at Tremadog was associated with a *mansio* (an official government maintained stopping place) for official travellers along the road. It is also possible the iron ore at Bryn y Garreg Haiarn was being exploited at this time, and that the bath-house formed part of a settlement associated with the mines.

The closest Roman Road is located directly to the north and is located approximately 180m from the proposed development. It is part of a Roman Road, Segontium to Pen Llystyn to Tomen y Mur (PRN 17821).

Excavations in 2006 at Tremadog (Kenney 2006) in advance of the new hospital at Llidiart Yspytty discovered a Romano-British corn-dryer on a natural shelf to the north-west of the Roman bath-house (PRN 19661). Excavations in 2010 at Y Bryn, Tremadog, located a Roman Lime kiln (PRN 34844), most likely to be associated with the Roman bath-house, and a stock pile of used Roman Roofing slate (PRN 34845) both likely to be associated with the Roman bath-house (PRN 19661) (Parry *et al*, 2013).

#### 4.2.2 Medieval

The area lies within the Commotes of Eifionydd and Ardudwy-is-Artro, which once formed part of the Cantref of Dunoding. The proposed development area lies within the medieval township of Penrhyndeudraeth, and the parish of Llanfihangel-y-Traethau.

There are no known Medieval sites located near the development site, however, south-west of Minffordd at SH58833715 is the castle of Aber Ia, within the grounds of Portmeirion, a 12<sup>th</sup> century motte, and possibly the stronghold of Gruffydd ap Cynan mentioned by Giraldus Cambrensis (Avent 1983).

Traeth Mawr is mentioned in The Mabinogion in the tale of Math son of Mathonwy. The story tells of conflict and battles over who would be lord of Gwynedd. Math of Gwynedd and Pryderi of the South were at a truce when they travelled together until they reached the Traeth when at Y Felenrhyd 'the men on foot could not be restrained from shooting at each other' (Jones and Jones, 1963, p59).

#### *4.2.3 Post-Medieval and Modern*

There are a number sites on the HER within the 500m radius catchment area which are post-medieval in origin. They include two quarry sites, Bron Turnor Quarry to the north (SH60203870)(PRN 20668) and Meusydd Llydain Quarry (SH60503890)(PRN 20669) to the north east. An Ancient trackway (NPRN 23632) is also noted to the south west and has been deemed post-medieval in date.

There are three Grade II Listed Buildings within the 500m radius, Minffordd Railway Station (SH6001638540), (LB 26888), (PRN 41330/PRN34944), 19<sup>th</sup> century in origin to the north of the site, the former Ffestiniog Union Workhouse, now Bron-y-Garth hospital (disused) (SH6032338661), (LB 5222) (PRN 21176) and the north block of Bron-y-Garth hospital (disused) (SH6032138716), (LB 26882, both post medieval in origin.

There were various attempts to reclaim parts of the estuary at Traeth Mawr from as early as 1485, particularly around Penmorfa and Llanfrothen, but also on the southern side of the estuary (Lewis 1989). By the 17<sup>th</sup> Century the land on the south side of Traeth Mawr was in the hands of a cadet branch of the Anwyl family of Parc, based at Plas Newydd. The 18<sup>th</sup> century naturalist and author Thomas Pennant describes Traeth Mawr as 'a large extent of sands...of most dangerous passage to strangers, by recon of the tides which flow here with great rapidity' (Pennant 1991, 193). Pennant also recollected a scheme to reclaim the estuary and Traeth Bychan designed by Sir John Wynne in 1625 (Moore 1997).

Large estates continued to dominate the area well into the 19<sup>th</sup> century, with the lands of the Anwyls of Plas Newydd passing into the hands of the Mostyn estate, and the purchase of the Penmorfa estate, including the house of Tan-yr-Allt and lands bordering the Glaslyn estuary, from the Rhiwlas estate by William Alexander Madocks in 1798 (Beazley 1985, p55).

The arrival of Madocks proved to be a great watershed in the development of the area. His work has bequeathed one of the most remarkable 'improved' landscapes in Wales or indeed Great Britain, and succeeded in laying strong foundations for subsequent prosperity in the 19<sup>th</sup> and 20<sup>th</sup> century. His plan contained three related elements: the reclamation and enclosure of Traeth Mawr in order to increase his agricultural holding, the creation of a planned urban settlement, and development of the area's industrial, mineral and transport potential (Beazley 1985).

Efforts to connect the new port of Porthmadog with the productive Ffestiniog and Moelwyn slate quarries failed several times, but eventually in 1832 the Ffestiniog Railway Bill was

passed and by 1836 the Ffestiniog Railway was opened along a route surveyed by James Spooner. The line was initially gravity and horse worked, steam traction being introduced in 1863 by James Spooner's son Charles to cope with increased traffic. This latter event was the precursor of steam railways throughout the industrial world, making use of the first bogie rolling stock in Britain (Boyd 1972).

In 1842 the proposed development area was noted on the tithe map and apportionment of the parishes of Llanfihangel-Y-Traethau and Llandecwyn (Gwynedd Archives, Dolgellau, Figure.2). The land, centred on field number **1568**, can be seen to include patches of marshy or unimproved ground, and to form part of a field system of small to moderate sized mixed regular and irregular fields. The field names indicate the presence of a significant amount of marshy ground, indicated by the *Cors* place name. Field number **1594** is likely to have had a barn in it at one time (*Ysgubor* in Welsh), and field number **1588** is likely to have had a well within it (*Ffynnon* in Welsh). The land was at that time part of Cae Dynyfed farm, and was the property of George Casson, being farmed by Thomas Griffith. George Casson was the owner of the Diphwys Quarry in the district of Festiniog and a significant landowner in the area. The quarry had been opened in about 1765 and was bought with others by Thomas Casson, George's grandfather, in 1800 (Gwynedd Archives Z/DCH, 2).

The tithe schedule for the proposed development and the immediate surrounding area is given below, with the field numbers corresponding to those shown on the Tithe Map (figure 2)

**Table 1 Tithe Apportionment for the Parishes of Llanfihangel Y Traethau and Llandecwyn**

Landowner	Occupier	Plan Nos.	Name and Description of Land and Premises	State of Cultivation	Quantities in Statute Measure		
					A	R	P
			<i>Cae Dynyfed</i>				
George Casson Esq.	Thomas Griffith	1568	Cae Mawr Gwrth Yngang	Arable	5	3	35
		1570	Cors Cae Yngang	Arable	5	-	20
		1571	Cors Mawr	Arable	1	2	-
		1572	Cae Bruen Isa	Arable	2	3	31
		1588	Cae Ffynnon	Woody Pasture	1	2	27
		1594	Cae Ysgubor	Arable	2	1	17
		1595 a	Cors Adda	Woody pasture	1	1	12
		1597	Cors Gwarle	Pasture	1	-	29
		1598	Cae bach	Pasture		2	14
		1616 a	Tyddyn Eithin	Arable	1	1	24

The Ffestiniog Union Workhouse was built to the north of the development area in 1839 at a cost of £3,200 (PRN 12,630; NGR SH 60353865). The workers are known to have quarried the land for stone within Minfford and Penryndeudraeth. The workhouse in more recent times became Bron Y Garth Hospital. In the mid-19<sup>th</sup> Century, improvements on the south side of the estuary were largely undertaken by David Williams, a lawyer, businessman and Liberal MP for Merionethshire, who lived at nearby Bron Eryri (later Castell Deudraeth). He bought some of the marshlands alongside the estuary in 1853, and set about draining them.



He built new roads between Rhos and Ty Obry and between Minffordd and Groeslon Glynen, and built, or sold land for building, to create much of the present village of Penrhyndeudraeth (Parry *et. al.* 2013).

The Merioneth County Series First Edition 25 inch Ordnance Survey map of 1889, sheet XI.13 (figure 3) shows that the fields have been improved, and are set within medium sized rectangular fields, which date from after the compilation of the Tithe Map of 1842. The well indicated on the Tithe Apportionment is shown in the first edition OS map represented by a 'W' (figure 3). The Cambrian Coast Railway, crossing the Traeth on its way to Pwllheli opened in 1867, and cuts across the land to the west of the development area (Lloyd 1958, 141). A probable farm building is shown within the development area, with a Trackway leading to it from Cae Dynyfed to the north, suggesting that the land is still at this time being farmed from it (features 10 and 7).

