

Gilfach Ddu, Llanberis

Archaeological Watching Brief 2025
Briff Gwyllo Archeolegol 2025



Archaeoleg Gwynedd
Heneb
Gwynedd Archaeology

Gilfach Ddu, Llanberis

Archaeological Watching Brief 2025 Briff Gwyllo Archaeolegol 2025

Yr Amgylchedd Hanesyddol yn Cofnodi Prif Gyfeirnod /
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Delwedd clawr blaen / Front Cover image: Post-excavation view of target area; scale not used; view from SE (archive reference: E49140_035.JPEG).



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Approvals Table				
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CRYNHODEB ANHECHNEGOL

Gomisiynwyd Heneb: Archaeoleg Gwynedd (Gwasanaethau Archaeolegol) gan YGC i gynnal briff gwylio archaeolegol yn ystod gwaith cloddio yn Gilfach Ddu, Llanberis. Mae'r briff gwylio archaeolegol yn cael ei gynnal cyn prosiect datblygu sy'n cynnwys bloc toiledau newydd ynghyd â gwaith d tirdraeniad a ymylfeini cysylltiedig yn Gilfach Ddu, Llanberis.

Mae'r safle datblygu wedi'i leoli wrth ymyl yr hen bloc toiledau, ac mae'n 80 metr i'r gogledd o Amgueddfa Lechi Genedlaethol Llanberis. Mae'r datblygiad hwn yn rhan o raglen sy'n cael ei chynnal ar hyn o bryd o fewn tir y chwarel i wella cyfleusterau i ymwelwyr.

Cadarnhaodd canlyniadau'r briff gwylio fod yr ardal wedi'i hysgubo yn flaenorol drwy waith adeiladu, heb unrhyw nodweddion nac adneuon archaeolegol wedi'u canfod. Nodwyd un bibell fetel yn nghornel ddwyreiniol ddeheuol yr ardal gloddio, a'i dehongli fel pibell ddraen ôl-ganoloesol debygol. Roedd yr ardal gloddio yn cael ei nodweddu gan weithgarwch modern yn gysylltiedig â gwaith adeiladu blaenorol, gan gynnwys pibelli modern yn ogystal â phibell ddraen ôl-ganoloesol bosibl.

NON-TECHNICAL SUMMARY

Heneb: Gwynedd Archaeology (Archaeological Services) was commissioned by YGC to undertake an archaeological watching brief during groundworks at Gilfach Ddu, Llanberis. The archaeological watching brief is being carried out ahead of a development project comprising of a new toilet block along with associated drainage and kerbing work at Gilfach Ddu, Llanberis.

The development site is situated adjacent to the old toilet block and is 80 metres to the north of the Llanberis National Slate Museum. This development is part of a programme currently being undertaken within the quarry grounds to improve visitor facilities.

Results from the watching brief confirmed that the area had been previously disturbed by being built up, with no archaeological features or deposits encountered. A single metal pipe situated in the southeast corner of the excavation area was identified and was interpreted as being a probable post-medieval drainpipe. The excavation area was characterised by modern activity associated with previous construction works and included modern piping, as well as a possible post-medieval drainpipe.

1 INTRODUCTION

Heneb: Gwynedd Archaeology (Heneb GA) was commissioned by YGC to undertake an archaeological watching brief during groundworks at Gilfach Ddu, Llanberis, (NGR: SH 58548 60416; [Figure 01](#)). The archaeological watching brief is being carried out ahead of a development project comprising of a new toilet block along with associated drainage and kerbing work at Gilfach Ddu, Llanberis; [Figure 02](#) and [03](#).

The development site is situated adjacent to the old toilet block and is 80 metres to the north of the Llanberis National Slate Museum. This development is part of a programme currently being undertaken within the quarry grounds to improve visitor facilities.

The archaeological watching brief was undertaken between during 2025 and completed under planning reference C24/0451/18/LL and conditions set out by the regional Planning Archaeologist (Heneb: Gwynedd Planning). The works were monitored by Heneb: Gwynedd Archaeology (Archaeological Services) and undertaken in accordance with an approved written scheme of investigation ([Appendix I](#)).

In line with the regional Historic Environment Record (HER) requirements, the HER was contacted at the onset of the project to ensure that any data arising was formatted in a manner suitable for accession; The regional Historic Environment Record Event Primary Reference Number for this project is **49140**. The watching brief monitored all intrusive groundworks to archaeological depth and/or glacial horizon whichever was encountered first, and was conducted in accordance with the following guidelines:

- Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 2 (The Welsh Archaeological Trusts, 2022);
- Guidelines for digital archives (Royal Commission on Ancient and Historic Monuments of Wales, 2015);
- Management of Archaeological Projects (English Heritage, 1991);
- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015);
- Standard And Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists, 2020);
- Standard And Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (Chartered Institute for Archaeologists, 2020).

- Standard for archaeological monitoring & recording (Chartered Institute for Archaeologists, 2023); and
- Universal Guidance for archaeological monitoring & recording (Chartered Institute for Archaeologists, 2023).

Heneb: Gwynedd Archaeology a Registered Organisation with the Chartered Institute for Archaeologists (CIfA).

1.1 Aims and Objectives

The key aims and objectives were to:

- establish the date and nature of any archaeological remains identified within the development area and assess their implications for understanding local historical development, in conjunction with the known archaeological record, which includes post-medieval slate quarrying activity throughout the local landscape;
- to place the results in context, reference shall be made to *A Research Framework for the Archaeology of Wales Version 03, Final Refresh Document* (March 2017); and
- if no additional archaeological activity is identified, establish why this was the case.

1.2 Acknowledgement

Heneb: Gwynedd Archaeology would like to thank the following for their contribution and support:

- Heneb: Gwynedd Archaeology project team: Jessie Baumgardner and Carolina Guimarães Ferreira;
- Client: (YGC); and
- Heneb: Gwynedd Archaeology Planning: Jenny Emmett.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 General History

The Dinorwig Quarry is one of the most prominent slate quarries in North Wales, located near Llanberis in Gwynedd, on the northern flank of the Elidir Fawr mountain. Slate extraction in North Wales dates back to Roman times, but the industry began to expand rapidly in the 18th and 19th centuries. Slate was highly valued for its durability and fire resistance, making it an ideal roofing material, which was in high demand as Britain underwent rapid urbanization during the Industrial Revolution (Williams, 2017). The growing demand for slate, particularly for export, made quarries like Dinorwig central to the regional economy.

The Welsh slate industry expanded significantly in the 18th century, with major quarries like Dinorwig and Penrhyn leading the way. By the early 19th century, North Wales had become one of the world's most significant sources of slate, with demand driven by construction booms across Britain and Europe (Richards, 1998).

The Dinorwig Quarry began commercial operations in 1787, under the ownership of Thomas Assheton Smith, a prominent landowner with estates in the area. Assheton Smith saw the potential for large-scale slate production and invested heavily in the quarry's expansion during the early 19th century. By the 1820s, Dinorwig had become one of the largest slate quarries in the world, primarily producing roofing slates and other slate products such as slabs and tombstones (Gwyn, 2015).

Throughout the 19th century, Dinorwig was a key player in the slate industry, helping to make North Wales the world's foremost supplier of slate. The slate was shipped across Britain and internationally, facilitated by the development of transportation infrastructure, such as the Dinorwig Railway (Williams, 2017).

By the mid-19th century, the Dinorwig Quarry employed over 3,000 workers, making it a significant economic force in the Llanberis area. The quarry was organized into a series of terraces or "levels," carved into the mountainside, where workers extracted slate by hand. The work was physically demanding and dangerous, as men used basic tools such as hammers and chisels to break the rock, with the constant risk of accidents (Richards, 1998).

One of the major developments that allowed for the expansion of Dinorwig's operations was the completion of the Dinorwig Railway in 1843. The railway, which connected the quarry to Port Dinorwic (Y Felinheli), allowed for easier transportation of slate to markets across the UK

and abroad. Originally a horse-drawn tramway, it was later adapted for steam locomotives, which further improved the efficiency of slate transport (Gwyn, 2015).

The slate industry was marked by frequent tension between quarry owners and workers. At Dinorwig, the Assheton Smith family, who controlled the quarry, had a reputation for being particularly authoritarian. Quarrymen, who were paid based on the quantity and quality of slate they extracted, often found themselves at odds with the owners over pay and working conditions (Williams, 2017). Despite the risks and gruelling work, employment at Dinorwig was highly valued, as it provided a relatively stable income in an otherwise rural economy.

Quarrymen at Dinorwig and other North Wales quarries became politically active, organising strikes and unions to push for better wages and working conditions. In the late 19th century, there were several notable disputes, including a prolonged strike in the 1880s that saw workers demanding higher pay and shorter working hours (Richards, 1998). These labour movements were part of a broader tradition of working-class activism in Wales, which would later influence the development of socialist and trade union movements across Britain.

The early 20th century saw the gradual decline of the Welsh slate industry, including at Dinorwig. The advent of alternative roofing materials, such as clay tiles and cheaper imported slate, reduced the demand for Welsh slate. Economic downturns, including the Great Depression of the 1930s, further weakened the industry, and Dinorwig struggled to remain profitable (Gwyn, 2015).

Although Dinorwig continued to operate during World War II, the post-war period saw a sharp decline in slate production. By the 1960s, it was clear that the quarry could no longer compete with cheaper alternatives, and large-scale operations at Dinorwig ceased in 1969 (Williams, 2017). The closure marked the end of an era for the Llanberis area, which had been shaped by the slate industry for nearly two centuries.

While quarrying activities ceased, the Dinorwig site has found new life through modern developments. One of the most significant transformations has been the construction of the Dinorwig Power Station, also known as Electric Mountain, in the 1970s. The station, a pumped-storage hydroelectric facility, uses water from nearby lakes to generate electricity during peak demand periods. It is housed inside the mountain, utilising some of the former quarry's tunnels and infrastructure (Richards, 1998).

The site and stories of the quarrymen have seen extensive research and study over the years due to the geographical impact of the slate mines upon the landscape of Wales and the cultural and social histories of those who worked at Dinorwig. Two books have been written about

Dinorwig, Chambers Jones, R 2006 *Dinorwic - The Llanberis Slate Quarry, 1780-1969* and Carrington, D. C. 1994 *Delving in Dinorwig*.

The former quarry has also become a significant tourist destination. The National Slate Museum, located in the old quarry workshops at Gilfach Ddu in Llanberis, preserves the history of the Welsh slate industry. The museum provides a detailed account of the quarrying process, as well as the social history of the workers who toiled in the quarries (Gwyn, 2015). Additionally, the quarry has become popular with outdoor enthusiasts, offering opportunities for climbing, hiking, and exploring the dramatic post-industrial landscape.

2.2 Archaeological evidence

A brief examination of the Gwynedd HER reveals that the proposed development area is positioned close to, if not on top of the Dinorwig Quarry railway (PRN 59324) which runs into the Dinorwic (sic) Workshop Complex (PRN 2442).

More broadly and within the local of the proposed development area, the first survey of historical assets related to the Dinorwig Quarry was undertaken by Gwynedd Archaeological Trust (now known as Heneb) in 1995 (Davidson, A., et al, 1995). The survey identified 218 assets which were characterised only by type. Furthermore, in 2018 Gwynedd Archaeological Trust carried out a more thorough walkover survey using the previous survey from 1995 as a guide. This survey identified an additional 161 assets within the site boundary, bringing the total number of historical assets to 379. These were recorded with descriptive records, photographs and the sites were categorised into character areas (GAT Report No.1428 and 1622).

During 2023, a Level 3 Building Records was undertaken, following the site's designation as a UNESCO world heritage site and ahead of the Fire Queen sheds for the display of the Fire Queen steam engine (GAT reports No.1700 and 1735). Conservation work in the Dinorwig Quarry is an ongoing project which currently includes conservation work to the A1 incline and associated drumhouses (Heneb GA Project HD24-027).

2.3 Cartographic Evidence and History of Land Ownership

The First to Third Edition Ordnance Survey maps at a scale of 25 inches to 1 mile (Sheet XI.6, published in 1889, 1900, and 1914, respectively; cf. [Figures 04](#), [05](#), and [06](#)), reveal, an active quarry with railway infrastructure leading into Gilfach Ddu dressing and workshop area. The proposed development lies within an area that remains of railway track could still be present beneath the modern tarmacadam.

2.4 Location and Geological Summary

The development area is positioned within the confines of the Gilfach Ddu carpark, adjacent and to the north of the museum (Figure 01). The Soils consist of restored soils mostly from quarry and opencast spoil (Soilscapes, 2024).

The bedrock consists of Llanberis Slates Formation - Mudstone and siltstone. Sedimentary bedrock formed between 526 and 508 million years ago during the Cambrian period (Source: BGS, 2024).

3 METHODOLOGY

3.1 Introduction

The watching brief aimed to uncover and document any archaeological activity within the development footprint, as outlined in ([Figure 01](#)). This involved the controlled reduction of the ground level under archaeological supervision. The groundworks were carried out by plant and operators which were contracted by YGC, with the fieldwork taken place between 20th and 22nd January 2025.

The following methodology applied:

- The development area has been scanned with a cable avoidance tool in consultation to the modern services plan by the client.
- The ground level within the development was reduced by a tracked excavator fitted with a toothless bucket as far as the glacial horizon or an archaeological horizon, whichever was encountered first;
- All attendances, subsurface activity and photographs, were recorded using Heneb pro-formas. Records include subsurface depths, as well as the composition of the glacial horizon;
- Photographic images were taken using a digital SLR (Nikon D3100) camera set to maximum resolution (4,608 x 3,072) in RAW format and archived in TIFF format using Adobe Photoshop. A total of 15 photographic images were taken during the watching brief (archive reference numbers E49140_001 to E49140_035; see [Appendix II](#) for the photographic metadata. A photographic ID board was used during the watching brief to record site code, image orientation and any relevant context numbers.

3.2 Data Management Plan

The fieldwork data has been used as the basis for the physical and digital dataset archives and used to compile the project report. The physical archive has been stored in a designated project folder and the location confirmed in Heneb's project database; the digital dataset has been stored on a dedicated Heneb server, with the location confirmed in the Heneb project database via a specific hyperlink. There is no de-selected digital data.

