

Archaeological watching brief:

Llyn Tegid, Bala, Gwynedd

February 2023



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By

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Appendix 1 Written Scheme of Investigations

Non-Technical Summary

From the 16th of November 2021 to the 29th of June 2022 Archaeology Wales Ltd (AW) carried out an archaeological watching brief during ground works associated with the Llyn Tegid Reservoir Safety Project at Bala, Merionethshire, Gwynedd, North Wales centred on SH 92454 35439.

The purpose of the archaeological mitigation was to identify, excavate, record, and analyse any significant archaeological remains that would have been disturbed by the proposed groundworks. It included the observation of works within an area currently used as a car park at the westernmost end of the scheme; a path and embankment along Lake Tegid, which was removed in 30m strips prior to the construction of a flood defence scheme; and a large green field bounded by Tegid Street to the west, the B4391 to the east, and a sewage pumping station to the north, which was stripped for a site compound.

The watching brief did not identify any archaeologically significant features other than a 19th-20th century rubbish pit, a modern land drain, and deposits associated with the original flood defence scheme of Lake Tegid.

This watching brief was undertaken to the standards set in the ClfA's Standards and Guidance: for an archaeological watching brief (2020) and current Health and Safety legislation.

Crynodeb Annhechnegol

Rhwng y 16eg o Dachwedd 2021 a'r 29ain o Fehefin 2022, cynhaliodd Archaeology Wales Cyf (AW) friff gwylio archeolegol yn ystod y gwaith tir a wnaed sy'n gysylltiedig â Phrosiect Diogelwch Cronfa Llyn Tegid yn y Bala, Sir Feirionydd, Gwynedd, Gogledd Cymru, y mae ei ganolbwynt wedi'i leoli o fewn SH 92454 35439.

Diben y gwaith lliniaru archeolegol oedd nodi, cloddio, cofnodi a dadansoddi unrhyw weddillion archeolegol arwyddocaol y byddai'r gwaith tir arfaethedig wedi tarfu arnynt. Roedd yn cynnwys arsylwi ar gae gwyrdd mawr wedi'i ffinio gan Stryd Tegid i'r gorllewin, a'r B4391 i'r dwyrain, a chliriwyd gorsaf pwmpio carthion i'r gogledd ar gyfer cwrt i'r safle. Yn ogystal â'r llwybr a'r arglawdd ar hyd Llyn Tegid, a dynnwyd mewn stripiau 30m cyn adeiladu'r cynllun i amddiffyn rhag llifogydd.

Ni nododd y briff gwylio unrhyw nodweddion archeolegol arwyddocaol ar wahân i bwl sbwriel o'r 19eg-20fed ganrif, a draen tir modern, a gwaddodion sy'n gysylltiedig â'r cynllun amddiffyn rhag llifogydd gwreiddiol yn Llyn Tegid.

Cynhaliwyd y briff gwylio hwn gan ddilyn y safonau a nodir yn Safonau a Chanllawiau Sefydliad Siartredig yr Archeolegwyr ar gyfer briff gwylio archeolegol (2020) a'r ddeddfwriaeth lechyd a Diogelwch bresennol.

1 Introduction

1.1 Location and Scope of Work

- 1.1.1 This report details the results obtained during a watching brief undertaken in association with Llyn Tegid Reservoir Safety Project at Bala, Merionethshire, Gwynedd, North Wales. The area is located on the north bank of Llyn Tegid, immediately south of the market town of Bala, Snowdonia National Park, centred on SH 92454 35439 (Figure 1-2).
- 1.1.2 The areas subjected to development included an area currently used as a car park located to the westernmost end of the scheme; a central region currently defined by a path along the lake shore and penetrating the fields to the north; and a large green field located at the eastern most end of the development, which was bounded by Tegid Street to the west, by the B4391 to the east, and by a sewage pumping station to the north (Figure 2).
- 1.1.3 The following report provides details of the results of the work undertaken. The project was managed by Archaeology Wales (AW) Project Manager Irene Garcia Rovira PhD MCIfA with site fieldwork undertaken by AW Supervisor Juan Moreno PhD, AW Supervisor Sam Pamment MA, AW Supervisor Jerry Bond BA (Hons) ACIfA, AW Project Officer Susan Stratton PhD and AW Supervisor Jessica Woolley BA (Hons) MA, intermittently between the 16th of November 2021 and 29th June 2022.

1.2 Geology and Topography

- 1.2.1 The development area lies along the shoreline of the Lake Tegid (Llyn Tegid), within the historical town centre of Bala. The town itself is situated within the Historic Landscape Characterisation Area (HCLA) of Bala and Llyn Tegid (PRN 24702) and falls within the Y Bala conservation area, of which the development site lies directly to the south. The entire landscape is located within Snowdonia National Park.
- 1.2.2 The underlying geology is defined by Caradoc Rocks (mudstone, siltstone, and sandstone) formed during the Ordovician Period. The superficial soils are defined by River Terrace Deposits (sand and gravel) formed during the Quaternary Period (BGS 2023).

1.3 Archaeological and Historical Background

- 1.3.1 The historical development of Bala stretches back to prehistory and retains a rich history all the way through to the industrial era. Bala itself is the historic core of the Historic Landscape Characterisation (HCLA) of Bala and Llyn Tegid (PRN 24702).

- 1.3.2 A HER search of records within 750m of the development was carried out in order to contextualise the results obtained during the watching brief (GATHER 1512), in which 135 entries were retrieved. Only one HER record - PRN 90263 - is located within the boundaries of the development site. The record documents two post-medieval tokens.
- 1.3.3 All other results have been used to produce an outline of the history of development of the area (see below).

Prehistoric: Palaeolithic (c.450,000 - 10,000 BC), Mesolithic (c.10,000 - 4000 BC), Neolithic (4000 BC - 2300 BC), Bronze Age (2300 BC - 700 BC)

- 1.3.4 The presence of Bronze Age activity along the shores of Llyn Tegid is attested by two isolated finds recorded as PRN 3207 and PRN 24117.

Roman (43BC -410 AD)

- 1.3.5 Evidence for Roman activity within the search area is concentrated northeast of Bala.
- 1.3.6 The Roman fort of Llanfor (PRN 3220, ME092) is located approximately 1km from the town centre of Bala. It is a part of the larger Llanfor Roman military complex. It is defined by traces of a rampart fronted by triple ditches. The internal buildings consist of 22 barrack blocks which could house up to 1,760 soldiers. There are also indications of an approach road lined with buildings. The northern fort ditches overlap that of a large temporary camp (NPRN 308244) which may be a later feature. It is suggested that the Llanfor fort pre-dates the Caer Gai Roman fort located south of the lake Tegid (Llyn Tegid) (Cadw 1977).
- 1.3.7 The HER results document a number of Roman Roads, one of which runs close to the southwest end of the scheme - (PRN 17609), Caer Gai - Deva.

Medieval (410AD - 1485 AD)

- 1.3.8 The Medieval town of Bala was established in 1310 by Roger Mortimer in an attempt to bring stability to Penllyn so that it could serve as an administrative centre. Subsequently, the markets and fairs previously held at Llanfor were transferred to Bala, even though the town did not exceed one square mile (Gwyn 2000). A Charter was granted in February 1311 and the first Town Hall built soon after (Bala and Penllyn Tourism Association 2020) (PRN 4281).
- 1.3.9 Christ Church early Medieval Chapel was located in Bala but the site is currently occupied by a post-medieval church which was built in 1855 (PRN 4280). It is said that the medieval building had entirely disappeared by the time of Edward Lhuyd (c.1698) (Davidson 2004).

- 1.3.10 The Medieval motte of Tomen y Bala (castle mound) is located in the town centre of Bala. The motte is 40m in diameter and 8.0m high, with a level summit measuring c.16.5m across. The associated bailey is said to have been lost through subsequent development of the area. Thus, the motte itself was partially destroyed by Llywelyn ab Iorwerth in 1202 (PRN 3202) (Cadw 2020).
- 1.3.11 Pen-Ucha'r-Llan comprises the remains of a well-preserved castle-ringwork, which dates to the medieval period. It is located on a low ridge above the village of Llanfor, approximately 1.4km from the town centre of Bala (ME042) (Cadw 2020).
- 1.3.12 A second charter was granted to Bala in 1324, making it a free borough. This allowed the town to have an elected mayor, bailiffs and a prison, and to hold weekly markets and two annual fairs which are held to this day, in May and October (Bala and Penllyn Tourism Association 2020).

