

Archaeology Wales

Hafan Y Môr, Pwllheli

Archaeological Watching Brief



By

Steven Cole PCIfA

Report No. 1761

Archaeology Wales

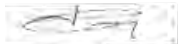
Hafan Y Môr, Chwillog, Pwllheli

Archaeological Watching Brief

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February 2019

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Non-Technical Summary

From the 7th to the 21st of January 2018 Archaeology Wales Ltd (AW) carried out an archaeological watching brief at Hafan Y Môr, Chwillog, Pwllheli. The watching brief was associated with a phase of improvements to a holiday park to include the demolition of 450 chalets, create bases for 209 static caravans and 75 lodges, create site for up to 75 touring caravans and facilities block, a 9 hole golf course, permissive coastal footpath and landscaping works at Hafan Y Môr, Pwllheli, centred on SH 43621 36833.

In 2011, Gwynedd Archaeological Trust (GAT) completed a programme of archaeological mitigation along the route of a replacement gas pipeline from Pwllheli to Blaenau Ffestiniog. Archaeological remains dating from prehistoric times to medieval chronologies were recovered during this programme of work, which run close to the study area. A rectangular pit showing evidence of firing and the remains of two burnt mounds were located to the north and east of the site. A large medieval corn drier was revealed to the west of the proposed study area (Kenney 2013). Furthermore, LP Archaeology carried out five phases of archaeological work at Hafan Y Môr (PRN 45327). These works revealed several archaeological features and finds dating from prehistoric times to post-medieval chronologies (Rees et al 2013). In 2018, Archaeology Wales carried out an Archaeological Desk Based Assessment of the area noting the presence of anomalies within the field as observed during the examination of LiDAR imagery.

During the watching brief a long platform was dug along the western extent of the development area, along with six service trenches and a trench for a service pump. One feature was found within the development area but proved to be modern in date. No other archaeological features were found during the groundworks.

This watching brief was undertaken to the standards set in the CIfA's Standards and Guidance: for an archaeological watching brief (2014) and current Health and Safety legislation.

Ym mis Hydref 2018, cafodd Archaeoleg Cymru ei gomisiynu gan Bourne Leisure Ltd i gyflawni Asesiad Desg Archaeolegol ac Ymweliad Safle er mwyn benderfynu potensial archaeolegol y tir i'r Gogledd-orllewin o Wersylla Hafan y Môr, Pwllheli, wedi'i lleoli ar SH 43621 36833. Mae hwn wedi'i baratoi i gydymffurfio gydag Amod 9 Gyfeiriad Cynllunio Rhif. C10D/014/40/LL.

Ni fydd y datblygiad arfaethedig yn effeithio'n uniongyrchol neu'n anuniongyrchol ar unrhyw Ardal Gadwraeth, Gardd a Pharc Hanesyddol, Heneb Restredig, Adeilad Rhestredig neu unrhyw safle archaeolegol hysbys. Mae tri safle newydd wedi'u cofnodi o fewn yr ardal datblygu arfaethedig yn ystod yr asesiad. Mae tair nodwedd gylchol wedi'u canfod yn Ardal A wrth ymchwilio LiDAR a delweddau o'r awyr (HYM 002). Nid yw swyddogaeth/oedran y nodweddion yn hysbys, er y gwelwyd eu presenoldeb yn ystod yr ymweliad i'r safle ar ffurf tir wedi'i godi. Mae'r Map OS cyfoes yn nodi'r fodolaeth o amgaead petryal i'r Dwyrain o Ardal A sydd, yn ôl pob tebyg, yn gysylltiedig â'r gwaith

carthion cyfagos (HYM 001). Ni welwyd unrhyw dystiolaeth o'r strwythur hwn yn ystod yr ymweliad i'r safle. Yn ogystal i hwn, mae'r awyrluniau sy'n dyddio i 1945 yn nodi ardal fawr betryalog wedi'i hamgáu yn Ardal B (HYM 003). Gan gofio uchder yr awyren ac is-disgrifiad y llun, fe oedd hi'n anodd pennu swyddogaeth/oedran y nodwedd hon, er ei bod yn debygol ei bod yn perthyn i'r ganolfan hyfforddi HMS Glendower.