External datasets for the regional HER and RCAHMW are as follows:

- HER: digital report (PDF format) and Event PRN summary (Microsoft Excel format); the report and dataset have been prepared in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 2.0); and
- RCAHMW: a digital report (PDF format) and digital archive dataset have been prepared in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset includes:
 - Photographic metadata (Microsoft Access);
 - Photographic archive (TIFF format);
 - Project Information form (Microsoft Excel);
 - File Information form (Microsoft Excel) – Microsoft Word report text final;
 - File Information form (Microsoft Excel) – Photographic metadata (general);
 - File Information form (Microsoft Excel) – Adobe PDF report final; and
 - File Information form (Microsoft Excel) - Photographic metadata (detail).

On final approval, the following dissemination and archiving of the report and digital dataset will apply:

- A digital report(s) will be provided to the client and the Senior Heneb: Gwynedd Development Control Archaeologist (draft report then final report);
- A digital report will be provided to the regional Historic Environment Record; this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the*

Submission of Data to the Welsh Historic Environment Records (HERs) (Version 2);
and

- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset will be prepared in the format required by RCAHMW and will include:
 - Photographic metadata (Microsoft Access);
 - Photographic archive (TIFF format);
 - Project Information form (Excel);
 - File Information form (Excel) – Microsoft Word report text final;
 - File Information form (Excel) – Photographic metadata (general);
 - File Information form (Excel) – Adobe PDF report final; and
 - File Information form (Excel) - Photographic metadata (detail).

3.3 Selection Strategy

As defined in *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists, 2020) section 3.3.1, a project specific selection strategy and data management plan should be prepared. In support of this, the Chartered Institute for Archaeologist (CIfA), have stated that it is “widely accepted that not all the records and materials collected or created during the course of an Archaeological Project require preservation in perpetuity. These records and materials constitute the Working Project Archive which will be subject to Selection, in order to establish what will be retained for long-term curation”. The aim of selection is to ensure that all the elements retained from the Working Project Archive for inclusion in the Archaeological Archive are appropriate to establish the significance of the project and support “future research, outreach, engagement, display and learning activities”. Selection should be “focused on selecting what is to be retained to support these future needs, rather than deciding what can be dispersed” and can be qualified by a selection strategy, which details the project-specific selection process, agreed by all parties (including the Senior Heneb: Gwynedd Development Control Archaeologist, client and/or landowner), which will be applied to a Working Project Archive prior to its transfer into curatorial care as the Archaeological Archive.

The selection strategy is summarised in [Appendix III](#) and will be finalised in the mitigation report; the strategy will take into account:

- The aims and objectives of the project.
- The brief and/or Written Scheme of Investigation (WSI).
- The Collecting Institution’s collection policy and/or deposition guidelines.
- Regional & relevant thematic or period specific research frameworks.
- The projects Data Management Plan (DMP).
- Internal recording and reporting policies.
- Material-specific guidance documents.

4 RESULTS

4.1 Introduction

All individual features, deposits and fills identified during the watching brief were given a unique identifying number. Context numbers within round brackets (e.g. (01)) represent layers, deposits, and fills. Significant identified features have been given PRN (Primary Reference Number) numbers for inclusion on the Gwynedd HER. In the text these numbers follow the letters PRN.

The archaeological watching brief monitored the removal of made ground within the targeted excavation area which consists of the proposed WC block, ticketing office and interpretation and meeting space, as shown in [Figure 02](#). The site is located in a public area consisting of a paved surface with several trees, a public toilet block located to the north, a building holding a number of creative small businesses to the west, and a small ticket office to the south end (Plates 1 and 2). The watching brief monitored excavation works down to a maximum depth of 1.2m, the glacial horizon was partly reached in the southwest corner of the targeted area (Plates 3, 4 and 10).

No archaeology was encountered during the watching brief.

4.2 Watching Brief

The deposit matrix was entirely made ground consisting of three distinguishable layers (001, 002, and 003), capped by a paving surface composed of black brick tiles (Plates 3, 5, and 6). A layer of grey fine sand (001) was noted underlying the paving bricks and measured 0.15m deep. Beneath, was a thick layer (002) of medium to large slate chippings mixed with occasional large blocks of machine cut slate, with occasional timbers noted at the eastern side of the limit of excavation. This deposit included a lens of orange yellow gravel with sand likely to be redeposited natural. The layer reached up to 1.17m deep in the southeast corner of the excavation area and was interpreted as made ground and of modern date.

The natural (003) was reached in the southwest corner of the excavation area at a depth of 0.83m, and consisted of orange yellow gravel with sand, mixed with occasional subrounded stone inclusions (Plate 4).

A metal pipe was noted running a north-south direction through the excavation area, at a depth of 0.83m, and has been interpreted as a probable post-medieval drain pipe (Plates 7 and 8).

A plastic pipe was encountered in the section in the west side of the excavation area, this was interpreted as modern and likely associated with drainage (Plates 2 and 9).

5 CONCLUSION

Heneb: GA was commissioned by YGC to undertake an archaeological watching brief during groundworks at Gilfach Ddu, Llanberis. The archaeological watching brief is being carried out ahead of a development project comprising of a new toilet block along with associated drainage and kerbing work at Gilfach Ddu, Llanberis.

The development site is situated adjacent to the old toilet block and is 80 metres to the north of the Llanberis National Slate Museum. This development is part of a programme currently being undertaken within the quarry grounds to improve visitor facilities.

Results from the watching brief confirmed the excavation area was entirely of made ground, with no archaeological features or deposits encountered. A single metal pipe situated in the southeast corner of the excavation area was identified was interpreted as a probable post-medieval drainpipe.

The excavation area was characterised by modern activity associated with previous construction works and included modern piping, as well as a possible post-medieval drainpipe.

7 SOURCES CONSULTED

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15. Standard And Guidance for Archaeological Monitoring and Recording (Chartered Institute for Archaeologists, 2023);

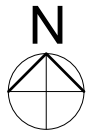
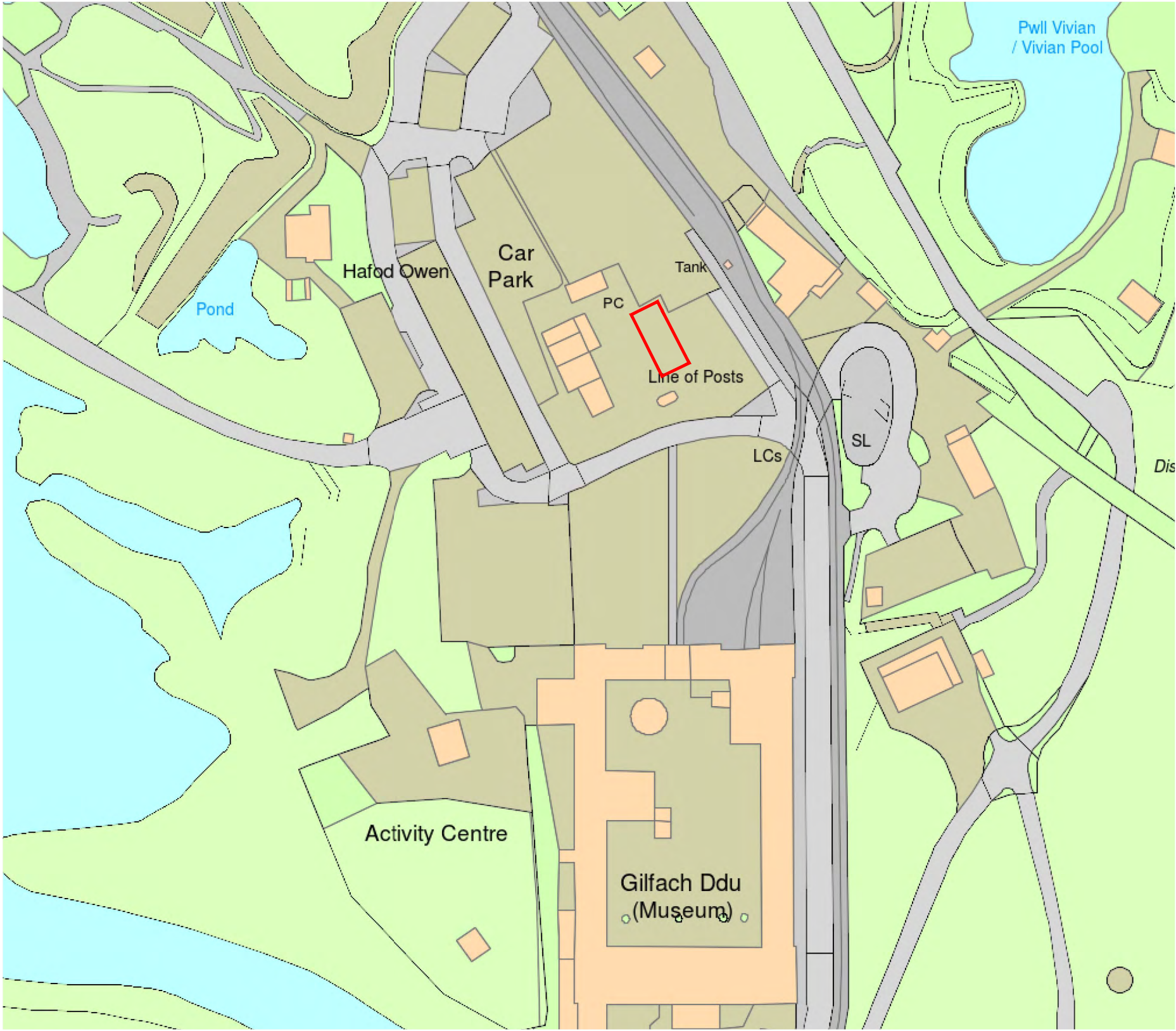
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Websites

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FIGURE 01

Client produced location plan of development area highlighted 'Red'. Chambers Architecture Conservation. Drawing No. 001. Scale: 1:2,500@ A3.



Note - The boundary of
Parc Padarn and
Cyngor Gwynedd's
ownership extends to
the full area of this map



PROJECT
GILFACH DDU
PADARN COUNTRY PARK

JOB NUMBER
LPCP.06

DRAWING TITLE
LOCATION PLAN

DRAWING STATUS
PLANNING

DRAWING NO.
001

REVISION
-

SIZE & SCALE
1:1250 @ A3

First Issue
JUNE 24

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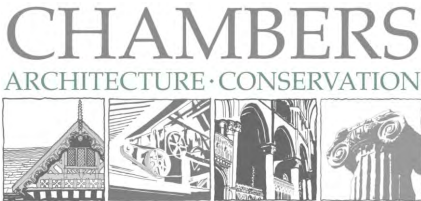


FIGURE 02

Client produced proposed site plan. Chambers Architecture Conservation. Drawing No. 106. Scale: 1 : 200@A3.



Note
The landscaping proposal as shown is indicative and is currently being developed by Harrison Design Development. The landscaping of the WC block and surrounding area is being looked in parallel as part of a co-ordinated strategy for the wider area and will form a separate planning application.

PROJECT **GILFACH DDU
PADARN COUNTRY PARK**

JOB NUMBER **LPCP.06**

DRAWING TITLE **PROPOSED SITE PLAN**

DRAWING STATUS **PLANNING**

DRAWING NO. **106**

REVISION **-**

SIZE & SCALE **1:200 @ A3**

First Issue **JUNE 24**

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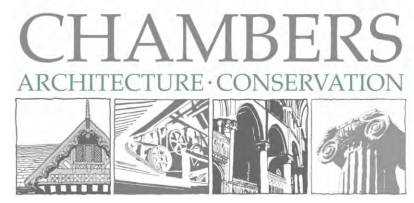
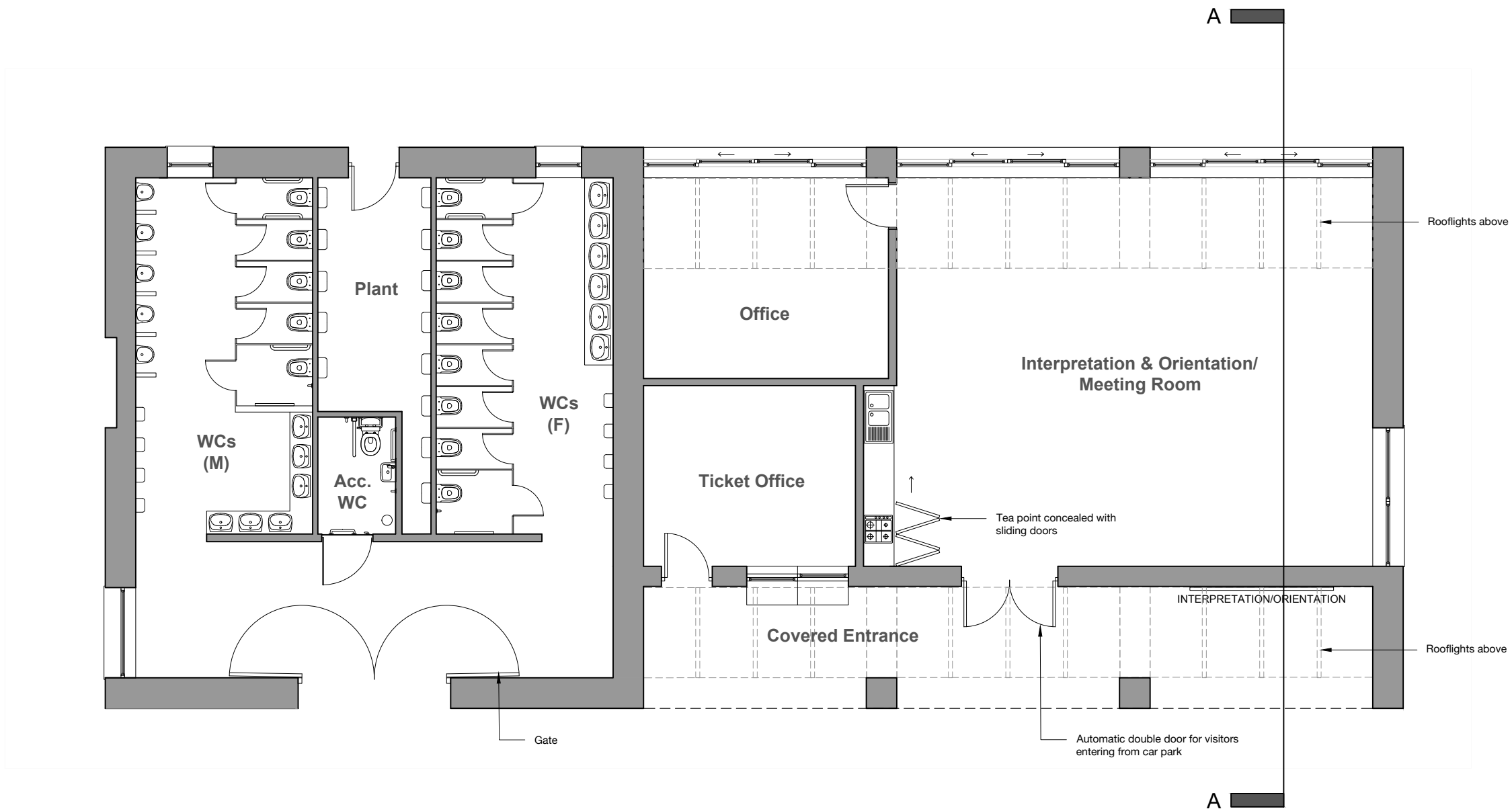


FIGURE 03

Client produced proposed development plan showing internal layout. Chambers Architecture Conservation. Drawing No. 104. Scale: 1 : 100@A3.