Post-medieval (1485-1850)

- 1.3.13 The majority of the entries recovered during the search relate to post-medieval activity, and are largely concentrated within Bala itself, highlighting the growth of the town during this period.
- 1.3.14 Concentrations of listed buildings are found alongside the A494, defining the HCLA subgroup of Bala Historic Town Centre.

Modern (1850- present day)

- 1.3.15 ROC Post is the former site of a Royal Observer Corps (ROC) underground monitoring post at Bala. Originally opened in 1963 as part of Britain's defence against nuclear attack during the Cold War, and eventually closed in 1981 (PRN 58525) (Catford 2000).

2 Objectives

- 2.1.1 The objective of the archaeological mitigation was to identify, excavate, record, and analyse any significant archaeological remains disturbed by the proposed development.
- 2.1.2 The objectives of the watching brief were:
- to allow the investigation and recording of any archaeological features uncovered during the proposed groundworks within the application area.
 - to provide the opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find

has been made for which the resources allocated to the watching brief are not sufficient to support the treatment to a satisfactory or proper standard.

- 2.1.3 This report is intended to provide a detailed account of all the archaeological watching brief work conducted during the Llyn Tegid Reservoir Safety Project at Bala. Sufficient research has been undertaken to ensure that the results of this work are properly understood, interpreted, and reported.
- 2.1.4 A full site archive will be produced, including project records, artefacts, ecofacts and any other sample residues and summaries of the context, artefact, and environmental records.

3 Methodology

3.1 Watching Brief

- 3.1.1 A Watching Brief complying with the ClfA Standards and Guidance for Archaeological Watching Briefs (2020) was undertaken during all intrusive groundwork on the site.
- 3.1.2 The excavations were carried out by a tracked 360-degree excavator using a toothless ditching bucket, provided by the principal contractor. The entire process was monitored by a suitably trained archaeologist. The large green field to the east of the development was stripped to accommodate a site compound. The path and embankment along Lake Tegid was removed in 30m strips prior to the construction of a flood defence scheme. An area of 0.3 hectares was also stripped at the western end of the scheme.
- 3.1.3 Day Sheets were maintained for each visit and photographs of progress were taken with appropriate scales throughout the Watching Brief using a 12MP digital camera. Plans and sketches of the excavation were drawn to the appropriate scale using regular archaeological conventions. All the deposits encountered were recorded by means of a continuous context numbering system using AW recording systems (pro-forma context sheets etc.). All features and deposits were described in accordance with ClfA conventions. A register of all contexts and photographs was also made.

4 Results

4.1 Site compound strip results (Figure 2-3, Plates 1-8)

- 4.1.1 The area selected for the site compound is located at the easternmost end of the scheme, within a green field area measuring c. 3.06 hectares. The area is bounded to the west by Tegid Street, to the east by the B4391, and to the north by a sewage and pumping station.

- 4.1.2 Initially only c.0.20-0.40m was stripped from the surface and therefore the natural was not initially reached until features were uncovered.
- 4.1.3 The natural horizon (1003) covered the width and length of the entire field and comprised a firm, mid-orange brown silty clay with rare small stone inclusions. The depth at which this deposit was recorded varied between 0.40-0.50m below the ground level.
- 4.1.4 Cut into the natural was feature [1004], which was in the far southwest end of the strip area, near wall (1000). It was an irregularly shaped oval pit with a diffuse edge to the east and west. It had irregular curved sloping sides than ran into a moderately deep concave base. It was orientated southeast to northwest and had a depth of 0.20m. The full extent of the feature was not identified, but by what could be seen it had a width of 1.20+ and a length of 1.50+. The pit had a single fill (1005) which comprised a firm, dark blackish brown charcoal silt. It included charcoal, coal, pottery, glass, Fe nails, clay pipes, burnt stone as well as occasional small subrounded stones. The artefacts from within the fill date predominantly to the 19th-20th centuries. It is likely this feature was a 19th-20th century rubbish dump pit.
- 4.1.5 Overlaying this was the subsoil (1002) which covered the width and length of the site compound strip area and had a thickness of between 0.20-0.90m. It consisted of a soft, light greyish brown clay silt which contained frequent gravel, occasional charcoal, and rare rooting disturbance.
- 4.1.6 Cutting into the subsoil was structure (1000) which was a drystone wall that ran northwest to southeast along the edge of site compound street next to Tegid Street. It contained a mix of subrounded and subangular limestone which averaged in size between 0.10-0.80m wide by 0.20-0.56m long. The stones were rough, unworked, and mossed over in some areas and were laid in an uneven course. There was no apparent bond within the main construction of the wall, but the top had been sealed with concrete at a later date to provide stability. The wall measured 0.65m wide, 129m in length and ranged between 0.85m-1.10m in height. It was likely a field boundary that separate the field from Tegid Street. The tarmac of Tegid Street butted up to the wall on the roadside.
- 4.1.7 The topsoil (1001) overlay subsoil (1002) and butted up against the wall (1000). It covered the entire area of the compound strip and reached a depth of approximately 0.20m. It comprised a loose, mid-greyish brown clay silt with frequent post-medieval and modern finds including pottery and clay pipes, as well as rare small to medium subrounded stones. There was also some rare rooting disturbance.

4.2 Trenches 1 and 2 of site compound (Figures 2-3, Plates 9-10)

- 4.2.1 In the same area of the site compound, a service and water trench were excavated for compound facilities, these are known as trenches 1 and 2. The trenches measured 45m and 12m long, 0.40m wide, and had depths

ranging between 0.75-0.90m. They contained the same topsoil (1001) and subsoil (1002) deposits as seen in the larger strip of the site compound area. The topsoil ranged between 0.10-0.30m thick and the subsoil measured over 0.60m thick.

- 4.2.2 Cut into the subsoil was a modern land drain [1008] which measured 0.40m wide, 0.60m long and had a depth around 0.20m. It was orientated east to west and was filled by deposit (1009) which comprised of loose rounded stones.

4.3 Lake Tegid Path and Embankment Strip (Figure 2; Plates 11-26)

- 4.3.1 A strip was undertaken by the path along Lake Tegid shore prior to the construction of a flood defence scheme. In average the strip took off c 0.25m of the topsoil and around 0.50m of the embankment. The work was carried out during eight monitoring visits between January and June 2022.
- 4.3.2 The natural horizon (1011) was reached at a depth of approximately 0.35m+. It comprised a friable, mid-brownish yellow to orange, silty to sandy clay with frequent stones and gravel and occasional manganese.
- 4.3.3 Overlaying the natural deposit, context (1006) consisted of a friable, dark greyish brown clay silt that included frequent bush rooting and modern debris/rubbish. It measured around 0.50m deep, 5m wide, and ran the length of the embankment along lake (c.600m+). The deposit was formed of redeposited topsoil used to create the embankment as part of the flood defence scheme.
- 4.3.4 Overlaying this and the natural was the subsoil (1010). This comprised of light greyish brown sandy silt with yellowish brown mottling. It included occasional gravel and cobbles. It measured the width of the path, had a thickness of 0.20-0.40m, and ran the length of the path along Lake Tegid.
- 4.3.5 Overlaying this was the topsoil (1007), which comprised a friable, mid-orange brown clay silt that contained occasional gravel and small stones, alongside rare postmedieval and modern pottery, glass, and iron objects. It measured the width of the path, had a depth between 0.20-0.30m, and ran the length of the path along Lake Tegid.
- 4.3.6 No archaeological features were located in this area.

4.4 The car park (Figure 2; Plates 27-28)

- 4.4.1 An area measuring approximately 0.12 hectares was stripped to foundation levels within SH 92130 35492.
- 4.4.2 The strip reduced the area between 0.1 to 0.15m exposing the subsoil (2001), composed of sandy silt and gravels. Overlaying this deposit was the

topsoil (2000), defined as light orange brown sandy silt with frequent small angular stones.

- 4.4.3 No archaeological finds, deposits or structures were recovered during the strip.

5 Finds *Dr. Rhiannon Philp*

5.1 Overview

- 5.1.1 A total of 119 artefacts, weighing 405g were recovered during the course of the watching brief. All artefacts were dealt with in accordance with the professional standards set in the Chartered Institute for Archaeologists' Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (2020b). The artefacts were washed and dried or, where washing was not appropriate, dry brushed.
- 5.1.2 After washing or dry brushing all of the artefacts were assessed to ensure none needed immediate stabilisation.
- 5.1.3 The finds are catalogued in Table 1. The majority of finds were recovered from pit [1004], with the remaining artefacts found within the topsoil and subsoil.