Mae cynlluniau datblygu sy'n bodoli eisioes yn cyfyngu'r gwaith tir i'r ardal Dde-ddwyrain a rhanbarthau canolog Ardal A, ac felly sefydlir y byddant yn cael Effaith Mân i Ddibwys ar y nodweddion y cyfeirir atynt uchod. Mae HYM 001 – 3 yn gorwedd o fewn ardaloedd sy'n cael ei thirlunio. Argymhellir felly bod y Gwaith tirlunio yn defnyddio dull llenwi yn hytrach na thorri er mwyn osgoi tarfu ar unrhyw weddillion archaeolegol posib. O ystyried presenoldeb gweddillion cynhanesyddol o fewn Hafan y Môr ar ffurf darganfyddiadau ynysig, a hefyd presenoldeb gweddillion o'r Oes Efydd (e.e. twmpathau wedi'i losgi) yn yr ardal gyfagos, argymhellir bod yr holl waith tir sy'n gysylltiedig ag eistedd carafanau yn cael eu monitro gan Archaeolegydd Wrth-Gwyllo.

1 Introduction

1.1 Location and Scope of Work

This report results from an archaeological watching brief undertaken in association with improvements to holiday park to include the demolition of 450 chalets, create bases for 209 static caravans and 75 lodges, create site for up to 75 touring caravans and facilities block, 9 hole golf course, permissive coastal footpath and landscaping works at Hafan Y Môr, Pwllheli, centred on SH 43621 36833 (Figure 1). The associated Planning Application No. is C10D/0141/40/LL.

In 2011, Gwynedd Archaeological Trust (GAT) completed a programme of archaeological mitigation along the route of a replacement gas pipeline from Pwllheli to Blaenau Ffestiniog. Archaeological remains dating from prehistoric times to medieval chronologies were recovered during this programme of work, which run close to the development area. A rectangular pit showing evidence of firing and the remains of two burnt mounts were located to the north and east of the site. A large medieval corn drier was revealed to the west of the proposed study area (Kenney 2013). Furthermore, LP Archaeology carried out five phases of archaeological work at Hafan Y Môr (PRN 45327). These works revealed a number of archaeological features and finds dating from prehistoric times to post-medieval chronologies (Rees et al 2013). In 2018, Archaeology Wales carried out an Archaeological Desk Based Assessment of the area noting the presence of anomalies within the field as observed during the examination of LiDAR imagery.

The following report provides details of the results of the work undertaken. The project was managed by Irene Garcia Rovira MCIfA and undertaken by Francesca Ward PCIfA and Steve Cole PCIfA. The AW Project Number is 2660 and the Site Code HYM/19/WB.

1.2 Geology and Topography

The area subjected to the study is located to the northwest of Hafan Y Môr Holiday Park, and measures approximately 1.15 hectares. The site is bounded to the east by sewage works, to the north by an open field, to the south by caravan plots and an electrical substation, and to the west by the Cambrian train line. The site itself is located between 1.5m and 3m AOD.

The underlying geology is defined by the Dwyfach Formation, including sandstone formed during the Ordovician Period. The superficial soils are defined as glacial deposits formed during the Quaternary Period, containing diamicton, sand and gravel (BGS 2018).

1.3 Archaeological and Historical Background

In 2011, Gwynedd Archaeological Trust (GAT) completed a programme of archaeological mitigation along the route of a replacement gas pipeline from Pwllheli to Blaenau Ffestiniog. Archaeological remains dating from prehistoric times to medieval chronologies were recovered during this programme of work, which run close to the development area. A rectangular pit showing evidence of firing and the remains of two burnt mounts were located to the north and east of the site. A large medieval corn drier was revealed to the west of the proposed study area (Kenney 2013). Furthermore, LP Archaeology carried out five phases of archaeological work at Hafan Y Môr (PRN 45327). These works revealed a number of archaeological features and finds dating from prehistoric times to modern chronologies (Rees et al 2013). The latter were associated with the remains of HMS Glendower naval training base.

In October 2018, Archaeology Wales was commissioned by Bourne Leisure Ltd to carry out an Archaeological Desk Based Assessment and Site Visit to determine the archaeological potential of the site. Three new sites were recorded within the proposed development area during the assessment. Three circular features were detected in Area A during the examination of LiDAR and aerial imagery (HYM 002) (Figure 2). The function/date of these features is unknown, though their presence was observed during the site visit in the form of raised ground. The contemporary OS map documents the existence of a rectangular enclosure to the east of Area A probably associated with the adjacent sewage works (HYM 001). No evidence of this structure was observed during the site visit. Furthermore, aerial photographs dating to 1945 documented a large rectangular enclosed area in Area B (HYM 003). Given the altitude of the flight and the under exposition of the photograph it was difficult to determine the function/date of this feature, though it is probable that it belongs to the HMS Glendower naval training base (Garcia Rovira 2018).

2 Methodology

A watching brief complying with the Chartered Institute for Archaeologists (CIfA) *Standard and Guidance for an Archaeological Watching Brief* (2014) was undertaken during all intrusive ground work on the site.