The proposed development area lies within the area of land that was taken out of the medieval parish of Llanfihangel Y Traethau to form the civil parish of Penrhyndeudraeth in 1897. Development in the wider area has continued apace in the 20<sup>th</sup> century, including in recent times the development of the Snowdonia Business Park and the A487 Porthmadog, Minffordd and Tremadog Bypass (Parry *et. al.* 2013).

### **4.3 Statutory and non-statutory designations**

Sites on the Gwynedd HER within 500m of the study area are listed in [Appendix IV](#). The area is located approximately 250m north of Snowdonia Nation Park boundary. There is very little evidence of prehistoric sites in the vicinity but there are two, quite close, Bronze Age axe find spots suggesting an important ritual activity.

Morfa Harlech is considered one of the most important actively growing dune systems in Britain and is highly protected, forming part of the Morfa Harlech site of Special Scientific Interest (SSSI). The site lies 160m outside the boundaries of this SSSI to the south ([www.ccgc.gov.uk](http://www.ccgc.gov.uk)).

The site is not located within a landscape of outstanding or special historic interest, as defined in Cadw's 1998 *Register of Landscapes of Outstanding Historic Interest in Wales*. However it is located less than 200m away from its boundary.

## 4.4 Definition of category of importance

To assess the importance of sites and to allow the appropriate mitigatory action to be proposed for each, a framework of categories will be used with each site allocated to a particular category according to its relative importance:

### Category A - Sites of National Importance.

This category includes Scheduled Ancient Monuments and Listed Buildings (Grade I and II\*) as well as those sites which would meet the requirements for scheduling (ancient monuments) or listing (grade I and II\* and certain grade II) or both.

Sites that are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.

### Category B - Sites of Regional Importance

These sites are those which would not fulfil the criteria for scheduling, but may include Listed Buildings at grade II. They are sites of particular importance within the region. Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be an acceptable alternative. Sites that are Listed have legal protection, and it is recommended that all listed buildings are preserved *in situ*.

### Category C - Sites of District or Local Importance

These sites are not of sufficient importance to justify a recommendation for preservation if threatened, but nevertheless merit adequate recording in advance of damage or destruction.

### Category D - Minor and Damaged Sites

These are sites which are of minor importance or are so badly damaged that too little remains to justify their inclusion in a higher category. For these sites the most appropriate mitigation is often rapid recording either in advance or during destruction.

### Category E - Sites needing further investigation

Sites, the importance of which is as yet undetermined and which will require further work before they can be allocated to categories A-D, are temporarily placed in this category, with specific recommendations for further evaluation. This category can also apply to areas as well as to individual sites.

## 4.5 The Archaeological Survey

The feature listed below (located on figure 3) was identified during the survey, with recommendations for further assessment and mitigatory measures, where appropriate. The recommendations reflect the information currently provided Cyngor Gwynedd Council, and assume impact only within the development zone defined by Cyngor Gwynedd Council. Any change to the boundary of the proposed development area will require the recommendations below to be changed also.

### Feature 1 Trackway (Plate 1)

SH 6015038288 (C)

Period: Post-medieval

Category: C Impact: Likely

A 2.0m wide trackway (approx.). Curves towards a modern rusty iron gate. Possibly part of the Trackway located on the The Merioneth County Series First Edition 25 inch Ordnance Survey map of 1889, sheet XI.13 (Figure 4). Trackway is still in use by the farmer and leads to, the now very modern tarmac path and road of the business park.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Basic recording prior to construction

### Feature 2 Possible modern dump (Plate 2)

SH 6015138284

Period: modern

Category: D Impact: Likely

An area of dumped concrete slabs measuring approximately 4.0m in diameter with long grasses and moss growing on and amongst them. Concrete slabs measure approximately 0.20m thick.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** None

### Feature 3 Gateway (Plate 3)

SH 6018638260

Period: Post-medieval

Category: C Impact: Likely

A gateway in dry stone wall Feature 4. It measured approximately 3.0m wide and leads from the proposed development area to a field to the south. Large schist stones have been used to create stable ground for livestock and farm vehicles between steel posts set into concrete measuring 1.15m high.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Basic Recording prior to construction

### Feature 4 Dry Stone Wall (Plate 4)

SH 6039138317

Period: Post-medieval

Category: C Impact: Likely

A dry stone wall with gateway feature 3 within it. The wall is approximately 2.0m high and measures 0.5m across. It forms the south and east boundary of the proposed development area. It is made up of local schist stone and is well maintained. There were a couple of recent breaches in the wall due to fallen trees from a very recent storm (Plate 5)

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Basic Recording prior to construction and a record of the structural profile once breached during the construction phase.

### **Feature 5 Possible remains of building (Plate 6)**

SH 6020438271

Period: Post-medieval

Category: C Impact: Likely

A rectangular building located on the Merioneth County Series First Edition 25 inch Ordnance Survey map of 1889, sheet XI.13 (figure 4). However it may be part of an old boundary wall. There are two trackways shown to lead up to it (possibly features 1 and 7). Seen as slight rise within the ground with old farm machinery dumped on it.

**Recommendations for further assessment:** Evaluation Trenching across the footprint of the feature location prior to the construction phase.

**Recommendations for mitigatory measures:** Detailed Recording/Watching Brief

### **Feature 6 Possible Stone-Built Structure (Plate 7)**

SH 6020838326 (C)

Period: Post-medieval

Category: C Impact: Likely

The remains of a stone built possibly rectangular structure. The rubble is probably local stone of grey blue schist and the stone spread measures 18m by 15m. On the ground the structure looks like it may have been rectangular in shape with a possible entrance to the north east. There is no reference to a building in this location on any of the early Ordnance Survey maps which suggests that this building is post 1915.

**Recommendations for further assessment:** Evaluation Trenching across the footprint of the structure prior to the construction phase.

**Recommendations for mitigatory measures:** Detailed Recording of upstanding remains prior to removal and subsequent Watching Brief of building location during the construction phase.

### **Feature 7 Trackway (Plate 8)**

SH 6024038317 (C)

Period: Post-medieval?

Category: C Impact: Likely

A possible trackway on top of a terrace (natural/manmade?). This trackway is visible on the 1889 1st edition OS map of the area. This map shows the trackway leading to a building (feature 10) which was not visible during the field survey. It is not visible on the Tithe Map of the area, however the wandering nature of the trackway and the way it cuts across fields may suggest an older date than 1889.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Basic Recording of trackway prior to the construction phase and a Watching Brief during the construction phase.

### **Feature 8 Possible Small Quarry Pits (Plate 9)**

SH 6034438427 (C)

Period: Unknown

Category: E Impact: Likely

Two small hollow areas measuring 3.0m each across and located 4.0m apart. Possible quarry pits to get stone to use for local buildings or walls.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Detailed Recording prior to the construction phase, including a measured survey and a subsequent Watching Brief during the construction phase.

## **Feature 9 Possible Clearance Cairn (Plate 10)**

SH 6018838331 (C)

Period: Unknown

Category: E Impact: Likely

Possible clearance cairn measuring 5.0m by 3.0m. The area is overgrown and is likely to be field clearance to improve the land.

**Recommendations for further assessment:** Evaluation Trenching across cairn location.

**Recommendations for mitigatory measures:** Detailed Recording of upstanding remains prior to removal and subsequent Watching Brief of building location during the construction phase.

## **Feature 10 Unknown Building (Figure 4)**

SH 6020138275 (C)

Period: Post-medieval

Category: E Impact: Unlikely

A rectangular building located on the Merioneth County Series First Edition Ordnance Survey maps (figures 2) There function is unknown, but it is likely to have been a farm building. This feature is located outside of the proposed development zone and is therefore unlikely to be affected.

**Recommendations for further assessment:** None

**Recommendations for mitigatory measures:** Basic Recording.

## 5 SUMMARY OF ARCHAEOLOGICAL POTENTIAL

### 5.1 Location Summary

The proposed development area is situated within the grounds of an industrial estate, Snowdonia Business Park. It is an area of land measuring approximately 3.4 hectares with fields to its immediate south used for pasture and beyond them are the sands of the Treath Mawr. There is little evidence that the area has been used for much else than arable land, as seen on the 1842 Tithe map and subsequent 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> edition OS maps. To its immediate north are two pond features, these are in a previously wet area as suggested by the maps. Recently, the A487 Porthmadog, Minffordd and Tremadog Bypass (Parry *et. al.* 2013) roundabout is located at the entrance of the industrial estate, and within this area large peat bed was located and sampled.