Context Number	Object Type	Quantity	Weight (g)	Description
1000	Glass	1	144	Clear glass bottle with screw top, modern
1000	Pottery	3	118	L. 17th Century onwards Black Glazed Earthenware
1000	Pottery	5	24	19th-20th Century glazed crockery
1000	Metal	1	20	Fe wire
1001	Pottery	18	513	Late 17th century onwards black glazed earthenware, 19th-20th century glazed crockery
1001	Clay tobacco pipe	6	14	Pipe stem fragments, one mouthpiece with red glaze or wax, one stem with embossed concentric rings and one with embossed fan-like decorations. Remaining stems undiagnostic
1001	Pottery	16	664	Late 17th century onwards black glazed earthenware, 19th-20th century glazed crockery
1005	Metal	1	2	CuA shot gun cartridge brass head, circular with singular central hole, 2cm diameter 0.6cm aperture

Context Number	Object Type	Quantity	Weight (g)	Description
1005	Glass	1	35	Green bottle neck, modern
1005	Coal	1	33	Lump of coal
1005	Metal	1	4	Highly fragmented Fe nail, 5cm length.
1005	Slag	1	139	Possible slag or waste conglomerate containing slag fragments
1005	Pottery	31	635	Late 17th century onwards black glazed earthenware, 19th-20th century glazed crockery and fragments of stoneware bottles
1005	Clay tobacco pipe	21	35	Two mouth pieces, one bowl spur, three fragments of ribbed pipe bowl, one stem fragment with remnants of green glaze, one stem fragment with embossed makers mark for William Southorn and Co, Broseley
1005	Pottery	8	216	L. 17th Century onwards Black Glazed Earthenware, base of a 19th-20th century stoneware bottle or jar, 19th-20th Century glazed crockery, decorative fragment - possible leaf shape with flowers, fragments of 19th-20th century white glazed utilitarian jar
1005	Glass	1	11	Fragment of modern cut glass
1005	Clay tobacco pipe	1	5	Undiagnostic pipe stem
1005	Metal	1	77	Fe strip - possible machinery fragment
U/S	Metal	1	<1	Victorian silver maundy coin, 1.6cm diameter Likely 1D denomination, though back is worn. Date is partially visible 18_9. Face displays a fairly young Victoria - probably 1879 or earlier.

Table 1: Quantification of the artefacts recovered from the site

5.2 Pottery

- 5.2.1 A total of 81 sherds of pottery were recovered during the watching brief. All of the pottery recovered was post-medieval or later in date, with the majority dating to the 19th-20th centuries. The types of wares present were similar both within the fill of [1004] and the topsoil and subsoil. They included fragments of 19th-20th century glazed crockery, stoneware bottles and

utilitarian glazed jars as well as glazed earthenwares. The assemblage is indicative of waste material and of limited archaeological value.

5.3 Glass

- 5.3.1 A very small assemblage of glass was recovered from site. The neck of a modern green bottle and a sherd of modern cut glass were recovered from pit [1005] and a whole modern clear glass bottle from within the topsoil. The glass recovered from site is of no archaeological value.

5.4 Metal

Silver

- 5.4.1 A single Victorian Maundy penny was recovered unstratified during the watching brief. The penny bore the image of a young Queen Victoria on the front face. The back side of the coin was highly worn with the denomination and part of the date illegible. A crown and wreathes were present around the edge and the partial date 18_9. It is likely that the coin was issued between 1839 and 1879 as the Maundy coins from 1889 onwards depict Victoria with a veil, which is not shown on this particular example.
- 5.4.2 Maundy pennies were sets of 1 penny, 2 penny, 3 penny and 4 penny pieces given by the monarch to the elderly on Maundy Thursday each year. The practice started in 1622 and has continued to the present day (Royal Mint 2023).

Copper Alloy

- 5.4.3 A single copper alloy (likely brass) head of a shotgun cartridge was recovered from the fill of pit [1004]. It is of limited archaeological value.

Iron

- 5.4.4 A highly corroded iron nail and possible machinery fragment were recovered from the fill of pit [1005]. A further fragment of iron wire, possibly related to fencing was recovered from the topsoil. The assemblage is of limited archaeological value.

Slag

- 5.4.5 A conglomerate of what appears to be iron slag and small stones was recovered from the fill of pit [1004].

5.5 Clay Tobacco Pipe

- 5.5.1 A total of 28 fragments of clay tobacco pipe were recovered from the fill of pit [1004] and a further six from the subsoil. Within the pit, the majority were undiagnostic pipe stem fragments, however one stem was embossed with the makers mark of William Southorn and Co, Broseley which dates it to the 19th century.

- 5.5.2 The six fragments recovered from subsoil were also mostly undiagnostic pipe stems, though a couple showed signs of faintly embossed decoration indicative of 19th century examples.

5.6 Coal

- 5.6.1 A single lump of coal was recovered from the fill of pit [1004]. It is of limited archaeological value.

5.7 Summary

- 5.7.1 The finds assemblage from Llyn Tegid, Bala represents a 19th-20th century waste pit deposit and residual remains related to the same period within the topsoil and subsoil of the surrounding area. It is of limited archaeological value and no further work is required.

6 Discussion

- 6.1.1 The Watching Brief was designed to help identify and record archaeological features or deposits that may be associated with the historical landscape of Bala. The monitoring focused on the stripping of large green field bounded by Tegid Street to the west, the B4391 to the east, and a sewage pumping station to the for a site compound. Alongside the path and embankment along Lake Tegid which was removed in 30m strips prior to the construction of a flood defence scheme.
- 6.1.2 The results of the watching brief did not identify any significant archaeological features other than a 19th-20th century rubbish pit, a modern land drain, and deposits associated with the original flood defence scheme of Lake Tegid.

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Figure 1 Site location

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Figure 2 Location of scheme

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Figure 3 Detail of compound area

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Figure 4 [1004] plan and section

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Plate 1 Compound area prior strip looking E

Plate 2 Working shot looking SE

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Plate 3 Working shot looking E

Plate 4 Working shot looking S

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Plate 5 Pit [1004] - SE facing section.

Plate 6 Boundary wall prior cut, looking SE

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Plate 7 Section of wall 1000 looking NW

Plate 8 Section of wall 1000 looking SE

Copyright: Archaeology Wales Limited

Plate 9 Service Trench looking SW

Plate 10 Service Trench looking NE

Copyright: Archaeology Wales Limited

Plate 11 January 2022, area prior strip alongside flood defences looking E

Plate 12 January 2022, first strip looking W

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Plate 13 January 2022, detail of section, looking NW.

Plate 14 January 2022, strip looking E.

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Plate 15 January 2022, strip looking W.

Plate 16 January 2022, strip looking W.

Copyright: Archaeology Wales Limited

Plate 17 January 2022, area of Japanese Knotweed

Plate 18 January 2022, area of Japanese Knotweed - removed

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Plate 19 May 2022, area to be stripped looking SW

Plate 20 May 2022, working shot looking E

Copyright: Archaeology Wales Limited

Plate 21 May 2022, area stripped looking SW

Plate 22 May 2022, area stripped looking SW

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Plate 23 June 2022, stripped area looking NE

Plate 24 June 2022, stripped area looking SE

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Plate 25 June 2022, area stripped looking NE

Plate 26 June 2022, area stripped looking NE

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Plate 27 Car park area – working shot looking E

Plate 28 Car park area – stripped to foundation levels looking E

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Figure 2. Areas subjected to Watching Brief.