The watching brief was undertaken to allow the preservation by record of any archaeological deposit, the presence and nature of which could not be in advance works. The watching brief also provides an opportunity, if needed, for the watching archaeologist to signal 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 itself are not sufficient to support treatment to a satisfactory and proper standard (CIfA, 2014).

The excavation comprised of six trenches to accommodate service pipes and one for the installation of a service pump. The former was dug to a length between 72m and 12m. The width for all trenches was 0.60m and the depth was in average of 0.80m. The service pump trench was 3m in length, 2m in width and 0.5m in depth.

Groundworks were monitored by suitably trained archaeologists. For the entire watching brief sections and plans of the excavation were photographed using a 16MP digital camera. All the deposits encountered were recorded by means of continuous context numbering system and recorded on proforma context sheets. All features and deposits are described in accordance with CIfA conventions. A register of all contexts and photographs was also made.

3. Watching Brief results (Figure 3 and 4)

The proposed development site was composed of two areas, Area A & B. The watching brief was limited to the southern end of Area A, as this area was the only one subjected to groundworks. A trench cut to install a service pump as well as six linear trenches were cut to provide services to 19 caravans. Furthermore, the western extent of the site was levelled by reducing the existing ground level to c 1m.

Platform (Plates 29 and 30)

A platform was dug along the western extent of the development area to a maximum depth of 1m below ground level. The natural horizon (1003) was observed at a depth of 0.3m below ground level and varied in colour and consistency from a mid-brown orange clay to a mid-blue grey gravel. Frequent root inclusions were found within this context as it was close to a stream with brambles and bushes growing along its bank. (1003) was overlaid by the subsoil (1002), a deposit of mid-red brown silty clay with frequent roots and subangular cobble inclusions. The topsoil (1001) was composed of mid-brown sandy loam. No archaeological finds or features were revealed during the watching brief.

Trench 1 (Plates 5,6,7 and 8)

Trench 1 was oriented NE-SW and was 72m in length, 0.6m in width with an average depth of 0.67m. The natural horizon (1003) was observed at a depth of 0.5m below ground level. The natural horizon was heterogeneous, however predominantly defined

as a deposit of brown orange clay with inclusions of grey sandy gravel. The subsoil (1002) overlaid the natural horizon. The latter was observed at depth between 0.1m to 0.5m. This layer consisted of a mid-grey brown clayey silt. The topsoil (1001) was composed of mid-brown sandy loam.

A single archaeological feature was observed within the trench, cutting through the natural horizon. [1004] was defined as a linear cut orientated NNE-SSW. The cut was 2m in width and extended beyond the limits of the trench. [1004] was filled by (1005), a deposit of loose mid-grey brown silty clay. The fill revealed the remains of plastic and brick and was tentatively interpreted as a boundary ditch of modern date (Plate 7, 9 and 10).

Trench 2 (Plates 11, 12 and 13)

Trench 2 was orientated E-W and measured 48m in length, 0.6m in width and 0.7m in depth. This trench was physically linked to Trench 1, 3, 5 and 6. The natural horizon (1003) was observed at a depth of 0.5m. The natural horizon consisted of a mid-blue grey clay with patches of grey or red sandy gravel. Frequent inclusions of roots and plant remnants were found within the natural horizon. (1003) was overlaid by the subsoil (1002). The subsoil was observed at a depth between 0.1m to 0.5m below ground level and consisted of mid-orange brown silty clay. The topsoil (1001) was composed of mid-brown sandy loam. No archaeological features were found within this trench.

Trench 3 (Plates 14, 15, 16 and 17)

Trench 3 was orientated NE-SW and measured 40m in length, 0.6m in width and a depth of 0.8m below ground level. The natural horizon (1003) was observed at a depth of 0.7m below ground level. This deposit consisted of a dark-grey brown clay. (1003) was overlaid by the subsoil (1002), which was observed between the depth of 0.2m to 0.7m below ground level. (1002) consisted of mid-orange brown silty clay. The topsoil (1001) was composed of mid-brown sandy loam. No archaeological features were found within this trench.

Trench 4 (Plates 18, 19, 20, 21 and 22)

Trench 4 was orientated E-W and was 50m in length, 0.6m wide and excavated to a depth of 0.79m below ground level. The natural was found between 0.5m and 0.76m below ground level. The natural horizon (1003) consisted of a mid-orange brown clay with red sand inclusions that appear to be mineral deposits within the natural. The subsoil (1002), was found above the natural horizon and consisted of a mid-orange brown silty clay with occasional subangular cobble and root inclusions. A deposit of light brown grey, silty sand (1001) made up the top soil. No archaeological features were found within this trench.