### 5.2 Environmental Remains and Soil Morphology

The assessment area and local area is characterised by improved pasture.

The groundworks for an access route to the Snowdonia Business Park, completed during the 487 Porthmadog, Minffordd and Tremadog Bypass Scheme, identified an extensive peat deposit at NGR SH60153860, c.170m north of the assessment area, which was sampled and subsequently analysed by *Birmingham Archaeo-Environmental* for GAT (Hopla and Gearey 2013, in Parry et al 2013).

*Birmingham Archaeo-Environmental* recovered a core using a Russian auger from which 1 metre of sediment was collected with accompanying bulk samples; sub-fossil pollen, plant and beetle remains were extracted whilst two samples of wood (near top and base of sample) were dated using the radiocarbon method. The radiocarbon dates indicated that the sediment was formed during the Bronze Age. The pollen assessment illustrates an alder carr environment with a birch and oak woodland which later becomes more open indicating a period of clearing (*ibid*).

The report concluded that the sampling location represented an area of topogeneous peat accumulation, probably within a poorly drained shallow depression within the local bedrock. The pollen samples produced excellent concentrations and preservation of palynomorphs throughout the entire sequence; as few other palaeoenvironmental records existed in this region the pollen record was regarded as being of regional importance. The subsequent pollen analysis indicated that this area was dominated by closed canopy woodland until the Bronze Age, with alder-oak-birch fen woodland growing on and around the wetland system represented by the sampled peat deposits (*ibid*).

These results indicate that there is potential in this area for further peat deposits that could be affected by the development. The *Birmingham Archaeo-Environmental* reports suggest the peat exists in a poorly drained shallow basin and it is also possible that a similar environment could exist in the assessment area due to the close proximity. It is recommended that a palaeoenvironmental specialist is approached to assess the potential of the assessment. In the first instance this could be achieved via localised coring and/or analysis of any ground investigation works (if undertaken); the results could inform whether a subsequent palynological and dating strategy is required.

### **5.3 Artefactual Potential**

The potential for the survival of medieval or earlier artefacts is unknown, but is thought to be low as there are very few archaeological sites and features within a 500m radius, however the proximity of Bronze Age findspots, including PRN 4347 – 850m to the northeast, suggests there is local potential for further activity. The wet marsh area is a possible location for prehistoric burnt mounds to be found. A geophysical survey of the assessment area could help identify the location and distribution of burnt mounds or other activity.

## 6 SUMMARY OF RECOMMENDATIONS

### 6.1 Summary of Specific Recommendations

Feature Number	Name	Importance	Impact	Recommendation for further evaluation	Mitigation recommendations
1	Trackway	C	Likely	None	Basic recording
2	Possible modern dump	D	Likely	None	None
3	Gateway	C	Likely	None	Basic Recording
4	Dry Stone Wall	C	Likely	None	Basic Recording
5	Possible remains of building	C	Likely	Evaluation	Detailed Recording/Watching Brief
6	Possible Stone Built Structure (Rubble)	C	Likely	Evaluation	Detailed Recording/Watching Brief
7	Trackway	C	Likely	None	Basic Recording/Watching Brief
8	Possible Small Quarry Pits	E	Likely	None	Detailed Recording/Watching Brief
9	Possible Clearance Cairn	E	Likely	Evaluation	Detailed Recording/Watching Brief
10	Unknown Building	E	Unlikely	None	Basic recoding

### 6.2 General Recommendations

In addition to the specific recommendations in para. 6.1 for the identified features a phased programme of assessment, evaluation and mitigation is recommended within the confines of the assessment area:

1. A geophysical magnetometer survey of the accessible portions of the assessment area as part of the evaluation stage: this could help identify areas of archaeological activity, which could then subsequently be targeted by evaluation trenching;
2. In response to the results of the geophysical survey, a series of evaluation trenches could be recommended to target any anomalies;
3. An assessment and analysis of the peat and palynological potential of the assessment area. This is recommended due to the proximity of a known peat and the Bronze



Age palynological sequence recovered from the peat bed. It is recommended that a palaeoenvironmental specialist is approached for a suitable assessment and analysis strategy for the assessment area.

4. An archaeological mitigation strategy in response to the results of the evaluation stages: this could include a controlled strip of the development site or targeted areas therein, which involves archaeologically controlled reduction of the ground level to the glacial horizon within the scheme footprint, and/or a watching brief of the scheme footprint or selected areas. The mitigation strategy would also be influenced by the engineering strategy employed by the developer and contractor. The zones currently inaccessible to the geophysical survey and subsequent evaluation programme would be targeted during the mitigation stages.
5. An archaeological watching brief of any ground investigation works completed by the developer/contractor prior to the main works, to allow monitoring of the below ground soil horizons.

## 7 CONCLUSIONS

The archaeological assessment has concluded that the assessment area is characterised as an undeveloped pasture field that has seen recent encroachment from a modern business park and road improvements. The assessment area is extant as a large open field; examination of the historic proves that the field was previously segregated into three smaller fields. The current known archaeological activity within the assessment area is related to the post-medieval management of the area and evidenced former buildings are apparent, along with field walls. Within the local area, the archaeological activity is characterised by post-medieval industrial activity and prehistoric findspots. The archaeological potential of the assessment area is currently unknown and a phased programme of evaluation is recommended, to include geophysical survey and trial trenching. Due to the proximity of known peat deposits, it is recommended that a palaeoenvironmental specialist is contacted to assess the potential for recovering peat and palynological samples within the assessment area; the peat bed to the north was located within a shallow bedrock basin and rock outcropping has been noted on site, suggesting similar activity. This is based on the assumption that any peat deposits could be affected by the construction programme. Pre-construction evaluation of three features has been recommended and pre-construction recording of upstanding walls and structures is also recommended. On completion of the evaluation programme, a mitigation programme is recommended to target any identified activity or areas currently inaccessible.

## 8 ARCHIVE

The archive consists of historic maps, plans and aerial photographs, along with notes and digital images taken on the field visit. The archive is currently held by GAT under project code **G2265**. A list of the photographic metadata is included in [Appendix III](#).

One copy of the bound report will be sent to the GAPS archaeologist, and a further copy sent to the HER Archaeologist at the curatorial division of Gwynedd Archaeological Trust, Bangor, for deposition in the Regional HER. A copy of the report will be provided to the National Monument Record, Royal Commission on the Ancient and Historic Monuments of Wales, Aberystwyth.

## 9 REFERENCES AND OTHER SOURCES CONSULTED

Gwynedd Historic Environment Record (HER).