Figure 3. Location of strip (compound area)

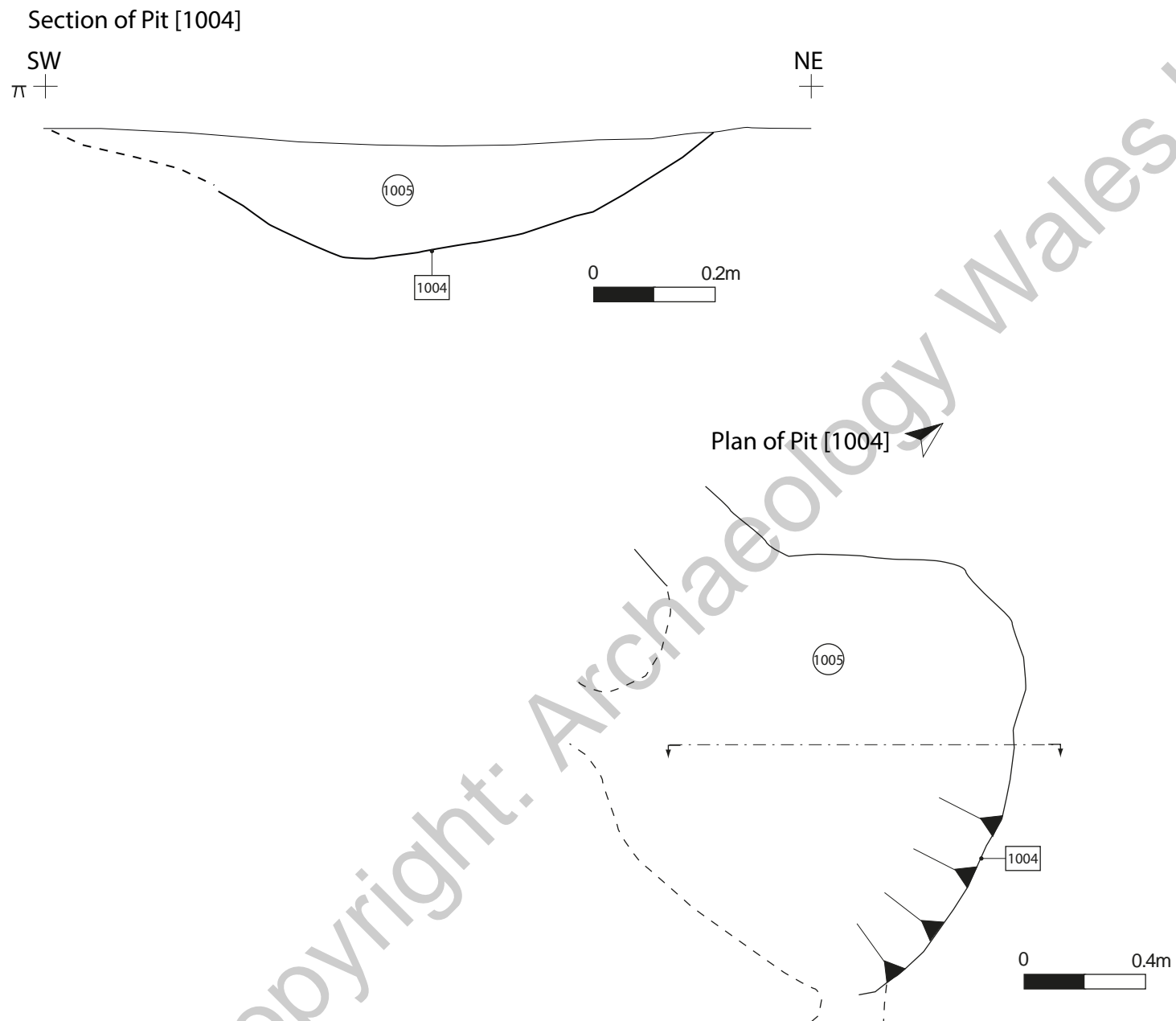


Figure 4
Section & Plan of Pit [1004]



Plate 1. Compound area prior strip looking E



Plate 2. Working shot looking SE



Plate 3. Working shot looking E



Plate 4. Working shot looking S



Plate 5. Pit [1004] - SE facing section.



Plate 6. Boundary wall prior cut, looking SE



Plate 7. Section of wall 1000 looking NW



Plate 8. Section of wall 1000 looking SE



Plate 9. Service Trench looking SW



Plate 10. Service Trench looking NE



Plate 11. January 2022, area prior strip alongside flood defenses looking E



Plate 12. January 2022, first strip looking W.



Plate 13. January 2022, detail of section, looking NW.



Plate 14. January 2022, strip looking E.



Plate 15. January 2022, strip looking W.



Plate 16. January 2022, strip looking W.



Plate 17. January 2022, area of Japanese Knotweed



Plate 18. January 2022, area of Japanese Knotweed - removed



Plate 19. May 2022, area to be stripped looking SW



Plate 20. May 2022, working shot looking E



Plate 21. May 2022, area stripped looking SW



Plate 22. May 2022, working shot looking SW



Plate 23. June 2022, area stripped looking NE



Plate 24. June 2022, area stripped looking SE



Plate 25. June 2022, area stripped looking NE



Plate 26. June 2022, area stripped looking NE.



Plate 27. Car park area, working shot looking E



Plate 28. Car park area, stripped site looking E

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WRITTEN SCHEME OF INVESTIGATION

FOR AN ARCHAEOLOGICAL

WATCHING BRIEF

**Llyn Tegid Reservoir Safety Project,
Bala, Merionethshire, Gwynedd, North Wales**

Prepared for:

Natural Resources Wales

Project No: 2780

October 2021



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Figure 1. Site Location

Figure 2. Development plans

Summary

This Written Scheme of Investigation details a programme of archaeological mitigation to be undertaken by Archaeology Wales Ltd at the request of Natural Resources Wales.

The archaeological mitigation will consist of a watching brief and will be undertaken during ground works associated with the Llyn Tegid Reservoir Safety Project at Bala, Merionethshire, Gwynedd, North Wales centred on SH 92454 35439.

The development is centred on Llyn Tegid Reservoir and the River Dee at Bala, Merionethshire, Gwynedd, North Wales. Bala is an historic medieval market town with a history stretching back to Roman times. Bala itself is the core of the Historic Landscape Characterisation of Bala and Llyn Tegid (PRN 24702).

All work will be undertaken in accordance with the standards and guidelines of the Chartered Institute for Archaeologists (2020).

1. Introduction and planning background

- 1.1. This Written Scheme of Investigation (WSI) details the methodology for a programme of archaeological mitigation (watching brief) to be undertaken in association with the Llyn Tegid Reservoir Safety Project at Bala, Merionethshire, Gwynedd, North Wales centred on SH 92454 35439 (Figure 1-2).
- 1.2. The development lies along on the shoreline of the Lake Tegid (Llyn Tegid), within the historical town centre of Bala. The latter is situated within an Historic Landscape Characterisation of Bala and Llyn Tegid (PRN 24702). Likewise, Bala town centre falls within a conservation area and, moreover, the entire landscape falls within Snowdonia National Park.
- 1.3. This WSI has been prepared by Lucy Bagshaw, Archaeology Wales Ltd (henceforth - AW) at the request of Natural Resources Wales.
- 1.4. The methodology set out in this WSI has been agreed with the Gwynedd Archaeological Planning Services (GAPS) in their capacity as archaeological advisors to the Snowdonia National Park Planning Authority. As such, it has been recommended that an archaeological watching brief is undertaken during ground works to mitigate the impact of the proposed development on the archaeological resource of the areas selected for groundworks.
- 1.5. The purpose of the archaeological mitigation (watching brief) is to provide the local planning authority with sufficient information regarding the nature of archaeological remains on the site of the development, the requirements for which are set out in Planning Policy Wales (edition 11 - February 2021), and Technical Advice Note (TAN) 24. The work is to ensure that all buried artefacts and deposits are fully investigated and recorded if they are disturbed or revealed as a result of activities associated with the development.

- 1.6. All work will be undertaken to the standards and guidance set by the Chartered Institute for Archaeologists (2020). AW is a Registered Organisation with the ClfA.

2. Site Description

- 2.1. The proposed development area is located on the north bank of Llyn Tegid, immediately south of the market town of Bala, Snowdonia National Park.
- 2.2. The areas subjected to development include an area currently used as a car park located to the westernmost end of the scheme; a central region currently defined by a path along the lake shore and penetrating the fields to the north, and a large green field bounded by Tegid Street to the west, by the B4391 to the E, and by a sewage pumping station to the north. The fields are located toward the easternmost end of the development.
- 2.3. The underlying geology is defined by Caradoc Rocks (mudstone, siltstone and sandstone) formed during the Ordovician Period. The superficial soils are defined by River Terrace Deposits (sand and gravel) formed during the Quaternary Period (BGS 2020).

3. Historical and Archaeological background

- 3.1. A rapid examination of the HER records contained within 750m of the centre of the scheme has been carried out in order to assess the archaeological potential of the area chosen for development, and to understand its character. The results are presented as an appendix to this document - reference GATHER1512. Some of the most significant records have been used here to outline the history of development of Bala and its surroundings.