PROJECT GILFACH DDU
PADARN COUNTRY PARK

JOB NUMBER LPCP.06

DRAWING TITLE PROPOSED PLAN

DRAWING STATUS PLANNING

DRAWING NO. 104

REVISION -

SIZE & SCALE 1:100 @ A3

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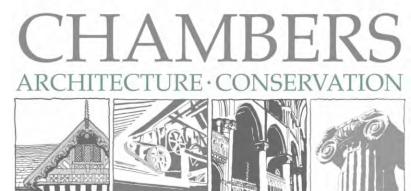


FIGURE 04

Reproduction of Ordnance Survey First Edition 25-inch to 1mile Caernarvonshire County Series Map Sheets XVI.8 and XVII.5, published 1889 and 1890 showing approximate location of development site outlined in red. Scale 1:1000@A3

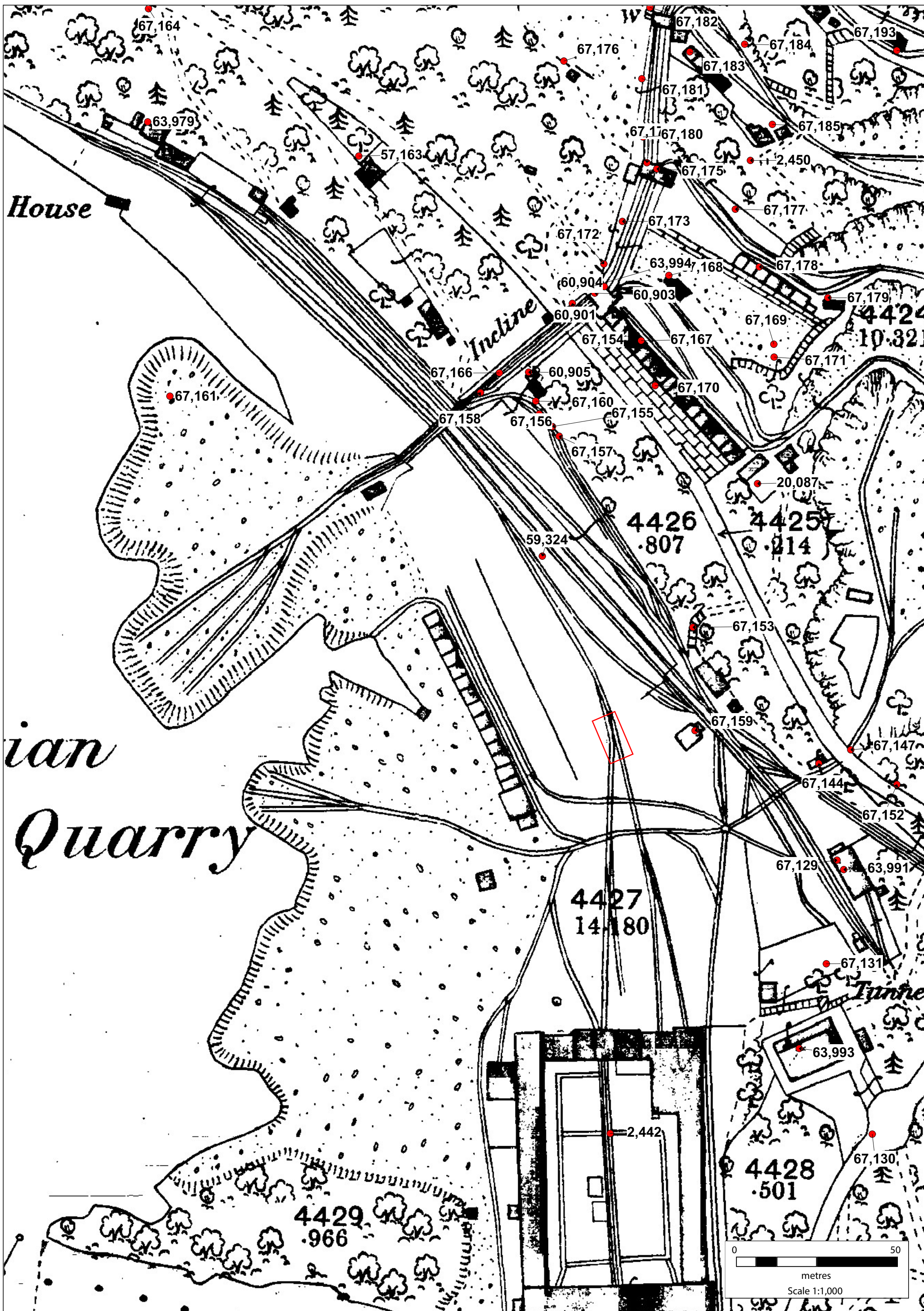


FIGURE 04: Reproduction of Ordnance Survey First Edition 25-inch to 1 mile Caernarvonshire County Series Map Sheets XVI.8 and XVII.5, published 1889 and 1890 showing approximate location of development site outlined in red. Scale 1:1000@ A3.

FIGURE 05

Reproduction of Ordnance Survey Second Edition 25-inch to 1mile Caernarvonshire County Series Map Sheets XVI.8 and XVII.5, published 1900 showing approximate location of development site outlined in red. Scale 1:1000@ A3

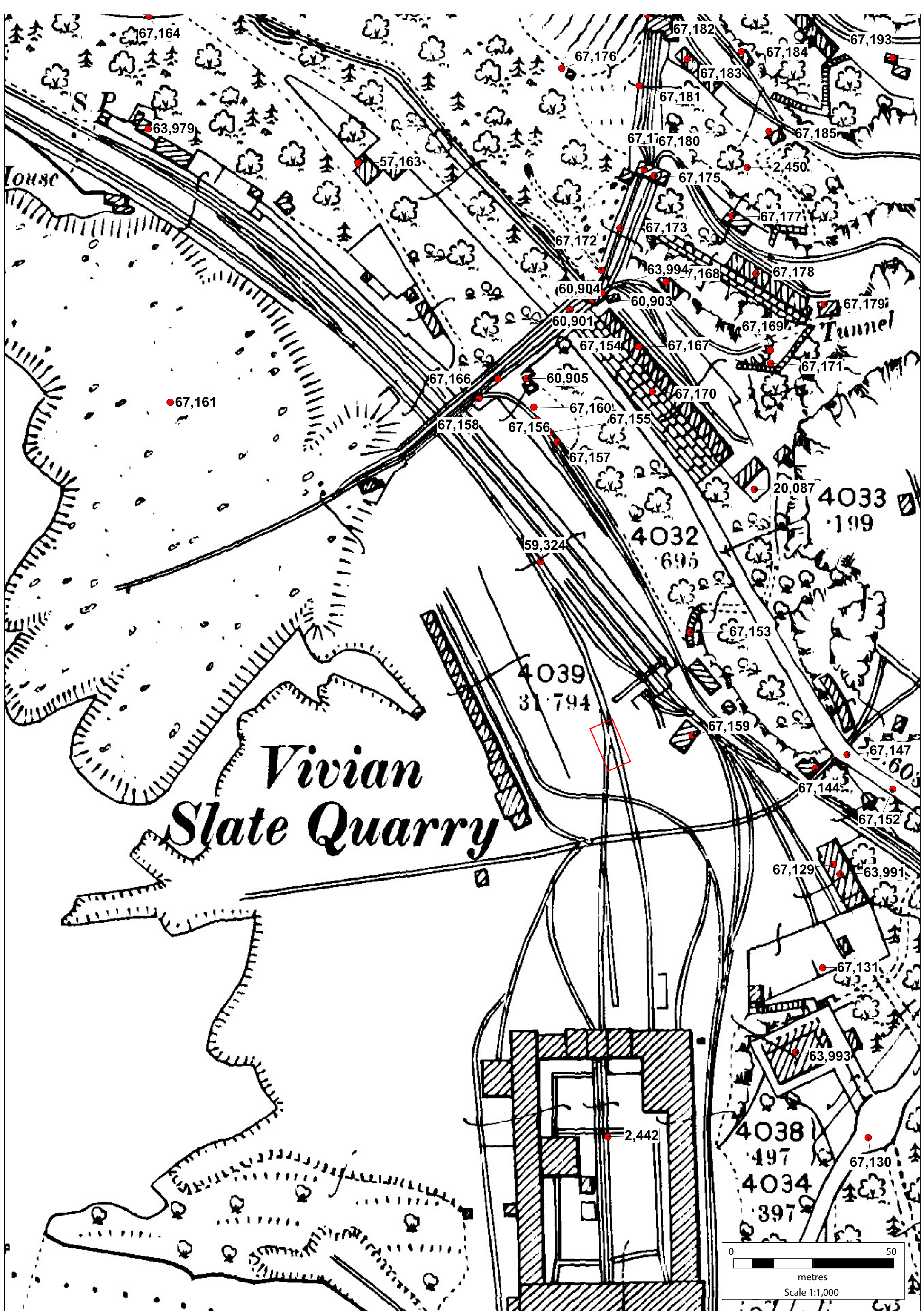


FIGURE 06

Reproduction of Ordnance Survey Third Edition 25-inch to 1mile Caernarvonshire County Series Map Sheet XVI.8, published 1914 showing approximate location of development site outlined in red. Scale 1:1000@ A3.

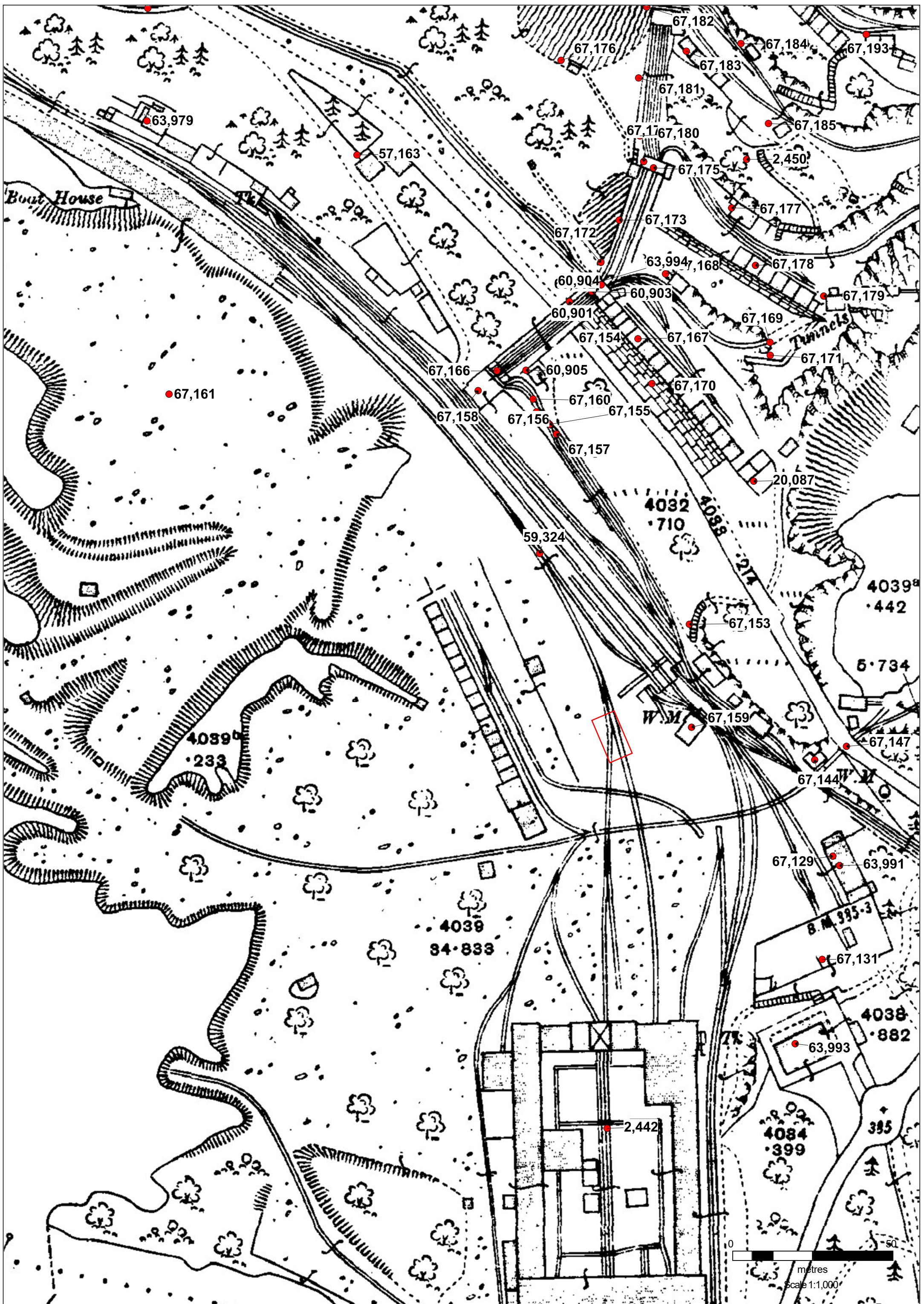


FIGURE 06: Reproduction of Ordnance Survey Third Edition 25-inch to 1 mile Caernarvonshire County Series Map Sheet XVI.8, published 1914 showing approximate location of development site outlined in red. Scale 1:1000@A3.



Plate 1: Oblique view of excavation in progress; scale not used; view from S (archive reference: E49140_020.JPEG).



Plate 2: Oblique view of excavation in progress; scale not used; view from E (archive reference: E49140_021.JPEG).



Plate 3: West southwest facing section of southeast corner of excavated area; scale 1x1m; view from WSW (archive reference: E49140_019.JPEG).



Plate 4: Working view of target area being excavated, showing made ground; scale 1x1m; view from SSE (archive reference: E49140_012.JPEG).