Gwynedd Archives, Dolgellau

Tithe Map of the Parishes of Llanfihangel Y Traethau and Llandecwyn 1842

Z/DCH Casson Papers

### Secondary Sources

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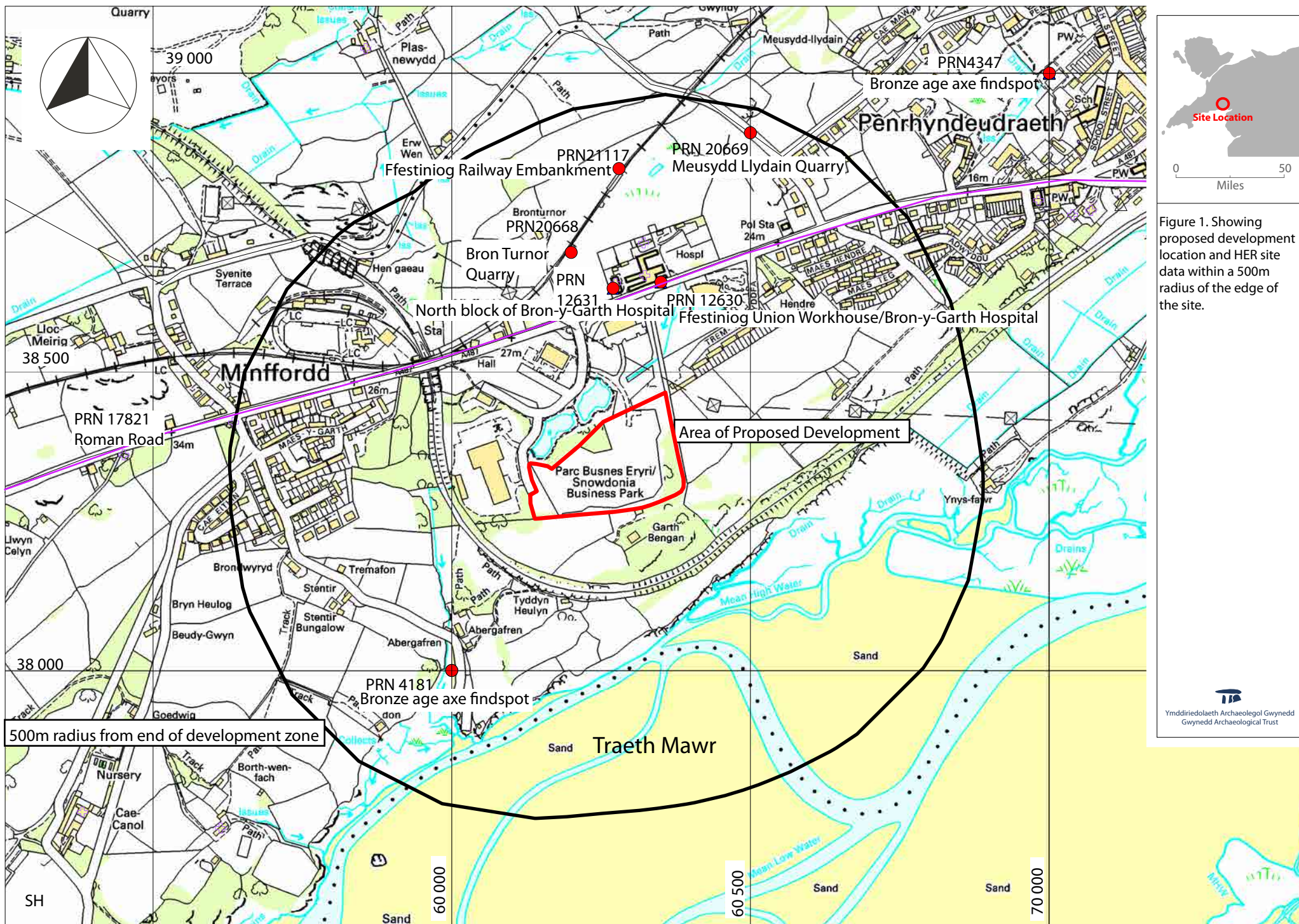
Roberts, R. 1995 *A487 Porthmadog/Minffordd and Tremadog Bypasses - Archaeological Assessment*, unpublished GAT report **155**

*Standard and Guidance for Historic Environment desk based assessment* (Institute for Archaeologists, 1994, rev. 2001, 2009, 2011 and 2012)

Online sources

[www.bgs.ac.uk](http://www.bgs.ac.uk)

[www.ccqc.gov.uk](http://www.ccqc.gov.uk)







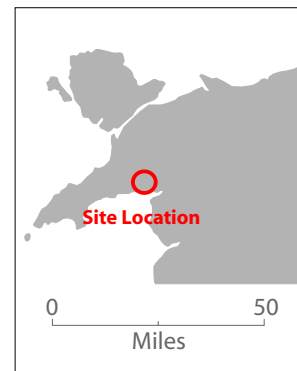
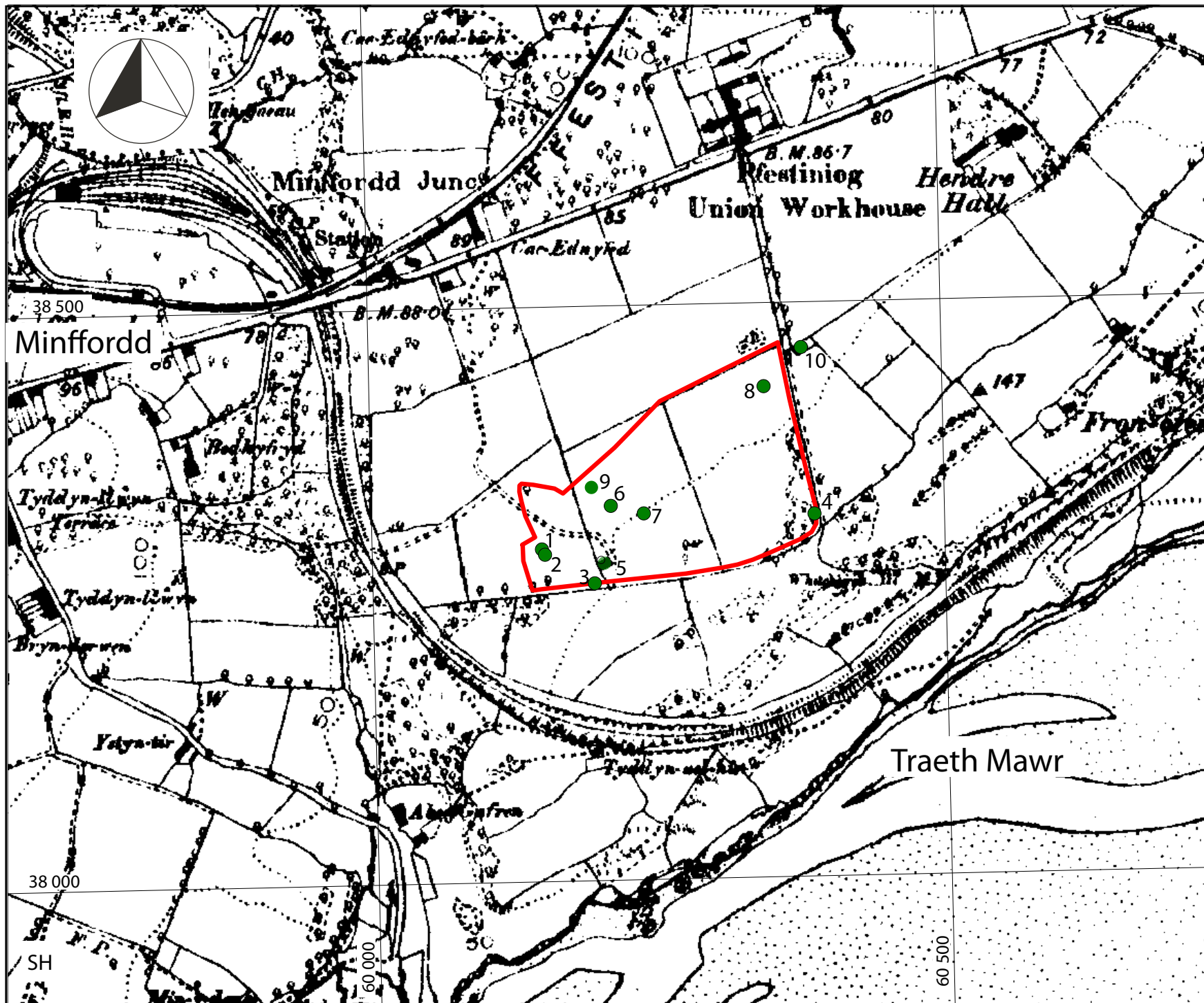


Figure 3. Merioneth County Series First Edition 25 inch Ordnance Survey map of 1889, sheet XI.13. Showing feature numbers and locations.