Prehistoric

- 3.2. A search into the local HER has retrieved five records dating to prehistoric chronologies. Both PRN 3207 and PRN 4332 refer to isolated finds (a spearhead and an axe head) recovered from the shores of Lake Bala. Furthermore, the HER records a double axe head found during works associated with the construction of a garage at Glan Y Gro (PRN 24119).
- 3.3. PRNs 3224 and 3244 document a possible stone circle and standing stone. The latter appears to be a natural boulder artificially erected, whilst questions over the existence of the former have been raised. It is possible that the stones were removed from the area during the construction of a new road bypassing Llanfor.
- 3.4. The HER records also document an Iron Age structure and enclosure. The site has been surveyed (both using intrusive and non-intrusive methods) in the past, revealing some of its morphology. The site is located c 1.2km of the easternmost end of the scheme.

Roman

- 3.5. The HER results highlight the strong presence of Roman activity within and around Bala.
- 3.6. The Roman fort of Llanfor (PRN 3211; ME092) is located approximately 1km from the town centre of Bala. It was first documented through aerial recognisance. The fort encloses an area of c 3.8 hectares, and it is considered to be a Roman military building dating to pre-Flavian or very early Flavian campaigns.
- 3.7. The region where the fort is located is dotted with other sources of evidence dating to Roman chronologies. These include two stretches of the Roman Road running from Forden Gaer - Llanfor (PRN 17760-1). The significance that Roman occupation had for the history of development of Llanfor is also attested within PRN 24706 documenting the character of Llanfor and its surrounding landscape.
- 3.8. The trajectory of the Roman road leading from Caer Gai to Deva is thought to run across Bala on a SW/NE direction. It is significant to note that the westernmost end of the scheme is located only 75m to the E of the line defining the road (see PRN 17609).

Medieval

- 3.9. The medieval town of Bala was established in 1310 by Roger Mortimer in an attempt to bring stability to Penllyn so that it could serve as an administrative centre. Subsequently, the markets and fairs previously held at Llanfor were transferred to Bala, even though the town did not exceed one square mile (Gwyn 2000). A charter was granted in February 1311 and the first town hall built soon after (Bala and Penllyn Tourism Association 2020) (PRN 4281). The medieval core of Bala highly defines its character and morphology as noted during the characterisation of this area (PRN 70116).
- 3.10. Christ Church early medieval chapel was located in Bala but the site is currently occupied by a post-medieval church which was built in 1855 (PRN 4280; LB 25964). It is said that the medieval building had entirely disappeared by the time of Edward Lhuyd (c.1698).
- 3.11. The medieval motte of Tomen y Bala (castle mound) is located in the town centre of Bala. The motte is 40m in diameter and 8.0m high, with a level summit c16.5m across. The associated bailey is said to have been lost through subsequent development of the area. Thus, the motte itself was partially destroyed by Llywelyn ab Iorwerth in 1202 (PRN 3202).
- 3.12. Pen-Ucha'r-Llan comprises the remains of a well-preserved castle-ringwork, which dates to the medieval period. It is located on a low ridge above the village of Llanfor, approximately 1.4km from the town centre of Bala (ME042).

Post-Medieval and modern

- 3.13. The bulk of the records retrieved during the search date to post-medieval and modern chronologies and largely define the town centre.
- 3.14. During the examination of the records, it was noted that one entry – PRN 90263 – is located within the easternmost end of the development area. The latter documents two post-medieval tokens.
- 3.15. Furthermore, a rapid examination of cartographic sources highlights that the westernmost end of the scheme was by the 1880s located within the shore of Lake Bala, whilst the easternmost end was divided into a number of field liable to floods.

4. Objectives

- 4.1. This WSI sets out a program of works to ensure that the mitigation (watching brief) will meet the standard required by The Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Watching Briefs* (2020).
- 4.2. The objective of the watching brief will be:
- to allow a rapid investigation and recording of any archaeological features that are uncovered during the proposed groundworks within the areas subject to groundworks, including the north shore of the lake and associated embankment footprint, the bandstand and proposed main site compound, and the leisure centre car park.
 - to provide the opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief are not sufficient to support the treatment to a satisfactory or proper standard.
- 4.3. A written report will be compiled following the fieldwork. Sufficient desk-top research will be undertaken to ensure that the results of this work are properly understood, interpreted and reported.
- 4.4. The report will include a comprehensive assessment of the historic context within which the archaeological evidence rests and will aim to highlight any relevant research issues within regional, national and, if relevant, international research frameworks.

5. Timetable of works

Fieldwork

- 5.1. The programme of mitigation will be undertaken during ground works associated with the proposed development. It is expected that groundworks will commence on the 1st of November 2021 and have a duration of approximately 18

months. The watching brief will be carried out at different stages of the work. Archaeology Wales will update GAPS with the exact dates in which the development is monitored.

Report delivery

- 5.2. The report will be submitted to the client and to GAPS within three months of the completion of the fieldwork. A copy of the report will also be sent to the regional HER.

6. Fieldwork

- 6.1. The work will be undertaken to meet the standard required by The Chartered Institute for Archaeologist's *Standard and Guidance for Watching Briefs* (2020).
- 6.2. The watching brief will be carried out by a suitably qualified archaeologist on all associated groundworks. The mechanical excavation will be undertaken by a tracked 360-degree excavator using a toothless ditching bucket wherever possible¹.
- 6.3. The site archaeologist undertaking the watching brief will be afforded the required access by the main contractor in order to observe and where necessary to record any archaeological remains revealed. Groundwork will not be undertaken without the presence of the site archaeologist. The site archaeologist will record finds and less significant archaeological deposits and features without significant delay to the work program.
- 6.4. Where significant or complex archaeological deposits or features are encountered there will be a requirement for those areas to be fenced off and highlighted to all contractors employed on the site. Machines or contractors shall not enter this area until the archaeological recording has been completed. If significant archaeological features are revealed during the work a meeting between the client, GAPS and AW will be called at the earliest convenience. Contingency costs will be agreed in advance before any extension to the programme commences and will follow a site meeting between AW, the client and GAPS.
- 6.5. Full excavation will be carried out on individual features relating to structural remains and other areas of significant activity relating to medieval

¹ If a boundary wall is affected by the strip the structure will be subjected to a basic record. This will include images of the wall before and during the works, as well as a cross-section accompanied by a brief description and note of dimensions.

chronologies and earlier (domestic, industrial, religious, hearths, etc). Pits, postholes, and stake-holes will be half-sectioned, unless the nature or complexity of the features requires quadranting or excavation in plan. The sample rates of linear features such as ditches and gullies will be at a minimum of 25%.

- 6.6. Due to the proximity of the site to the lake edge, underlying waterlogged deposits, such as peat may be present. If such deposits are encountered they have the potential to preserve archaeological organic materials including timber structures and organic deposits. Isolated find spots related to depositions into the lake at an earlier stage of its existence are also possible as is the potential for the presence of footprints belonging to both humans and animals. With this in mind, such deposits should be stripped in shallow spits in order to identify any archaeological significant finds or features.
- 6.7. Evidence of wooden structures will be recorded in situ and GAPS will be consulted with regards to retention and discard of the wood identified prior to it being lifted from the ground.
- 6.8. Evidence of footprints will be photographed and planned prior to further reduction in ground level and a GPS used to accurately geolocate the remains.
- 6.9. The location of isolated find spots will be recorded using GPS.

Recording

- 6.10. Recording will be carried out using AW recording systems (pro-forma context sheets etc) using a continuous number sequence for all contexts.
- 6.11. Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as required and related to Ordnance Survey datum and published boundaries where appropriate.
- 6.12. All features identified will be tied into the OS survey grid and fixed to local topographical boundaries.
- 6.13. Photographs will be taken in digital format with an appropriate scale, using a 12MP camera with photographs stored in Tiff format.
- 6.14. The archaeologist undertaking the watching brief will have access to the AW metal detector and be trained in its use.

Finds

- 6.15. The professional standards set in the Chartered Institute for Archaeologists' *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (2020) will form the basis of finds collection, processing and recording.

- 6.16. All manner of finds regardless of category and date will be retained.
- 6.17. Finds recovered that are regarded as Treasure under *The Treasure Act 1996* will be reported to HM Coroner for the local area.
- 6.18. Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (normally Phil Parkes at Cardiff University).

Environmental sampling strategy

- 6.19. Deposits with a significant potential for the preservation of palaeoenvironmental material will be sampled, by means of the most appropriate method (bulk, column etc). Where sampling will provide a significant contribution to the understanding of the site AW will draw up a site-specific sampling strategy alongside a specialist environmental archaeologist. All environmental sampling and recording and will follow English Heritage's *Guidelines for Environmental Archaeology* (2011).
- 6.20. Should organic deposits such as peat be identified, a monolith sample will be taken through the full depth of the deposit and considered for palaeoenvironmental analysis. A bulk sample of up to 40 litres will also be taken to check for and retrieve any archaeological artefacts present.