Trench 5 (Plates 25 and 26)

Trench 5 was orientated E-W and measured 64m in length, 0.6m in width excavated to a depth of 0.7m. The natural horizon (1003) described as a mid-grey brown, clay (1003) varying from 0.30m – 0.35m in depth. A dark brown black organic layer (1006) was observed within the eastern area of trench 5, likely to be the result of rooting. (1003) was overlaid by the subsoil (1002) defined as a light-yellow brown silty clay deposit with varied in thickness from 0.20m – 0.30m. The topsoil had been stripped at the time trench 5 was cut. A layer hardcore had been placed on top of the subsoil. No archaeological features were found within this trench.

Trench 6 (Plates 27 and 28)

Trench 6 was orientated N-S and excavated to maximum depth of 1.01m below ground level. This trench connects trench 4 and 2. The natural horizon was found at 0.6m below ground level and consisted of mid-yellow brown clay with inclusions of rooting. Above this was the subsoil (1002), consisting of a mid-orange brown silty clay with few subangular stone inclusions. The topsoil (1001) was composed of mid-brown sandy loam. No archaeological features were found within this trench.

Service pump (Plates 23 and 24)

The slot for the service pump was orientated N-S and measured 3m in length, 2m in width and 0.5m in depth. The natural horizon (1003) was defined mid-grey brown, clay and was 0.2m in depth. The subsoil was a light-yellow brown, silty clay (1002). A layer of light brown grey, silty sand (1001) to the depth 0.1m. No archaeological features were found within this trench.

5. Conclusions

The features identified by the LiDAR during the Desk Based Assessment carried out by AW in 2018 were not observed during groundworks. The eastern region of the site had previously been occupied by sewage works, and it seems plausible that the features identified were the result of this use of the site, particularly as the topsoil contained high frequencies of modern building material and waste.

A ditch of modern date was identified within Trench 1. The ditch was interpreted as the remains of an old field boundary containing modern debris. Furthermore, throughout the watching brief, it was noted that the superficial soils changed considerably, a situation explained through the movement of sands adjacent to the coast.

6. Bibliography and References

Chartered Institute for Archaeologists, 2014. Standards and guidance for the collection, compilation, transfer and deposition of archaeological archives.

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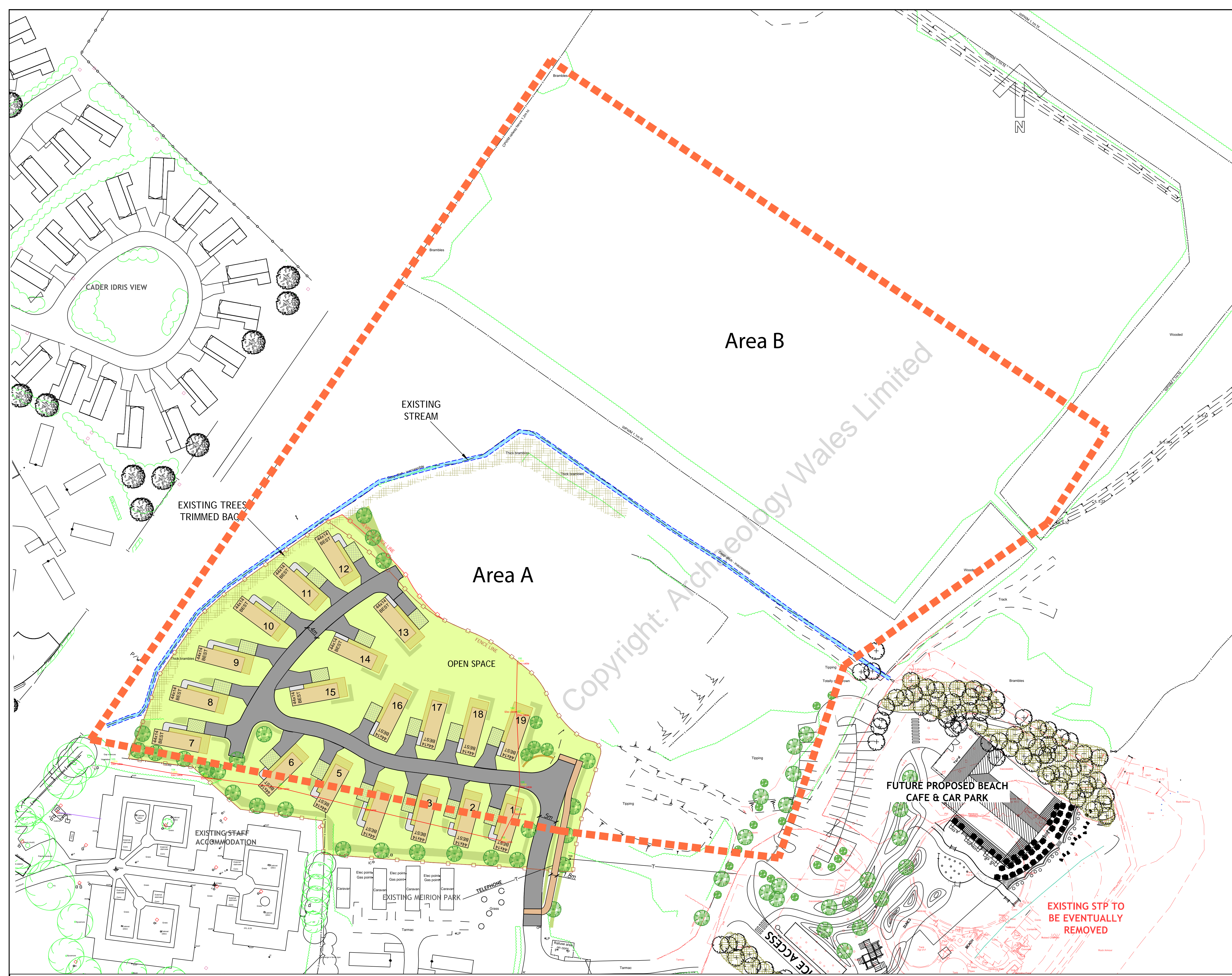
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APPENDIX I:

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KEY

- PROPOSED DEVELOPMENT AREA
- EXISTING PLANTING/TREES
- PROPOSED PLANTING/TREES
- PROPOSED 'BEST' UNITS (44x14ft) 19 NO.

- BEST UNITS:
1. DEVELOPMENT BASED ON 10 UNITS PER ACRE.
 2. MIN 6m SPACING.
 3. 2 NO. PARKING SPACES (TOTAL LENGTH 3.5m X 11m):-
SPACE 1 BLACK TARMAC WITH BLOCK EDGING (3.5m X 6m)
SPACE 2 RESIN BOUND (3.5m X 5m).
 4. FOOTPATHS TO BE BLACK TARMAC WITH BLOCK EDGING 1.2m WIDE WITH EXTRA SPACE FOR STEPS.
 5. LANDSCAPING: HIGHER COST AT ENTRANCE TO ZONES AND INTEGRAL TO UNITS.

REV	DESCRIPTION	DATE	INITIAL

Bratherton
PARK DESIGN CONSULTANTS

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HAFAN-Y-MOR HOLIDAY PARK
PROPOSED DEVELOPMENT 2018/19

GENERAL
ARRANGEMENT

DATE • 27/06/18	SCALE • 1:500 @ A1
DRAWN • JG/LD	CHECKED • REV • JOB • 1087/41/3

Figure 1. Proposed development plans.