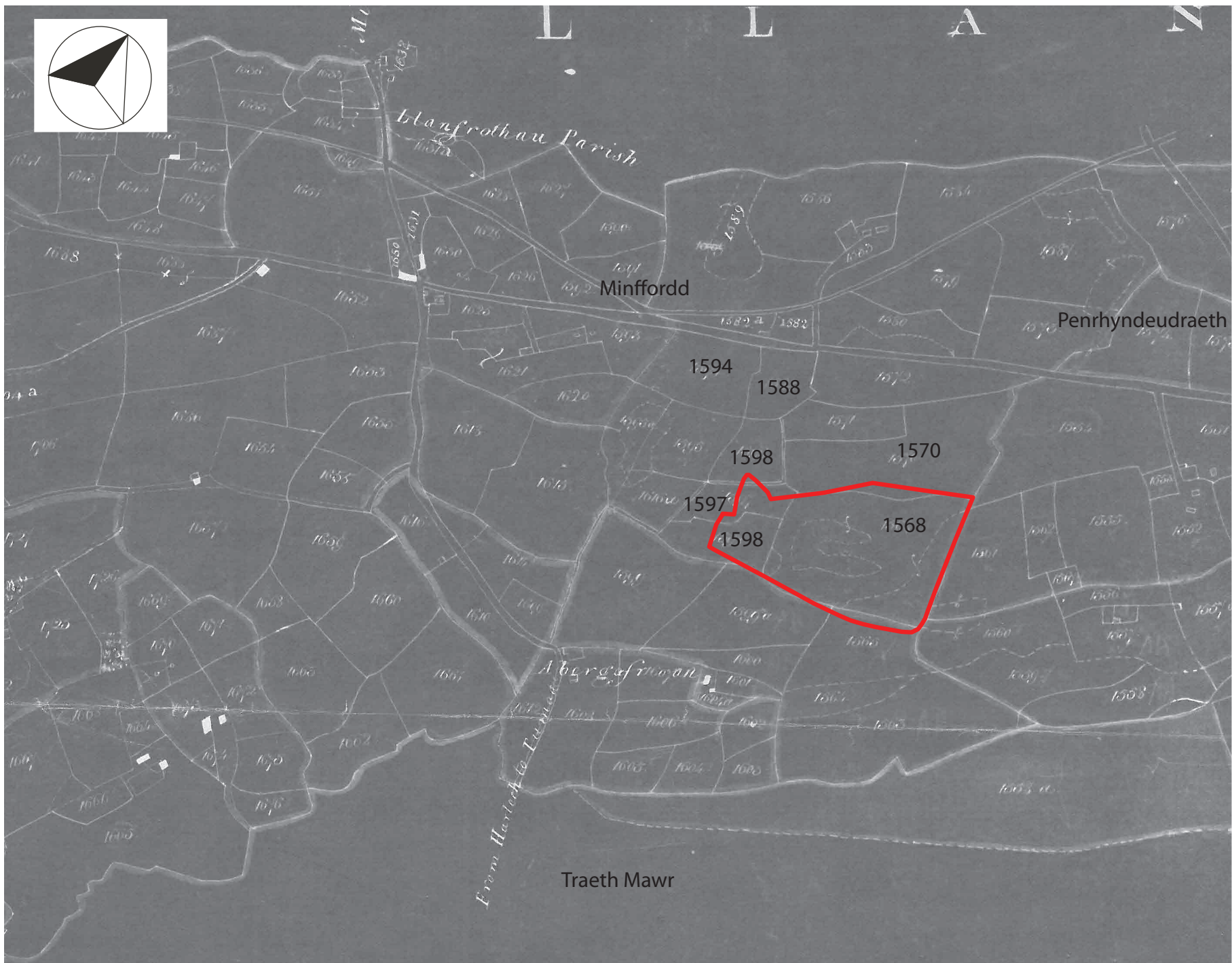


Figure 2. 1842 Tithe Map showing the location of the proposed development area and field numbers









Plate 01: Feature 1. Trackway from road to gate. View from the SW.



Plate 02: Feature 2. Modern dump of concrete slabs. View from the N.







Plate 03: Feature 3. Gateway. View from the S.



Plate 04: Feature 4. Dry stone wall. View from the WSW.







Plate 05: Fallen tree through wall (feature 4). View from the N.



Plate 06: Feature 5. Possible remains of a building or field boundary and old farm machinery. View from the SW.







Plate 07: Feature 6. Stone rubble from a demolished building. View from the SE.



Plate 08: Feature 7. Trackway on top of a small ridge. View from the W.







Plate 09: Feature 8. Two hollow areas (possible small quarry pits). View from the S.



Plate 10: Feature 9. Possible Clearance Cairn. View from the SW.



## **APPENDIX I**

**Reproduction of Gwynedd Archaeological Planning Services mitigation  
brief D1773 (December 2013)**

## DESIGN BRIEF FOR ARCHAEOLOGICAL ASSESSMENT

**Site:** Snowdonia Business Park, Penrhyndeudraeth

**Date:** 3<sup>rd</sup> December 2013

**National Grid Reference:** 260244, 338330

**Planning reference:** Pre-Planning

**Applicant:** B3 Architects for Cyngor Gwynedd

***This design brief is only valid for six months after the above date. After this period Gwynedd Archaeological Planning Service should be contacted.***

*It is recommended that the contractor appointed to carry out the archaeological work visits the site of the proposed development and consults the regional Historic Environment Record (HER) for north-west Wales before completing their specification. Gwynedd Archaeological Planning Service cannot guarantee the inclusion of all relevant information in the design brief.*

Key elements specific to this design brief have been highlighted.

### 1.0 Site Location and Description

- 1.1 For the purposes of this brief the site comprises a roughly L-shaped plot of land within a modern business park, between Minffordd and Penrhyndeudraeth, Gwynedd. The site measures approximately 3 hectares and is currently occupied by pasture. It is defined to the south and east by woodland and mature hedgerow, and to the north and west it borders modern development and associated landscaping.
- 1.2 The site is set towards the top of a low rise on the north side of the Dwyryd estuary and slopes gently from approximately 35m OD in the south to 20m in the north-west.

### 2.0 Archaeological Background

- 2.1 Relatively little archaeological information is recorded by the Historic Environment Record (HER) in the immediate vicinity of the site. The majority of recorded archaeology relates to 19<sup>th</sup> century activity, including the railway, which passes to the south of the site, and the former Ffestiniog Union workhouse to the north. The site is not known to have been subject to previous archaeological study and its archaeological potential is therefore unknown.
- 2.2 The potential extent, nature and significance of the archaeological resource above and below ground requires clarification in order to establish the potential impact of the development and inform subsequent planning decisions.

### 3.0 The nature of the development and archaeological requirements

- 3.1 Planning consent is being sought for the construction of a new special education centre to serve the Dwyfor and Meirionnydd districts of Gwynedd, north-west Wales. The development will include a special needs school with complementary care accommodation and associated parking, landscaping etc.



- 3.2 This is a *design brief* for a programme of archaeological work, to be undertaken prior to planning consent, in accordance with guidelines set out in *Planning Policy Wales 2012* and Welsh Office Circular 60/96 (*Planning and the Historic Environment: Archaeology*). A programme of archaeological work may entail several stages. This stage will comprise an **archaeological desk-based assessment and walkover survey**.
- 3.3 The objective of this programme of archaeological works is to make full and effective use of existing information to establish the archaeological significance of the site; to assess the impact of the development proposals on surviving monuments or remains; and to help inform future decision making, design solutions and potential mitigation strategies.
- 3.4 Following the desk-based assessment and walkover survey, and informed by the findings of these elements, it may be necessary to undertake field evaluation in order to verify the presence or absence of remains, their extent, nature, quality and character.
- 3.5 Any additional stages of work further to that described by this brief will require prior approval of a new detailed specification by Gwynedd Archaeological Planning Service.
- 3.6 This *design brief* should be used by the archaeological contractor as the basis for the preparation of a detailed written archaeological *specification*. The specification must be submitted to the Gwynedd Archaeological Planning Service for approval before the work commences.
- 3.7 The *specification* should contain, as a minimum, the following elements:
- non-technical summary
  - details of the proposed works as precisely as is reasonably possible, indicating clearly on a plan their location and extent
  - a research design which sets out the site-specific objectives of the archaeological works
  - the level and grade of all key project staff
  - details of external specialists (if applicable)
  - a timetable for the proposed works, including contingency if appropriate
  - the intended method of publication
  - archive deposition
  - reference to relevant legislation
  - health and safety considerations
  - monitoring procedures

#### 4.0 Archaeological Programme Detail

##### Desk-based assessment detail

- 4.1 The assessment must consider the following:
- a) the nature, extent and degree of survival of archaeological sites, structures, deposits and landscapes within the study area through the development of an **archaeological deposit model**. This deposit model should reflect accurately the





state of current knowledge and provide a research agenda for further work if necessary [See 4.2 below for further details]

- b) the **significance** of any remains in their context both regionally and nationally
- c) the **history** of the site [See section 4.3 below for further details]
- d) the potential impact of any proposed development on the **setting** of known sites of archaeological importance [See section 4.4 below for further details]
- e) the potential for further work, with recommendations where appropriate for a **suitable investigative and/or mitigation methodology**.