Human remains

- 6.21. In the event that human remains are encountered, their nature and extent will be established, and the coroner informed. All human remains will be left *in situ* and protected during backfilling. Where preservation *in situ* is not possible the human remains will be fully recorded and removed under conditions that comply with all current legislation and include acquisition of licenses and provision for reburial following all analytical work. Human remains will be excavated in accordance with the Chartered Institute for Archaeologist's *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains: Technical Paper Number 13* (1993).
- 6.22. A meeting with GAPS, the client and AW will be called if the human remains uncovered are of such complexity or significance that the contingency arrangement (6.1 above) would not be of sufficient scope.

Specialist advisers

- 6.23. In the event of certain finds, features or sites being discovered, AW will seek specialist opinion and advice. A list of specialists is given in the table below although this list is not exhaustive.

Artefact type	Specialist
Lithics	Dr Julie Birchenall (Freelance)
Animal bone	Andy Simms (Archaeology Wales)

	Dr Richard Madgwick (Cardiff University) Poppy Hodgkinson (Cardiff University)
CBM, heat affected clay, Daub etc.	Dr Siân Thomas (Archaeology Wales) Dr Phil Mills (Freelance) Sandra Garside Neville (Freelance)
Clay pipe	Charley James Martin (Archaeology Wales)
Glass	Rowena Hart (Archaeology Wales)
Cremated and non-cremated human bone	Malin Holst (University of York) Dr Richard Madgwick (Cardiff University)
Metalwork	Dr Rhiannon Philp (Archaeology Wales) Dr Kevin Leahy (PAS/University of Leicester) Quita Mould (Freelance)
Metal work and metallurgical residues	Dr Tim Young (GeoArch)
Neo/BA pottery	Dr Alex Gibson (Bradford University) Dr David Mullin (Freelance)
IA/Roman pottery	Dr Jane Timby (Freelance)
Roman Pottery	Dr Siân Thomas (Archaeology Wales) Dr Peter Webster (Freelance)
Medieval and Post Medieval Pottery	Paul Blinkhorn (Freelance)
Charcoal (wood ID)	Dana Challinor (Freelance)
Waterlogged wood	Professor Nigel Nayling (University of England – Lampeter)
Marine Molluscs	Dr Rhiannon Philp (Archaeology Wales)
Pollen	Dr Rhiannon Philp (Archaeology Wales)
Charred and waterlogged plant remains	Wendy Carruthers (Freelance) Kath Hunter Dowse (Freelance)

Specialist reports

6.24. Specialist finds and palaeoenvironmental reports will be written by AW specialists, or sub-contracted to external specialists when required.

7. Monitoring

- 7.1. GAPS will be contacted approximately two weeks prior to the commencement of archaeological site works, and subsequently once the work is underway.
- 7.2. Any changes to the WSI that AW may wish to make after approval will be communicated to GAPS for approval on behalf of the Planning Authority.
- 7.3. GAPS will be given access to the site so that they may monitor the progress of the watching brief. No area will be backfilled until GAPS has had the opportunity to inspect it and signs off the area. GAPS will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

8. Post-fieldwork programme

Archive assessment

- 8.1. An ordered and integrated site archive will be prepared in accordance with: *Management of Research Projects in the Historic Environment (MoRPHE)* (Historic England 2015) upon completion of the project.
- 8.2. The site archive – including all artefacts, soil samples, paper, and digital records – will be subjected to selection in order to establish those elements that will be retained for long term curation. The selection strategy will be agreed with all stakeholders and will be detailed in the Selection Strategy and Data Management Plan (ClfA 2020). It will be developed taking into consideration the aims and objectives of the project and will be informed through a detailed consideration of the Research Agenda of the Archaeology of Wales and other relevant research frameworks. The way the records will be prepared for long time storage will be guided by the requirements established by the repositories. A detailed justification for the disposal of both records and materials will be written and included within the Data Management Plan².
- 8.3. The site archive (including artefacts and samples) will be prepared in accordance with the National Monuments Record (Wales) agreed structure and deposited with an appropriate receiving organisation, in compliance with ClfA Guidelines (Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives, 2014). It will also conform to the guidelines set out in *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (National Panel for Archaeological

² See appendix 1

Archives in Wales 2017). The legal landowner's consent will be gained for deposition of finds. The project will adhere to the Welsh Archaeological Trust's joint *Guidance for the Submission of Data to the Welsh Historic Environment Records* (2018).

Analysis

8.4. Following a rapid review of the potential of the site archive, a programme of analysis and reporting will be undertaken. This will result in the following inclusions in the final report:

- Non-technical summary (Welsh and English)
- Location plan showing the area/s covered by the watching brief, all artefacts, structures and features found,
- Plan and section drawings (if features are encountered) with ground level, ordnance datum and vertical and horizontal scales.
- Written description and interpretation of all deposits identified, including their character, function, potential dating and relationship to adjacent features. Specialist descriptions and illustrations of all artefacts and soil samples will be included as appropriate.
- An indication of the potential of archaeological deposits which have not been disturbed by the development
- A discussion of the local, regional and national context of the remains by means of reviewing published reports, unpublished reports, historical maps, documents from local archives and the regional HER as appropriate.
- A detailed archive list at the rear listing all contexts recorded, all samples finds and find types, drawings and photographs taken. This will include a statement of the intent to deposit, and location of deposition, of the archive.

Report to client

8.5. Copies of all reports associated with the mitigation (watching brief), together with inclusion of supporting evidence in appendices as appropriate, including photographs and illustrations, will be submitted upon completion to GAPS for comment and approval. Following approval, a copy will be sent to the client, and for formal submission to the LPA.

Additional reports

8.6. After an appropriate period has elapsed, copies of all reports will be deposited with the relevant county Historical Environment Record (GAT), the National Monuments Record and, if appropriate, Cadw. The report and all relevant information will be submitted to the Historic Environment Record

following the guidelines and procedures laid out in the *Guidance for the Submission of Data to the Welsh Historic Environment Records* (WAT 2018).

Summary reports for publication

- 8.7. Short archaeological reports will be submitted for publication in relevant journals; as a minimum, a report will be submitted to the annual publication of the regional CBA group or equivalent journal.

Notification of important remains

- 8.8. Where it is considered that remains have been revealed that may satisfy the criteria for statutory protection, AW will submit preliminary notification of the remains to Cadw.

Archive deposition

- 8.9. The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution. If artefacts are recovered, and dependent on the size of the final archive, the preferred receiving institution would be a suitable local institution. If the archive is not acceptable the archive will be deposited with Amgueddfa Cymru – National Museum Wales, Cardiff. If no artefacts are recovered then the archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. Arrangements will be made with the receiving institution before work starts.
- 8.10. Although there may be a period during which client confidentiality will need to be maintained, copies of all reports and the final archive will be deposited no later than 12 months after completion of the work.
- 8.11. Copies of all reports, the digital archive and an archive index will be deposited with the National Monuments Record, RCAHMW, Aberystwyth.
- 8.12. Wherever the archive is deposited, this information will be relayed to the HER. A summary of the contents of the archive will be supplied to GAPS.

Finds deposition

- 8.13. The finds, including artefacts and ecofacts, excepting those which may be subject to the Treasure Act, will be deposited with the same institution, subject to the agreement of the legal landowners.

9. Staff

- 9.1. The project will be managed by Irene Garcia Rovira (AW Project Manager) and the fieldwork undertaken by a suitable qualified and experienced AW

archaeologists. Any alteration to staffing before or during the work will be brought to the attention of GAPS and the client.

10. Health and Safety

Risk assessment

- 10.1. Prior to the commencement of work AW will carry out and produce a formal Health and Safety Risk Assessment in accordance with The Management of Health and Safety Regulations 1992. A copy of the risk assessment will be kept on site and be available for inspection on request. A copy will be sent to the client (or their agent as necessary) for their information. All members of AW staff will adhere to the content of this document.

Other guidelines

- 10.2. AW will adhere to best practice with regard to Health and Safety in Archaeology as set out in the FAME (Federation of Archaeological Managers and Employers) health and safety manual Health and Safety in Field Archaeology (2002).