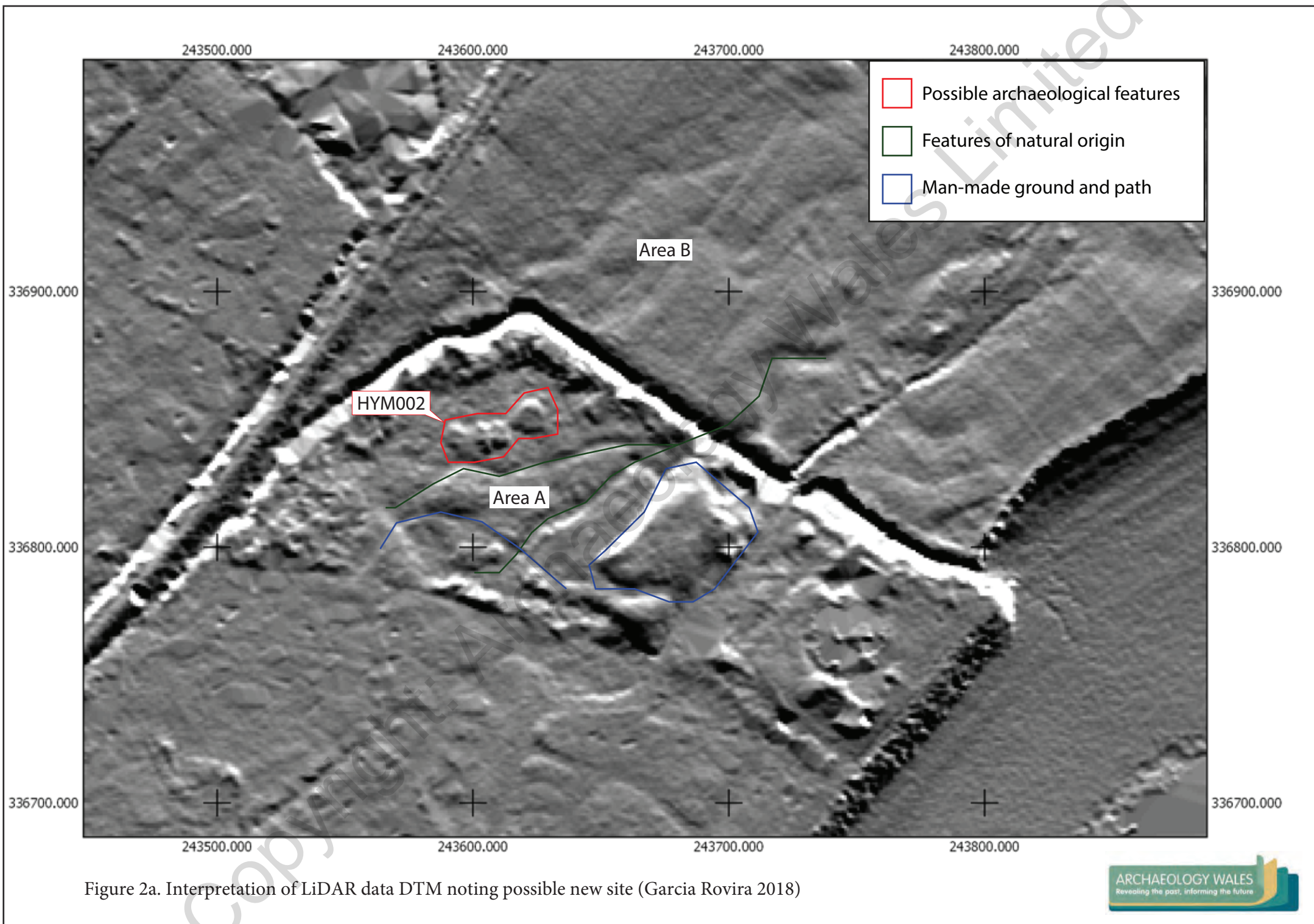


Figure 2a. Interpretation of LiDAR data DTM noting possible new site (Garcia Rovira 2018)



Figure 2b. Contemporary OS map with location of new site (Garcia Rovira 2018)



RAF 4535 106GUK_664 3212



RAF 4535 106GUK_664 3213 detail

Figure 2c. Aerial photograph noting position of new site (Garcia Rovira 2018)