4.2 Development of the **archaeological deposit model** will involve the following areas of research:

- a) collation and assessment of all relevant information held in the HER
- b) assessment of all available excavation reports and archives (including unpublished and unprocessed material) affecting the site and its setting
- c) assessment of all extant aerial photographic (AP) evidence and, where relevant, a re-plotting of archaeological and topographic information by a suitably qualified specialist at an appropriate scale. The main source of archaeological aerial photographic records is held at the Royal Commission on Ancient and Historical Monuments in Wales (RCAHMW), Aberystwyth
- d) assessment of archive records held at Gwynedd Archives, Caernarfon/Dolgellau, and as appropriate, the National Library of Wales/RCAHMW and University of Wales, Bangor
- e) assessment of the environmental potential of the archaeological deposits through existing data or by inference
- f) assessment of the faunal potential of the archaeological deposits through existing data or by inference
- g) assessment of the artefactual potential of the archaeological deposits through existing data or by inference
- h) assessment of available geotechnical information for the area including the results of test pits and boreholes
- i) assessment of the present topography and land use of the area through maps and site inspection

4.3 Assessment of the **history of the site** will involve the following:

- a) a review of relevant published sources
- b) an analysis of relevant maps, plans and other relevant illustrative material. Cartographic evidence is held at the County Record Offices, including tithe maps, enclosure act plans, estate maps and all editions of the Ordnance Survey. Place and field-name evidence from these sources must be considered.
- c) an analysis of the historical documents (e.g. county histories, local and national journals and antiquarian sources) held in museums, libraries or other archives, in particular local history and archives library.
- d) a review of the aerial photographic evidence.



#### Archaeological fieldwork detail

4.4 The following non-destructive techniques must be employed as part of this phase of work:

- Field visit / walk-over of all accessible areas

#### 5.0 Results

5.1 The results must be presented in a bound report and should be detailed and laid out in such a way that data and supporting text are readily cross-referenced. **The HER Officer should be contacted to ensure that any sites or monuments not previously recorded in the HER are given a Primary Record Number (PRN) and that data structure is compatible with the HER.**

5.2 The deposit model should be presented graphically in plan and, where appropriate, in profile and at a scale that is commensurate with subsequent use as a working document.

5.3 Within the report an attempt should be made to indicate areas of greater or lesser archaeological significance and the sites should be ranked in level of overall archaeological importance (locally, regionally and nationally).

5.4 All relevant aerial photographs, re-plots and historic maps must be included and be fully referenced. Any site photographs included in the report should be appropriately captioned and clearly located on a suitably scaled site plan. The final report should specifically include the following:

- a copy of the design brief and agreed specification
- a location plan
- all identified features and significant finds plotted on an appropriately scaled site plan
- a gazetteer of all located sites with full dimensional and descriptive detail **including grid reference** and, where possible, period
- a full bibliography of sources consulted
- an archive compact disc

5.5 Any relevant desk-based sources included for the purposes of interpretation and analysis must be fully referenced, and related to both the archaeological mitigation work and the development proposals.

5.6 The report should include an assessment of the potential for further archaeological investigation and give recommendations for an appropriate future strategy.

5.7 The methodology for any subsequent phase of the archaeological programme must consider the use of the following techniques:

- a) a programme of geophysical survey
- b) a programme of archaeological trial trenching, test pits and/or cores to investigate the archaeological deposit model in more detail
- c) strip, map and sample

- d) design modification to preserve remains *in situ*
- e) archaeological building recording
- f) archaeological excavation
- g) archaeological survey / recording
- h) archaeological watching brief on construction works

## 6.0 General requirements

- 6.1 The archaeological assessment must be undertaken by an appropriately qualified individual or organisation, fully experienced in work of this character.
- 6.2 Details, including the name, qualifications and experience of the project director and all other key project personnel (including specialist staff) should be communicated to the Gwynedd Archaeological Planning Service and all written work attributed to an author(s).
- 6.3 Contractors and subcontractors are expected to conform to standard professional guidelines. The following are of particular relevance to this project:
  - English Heritage, 1991. *Management of Archaeological Projects (MAP2)*
  - English Heritage, 2006. *Management Of Research Projects in the Historic Environment (MORPHE)*
  - Brown D. H., 2007. *Archaeological Archives A guide to best practice in creation, compilation, Transfer and curation*. Archaeological Archives Forum
  - Richards, J. & Robinson, D., 2000. *Digital Archives from Excavation and Fieldwork: Guide to Good Practice* (Second Edition). Archaeology Data Service Guide to Good Practice: Oxbow Books <http://ads.ahds.ac.uk/project/goodguides/excavation/>
  - The Institute for Archaeologists, 1985 (revised 2010). *Code of Conduct*
  - The Institute for Archaeologists, 1990 (revised 2008). *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology*
  - The Institute for Archaeologists, 1994 (revised 2009) *Standard and Guidance for Archaeological Desk-Based Assessment*
  - The Institute for Archaeologists 1994 (revised 2008) *Standard and Guidance for Archaeological Field Evaluation*
  - The Institute for Archaeologists, 2001 (revised 2008). *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*
  - The Institute for Archaeologists, 2008. *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*
- 6.4 Many people in North Wales speak Welsh as their first language, and many of the archive and documentary references are in Welsh. Contractors should therefore give due consideration to their ability to understand and converse in Welsh.
- 6.5 The archaeological contractor must satisfy themselves that all constraints to groundworks have been identified, including the siting of live services, Tree Preservation Orders and public footpaths. Gwynedd Archaeological Planning Service



bears no responsibility for the inclusion or exclusion of such information within this brief.

- 6.6 Any changes to the specifications that the archaeological contractor may wish to make after approval by this office should be communicated to Gwynedd Archaeological Planning Service and approved before implementation.
- 6.7 Care must be taken in dealing with human remains and the appropriate environmental health regulations followed. Gwynedd Archaeological Planning Service and the local Coroner must be informed immediately human remains are discovered.
- 6.8 Arrangements for the long-term storage and deposition of all artefacts must be agreed with the landowner and Gwynedd Archaeological Planning Service before the commencement of investigation.
- 6.9 The involvement of Gwynedd Archaeological Planning Service should be acknowledged in any report or publication generated by this project.
- 6.10 A full archive including plans, photographs, written material and any other material resulting from the project should be prepared in accordance with standard guidance. All plans, photographs and descriptions should be labelled, cross-referenced and lodged in an appropriate place (to be agreed with Gwynedd Archaeological Planning Service) within six months of the completion of the project.
- 6.11 Two copies of the bound report must be sent to the address below, one copy marked for the attention of the Development Control Archaeologist, the other for attention of the HER Officer, who will deposit the copy in the HER.

## **7.0 Curatorial monitoring**

- 7.1 The project will be monitored by Gwynedd Archaeological Planning Service to ensure the fulfilment of the brief and specifications. The Development Control Archaeologist will normally review the progress of reports and archive preparation. The archaeological contractor must inform Gwynedd Archaeological Planning Service in writing of the proposed start dates for the project and any subsequent phases of work.

## **8.0 Further information**

- 8.1 This document outlines best practice expected for a programme of archaeological mitigation but cannot fully anticipate the conditions that will be encountered as work progresses. If requirements of the brief cannot be met they should only be excluded or altered after gaining written approval of the Gwynedd Archaeological Planning Service.
- 8.2 Further details or clarification of any aspects of the brief may be obtained from the Development Control Archaeologist at the address below.

## Glossary of terms

### *Archaeological Contractor*

A professionally qualified individual or an organisation employing professionally qualified archaeological staff, able to offer appropriate and satisfactory treatment of the archaeological resource, who is retained by the developer to carry out archaeological work either prior to the submission of a planning application or as a requirement of the planning process.

### *Archaeological Curator*

A person, or organisation, responsible for the conservation and management of archaeological evidence by virtue of official or statutory duties. In north-west Wales the archaeological advisors to the Local Planning Authorities are the Gwynedd Archaeological Planning Service, who work to the Welsh Archaeological Trusts' *Curators' Code of Practice*.

### *Archive*

An ordered collection of all documents and artefacts from an archaeological project, which at the conclusion of the work should be deposited at a public repository, such as the local museum.