Covid-19 Considerations

- 10.3. If an AW Staff member believes they are at an increased risk from the virus they are to contact management.
- 10.4. Please the Site Operating Procedures/Risk Assessment for full details and work in accordance with them.
- 10.5. If anyone is showing symptoms of Covid-19 they are to go home immediately and notify the appropriate people.
- 10.6. Staff must stay at least 2m away from any person, who does not live within their own household, AT ALL TIMES. This includes on site, within office space, in the canteen and all other parts of the compound.
- 10.7. Wash hands regularly and thoroughly, especially on arriving to site, leaving site and before eating.
- 10.8. The staff members should take their own food and drink to site.
- 10.9. Once returning home, appropriate care should be taken to ensure that contamination does not spread (change clothes, shower etc).
- 10.10. Staff must avoid touching surfaces if possible. If they have to touch a surface, such as a door handle or toilet seat, staff must either wear gloves or wash their hands/ relevant body part with sterilising hand wash immediately afterwards. DO NOT touch your face after touching any surface. Staff should also disinfect

surfaces before and after touching. Staff must bring their own sterilising handwash, wipes and gloves and dispose of them safely after use.

- 10.11. All staff must read, sign, and adhere to the separate AW Covid - 19 risk assessment.
- 10.12. If any AW staff, contractor, or any other persons on site are not abiding by these rules, the staff member will remove themselves from the risk and contact the PM immediately.

11. Community Engagement and Outreach

- 11.1. Wherever possible, AW will ensure suitable measures are in place to inform the local community and any interested parties of the results of the site investigation work. This may occur during the site investigation work or following completion of the work. The form of any potential outreach activities may include lectures and talks to local groups, interested parties and persons, information boards, flyers and other forms of communication (social media and websites), and press releases to local and national media.
- 11.2. The form of any outreach will respect client confidentiality or contractual agreements. As a rule, outreach will be proportional to the size of the project.
- 11.3. Where outreach activities have a cost implication these will need to be negotiated in advance and in accordance with the nature of the desired response and learning outcomes.

12. Insurance

- 12.1. AW is fully insured for this type of work and holds Insurance with Aviva Insurance Ltd and Hiscox Insurance Company Limited through Towergate Insurance. Full details of these and other relevant policies can be supplied on request.

13. Quality Control

Professional standards

- 13.1. AW works to the standards and guidance provided by the Chartered Institute for Archaeologists. AW fully recognise and endorse the Chartered Institute for Archaeologists' Code of Conduct, Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology and the Standard and Guidance for archaeological watching briefs currently in force. All employees

of AW, whether corporate members of the Chartered Institute for Archaeologists or not, are expected to adhere to these Codes and Standards during their employment.

Project tracking

- 13.2. The designated AW manager will monitor all projects in order to ensure that agreed targets are met without reduction in quality of service.

Arbitration

- 13.3. Disputes or differences arising in relation to this work shall be referred for a decision in accordance with the Rules of the Chartered Institute of Arbitrators' Arbitration Scheme for the Institute for Archaeologists applying at the date of the agreement.

14. References

British Geological Survey (2021)

<https://www.bgs.ac.uk/>

ClfA Standard and guidance for an archaeological watching brief (2020)

<https://www.archaeologists.net/sites/default/files/ClfASGWatchingbrief.pdf>

ClfA Standard and guidance for the collection, documentation, conservation and research of archaeological materials (2020)

https://www.archaeologists.net/sites/default/files/ClfAS%26G Finds_2.pdf

ClfA Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (2020)

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Gwyn, D. 2000. Cultural Atlas of Wales: Interim Report

Historic England Environmental Archaeology (2011)

<https://historicengland.org.uk/advice/technical-advice/archaeological-science/environmental-archaeology/>

Historic England Management of Research Projects in the Historic Environment (2015)

<https://historicengland.org.uk/images-books/publications/morphe-project-managers-guide/heag024-morphe-managers-guide/#:~:text=The%20Management%20of%20Research%20Projects,in%20the%20historic%20Environment%20sector.>

McKinley, J. I. and Roberts, C. A. (1993). Excavation and post-excavation treatment of cremated and inhumed human remains.

Planning Policy Wales (2021)

https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf

Technical advice note (TAN) 24: the historic environment (2017)

<https://gov.wales/sites/default/files/publications/2018-09/tan24-historic-environment.pdf>

Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)

<http://www.ggat.org.uk/her/downloads/Guidance%20for%20the%20Submission%20of%20Data%20to%20Welsh%20HERs.pdf>

Appendix 1 – Data Management Plan

Project Name and ID
2780 - Llyn Tegid, Bala LTB/21/WB
Project description
Archaeological Watching Brief associated with Llyn Tegid Reservoir Safety Project at Bala. The purpose of the Watching Brief is to allow a rapid investigation and recording of any archaeological features that are uncovered during the proposed groundworks and to signal, if necessary, to all parties that further resources are needed if finds/features of significance are revealed during the work.
Funder of client
Natural Resources Wales
Project Manager
Irene Garcia Rovira – AW project manager irene@arch-wales.co.uk
Principal investigator and contact
Same as above
Date DPM created and subsequent amendments
Created on 3.11.21
Related Data Management policies
Project Brief, ClfA Standards and guidance, the receiving museum's Archive Deposition Policy, the Trusted Digital Repository guidelines (such as ADS guidelines) or other best practice guidance (see brief for details)

Data type
<p>Spreadsheets will include all registers, context sheet information and other metadata generated during the process of interpretation and write up of the report. The Excel file will be converted into a CSV and will be linked to the survey data whenever possible</p> <p>PDFs of the report, WSI and all the paper archive generated onsite.</p> <p>All site drawings that are selected during the DMP will be stored as AI and PDF files</p> <p>The survey data will be stored both as raw data (text file/csv) and as shapefiles (shp). This will include a polygon showing the limits of the development area. The database</p>

generated with GIS will be stored so it is accessible by future users

How will data be generated?

Project Brief will determine the nature of data collection. The project brief has been produced taking into consideration guidance offered by ClfA, and by relevant repositories.

While the data selection strategy may change during the course of the watching brief attending to the demands of the findings, an initial methodology is outlined in the brief which includes advice offered by specialists (e.g environmental specialist). A list of specialists that can be contacted to seek for advice is included in the brief.

Data generated during the site work will be regularly updated to the served and stored within well-defined folder. The folder hierarchy and organisation devised will be understood by all members of staff involved in the project. The data stored will be checked by the project manager regularly as a means of quality assurance. The survey data will also be plotted regularly to assure that it is correct and that the instruments on site are working properly.

Further documentation accompanying the resulting archive

Data collected will include standard formats which maximise opportunities for use and reuse in the future.

The archive will be associated to metadata summary which outlines details of all data types, quantities and all archive components

Data documentation will meet the requirement of the Project Brief, Museum Deposition Guidelines, Digital Repository Guidelines and the methodology described in the Project Design methodology. These details are checked and taken into consideration prior the start of the project.

Data protection

We have a GDPR compliant Privacy Policy. Sensitive data is never retained in the project folder.

Copyright permission is sought from all specialists and other providers outside the organisation. Data sharing is also subjected to license agreements.

Storage

The project manager is responsible to the regular check up of the data produced and

stored in the server. The data produced is uploaded regularly as a way of backing up the information. Time and resources are given to the site staff to be able to back up the data. Alternatively, laptops are issued to use during the time onsite.

Data retention

The DMP will be updated in light with the findings. This process will also inform any possible future project designs and further work associated with the project. The data selection plan will take into consideration the research agenda for Wales and any other local frameworks.

At the deposition stage, the DMP will be finalised in agreement with all project stakeholders.

The project will be published as an online technical report (accessible via OASIS and as part of this the archive)

The project results will be included in the Historic Environment Record.

Long term preservation plan

The digital archive will be deposited with the Archaeology Data Service, which is a certified repository with Core Trust Seal.

Data repository and costs

Amgueddfa Cymru - National Museum Wales, Cardiff. If no artefacts are recovered then the archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. ADS has also been contacted. Estimated costs have been included into the project budget

Data sharing and accessibility

A summary of the project will be included on the OASIS Index of Archaeological Investigation and the museum and digital archive repository, once the work begins. Regular updates will be carried out to fit the emerging needs of the project. The documents expected for this project include WSI, WB report. Although depending on the results the work will result on Post Excavation Assessment and Updated Project Design, Final Report.