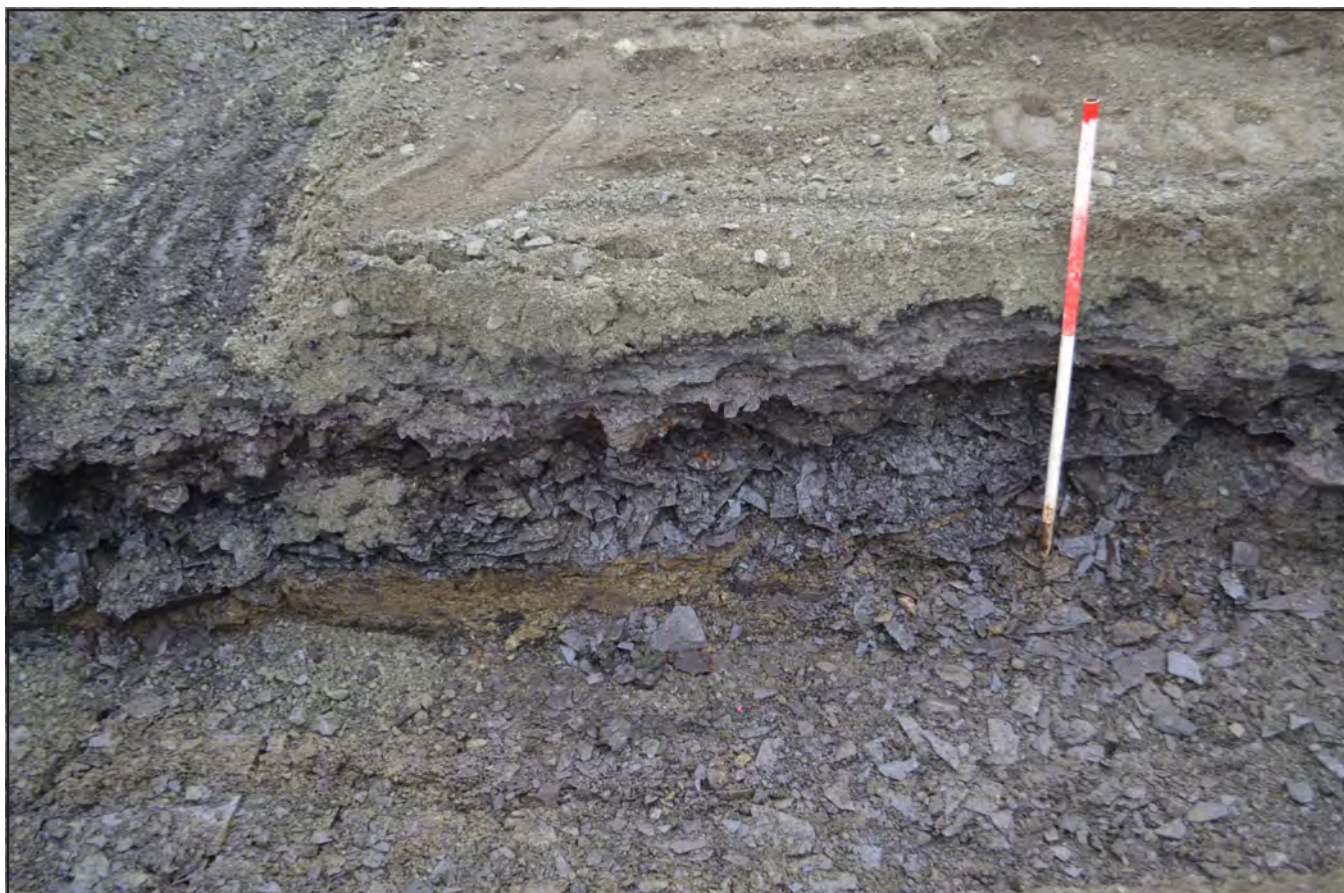


Plate 5: South southeast facing section of excavated area, in progress; scale 1x1m; view from SSE (archive reference: E49140_008.JPEG).



Plate 6: View of area excavated, with south southeast facing section showing made ground; scale 1x1m; view from SSE (archive reference: E49140_029.JPEG).



Plate 7: Close-up view of pipe to nearby businesses; scale not used; view from WSW
(archive reference: E49140_015.JPEG).



Plate 8: View of pipe in context; scale 1x1m; view from WSW (archive reference:
E49140_016.JPEG).



Plate 9: View of plastic pipe in section, in west portion of excavated area; scale 1x1m; view from NNE (archive reference: E49140_017.JPEG).



Plate 10: Post-excavation view of excavated area; scale not used; view from SE (archive reference: E49140_035.JPEG).

APPENDIX I

Heneb Written Scheme of Investigation

GILFACH DDU, LLANBERIS, GWYNEDD (HD24-093)




WRITTEN SCHEME OF INVESTIGATION FOR
ARCHAEOLOGICAL WATCHING BRIEF

Historic Environment Record Event Primary Reference Number
49140

Prepared for YGC

October 2024



Approvals Table				
	Role	Printed Name	Signature	Date
Originated by	Document Author	Michael Lynes		16/10/2024
Reviewed by	Document Reviewer	John Roberts		17/10/2024
Approved by	Principal Archaeologist	John Roberts		17/10/2024

Revision History			
Rev No.	Summary of Changes	Ref Section	Purpose of Issue
1	Take out strip/map/sample	3.1	Heneb: Gwynedd Planning Service review
2	Change wording on artefacts	3.4	Heneb: Gwynedd Planning Service review
3	On-site public comms	6	Heneb: Gwynedd Planning Service review

All Heneb staff should sign their copy to confirm the project specification is read and understood and retain a copy of the specification for the duration of their involvement with the project. On completion, the specification should be retained with the project archive:

Name

Signature

Date

GILFACH DDU, LLANBERIS, GWYNEDD (HD24-093)

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL WATCHING BRIEF

Prepared for YGC, October 2024

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1 INTRODUCTION

Heneb: Gwynedd Archaeology (Heneb GA) has been commissioned by YGC to undertake an archaeological watching brief during groundworks at Gilfach Ddu, Llanberis, (NGR: SH 58548 60416; [Figure 01](#)). The archaeological watching brief is being carried out ahead of a development project comprising of a new toilet block along with associated drainage and kerbing work at Gilfach Ddu, Llanberis; [Figure 02](#) and [03](#).

The development site is situated adjacent to the old toilet block (which will be demolished) and is 80 metres to the north of the Llanberis National Slate Museum. This development is part of a programme currently being undertaken within the quarry grounds to improve visitor facilities.

The archaeological watching brief will be undertaken under planning consent reference C24/0451/18/LL, with conditions set by the regional archaeological planning authority, as follows:

a) No development (including topsoil stripping or other groundworks) shall take place until a specification for a programme of archaeological work has been submitted to and approved in writing by the Local Planning Authority. The development must be carried out, and all archaeological work completed, in strict accordance with the approved details.

b) A detailed report on the archaeological work, as required by condition (a), must be submitted to and approved in writing by the Local Planning Authority within six months of the completion of the archaeological fieldwork.

The watching brief is scheduled to begin during mid-January 2025, in accordance with the following guidelines:

- Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 2 (The Welsh Archaeological Trusts, 2022);
- Guidelines for digital archives (Royal Commission on Ancient and Historic Monuments of Wales, 2015);
- Management of Archaeological Projects (English Heritage, 1991);
- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015);
- Standard And Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists, 2020);

- Standard And Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (Chartered Institute for Archaeologists, 2020).
- Standard for archaeological monitoring & recording (Chartered Institute for Archaeologists, 2023); and
- Universal Guidance for archaeological monitoring & recording (Chartered Institute for Archaeologists, 2023).

Heneb: Gwynedd Archaeology a Registered Organisation with the Chartered Institute for Archaeologists (CIfA).

1.1 Aims and Objectives

The key aims and objectives are to:

- establish the date and nature of any archaeological remains identified within the development area and assess their implications for understanding local historical development, in conjunction with the known archaeological record, which includes post-medieval slate quarrying activity throughout the local landscape;
- to place the results in context, reference shall be made to *A Research Framework for the Archaeology of Wales Version 03, Final Refresh Document* (March 2017); and
- if no additional archaeological activity is identified, establish why this may be the case.

1.2 Monitoring Arrangements

The archaeological watching brief will be monitored by the Heneb: Gwynedd Senior Development Control Archaeologist. The content of this written scheme of investigation (WSI) and all subsequent reporting by GA must be approved by the Senior Heneb: Gwynedd Development Control Archaeologist prior to final issue. The Senior Heneb: Gwynedd Development Control Archaeologist will be kept informed of the project timetable and of the subsequent progress and findings. This will allow time to arrange monitoring visits and attend site meetings (if required) and enable discussion about the need or otherwise for further works (if required) as features of potential archaeological significance are encountered.

- Jenny Emmett | jenny.emmett@heneb.co.uk | 07824481052

1.3 Historic Environment Record

In line with Gwynedd Historic Environment Record (HER) requirements, the HER will be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the HER and follows the guidance set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (The Welsh Archaeological Trusts, 2022). In line with this guidance, all submitted reporting will need to include the equivalent of a non-technical summary in Welsh and English at the front of the report combined with short bilingual summaries of the principal Historic Assets recorded during the event. These requirements are mandatory. The Gwynedd HER event primary reference number is **49140**.

Gwynedd HER will also be responsible for supplying Primary Reference Numbers (PRN) for new assets identified and recorded.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 General History

The Dinorwig Quarry is one of the most prominent slate quarries in North Wales, located near Llanberis in Gwynedd, on the northern flank of the Elidir Fawr mountain. Slate extraction in North Wales dates back to Roman times, but the industry began to expand rapidly in the 18th and 19th centuries. Slate was highly valued for its durability and fire resistance, making it an ideal roofing material, which was in high demand as Britain underwent rapid urbanization during the Industrial Revolution (Williams, 2017). The growing demand for slate, particularly for export, made quarries like Dinorwig central to the regional economy.

The Welsh slate industry expanded significantly in the 18th century, with major quarries like Dinorwig and Penrhyn leading the way. By the early 19th century, North Wales had become one of the world's most significant sources of slate, with demand driven by construction booms across Britain and Europe (Richards, 1998).

The Dinorwig Quarry began commercial operations in 1787, under the ownership of Thomas Assheton Smith, a prominent landowner with estates in the area. Assheton Smith saw the potential for large-scale slate production and invested heavily in the quarry's expansion during the early 19th century. By the 1820s, Dinorwig had become one of the largest slate quarries in the world, primarily producing roofing slates and other slate products such as slabs and tombstones (Gwyn, 2015).

Throughout the 19th century, Dinorwig was a key player in the slate industry, helping to make North Wales the world's foremost supplier of slate. The slate was shipped across Britain and internationally, facilitated by the development of transportation infrastructure, such as the Dinorwig Railway (Williams, 2017).

By the mid-19th century, the Dinorwig Quarry employed over 3,000 workers, making it a significant economic force in the Llanberis area. The quarry was organized into a series of terraces or "levels," carved into the mountainside, where workers extracted slate by hand. The work was physically demanding and dangerous, as men used basic tools such as hammers and chisels to break the rock, with the constant risk of accidents (Richards, 1998).

One of the major developments that allowed for the expansion of Dinorwig's operations was the completion of the Dinorwig Railway in 1843. The railway, which connected the quarry to Port Dinorwic (Y Felinheli), allowed for easier transportation of slate to markets across the UK and abroad. Originally a horse-drawn tramway, it was later adapted for steam locomotives, which further improved the efficiency of slate transport (Gwyn, 2015).

The slate industry was marked by frequent tension between quarry owners and workers. At Dinorwig, the Assheton Smith family, who controlled the quarry, had a reputation for being particularly authoritarian. Quarrymen, who were paid based on the quantity and quality of slate they extracted, often found themselves at odds with the owners over pay and working conditions (Williams, 2017). Despite the risks and gruelling work, employment at Dinorwig was highly valued, as it provided a relatively stable income in an otherwise rural economy.

Quarrymen at Dinorwig and other North Wales quarries became politically active, organising strikes and unions to push for better wages and working conditions. In the late 19th century, there were several notable disputes, including a prolonged strike in the 1880s that saw workers demanding higher pay and shorter working hours (Richards, 1998). These labour movements were part of a broader tradition of working-class activism in Wales, which would later influence the development of socialist and trade union movements across Britain.

The early 20th century saw the gradual decline of the Welsh slate industry, including at Dinorwig. The advent of alternative roofing materials, such as clay tiles and cheaper imported slate, reduced the demand for Welsh slate. Economic downturns, including the Great Depression of the 1930s, further weakened the industry, and Dinorwig struggled to remain profitable (Gwyn, 2015).

Although Dinorwig continued to operate during World War II, the post-war period saw a sharp decline in slate production. By the 1960s, it was clear that the quarry could no longer compete with cheaper alternatives, and large-scale operations at Dinorwig ceased in 1969 (Williams, 2017). The closure marked the end of an era for the Llanberis area, which had been shaped by the slate industry for nearly two centuries.

While quarrying activities ceased, the Dinorwig site has found new life through modern developments. One of the most significant transformations has been the construction of the Dinorwig Power Station, also known as Electric Mountain, in the 1970s. The station, a pumped-storage hydroelectric facility, uses water from nearby lakes to generate electricity during peak demand periods. It is housed inside the mountain, utilising some of the former quarry's tunnels and infrastructure (Richards, 1998).

The site and stories of the quarrymen have seen extensive research and study over the years due to the geographical impact of the slate mines upon the landscape of Wales and the cultural and social histories of those who worked at Dinorwig. Two books have been written about Dinorwig, Chambers Jones, R 2006 *Dinorwic - The Llanberis Slate Quarry, 1780-1969* and Carrington, D. C. 1994 *Delving in Dinorwig*.

The former quarry has also become a significant tourist destination. The National Slate Museum, located in the old quarry workshops at Gylfach Ddu in Llanberis, preserves the history

of the Welsh slate industry. The museum provides a detailed account of the quarrying process, as well as the social history of the workers who toiled in the quarries (Gwyn, 2015). Additionally, the quarry has become popular with outdoor enthusiasts, offering opportunities for climbing, hiking, and exploring the dramatic post-industrial landscape.

2.2 Archaeological evidence

A brief examination of the Gwynedd HER reveals that the proposed development area is positioned close to, if not on top of the Dinorwig Quarry railway (PRN 59324) which runs into the Dinorwic (sic) Workshop Complex (PRN 2442).