### *Brief*

The Association of Local Government Archaeological Officers (1993) defines a *brief* as an outline framework of the planning and archaeological situation which has to be addressed, together with an indication of the scope of works that will be required.

### *Historic Environment Record (HER)*

A documentary record of known sites in a given area. In north-west Wales the HER is curated by the curatorial division of the Gwynedd Archaeological Trust.

### *Specification*

The Association of Local Government Archaeological Officers (1993) defines a *specification* as a schedule of works outlined in sufficient detail to be quantifiable, implemented and monitored.

### *Watching brief*

A formal programme of observation during non-archaeological works in order to identify, investigate and record any archaeological remains which may be present.

## **Jenny Emmett**

### **Archaeolegydd Rheoli Datblygiad - Development Control Archaeologist**

Gwasanaeth Cynllunio Archaeolegol Gwynedd - Gwynedd Archaeological Planning Service  
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## **APPENDIX II**

**Reproduction of Gwynedd Archaeological Trust project design G2358  
(January 2014)**

# SNOWDONIA BUSINESS PARK

## PROJECT DESIGN FOR ARCHAEOLOGICAL ASSESSMENT

***Prepared for***

*Cyngor Gwynedd Council*

***February 2014***

Ymddiriedolaeth Archaeolegol Gwynedd  
Gwynedd Archaeological Trust

## **SNOWDONIA BUSINESS PARK, GWYNEDD**

### **PROJECT DESIGN FOR ARCHAEOLOGICAL ASSESSMENT (G2365)**

Prepared for *Cyngor Gwynedd Council*, February 2014

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## 1. INTRODUCTION

Gwynedd Archaeological Trust has been asked by *Cyngor Gwynedd Council* to provide a fee proposal and project design for completing an Archaeological Assessment of a 3.44 ha L-shaped plot within the Snowdownia Business Park, Penrhyndeudraeth, Gwynedd (centred on **NGR SH60253833**; Figure 01). The plot is currently vacant pastureland at the southern end of the business park. The assessment will be completed as part of the pre-planning process for a special education centre.

Gwynedd Archaeological Planning Services (GAPS) have requested an archaeological desk-based assessment and walkover survey to be undertaken in accordance with guidelines set out in *Planning Policy Wales 2012* and *Welsh Office Circular 60/96 (Planning and the Historic Environment: Archaeology)*. The assessment will use existing information to establish the archaeological significance of the site; to assess the impact of the development proposals on surviving monuments or remains; and to help inform future decision making, design solutions and potential mitigation strategies. The GAPS design brief is reproduced as Appendix I.

This design will also conform to the guidelines specified in *Standard and Guidance for Historic Environment desk-based assessment* (Institute for Archaeologists, 1994, rev. 2001, 2009, 2011 and 2012).

## 2. ARCHAEOLOGICAL AIMS

A desk-based assessment is defined as “a programme of assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater. It consists of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate” (IFA 2008, 2)

The aims of the assessment are:

- to identify and record the cultural heritage within the defined study area;
- to evaluate the importance of what has been identified;
- to recommend ways in which impact upon the cultural heritage can be avoided or minimised.

To comply fully with the aims expressed above it can be necessary to undertake a programme of Field Evaluation following the Desktop study and Field Visit. This is because some sites cannot be assessed by desktop or field visit alone, and additional fieldwork is therefore required. This typically takes the form of geophysical survey or trial excavation, although measured survey is also a possible option. A full programme of assessment and evaluation may therefore consist of:

- Desktop study
- Field walkover
- Initial report
- Field evaluation
- Draft report
- Final report

This design is for the first **three** phases only, and recommendations will be made for any field evaluation required.

### **3. ARCHAEOLOGICAL BACKGROUND**

The GAPS design brief states that “Relatively little archaeological information is recorded by the Historic Environment Record (HER) in the immediate vicinity of the site. The majority of recorded archaeology relates to 19th century activity, including the railway, which passes to the south of the site, and the former Ffestiniog Union workhouse to the north. The site is not known to have been subject to previous archaeological study and its archaeological potential is therefore unknown” (D1773: 01).

The assessment are is in close proximity to the recently completed A487 (T) Porthmadog to Tremadog Bypass Scheme. GAT completed an extensive assessment, evaluation and mitigation programme for the scheme (project codes G1285 & G2108 – GAT Reports 155 and 1065, Halcrow report: A487 Porthmadog/Tremadog Bypass Technical Report 2: Cultural Heritage (Second Draft) published in January 2008). The bypass scheme included a remodelled access route to the Snowdownia Business Park that included extensive landscaping works c.70m to the north of the assessment site. The groundworks for the access route to the Snowdownia Business Park identified an extensive peat deposit at NGR SH60153860, which was subsequently analysed during the post-excavation stage of the Bypass Scheme. Reference to this scheme and the results of the staged programme of works will be reviewed as part of the current assessment report.

## 4. PROGRAMME OF WORK

### 4.1 Introduction

The project will develop an archaeological deposit model, which will take into account:

- The history of the site
- The potential impact of development on archaeological remains
- The requirements for further assessment in the form of non-intrusive and intrusive field evaluation.

The project will be undertaken in four stages:

- Desk-based assessment
- Field visit
- Report compilation
- Project archive

### 4.2 Desk-based assessment

The desk-based assessment will involve a study of the following resources:

1. The regional Historic Environment Register (HER, GAT, Craig Beuno, Bangor, Gwynedd LL57 2RT)) will be examined for information concerning the study area. This will include an examination of the core HER, and secondary information held within the record which includes unpublished reports, the 1:2500 County Series Ordnance Survey maps, and the National Archaeological Record index cards.
2. The National Monuments Record (NMR RCAHMW, National Monuments Record of Wales, Plas Crug, Aberystwyth, SY23 1NJ) will be checked for sites additional to the HER, and if required additional supporting information will be examined at the NMR.
3. Information about Listed Buildings and Scheduled Ancient Monuments from Cadw will be examined in the regional HER, with supporting information from Cadw if required. The Register of Outstanding and Special Historic Landscapes and the Register of Parks and Gardens will be checked, and also the location of World Heritage Sites.
4. Secondary sources will be examined, including the Inventories of the Royal Commission on Ancient and Historical Monuments for Wales, and works held within the regional libraries. Indices to relevant journals, including county history and archaeology society journals and national society journals such as *Archaeologia Cambrensis* will be checked. Also at this stage 19<sup>th</sup> century topographical dictionaries, antiquarian tours and trade directories will be examined where relevant.
5. Evidence from aerial photographs will be collated. Vertical and oblique collections held by the NMR, CCW and Welsh Assembly Government will be considered for examination. All photographs examined will be listed in the assessment report.
6. Archive data and maps, where relevant, will be consulted in the National Library of Wales at Aberystwyth, and at the regional archives at Caernarfon Archives (**Caernarfon Record Office**, Victoria Dock, Caernarfon). This will include the relevant estate maps and tithe maps and information from Land Tax Assessments.

Where relevant antiquarian prints and photographs from the national and regional archives will be examined.

### **4.3 Field survey**

This part of the assessment will involve a walkover of the study area and assessing the sites identified during the desk-based study. Any additional sites noted will also be assessed. The location of potentially well-preserved environmental deposits will be noted.

The aims of this stage of the work are to:

- verify the results of the desk based assessment
- identify any further archaeological sites which may exist as above ground features
- assess the potential for the preservation of below-ground archaeology
- assess the impact upon the historic landscape
- photograph and record the present condition of all sites noted.

Access onto land is to be arranged by the Clients.

## 4.4 Field Evaluation/Further Works

Following desk-based assessments field evaluation work may also be required in order to further assess the presence or absence of remains, their extent, nature, quality and character before determining the appropriate mitigation strategy, whether it be preservation *in situ*, archaeological excavation or a combination of the two.

This might include a methodology for non-intrusive survey and or intrusive evaluation to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the proposed development.

Field evaluation needs to be carefully targeted in response to proposed impact and archaeological potential. It would usually be undertaken in stages, and might typically include:

- geophysical survey.
- a programme of trenching and/or test pits to investigate the deposit model in more detail.
- Palaeoenvironmental assessment of areas targeted in the assessment

Recommendations for any field evaluation considered necessary will be contained within the assessment report.