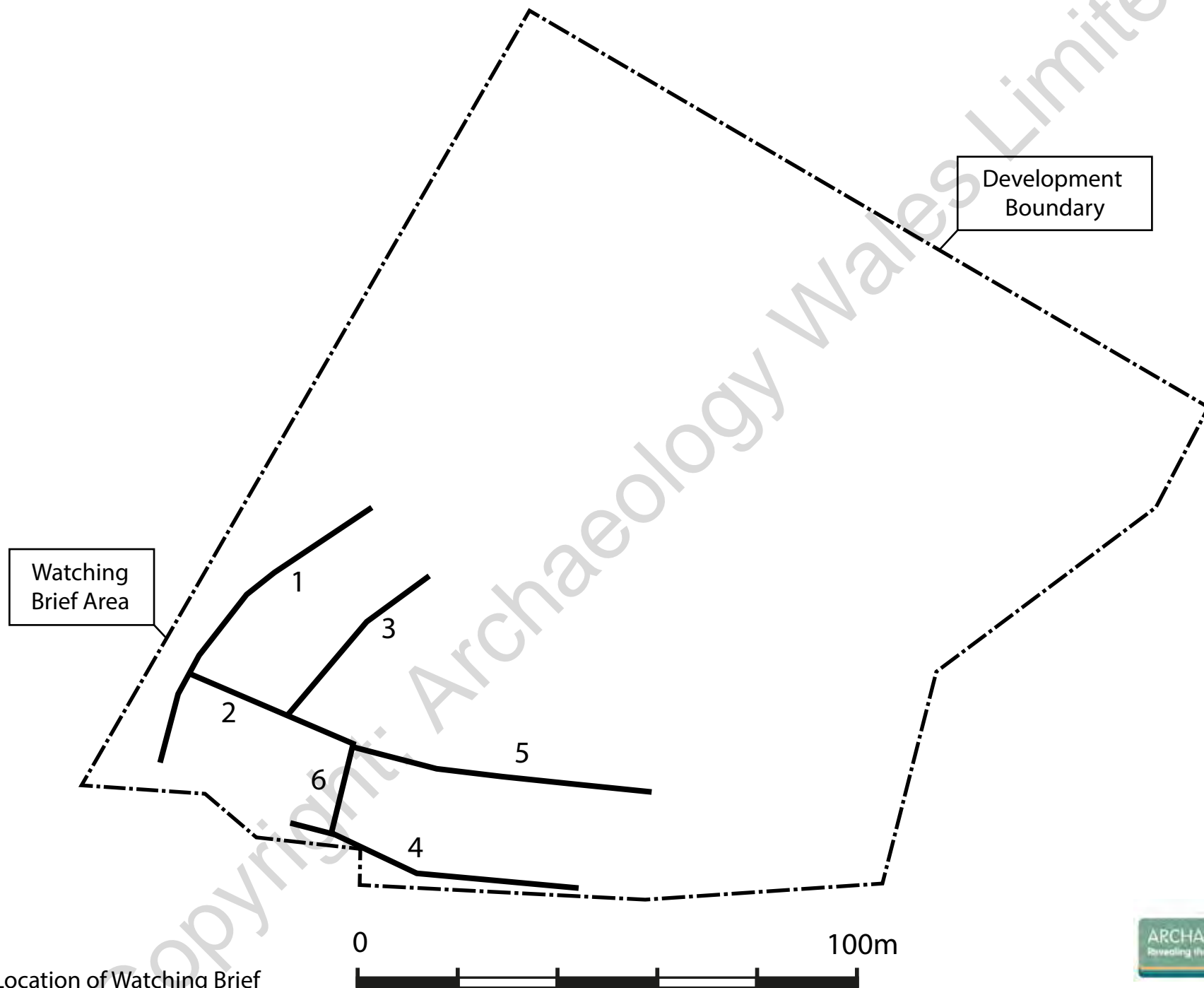


Figure 3. Location of Watching Brief

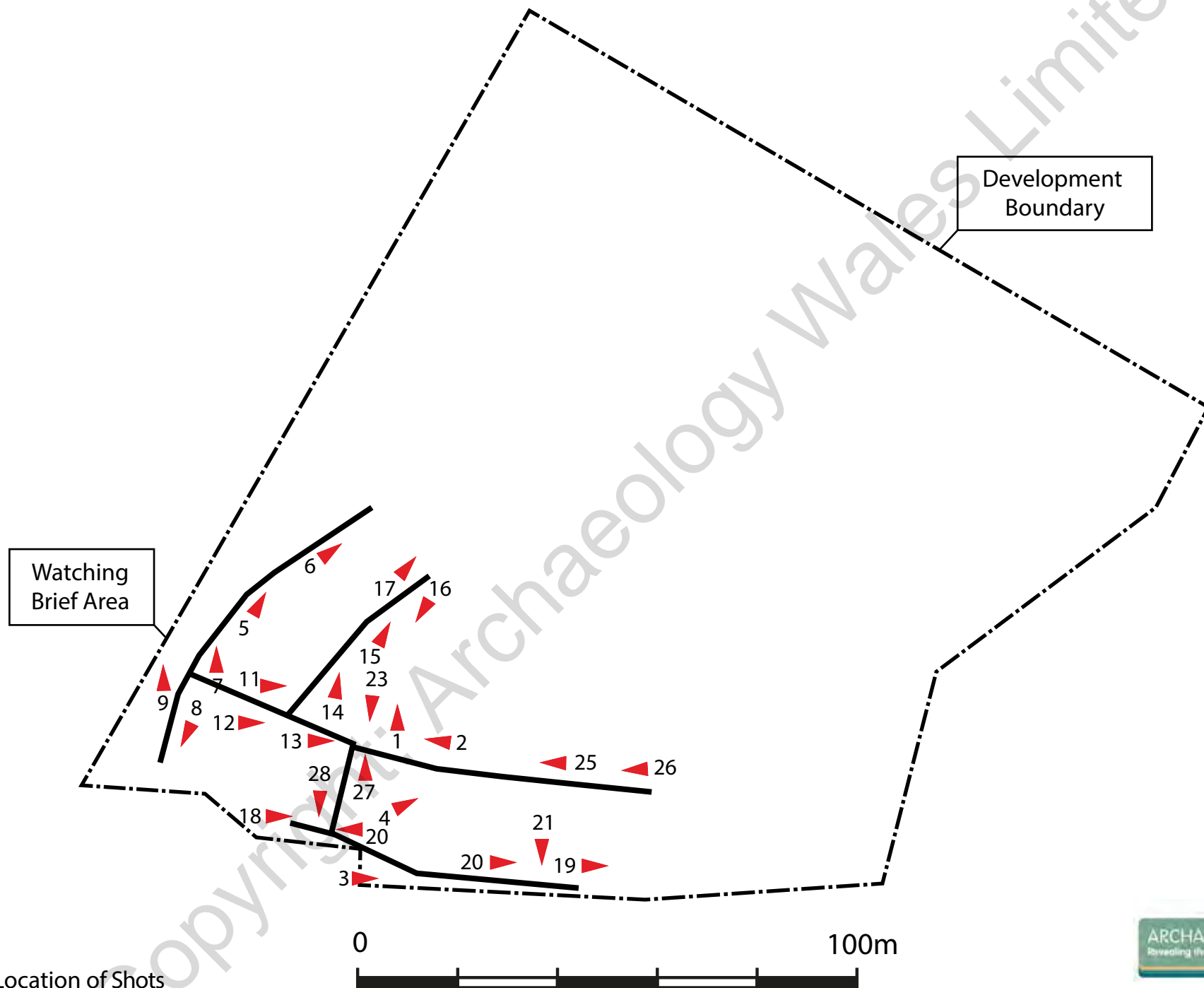


Figure 4. Location of Shots

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Plate 1. Watching Brief, working shot, looking NW.



Plate 2. Watching Brief, working shot, looking W.



Plate 3. Topsoil strip, looking E.



Plate 4. Watching Brief, working shot looking NE.



Plate 5. Working shot Trench 1, looking N.



Plate 6. Working shot Trench 1, looking N



Plate 7. [1004] before excavation, Trench 1 looking N.



Plate 8. Trench 1 extension, looking S.



Plate 9. [1004] after excavation, looking N.



Plate 10. E facing section of [1004].



Plate 11. Trench 2, working shot, looking E.



Plate 12. Trench 2, working shot, looking E.



Plate 13. Trench 2 , working shot looking E.



Plate 14. Trench 3, working shot looking N.



Plate 15. Trench 3, working shot looking S.



Plate 16. Trench 3, working shot looking N.



Plate 17. Trench 3, working shot looking N.



Plate 18. Trench 4 after topsoil stripping looking W.



Plate 19. Trench 4, working shot looking E.



Plate 20. Trench 4, working shot looking E.



Plate 21. Trench 4, working shot looking W.



Plate 22. Trench 4, working shot looking S.



Plate 23. Working Shot of slot for pump looking S.



Plate 24. S Facing section of slot for pump.



Plate 25. Trench 5, working shot looking W



Plate 26. Trench 5, working shot looking W.



Plate 27. Trench 6, Working shot looking N.



Plate 28. Trench 6, Working shot looking S.

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APPENDIX III:

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WRITTEN SCHEME OF INVESTIGATION

FOR AN ARCHAEOLOGICAL

WATCHING BRIEF

AT HAFAN Y MÔR, CHWILOG, PWLLHELI

Prepared for:

Bourne Leisure

Planning Reference Number: C10D/0141/40/LL

Project No: 2660

03.01.19



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Figure 1. Site location

Figure 2. Detailed site location

Figure 3. Detailed plan of the site, showing areas of proposed investigation.

Summary

This Written Scheme of Investigation (WSI) details the methodology for a watching brief to be undertaken by Archaeology Wales at the request of Bourne Leisure.