More broadly and within the local of the proposed development area, the first survey of historical assets related to the Dinorwig Quarry was undertaken by Gwynedd Archaeological Trust (now known as Heneb) in 1995 (Davidson, A., et al, 1995). The survey identified 218 assets which were characterised only by type. Furthermore, in 2018 Gwynedd Archaeological Trust carried out a more thorough walkover survey using the previous survey from 1995 as a guide. This survey identified an additional 161 assets within the site boundary, bringing the total number of historical assets to 379. These were recorded with descriptive records, photographs and the sites were categorised into character areas (GAT Report No.1428 and 1622).

During 2023, a Level 3 Building Records was undertaken, following the site's designation as a UNESCO world heritage site and ahead of the Fire Queen sheds for the display of the Fire Queen steam engine (GAT reports No.1700 and 1735). Conservation work in the Dinorwig Quarry is an ongoing project which currently includes conservation work to the A1 incline and associated drumhouses (Heneb GA Project HD24-027).

2.3 Cartographic Evidence and History of Land Ownership

The First to Third Edition Ordnance Survey maps at a scale of 25 inches to 1 mile (Sheet XI.6, published in 1889, 1900, and 1914, respectively; cf. [Figures 04](#), [05](#), and [06](#)), reveal, an active quarry with railway infrastructure leading into Gilfach Ddu dressing and workshop area. The proposed development lies within an area that remains of railway track could still be present beneath the modern tarmacadam.

2.4 Location and Geological Summary

The development area is positioned within the confines of the Gilfach Ddu carpark, adjacent and to the north of the museum (Figure 01). The Soils consist of restored soils mostly from quarry and opencast spoil (Soilscapes, 2024).

The bedrock consists of Llanberis Slates Formation - Mudstone and siltstone. Sedimentary bedrock formed between 526 and 508 million years ago during the Cambrian period (Source: BGS, 2024).

3 METHODOLOGY

3.1 Introduction

The watching brief aims to uncover and document any archaeological activity within the development footprint, as outlined in ([Figure 01](#)). This will involve the controlled reduction of the ground level under archaeological supervision. The groundworks will be carried out by plant and operators which have been contracted by YGC, with fieldwork scheduled for mid-January 2025.

The following methodology will apply:

- The development area will have been scanned with a cable avoidance tool in consultation to the modern services plan by the client.
- The ground level within the development will be reduced by a tracked excavator fitted with a toothless bucket as far as the glacial horizon or an archaeological horizon, whichever is encountered first;
- All attendances, subsurface activity, photographs, and contexts records will be recorded using Heneb pro-formas (cf. [Appendix I](#) and [II](#)). The records will include topsoil and subsoil depths, as well as the composition of the glacial horizon. All encountered subsurface features will be recorded on Heneb pro-formas with detailed notations and will be recorded photographically with an appropriate scale, located via GPS and a measured survey completed, either hand drawn or using a Trimble R8 GPS unit.
- Photographic images will be taken using a digital SLR camera set to maximum resolution in RAW format; the photographic record will be digitised in *Microsoft Access* as part of the fieldwork archive and dissemination process. Photographic images will be archived in TIFF format using Affinity software; the archive numbering system will start from **E49140_001**. A photographic ID board will be used during the watching brief to record site code, image orientation and any relevant context numbers.
- Any archaeological features/deposits/structures encountered will be manually cleaned and examined to determine extent, function, date and relationship to adjacent activity. The following excavation strategy will generally apply: 50% sample of each sub-circular feature, 10% sample of each linear feature (terminal ends and intersection points with other features will be prioritised). However, if more discrete features are identified, these will be 100% excavated;
- Any required plans or sections to be drawn at a minimum 1:10 scale using Heneb A4, A3 or A2 pro-forma permatrace.

Should dateable artefacts, human remains and/or ecofacts be recovered, a post-excavation assessment will be prepared as the initial fieldwork report (MAP2 Phase 3), leading to an Updated Project Design (UPD) for analysis and final reporting (MAP2 Phase 4). Alternatively, depending on quantity and extent of the artefacts and ecofacts, a post-excavation statement will be prepared, followed by MAP2 Phase 4. Additional time, resourcing and costs will be required to undertake any post-excavation programme of works.

3.2 Human Remains

If any human remains are identified that cannot be preserved in situ, any excavation will take place under appropriate regulations and with due regard for health and safety issues. In order to excavate human remains, a Ministry of Justice licence is required under Section 25 of the Burials Act 1857 for the removal of any body or remains of any body from any place of burial. In accordance with the Ministry of Justice licence, recovered remains will be reburied once the investigation and/or assessment/analysis are complete.

Non-fragmented skeletal remains will be excavated using wooden tools and collected and stored in polyethylene bags (with appropriate references for context, grave number, et al) and placed in a lidded cardboard archive box (note: separate boxes for each grave) and stored in a suitable manner within Heneb GA's premises. If significant quantities of human remains are encountered, a human osteologist should be contacted and appointed to advise the team during the fieldwork. The osteologist will be an external appointment: Dr. Genevieve Tellier | Tel: 01286 238827 | email: northwalesosteology@outlook.com who will assist in devising the excavation, recording and sampling strategy for features containing human remains. The osteologist should also help to ensure that adequate post-excavation processing of human remains is carried out so that the material is in a fit state for assessment during the post-excavation stage. For inhumations, this will involve washing, drying, marking and packing.

If human remains are recovered that are deemed suitable for further assessment/analysis, this will be completed in accordance with the osteologist's requirements and with *Human Bones from Archaeological Sites Guidelines for producing assessment documents and analytical reports* (Chartered Institute for Archaeologists, 2017).

3.3 Ecofacts

Should any archaeological features and/or sealed deposits be identified that are deemed suitable for assessment and analysis, bulk ecofact samples will be taken by the Heneb GA Project Archaeologist team using 10 litre sampling buckets. The deposits will be assessed and analysed for plant species and charcoal, with the results used to inform agrarian practices and wood fuel use, as well as possibly dating. Initial assessment would be completed by the Heneb GA Project Archaeologist team using wet sieving, with the subsequent species identification assessment completed by an ecofact specialist (Jackeline Robertson | AOC Archaeology | telephone: 0208 843 7380). Any deposits deemed suitable for dating will be submitted to a laboratory specialising in radiocarbon dating (e.g., SUERC).

Any ecofact assessment/analysis will require additional resourcing and cost.

3.4 Artefacts

Diagnostic artefacts will be retained for further examination and identification. Pottery sherds from the 19th and 20th century date will be retained, noting the context from which they were retrieved. Any artefacts recovered will be treated according to guidelines issued by the UK Institute of Conservation (Watkinson and Neal 2001) in particular the advice provided within *First Aid for Finds* (Rescue 1999) and Historic England.

Any waterlogged artefacts (e.g. wood or leather) that are to be recovered for post-excavation assessment and analysis will be processed in accordance with *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage, 2011) and specifically in accordance with Brunning and Watson (2010) for waterlogged wood and Historic England (2012) for waterlogged leather. In such cases an external specialist will be contacted to agree an appropriate sampling and recovery strategy via Lucy Whittingham | Project Manager (post-excavation) | AOC Archaeology | telephone: 0208 843 7380 | email: lucy.whittingham@aocarchaeology.com).

Any artefact assessment/analysis will require additional resourcing and cost.

All finds are the property of the landowner; however, it is Heneb's policy to recommend that all finds are donated to an appropriate museum (in this case National Slate Museum, Llanberis, The Padarn Country Park, Llanberis LL55 4TY), where they can receive specialist treatment and study. Access to finds must be granted to Heneb GA for a reasonable period to allow for analysis and for study and publication as necessary. Heneb staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants used by Heneb, including National Museums and Galleries of Wales at Cardiff.

All finds of treasure must be reported to the coroner for the district within fourteen days of discovery or identification of the items. Items declared Treasure Trove become the property of the Crown, on whose behalf the Portable Antiquities Scheme acts as advisor on technical matters, and may be the recipient body for the objects.

The Treasure Valuation Committee, based at the British Museum, and informed by the Portable Antiquities Scheme, will decide whether they or any other museum may wish to acquire the object. If no museum wishes to acquire the object, then the Secretary of State will be able to disclaim it. When this happens, the coroner will notify the occupier and landowner that he intends to return the object to the finder after 28 days unless he receives no objection. If the coroner receives an objection, the find will be retained until the dispute has been settled.

Heneb GA will contact the landowner (via client) for agreement regarding the transfer of artefacts, initially to Heneb and subsequently to the relevant museum (National Slate Museum, Llanberis). A Heneb produced pro-forma will be issued to the landowner where they are given the option to donate the finds or to record that they want them returning to them once analysis and assessment has been completed. Artefacts will be transferred to the National Slate Museum, Llanberis in accordance with their guidelines.

3.5 Working Project Archive

Following the completion of the fieldwork, a working project archive will be created based on following task list;

1. Pro-formas: all cross referenced and complete;
2. Photographic Metadata: completed in *Microsoft Access* and cross-referenced with all pro-formas;
3. Survey data: downloaded using a Computer Aided Design package;
4. Sections (if relevant): all cross referenced and complete;
5. Plans (if relevant): all cross referenced and complete;
6. Artefacts (if relevant): quantified and identified; register completed;
7. Ecofacts (if relevant): quantified and register completed;
8. Context register (if relevant): quantified and register completed.

All relevant site archive data will be added to a digital project register specific to this project, which will be prepared in *Microsoft Excel*.

The site archive data will then be processed, final illustrations will be compiled, and a report will be produced which will detail and synthesise the results.

3.6 Data Management Plan

The physical archive will be stored in a designated project folder and the location confirmed in the Heneb project database; the digital dataset will be stored on a dedicated GA server, with the location confirmed in the GA project database via a specific hyperlink. External datasets for the HER and RCAHMW are as defined in the dissemination strategy below. De-selected digital data will be confirmed in a supplementary Selection Strategy document appended to the final report.

A draft report will be submitted within one month of fieldwork completion and a final report will be submitted to the regional Historic Environment Record within six months of project completion. The report will include the following:

1. Non-technical summary (Welsh and English)
2. Introduction
3. Background
4. Methodology
5. Results
6. Conclusion
7. List of sources consulted.
8. Figures – to include:
 - a. Site location plan;
 - b. Scaled plan(s) (if relevant);
 - c. Scaled section(s) (if relevant);
9. Plates – to include selected photographic archive images illustrating the following:
 - a. Site location;
 - b. Ground conditions and general stratigraphy;
 - c. Detail of investigated features, including plan and section images (if relevant);
10. Appendix I – approved Heneb GA written scheme of investigation;
11. Appendix II – photographic metadata;
12. Appendix III – context register;
13. Appendix IV – drawing register (if relevant);

14. Appendix V – artefact register (if relevant);
15. Appendix VI – ecofact register (if relevant);
16. Appendix VII – Heneb GA selection strategy – final version.

On final approval, the following dissemination and archiving of the report and digital dataset will apply:

- A digital report(s) will be provided to the client and the Senior Heneb: Gwynedd Development Control Archaeologist (draft report then final report);
- A digital report will be provided to the regional Historic Environment Record; this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 2); and
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset will be prepared in the format required by RCAHMW and will include:
 - Photographic metadata (Microsoft Access);
 - Photographic archive (TIFF format);
 - Project Information form (Excel);
 - File Information form (Excel) – Microsoft Word report text final;
 - File Information form (Excel) – Photographic metadata (general);
 - File Information form (Excel) – Adobe PDF report final; and
 - File Information form (Excel) - Photographic metadata (detail).

3.7 Selection Strategy

As defined in *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists, 2020) section 3.3.1, a project specific selection strategy and data management plan should be prepared. In support of this, the Chartered Institute for Archaeologist (CIfA), have stated that it is “widely accepted that not all the records and materials collected or created during the course of an Archaeological Project require preservation in perpetuity. These records and materials constitute the Working Project Archive which will be subject to Selection, in order to establish what will be retained for long-term curation”. The aim of selection is to ensure that all the elements retained from the Working Project Archive for inclusion in the Archaeological Archive are appropriate to establish the significance of the project and support “future research, outreach, engagement, display and learning activities”. Selection should be “focused on selecting what is to be retained to support these future needs, rather than deciding what can be dispersed” and can be qualified by a selection strategy, which details the project-specific selection process, agreed by all parties (including the Senior Heneb: Gwynedd Development Control Archaeologist, client and/or landowner), which will be applied to a Working Project Archive prior to its transfer into curatorial care as the Archaeological Archive.

The selection strategy is summarised in [Appendix III](#) and will be finalised in the mitigation report; the strategy will take into account:

- The aims and objectives of the project.
- The brief and/or Written Scheme of Investigation (WSI)).
- The Collecting Institution’s collection policy and/or deposition guidelines.
- Regional & relevant thematic or period specific research frameworks.
- The projects Data Management Plan (DMP).
- Internal recording and reporting policies.
- Material-specific guidance documents.

4 PERSONNEL

The project will be managed by John Roberts, Head of Archaeology for Heneb with attendances on-site undertaken by Heneb GA Project Archaeologist(s). There will be 1No project archaeologist in attendance, who will be responsible for following:

- All archaeological mitigation duties on site;
- Client/sub-contractor liaison;
- Heneb: Gwynedd Development Control Archaeologist liaison, with regular updates;
- specialist liaison (if relevant);
- completing all on site pro-formas and the fieldwork archive itemised above, including the digital project register;
- sourcing Primary Reference Numbers (PRN) from the Gwynedd HER for any new features identified;
- completing an event summary and creating or updating PRN data, dependent on results; and
- for submitting a draft report for project manager review and approval, to then be submitted as per the arrangements defined above.

5 HEALTH AND SAFETY

A site-specific risk assessment will be prepared by Heneb GA and supplied to the client and sub-contractor prior to the start of fieldwork. Any risks and hazards will be indicated prior to the start of work via a submitted risk assessment. All Heneb GA staff will be issued with required personal safety equipment, including high visibility jacket, steel toe-capped boots and hard hat. All Heneb GA fieldwork is undertaken in accordance with Heneb's Health and Safety Manual, Policy and Handbook which were prepared by *WorkNest*. All work will be undertaken in accordance with the client and site contractors' Health and Safety requirements.

6 SOCIAL MEDIA

One of the key aims in the Heneb mission statement is to improve the understanding, conservation and promotion of the historic environment in our area and inform and educate the wider public. To help achieve this, Heneb maintains an active social media presence and seeks all opportunities to promote our projects and results. With permission, Heneb would like the opportunity to promote our work on this scheme through our social media platforms. This could include social media postings during our attendance on site as well as any postings to highlight results. In all instances, approval will be sought from client prior to any postings.