## 4.5 Data processing and report compilation

Following completion of the stages outlined above, a report will be produced incorporating the following:

Non-technical summary

1. Introduction
2. Aims and purpose
3. Specification
4. Methods and techniques, including details and location of project archive
5. Archaeological Background
6. Results of assessment in the form of a gazetteer
7. Assessment of impacts
8. Proposals for field evaluation and/or mitigation
9. Summary and conclusions
10. List of sources consulted.

Illustrations will include plans of the location of the study area and archaeological sites. Historical maps, when appropriate and if copyright permissions allow, will be included. Photographs of relevant sites and of the study area where appropriate will be included.

A draft copy of the report will be sent to the regional curatorial archaeologist (GAPS) and to the client prior to production of the final report.

## 4.6 Definition of category of importance

To assess the importance of sites and to allow the appropriate mitigatory action to be proposed for each, a framework of categories will be used with each site allocated to a particular category according to its relative importance:

### Category A - Sites of National Importance.

This category includes Scheduled Ancient Monuments and Listed Buildings (Grade I and II\*) as well as those sites which would meet the requirements for scheduling (ancient monuments) or listing (grade I and II\* and certain grade II) or both.

Sites that are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.

### Category B - Sites of Regional Importance

These sites are those which would not fulfil the criteria for scheduling, but may include Listed Buildings at grade II. They are sites of particular importance within the region.

Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be an acceptable alternative. Sites that are Listed have legal protection, and it is recommended that all listed buildings are preserved *in situ*.

### Category C - Sites of District or Local Importance

These sites are not of sufficient importance to justify a recommendation for preservation if threatened, but nevertheless merit adequate recording in advance of damage or destruction.

### Category D - Minor and Damaged Sites

These are sites which are of minor importance or are so badly damaged that too little remains to justify their inclusion in a higher category. For these sites the most appropriate mitigation is often rapid recording either in advance or during destruction.

Category E - Sites needing further investigation

Sites, the importance of which is as yet undetermined and which will require further work before they can be allocated to categories A-D, are temporarily placed in this category, with specific recommendations for further evaluation. This category can also apply to areas as well as to individual sites.



## **5. DISSEMINATION AND ARCHIVING**

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled and cross-referenced, and lodged in an appropriate place (to be decided in consultation with the regional Historic Environment Record) within an agreed submission period.

The draft assessment will be submitted by early October 2013; the required format and quantities will be agreed with all parties.

## **6. PERSONNEL**

The work will be managed by John Roberts, Principal Archaeologist GAT Contracts Section. The work will be undertaken by one of the Trust's Archaeologists experienced in the relevant skills/periods required. Full details of personnel involved, with *curricula vitae*, can be supplied upon request.

## 7. HEALTH AND SAFETY

The Trust subscribes to the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety Policy as defined in **Health and Safety in Field Archaeology** (2006). Risks will be assessed prior to and during the work.

## 8. INSURANCE

*Liability Insurance - Aviva Policy 24765101CHC/00045*

- Employers' Liability: Limit of Indemnity £10m in any one occurrence
- Public Liability: Limit of Indemnity £5m in any one occurrence
- Hire-in Plant Insurance: £50,000.00 any one item;  
£250,000.00 any one claim

The current period expires 21/06/14

*Professional Indemnity Insurance – RSA Insurance Plc P8531NAECE/1028*

- Limit of Indemnity £5,000,000 any one claim

The current period expires 22/07/14

## 9. SOURCES CONSULTED

Gwynedd Historic Environment Record (HER).

Halcrow: A487 Porthmadog/Tremadog Bypass Technical Report 2: Cultural Heritage (Second Draft) published in January 2008

Parry, L. W. et al. 2011. *Balfour Beatty Jones Brothers Joint Venture A487 Porthmadog, Minffordd and Tremadog Bypass Report on archaeological mitigation* GAT report **1065**

Roberts, R. 1995 *A487 Porthmadog/Minffordd and Tremadog Bypasses - Archaeological Assessment*, unpublished GAT report **155**

*Standard and Guidance for Historic Environment desk based assessment* (Institute for Archaeologists, 1994, rev. 2001, 2009, 2011 and 2012)

## APPENDIX III

### List of the photographic metadata

File reference	Site sub-division	Description	View from	Scale	Date	Originating person
G2365_SnowdoniaBusinessPark_001.jpg	Feature 1	Trackway, from road to gate	SE	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_002.jpg	Feature 1	Trackway, from road to gate	SW	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_003.jpg	Feature 2	Modern dump of concrete slabs	N	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_004.jpg	Feature 1	Trackway	SW	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_005.jpg	Feature 3	Gateway	S	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_006.jpg	Feature 3	Gateway	S	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_007.jpg	Feature 4	Dry stone wall	W	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_008.jpg	Feature 4	Dry stone wall	N	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_009.jpg	Feature 4	Dry stone wall	WSW		13/02/14	LWP
G2365_SnowdoniaBusinessPark_010.jpg		Shot showing general undulations of assessment area	SSW	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_011.jpg	Feature 5	Stone dump and old farm machinery	SW	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_012.jpg	Feature 5	Stone dump and old farm machinery	SQW	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_013.jpg	Feature 1 & 6	General shot of track and stone rubble	SE		13/02/14	LWP
G2365_SnowdoniaBusinessPark_014.jpg	Feature 1 & 6	General shot of track and stone rubble	SE		13/02/14	LWP
G2365_SnowdoniaBusinessPark_015.jpg	Feature 6	Stone rubble from probable building	SE	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_016.jpg	Feature 6	Stone rubble from probable building - entrance	N	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_017.jpg	Feature 7	Possible track on top of ridge (flat area)	W	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_018.jpg	Feature 4	Tree fallen through wall (feature 4)	N		13/02/14	LWP
G2365_SnowdoniaBusinessPark_019.jpg	Feature 4	Tree fallen through wall (feature 4)	N		13/02/14	LWP

File reference	Site sub-division	Description	View from	Scale	Date	Originating person
G2365_SnowdoniaBusinessPark_020.jpg	Feature 4	Wooded area to the east of assesment area.	W		13/02/14	LWP
G2365_SnowdoniaBusinessPark_021.jpg		General shot of field.	NE		13/02/14	LWP
G2365_SnowdoniaBusinessPark_022.jpg	Feature 8	Two hollow areas (possible small quarry pits)	S	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_023.jpg	Feature 8	Two hollow areas (possible small quarry pits)	W	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_024.jpg	Feature 8	Two hollow areas (possible small quarry pits)	S	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_025.jpg	Feature 8	Two hollow areas (possible small quarry pits)	S	1x1m	13/02/14	LWP
G2365_SnowdoniaBusinessPark_026.jpg	Feature 9	Possible stone clearance cairn	SW	1x1m	13/02/14	LWP



## **APPENDIX IV**

**Sites on the Gwynedd Historic Environment Record within a 500m radius of the Assessment Area**

PRN	SITE_NAME	FORM	TYPE	BROAD CLASS	PERIOD	SITE SATUS	NGR	MAP SHEET	EASTING	NORTHING
12630	Bron-y-garth Hospital;old Workhouse		BUILDING	Civil	Post-Medieval	Listed Building LB II	SH60353865	SH63NW	260350	338650
12631	Bron-y-garth Hospital		BUILDING	Civil	Post-Medieval	Listed Building LB II	SH60273864	SH63NW	260270	338640
20668	Quarry, Bron Turnor	Other Structure	QUARRY	Industrial	Post-Medieval	Snowdonia National Park	SH60203870	SH63NW	260200	338700
21176	Ffestiniog Union Workhouse, Minffordd	Building - Roofed	BUILDING	Domestic	Post-Medieval	Listed Building LB	SH60423877	SH63NW	260420	338770
3887	Trackway, Nr. Penrhyndeudraeth	Earthwork	TRACKWAY	Transport	Unknown		SH60003800	SH63NW	260000	338000
4181	Bronze Age Axe Head - Findspot	Find Only	FINDSPOT	Object	Bronze Age		SH60003800	SH63NW	260000	338000
4347	Bronze Age Axe Head - Findspot	Find Only	FINDSPOT	Object	Bronze Age		SH61003900		261000	339000
17821	Part of Roman Road, Segontium to Pen Llystyn to Tomen y Mur	Document	ROAD	Transport	Roman		SH59233829		259230	338290





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