The final report is expected to be completed within 3 months of the completion of fieldwork. Should the work reveal significant archaeology and therefore, specialists are required during the post-ex process, then the report might take up to twelve months to be submitted

A final version of the project report will be supplied to the Historic Environment Record

via OASIS, and any data which they request can also be provided directly.

The location (s) of the final Archaeological Archive will be added to OASIS when appropriate.

DMP responsibility

The Project Manager will be responsible for implementing the DMP

Data capture, metadata production and data quality is the responsibility of the Project Team, assured by the Project Manager.

Storage and backup of data in the field is the responsibility of the field team.

Once data is incorporated into the organisations project server, storage and backup is managed by the project manager

Data archiving is undertaken by the Archives Officer, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository.

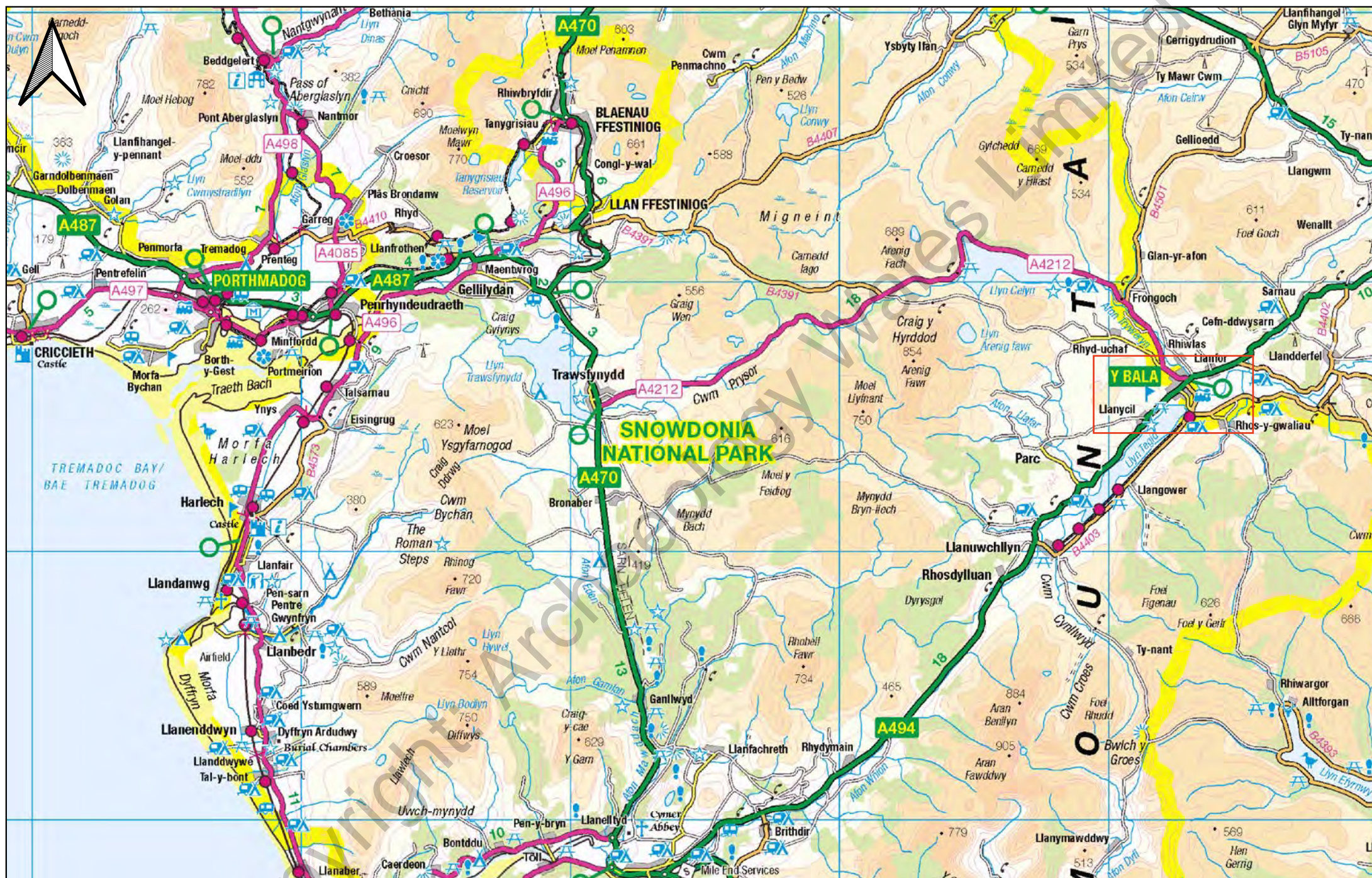


Figure 1. Site location.

0 5 10 km

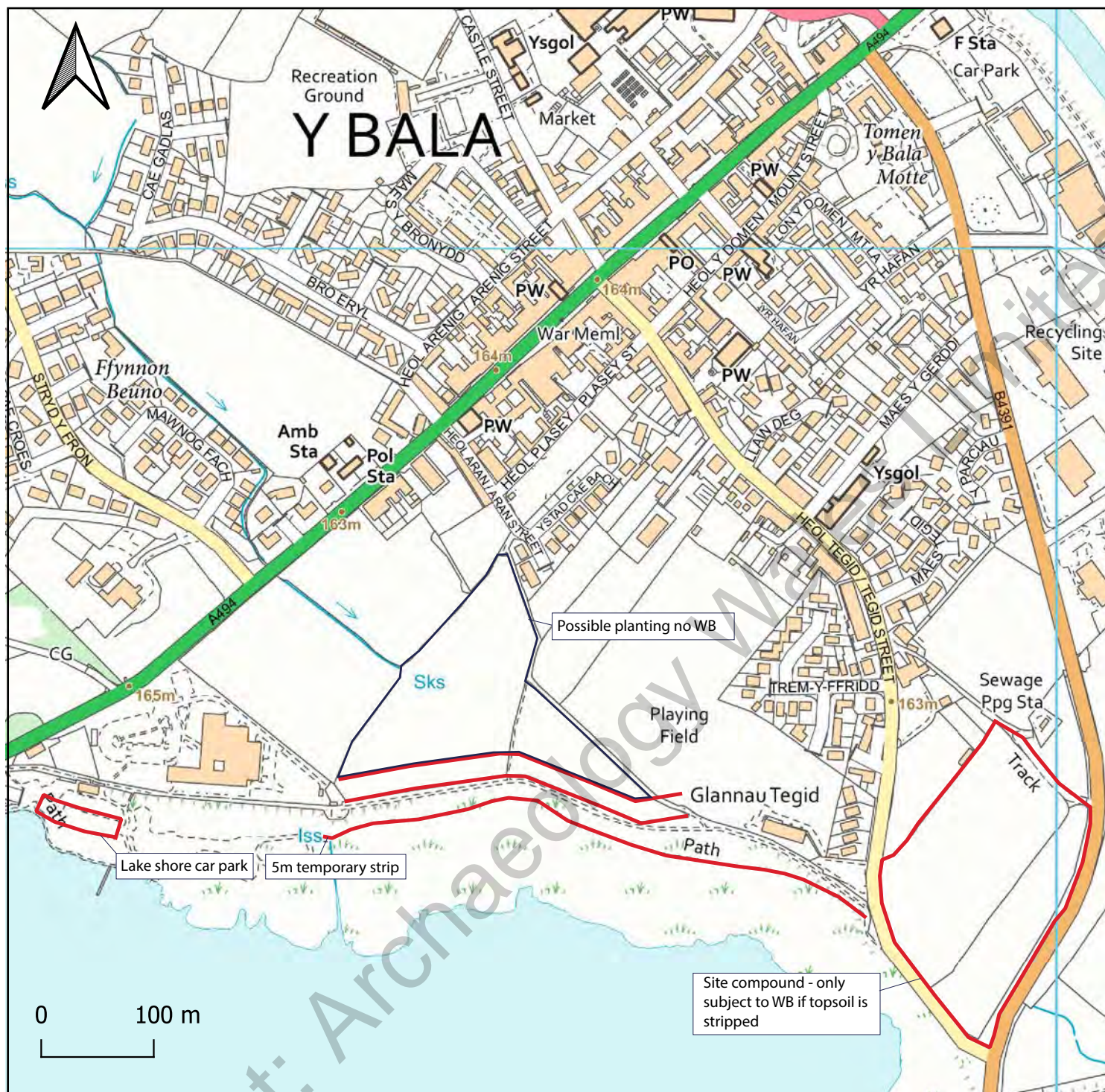


Figure 2. Areas subject to Watching Brief.