In addition, as the works will be carried out in a public location, subject to client approval, an information board outlining the scope of the works could be placed in designated areas around the perimeter of the working area. This board would provide a detailed explanation of the reason for the archaeological presence, such as a visual and descriptive aid. The visual aid could consist of a historic map highlighting the area of works in relation to the original layout of the quarry, accompanied by descriptive text explaining what the archaeologist is seeking, and the methods being used

7 INSURANCE

7.1 Public/Products Liability

Insurer - Ecclesiastical Insurance Office Plc.

Policy Type - Public Liability

Limit of Indemnity - £10,000,000 any one occurrence and in the aggregate in respect of Product Liability

Policy Number - UN/001900

Expiry Date - 31/03/2025

7.2 Employers Liability

Insurer - Ecclesiastical Insurance Office Plc.

Policy Type - Employers Liability

Limit Of Indemnity - £10,000,000 Any One Occurrence.

Policy Number - UN/001900

Expiry Date - 31/03/2025

7.3 Professional Indemnity

Insurer - AXA Insurance UK Plc

Policy Type - Professional Indemnity

Limit Of Indemnity - £5,000,000 any one claim.

Policy Number – TG0397

Expiry Date - 31/03/2025

8 SOURCES CONSULTED

1. Carrington, D. C. 1994. *Delving in Dinorwig*;
2. Chambers Jones, R 2006. *Dinorwic - The Llanberis Slate Quarry*;
3. Davidson, A., Dutton, D., Flook, H. & Gwyn, D. Rh., 1995, *Gwynedd Slate Quarries: An Archaeological Survey 1994-5*. GAT Report No. 154);
4. English Heritage, 1991, Management of Archaeological Projects;
5. English Heritage, 2015, *Management of Research Projects in the Historic Environment (MoRPHE). Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 2);
6. Evans, R. *et al.* 2023. Dinorwig Slate Quarry Mountain: Historic Landscape Record. GAT Report No. 1700;
7. Evans, R. *et al.* 2023. Park Padarn, Dinorwig Quarry: Historic Building Record. GAT Report No. 1735;
8. Gwyn, D. 2015. *Welsh Slate: Archaeology and History of an Industry*. Oxbow Books;
9. Hopewell, D. 2018 *Slate Landscapes of North-West Wales World Heritage Site Nomination. Field Survey and Character Area Production*. Unpublished GAT Report No. 1428;
10. Hopewell, D. 2018. *G2656 The Slate Landscapes of North-West Wales World Heritage Site. Quarry Workings: A Review of Survey Records*. Unpublished GAT Report No. 1622;
11. Richards, A. 1998. *The Slate Regions of North Wales: A Study in Economic Geography*. Cambridge: Cambridge University Press;
12. Royal Commission on Ancient and Historic Monuments of Wales, 2015 *Guidelines for digital archives*;
13. Standard for Archaeological Field Excavation (Chartered Institute for Archaeologists, 2023);
14. Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (Chartered Institute for Archaeologists, 2020);
15. Standard And Guidance for Archaeological Monitoring and Recording (Chartered Institute for Archaeologists, 2023);
16. Universal Guidance for Archaeological Field Excavation (Chartered Institute for Archaeologists, 2023).

17. Williams, I. 2017. *Slate Quarrying in Wales*. Cardiff: University of Wales Press.

Websites

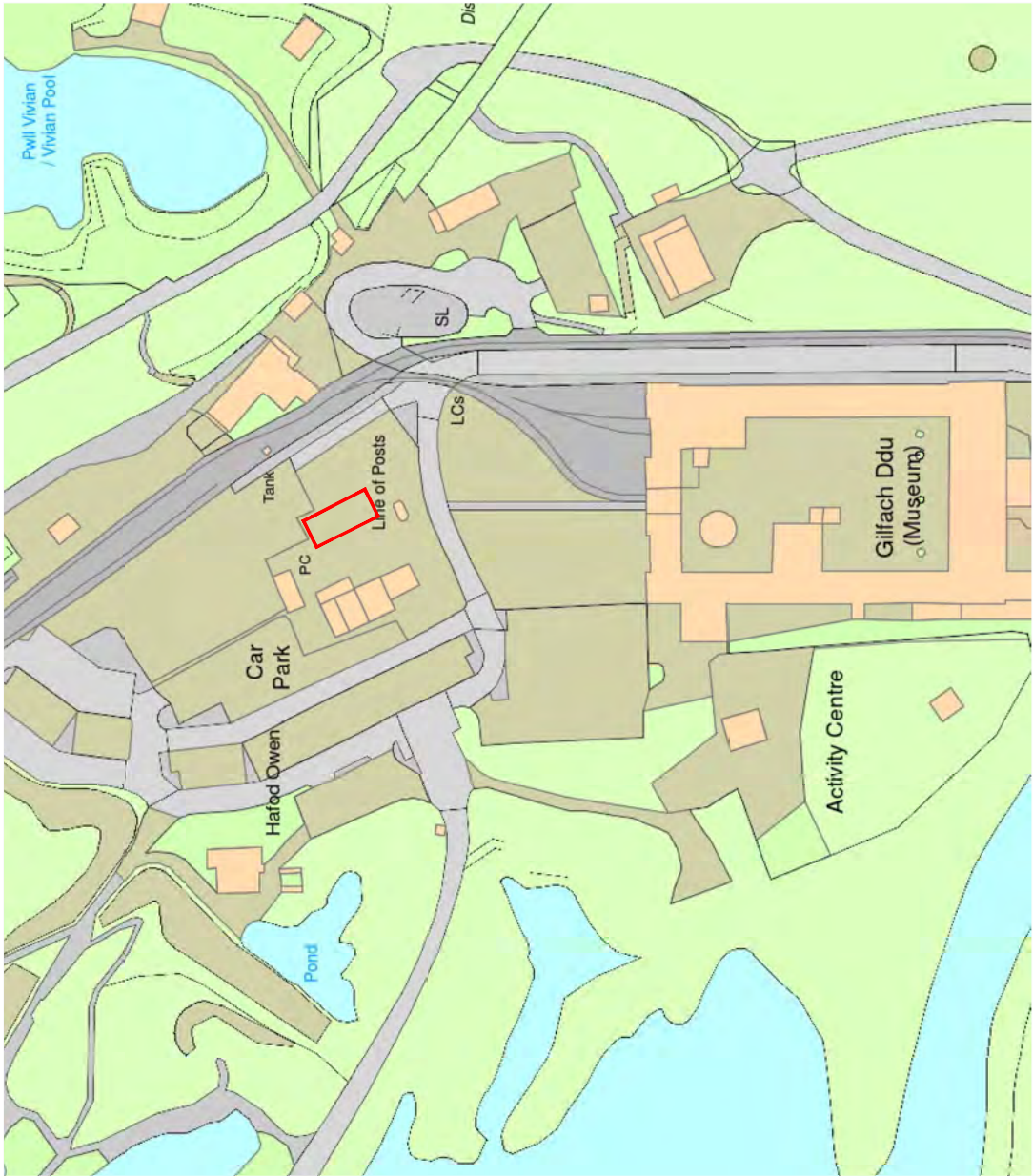
1. BGS. (2024) <https://geologyviewer.bgs.ac.uk/> (Accessed: 10/10/2024);
2. Soilsclapes. (2024). <https://www.landis.org.uk/soilsclapes/> (Accessed: 10/10/2024).

FIGURE 01

**Client produced location plan of development area highlighted 'Red'.
Chambers Architecture Conservation. Drawing No. 001. Scale: 1 : 2,500@
A3.**



Note - The boundary of
Parc Padarn and
Cyngor Gwynedd's
ownership extends to
the full area of this map



PROJECT
GILFACH DDU
PADARN COUNTRY PARK
JOB NUMBER
LPCP.06
DRAWING TITLE
LOCATION PLAN

DRAWING STATUS
PLANNING
DRAWING NO.
001
REVISION
-
SIZE & SCALE
1:1250 @ A3

First Issue
JUNE 24

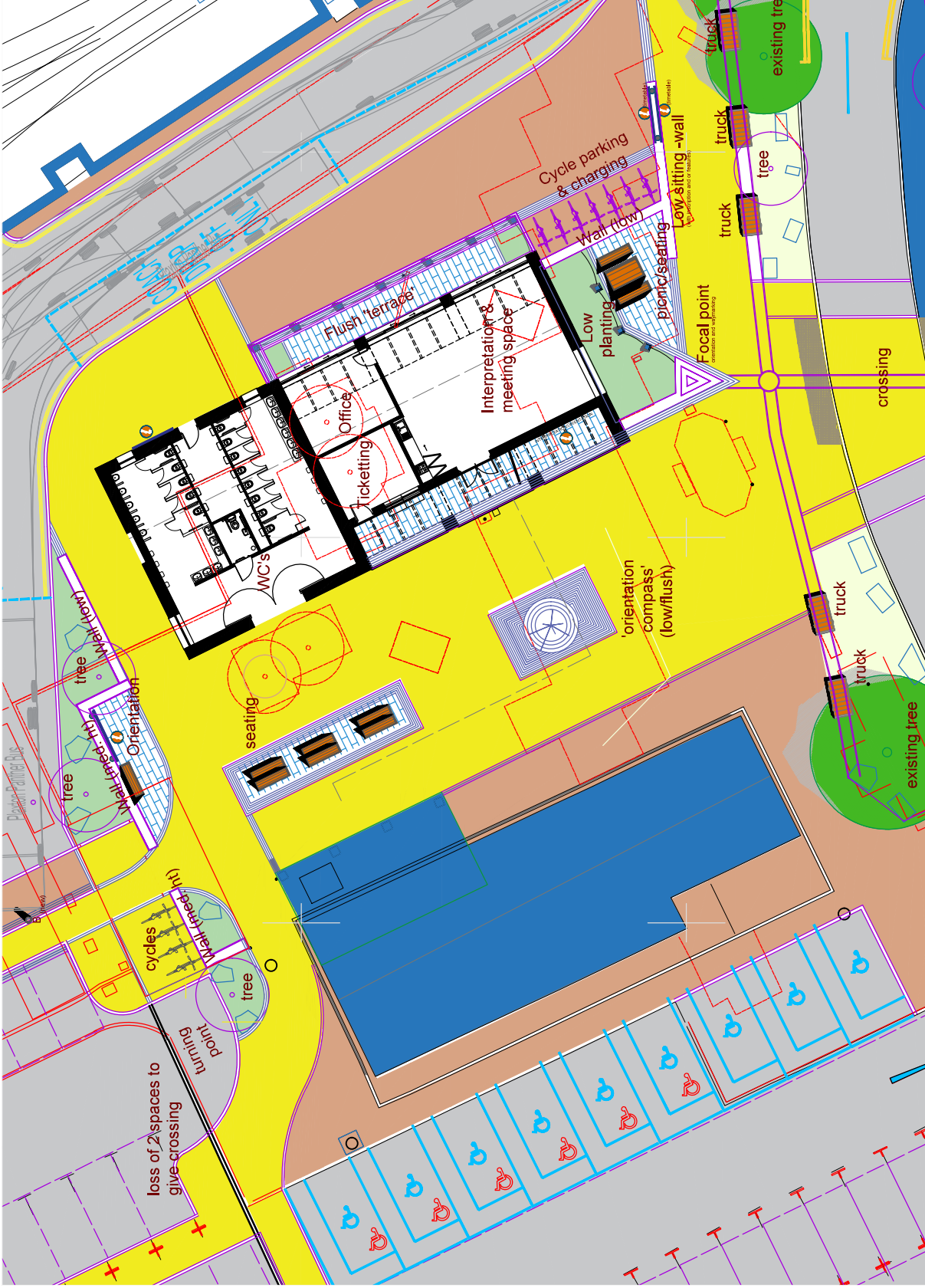
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FIGURE 02

Client produced proposed site plan. Chambers Architecture Conservation.

Drawing No. 106. Scale: 1 : 200@A3.



Note

The landscaping proposal as shown is indicative and is currently being developed by Harrison Design Development. The landscaping of the site is a key element of the proposal and will form a part of a co-ordinated strategy for the wider area and will form a separate planning application.

PROJECT
GILFACH DDU
PADARN COUNTRY PARK
LPCP.06

DRAWING STATUS
PLANNING

DRAWING NO.
106

REVISION
-

SIZE & SCALE
1:200 @ A3

First Issue
JUNE 24

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rob@chambersconservation.com
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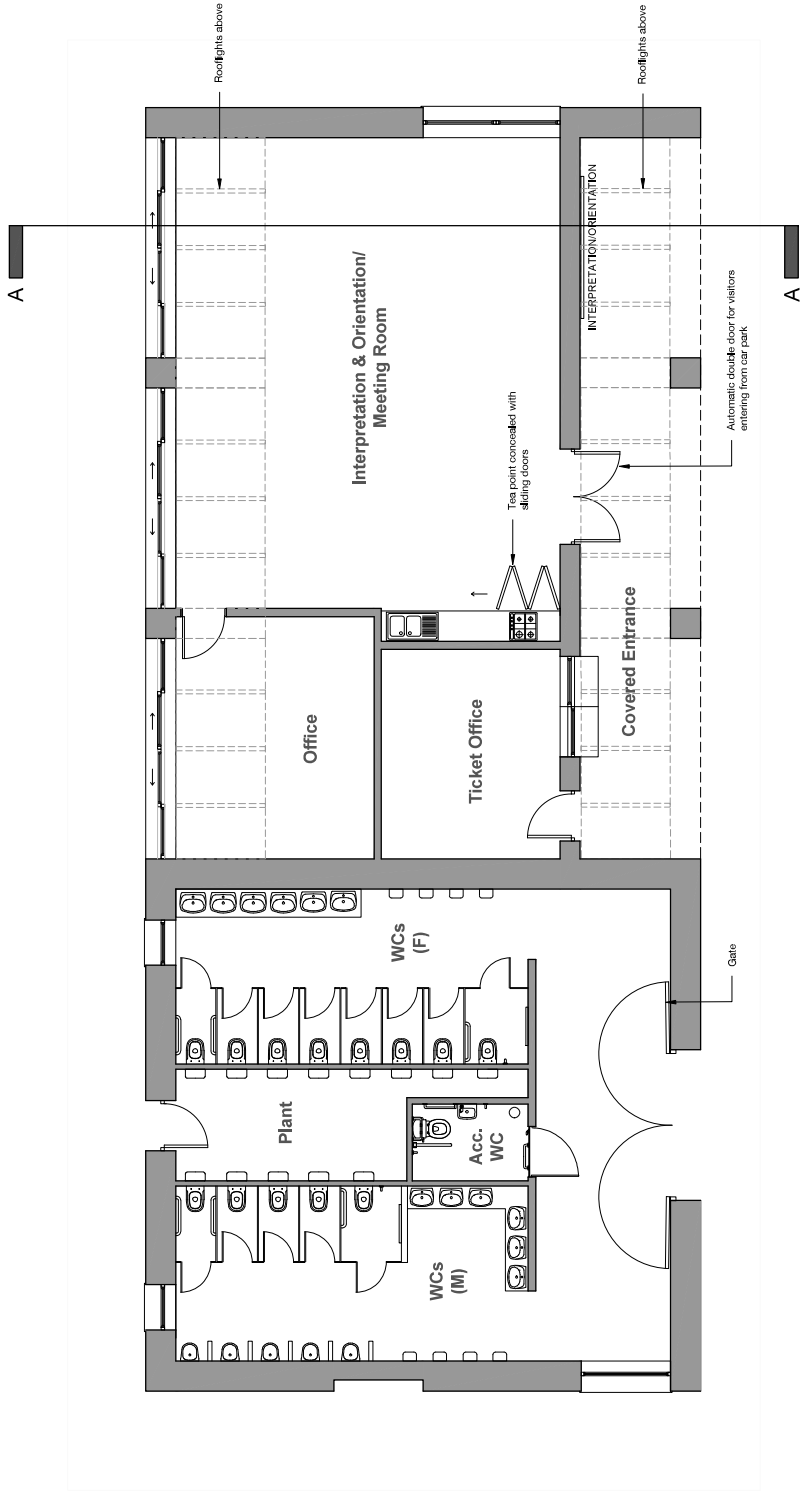
Registered in England and Wales, no. 09797229
Registered office:
Tallentale, Chester CH3 9PX

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FIGURE 03

**Client produced proposed development plan showing internal layout.
Chambers Architecture Conservation. Drawing No. 104. Scale: 1 : 100@A3.**



PROJECT: GILFACH DDU
JOB NUMBER: PADARN COUNTRY PARK
LPCP.06
DRAWING TITLE: PROPOSED PLAN

DRAWING STATUS: PLANNING
DRAWING NO.: 104
REVISION: -
SIZE & SCALE: 1:100 @ A3

First Issue: JUNE 24

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FIGURE 04

**Reproduction of Ordnance Survey First Edition 25-inch to 1mile
Caernarvonshire County Series Map Sheets XVI.8 and XVII.5, published
1889 and 1890 showing approximate location of development site outlined
in red. Scale 1:1000@A3**

FIGURE 05

**Reproduction of Ordnance Survey Second Edition 25-inch to 1mile
Caernarvonshire County Series Map Sheets XVI.8 and XVII.5, published
1900 showing approximate location of development site outlined in red.
Scale 1:1000@ A3**

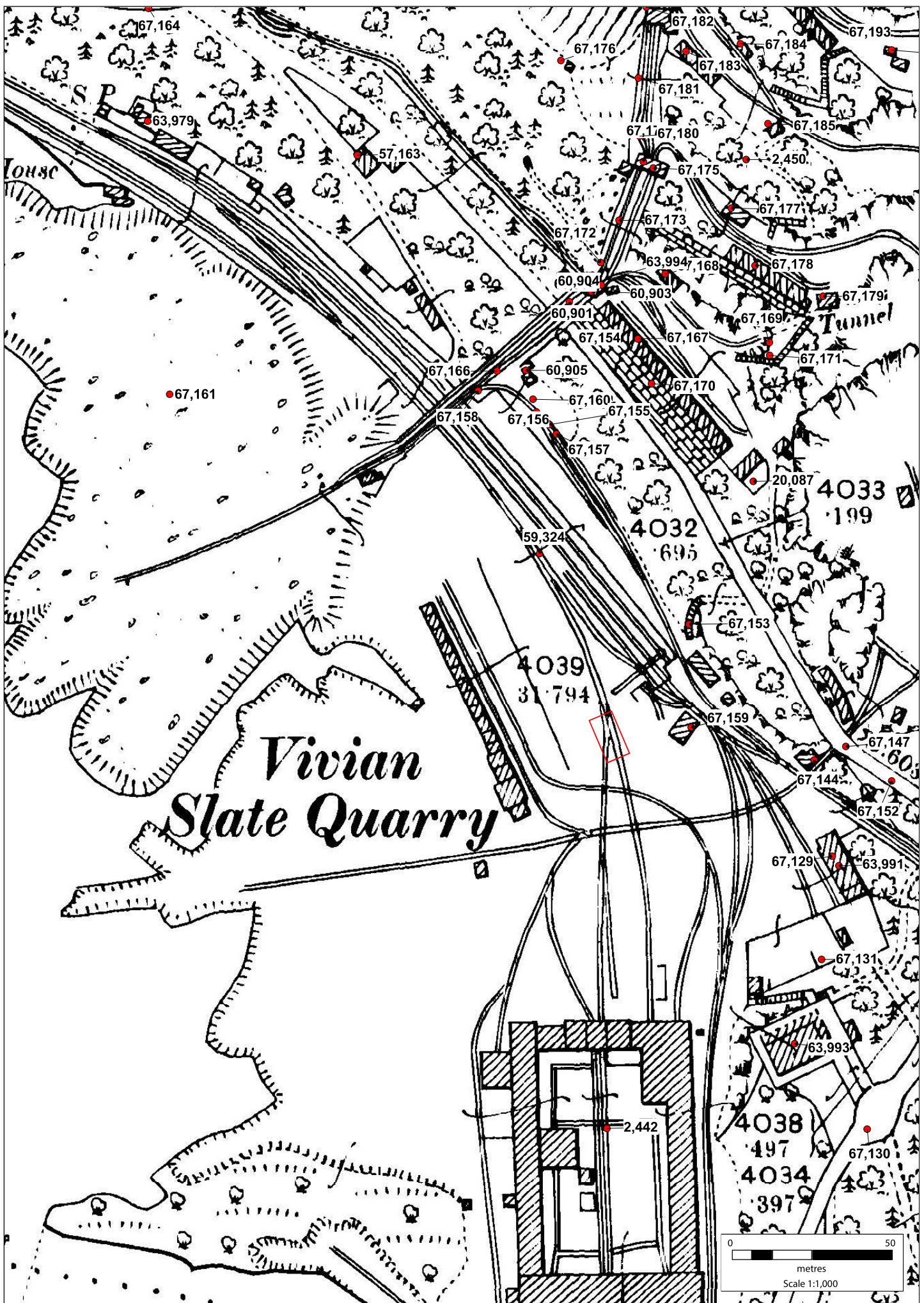


FIGURE 05: Reproduction of Ordnance Survey Second Edition 25-inch to 1mile Caernarvonshire County Series Map Sheets XVI.8 and XVII.5, published 1900 showing approximate location of development site outlined in red. Scale 1:1000@ A3.

FIGURE 06

Reproduction of Ordnance Survey Third Edition 25-inch to 1mile Caernarvonshire County Series Map Sheet XVI.8, published 1914 showing approximate location of development site outlined in red. Scale 1:1000@A3.

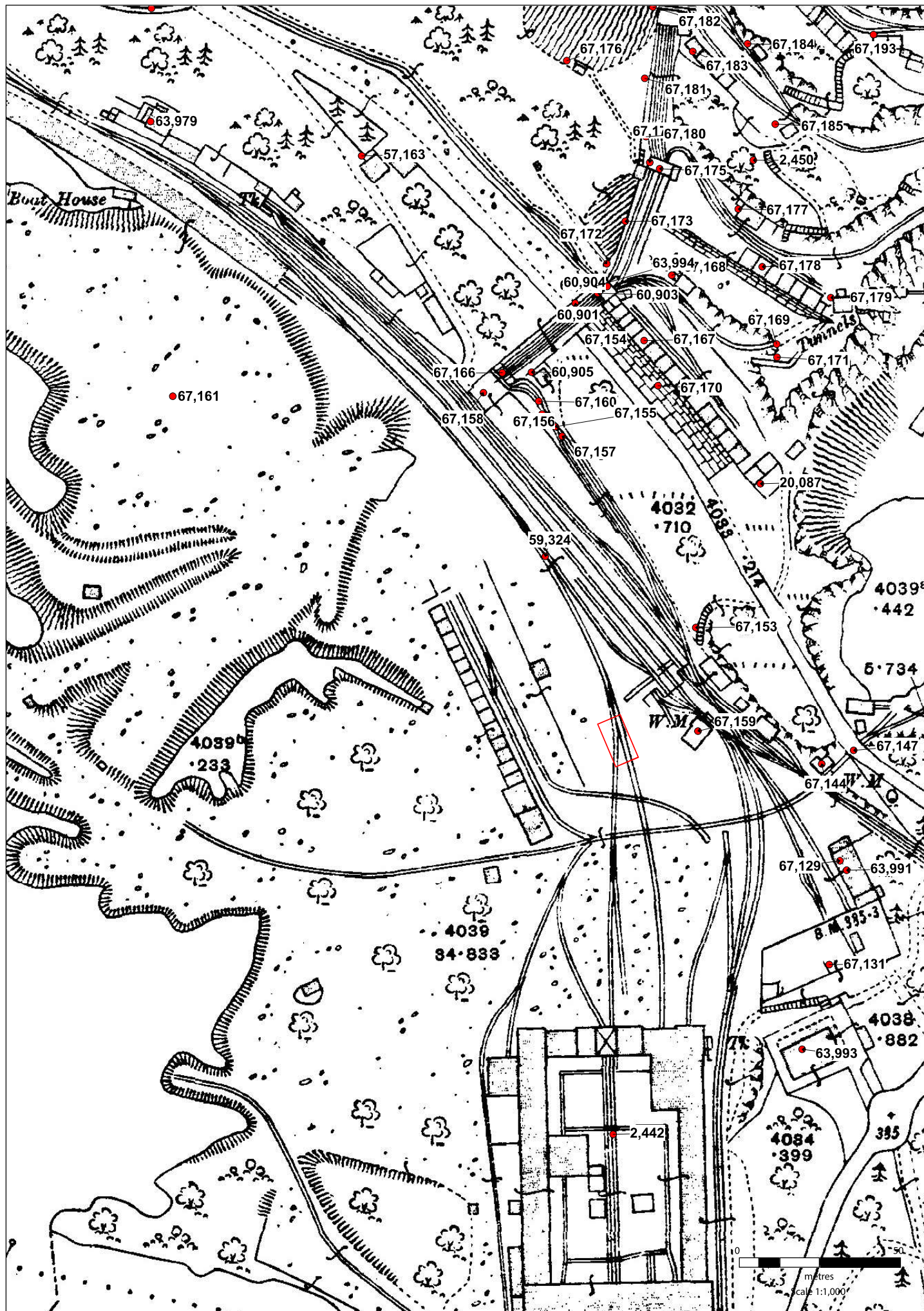


FIGURE 04: Reproduction of Ordnance Survey Third Edition 25-inch to 1mile Caernarvonshire County Series Map Sheet XVI.8, published 1914 showing approximate location of development site outlined in red. Scale 1:1000@A3.

APPENDIX I

Heneb Photographic Metadata pro-forma.

[illegible]

APPENDIX II

Heneb Watching Brief Day Record.

WATCHING BRIEF DAY RECORD		Date
Project name	Project number	Compiler
Location		
Description		
Times of travelling and on-site		
Drawn record details		
Photographic record details		

APPENDIX III

Heneb Gwynedd Archaeology Selection Strategy V1.1.

HD24-093_Gilfach_Ddu

16/10/2024 v1.0

Selection Strategy

Project Information

Project Management

Project Manager	John Roberts john.roberts @heneb.co.uk
Archaeological Archive Manager	John Roberts john.roberts @heneb.co.uk
Organisation	Heneb: Gwynedd Archaeology (Archaeological Services)

Stakeholders		Date Contacted
Collecting Institution(s)	Heneb: Gwynedd Historic Environment Record	15/10/2024
	RCAHMW	On completion of Project Archive
	National Slate Museum, Llanberis, The Padarn Country Park, Llanberis LL55 4TY	On completion of Project (if relevant)
Project Lead / Project Assurance	Heneb: Gwynedd Planning Service	tbc
Landowner / Developer	YGC	n/a

Resources

Resources required Describe the resources required to implement this Selection Strategy, particularly if unusual resources are required.	No unusual resources required outside of Heneb: Gwynedd Archaeology (Archaeological Services) normal operating equipment and personnel.
--	---

Context

The full aims and objectives of this project are detailed in the project specific WSI.

Heneb: Gwynedd Archaeology (Archaeological Services) has been commissioned by YGC to undertake an archaeological watching brief during groundworks at Gilfach Ddu, Llanberis, (NGR: SH 58548 60416). The archaeological watching brief is being carried out ahead of a development project comprising of a new toilet block along with associated drainage and kerbing work at Gilfach Ddu, Llanberis.

The development site is situated adjacent to the old toilet block (which will be demolished) and 80 metres to the north of the Gilfach Ddu, Llanberis National Slate Museum. This development is part of a programme currently being undertaken within the quarry grounds to improve visitor facilities.

The archaeological watching brief will be undertaken under planning consent reference C24/0451/18/LL, with conditions set by the regional archaeological planning authority, as follows:

a) No development (including topsoil stripping or other groundworks) shall take place until a specification for a programme of archaeological work has been submitted to and approved in writing by the Local Planning Authority. The development must be carried out, and all archaeological work completed, in strict accordance with the approved details.

b) A detailed report on the archaeological work, as required by condition (a), must be submitted to and approved in writing by the Local Planning Authority within six months of the completion of the archaeological fieldwork.

The watching brief is scheduled to begin during mid-January 2025

Source: Heneb Gwynedd Archaeology (Archaeological Services). 2024. Gilfach Ddu (HD24-093): Written Scheme of Investigation for Archaeological Watching Brief. Prepared for Chambers Conservation. October 2024. Project: HD24-093.

1 – Digital Data

Stakeholders

John Roberts – Heneb: Head of Archaeology

Selection

All digital data will be collected, stored and selected in lines with the Heneb: Gwynedd Archaeology (GA) Data Management Plan located on GA's servers (available on request).

Following the completion of the fieldwork, a working project archive will be created based on following task list:

1. Pro-formas: all cross referenced and complete;
2. Photographic Metadata: completed in *Microsoft Excel* and cross-referenced with all pro-formas;
3. Survey data: downloaded using a Computer Aided Design package;
4. Sections (if relevant): all cross referenced and complete;
5. Plans (if relevant): all cross referenced and complete;
6. Artefacts (if relevant): quantified and identified; register completed;
7. Context register (if relevant): quantified and register completed.

All relevant site archive data will be added to a digital project register specific to this project, which will be prepared in *Microsoft Excel*.

The site archive data will then be processed, final illustrations will be compiled, and a report will be produced which will detail and synthesise the results.

The physical paper archive will be stored in a designated project folder and the location confirmed in the Heneb: Gwynedd Archaeology project database; the digital dataset will be stored on a dedicated GA server, with the location confirmed in the GA project database via a specific hyperlink. External datasets will be provided to the regional HER and RCAHMW within six months of project completion.

Archiving was undertaken in accordance with the following standards and guidance:

- *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 2 (The Welsh Archaeological Trusts, 2022)*;
- *Guidelines for digital archives* (Royal Commission on Ancient and Historic Monuments of Wales, 2015);
- *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (Chartered Institute for Archaeologists, 2020); and
- *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists, 2020).

A selection review point will be completed during processing of the working project archive and again during final project archiving. There are no selection decisions that differ from standard guidelines.

De-Selected Digital Data

This will be confirmed in the finalised selection strategy at project end

2 – Documents

Stakeholders

Name the individual(s) responsible for the Documents Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Heneb: Head of Archaeology;
Sean Derby – Heneb: Gwynedd Historic Environment Record;
Gareth Edwards, Head of Knowledge and Understanding, RCAHMW

Selection

- A digital report will be provided to Gwynedd Historic Environment Record; this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 2); and
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*.

The dataset will be prepared in the format required by RCAHMW, and where relevant, include:

- Photographic metadata (Microsoft Access);
- Project Information form (Excel);
- File Information form (Excel) – Microsoft Word report text final; and
- File Information form (Excel) – Adobe PDF report final.
- File Information form (Excel) – Microsoft Word report text final;
- File Information form (Excel) – Photographic metadata (general);
- File Information form (Excel) – Adobe PDF report final; and
- File Information form (Excel) - Photographic metadata (detail).

○

De-Selected Documents

Material de-selected from inclusion in the preserved archive will likely be duplicates and reproductions created during the project. De-selected material will be retained to supplement GA's research files or recycled.

3 – Materials

Material type

If applicable

Section 3.

Stakeholders

Name the individual(s) responsible for the Materials Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Heneb: Head of Archaeology.

Selection

The full material archive returned to the GA offices will be reviewed following analysis: Stakeholders (see above) will make selection decisions based on specialists reports and selection recommendations and SDMS collecting policy. The selection will take place during archive completion.

Uncollected Material

If you are practicing selection in the field, describe the process that will be applied. To do this you must:

- Detail how you will characterise, quantify and record all uncollected material on site.
- Explain how you will dispose of, or re-distribute, uncollected material.

Any uncollected material will be left on-site to be incorporated into backfill.

De-Selected Material

Describe what you will do with the de-selected material. All processed material should have been adequately recorded before de-selection.

All bulk finds will be assessed and recorded to appropriate standards. De-selected material will be returned to the landowner as agreed by the landowner and curatorial archaeologist.

Amendments

Detail any amendments to the above selection strategy here.

Date	Amendment	Rationale	Stakeholders

Materials Selection Template

This table may be inserted into Section 3 of the main [Selection Strategy Template](#) to help present differing selection strategies for different material types

Find Type	Selection Strategy	Stakeholders	Review Points

APPENDIX II

Heneb Photographic Metadata

PHOTO RECORD NUMBER	DESCRIPTION	VIEW FROM	SCALE(S)	REASON FOR PHOTO	CREATOR OF DIGITAL PHOTO	DATE OF CREATION OF DIGITAL PHOTO	ORIGINATING ORGANISATION	PLATE
E49140_001.JPEG	Pre-commencement view of excavation area, south end of site	WSW	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_002.JPEG	Pre-commencement view of excavation area showing former location of trees	WSW	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_003.JPEG	Pre-commencement view of excavation area, north end of site	WSW	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_004.JPEG	Pre-commencement view of excavation area	NNW	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_005.JPEG	Pre-commencement view of excavation area showing former location of trees	NNW	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_006.JPEG	Working view of target area being excavated, showing made ground	WSW	not used	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_007.JPEG	Working view of target area being excavated, showing made ground	WSW	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_008.JPEG	South southeast facing section of excavated area, in progress	SSE	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	5
E49140_009.JPEG	South southeast facing section of excavated area, in progress	SSE	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	

PHOTO RECORD NUMBER	DESCRIPTION	VIEW FROM	SCALE(S)	REASON FOR PHOTO	CREATOR OF DIGITAL PHOTO	DATE OF CREATION OF DIGITAL PHOTO	ORIGINATING ORGANISATION	PLATE
E49140_010.JPEG	Working view of target area being excavated, showing made ground	WSW	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_011.JPEG	Working view of target area being excavated, showing made ground	SSE	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_012.JPEG	Working view of target area being excavated, showing made ground	SSE	1x1m	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	4
E49140_013.JPEG	Oblique view of excavation progress at end of day 1	E	not used	Watching Brief	Jessie Baumgardner	20/01/2025	Heneb: Gwynedd Archaeology	
E49140_014.JPEG	View of start of excavation on day 2, showing berms	SSE	1x1m	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	
E49140_015.JPEG	Close-up view of pipe to nearby businesses	WSW	not used	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	7
E49140_016.JPEG	View of pipe in context	WSW	1x1m	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	8
E49140_017.JPEG	View of plastic pipe in section, in west portion of excavated area	NNE	1x1m	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	9
E49140_018.JPEG	Close-up view of pipe	W	not used	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	

PHOTO RECORD NUMBER	DESCRIPTION	VIEW FROM	SCALE(S)	REASON FOR PHOTO	CREATOR OF DIGITAL PHOTO	DATE OF CREATION OF DIGITAL PHOTO	ORIGINATING ORGANISATION	PLATE
E49140_019.JPEG	West southwest facing section of southeast corner of excavated area	WSW	1x1m	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	3
E49140_020.JPEG	Oblique view of excavation in progress	S	not used	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	1
E49140_021.JPEG	Oblique view of excavation in progress	E	not used	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	2
E49140_022.JPEG	Oblique view of excavation in progress, from spoil heap	E	1x1m	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	
E49140_023.JPEG	Close-up view of pipe showing bend	W	1x1m	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	
E49140_024.JPEG	View of two sections of pipeline	SW	1x1m	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	
E49140_025.JPEG	View of excavation progress at end of day 1	S	not used	Watching Brief	Jessie Baumgardner	21/01/2025	Heneb: Gwynedd Archaeology	
E49140_026.JPEG	View of start of excavation on day 3 at north end of site	NW	not used	Watching Brief	Carolina Ferreira	22/01/2025	Heneb: Gwynedd Archaeology	
E49140_027.JPEG	Pre-excavation view of area left to be excavated at north end of site	WSW	1x1m	Watching Brief	Carolina Ferreira	22/01/2025	Heneb: Gwynedd Archaeology	

PHOTO RECORD NUMBER	DESCRIPTION	VIEW FROM	SCALE(S)	REASON FOR PHOTO	CREATOR OF DIGITAL PHOTO	DATE OF CREATION OF DIGITAL PHOTO	ORIGINATING ORGANISATION	PLATE
E49140_028.JPEG	View of work in progress on day 3, showing made ground	NW	not used	Watching Brief	Carolina Ferreira	22/01/2025	Heneb: Gwynedd Archaeology	
E49140_029.JPEG	View of area excavated, with south southeast facing section showing made ground	SSE	1x1m	Watching Brief	Carolina Ferreira	23/01/2025	Heneb: Gwynedd Archaeology	6
E49140_030.JPEG	South southeast facing section of excavated area	SSE	1x1m	Watching Brief	Carolina Ferreira	24/01/2025	Heneb: Gwynedd Archaeology	
E49140_031.JPEG	South southeast facing section of excavated area	SSE	1x1m	Watching Brief	Carolina Ferreira	25/01/2025	Heneb: Gwynedd Archaeology	
E49140_032.JPEG	End of day 3 excavation progress	NW	1x1m	Watching Brief	Carolina Ferreira	26/01/2025	Heneb: Gwynedd Archaeology	
E49140_033.JPEG	End of day 3 excavation progress	NW	1x1m	Watching Brief	Carolina Ferreira	27/01/2025	Heneb: Gwynedd Archaeology	
E49140_034.JPEG	Post-excavation view of target area	SW	not used	Watching Brief	Carolina Ferreira	28/01/2025	Heneb: Gwynedd Archaeology	
E49140_035.JPEG	Post-excavation view of target area	SE	not used	Watching Brief	Carolina Ferreira	29/01/2025	Heneb: Gwynedd Archaeology	10

APPENDIX III

Heneb Gwynedd Archaeology Selection Strategy v2 Final.

HD24-093_Gilfach_Ddu

27/01/2025 v2.0

Selection Strategy

Project Information

Project Management

Project Manager	John Roberts john.roberts @heneb.co.uk
Archaeological Archive Manager	John Roberts john.roberts @heneb.co.uk
Organisation	Heneb: Gwynedd Archaeology (Archaeological Services)

Stakeholders		Date Contacted
Collecting Institution(s)	Heneb: Gwynedd Historic Environment Record	15/10/2024
	RCAHMW	On completion of Project Archive
	National Slate Museum, Llanberis, The Padarn Country Park, Llanberis LL55 4TY	On completion of Project (if relevant)
Project Lead / Project Assurance	Heneb: Gwynedd Planning Service	Jenny Emmett
Landowner / Developer	YGC	n/a

Resources

Resources required Describe the resources required to implement this Selection Strategy, particularly if unusual resources are required.	No unusual resources required outside of Heneb: Gwynedd Archaeology (Archaeological Services) normal operating equipment and personnel.
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Context

Heneb: Gwynedd Archaeology (Heneb GA) was commissioned by YGC to undertake an archaeological watching brief during groundworks at Gilfach Ddu, Llanberis, (NGR: SH 58548 60416; Figure 01). The archaeological watching brief is being carried out ahead of a development project comprising of a new toilet block along with associated drainage and kerbing work at Gilfach Ddu, Llanberis; Figure 02 and 03.

The development site is situated adjacent to the old toilet block and is 80 metres to the north of the Llanberis National Slate Museum. This development is part of a programme currently being undertaken within the quarry grounds to improve visitor facilities.

Results from the watching brief confirmed the excavation area was entirely of made ground, with no archaeological features or deposits encountered. A single metal pipe situated in the southeast corner of the excavation area was identified and interpreted as a probable post-medieval drainpipe. The excavation area was characterised by modern activity associated with previous construction works and included modern piping, as well as a possible post-medieval drainpipe.

The watching brief took place in January 2025.

References:

Guimarães Ferreira, C., 2025, Gilfach Ddu, Llanberis: Archaeological Watching Brief/ Briff Gwyllo Archaeolegol. Heneb Report 1792.

Heneb Gwynedd Archaeology (Archaeological Services). 2024. Gilfach Ddu (HD24-093): Written Scheme of Investigation for Archaeological Watching Brief. Prepared for Chambers Conservation. October 2024. Project: HD24-093.

1 – Digital Data

Stakeholders

John Roberts – Heneb: Head of Archaeology

Selection

All digital data will be collected, stored and selected in lines with the Heneb: Gwynedd Archaeology (GA) Data Management Plan located on GA's servers (available on request).

The final version of all born digital documents have been selected for inclusion in the Preserved Archive; these comprise:

- HD24-093_Gilfach_Ddu_Written_Scheme_of_Investigation (Microsoft Word and Adobe PDF);
- HD24-093_Photographic_Metadata (Microsoft Access);
- GAT_1792 (Microsoft Word and Adobe PDF);
- Photographic archive (35 images in TIFF format);
- Photographic archive (35 images in RAW format);
- Photographic archive (35 images in JPEG format);

A digital archive dataset has been created for the Royal Commission on Ancient and Historic Monuments Wales, in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset has been prepared in the format required by RCAHMW and comprise:

- Photographic metadata (Microsoft Access);
- Photographic archive (TIFF format);
- Project Information form (Excel);
- File Information form (Excel) – Microsoft Word report text final;
- File Information form (Excel) – Photographic metadata (general);
- File Information form (Excel) – Adobe PDF report final; and
- File Information form (Excel) - Photographic metadata (detail).

The digital archive has been stored on a dedicated Trust server, with the location confirmed in the GAT project database via a specific hyperlink.

De-Selected Digital Data

The following client data will not form part of the preserved archive and have been deselected:

- HD24-093 Figure 01 Client produced location plan of development area
- HD24-093 Figure 02 Client produced proposed site plan.
- HD24-093 Figure 03 Client produced proposed development plan

The following Heneb data generated for the report will not form part of the preserved archive and have been deselected:

- HD24-093_combined_figures.pdf
- HD24-093_combined_plates.pdf
- HD24-093_Figures_and_Plates_List.docx
- HD24-093_Appendix_I.pdf
- HD24-093_Appendix_II.docx
- HD24-093_Appendix_III.pdf
- HD24-093_front_cover.pdf
- HD24-093_inner_cover.pdf
- HD24-093_rear_cover.pdf

- Plates01.pdf
- Plates03.pdf
- Plates05.pdf
- Plates07.pdf
- Plates09.pdf

Amendments

No amendments to the above selection strategy have been made.

Date	Amendment	Rationale	Stakeholders

2 – Documents

Stakeholders

Name the individual(s) responsible for the Documents Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Heneb: Head of Archaeology;
Sean Derby – Heneb: Gwynedd Historic Environment Record;
Gareth Edwards, Head of Knowledge and Understanding, RCAHMW

Selection

- A digital report will be provided to Gwynedd Historic Environment Record; this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 2); and
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*.

The dataset will be prepared in the format required by RCAHMW, and where relevant, include:

- Photographic metadata (Microsoft Access);
- Project Information form (Excel);
- File Information form (Excel) – Microsoft Word report text final; and
- File Information form (Excel) – Adobe PDF report final.
- File Information form (Excel) – Microsoft Word report text final;
- File Information form (Excel) – Photographic metadata (general);
- File Information form (Excel) – Adobe PDF report final; and
- File Information form (Excel) - Photographic metadata (detail).

Following the completion of the fieldwork, all documentary material created, generated and/or annotated during data gathering and fieldwork has been selected for inclusion in the preserved archive, and comprises:

- HD24-093 watching brief sheets x 2
- HD24-093 photographic register sheets x 2

The physical archive has been stored in a designated project folder and the location confirmed in the heneb project database.

De-Selected Documents

No documents have been de-selected.



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