The watching brief will be undertaken during ground works associated with improvements to a holiday park. The improvements include the demolition of 450 chalets, create bases for 209 static caravans and 75 lodges, create site for up to 75 touring caravans and facilities block, 9 hole golf course, permissive coastal footpath and landscaping works at Hafan Y Môr, Pwllheli, centred on SH 43621 36833. It has been prepared by Archaeology Wales Ltd for Bourne Leisure to conform to Condition 9 of Planning Reference No. C10D/0141/40/LL.

In 2011, Gwynedd Archaeological Trust (GAT) completed a programme of archaeological mitigation along the route of a replacement gas pipeline from Pwllheli to Blaenau Ffestiniog. Archaeological remains dating from prehistoric times to medieval chronologies were recovered during this programme of work, which run close to the development area. A rectangular pit showing evidence of firing and the remains of two burnt mounds were located to the north and east of the site. A large medieval corn drier was revealed to the west (Kenney 2013). Furthermore, LP Archaeology carried out five phases of archaeological work at Hafan Y Môr (PRN 45327). These works revealed a number of archaeological features and finds dating from prehistoric times to post-medieval chronologies (Rees et al 2013).

In October 2018, Archaeology Wales was commissioned by Bourne Leisure Ltd to carry out an Archaeological Desk Based Assessment and Site Visit to determine the archaeological potential of the site. Three new sites were recorded within the proposed development area during the course of the assessment (Garcia Rovira 2018).

All work will be undertaken in accordance with the standards and guidelines of the Chartered Institute for Archaeologists (2014).

1. Introduction and planning background

This WSI details the methodology for watching brief to be undertaken in association with improvements to holiday park to include the demolition of 450 chalets, create bases for 209 static caravans and 75 lodges, create site for up to 75 touring caravans and facilities block, 9 hole golf course, permissive coastal footpath and landscaping works at Hafan Y Môr, Pwllheli, centred on SH 43621 36833 (Figure 1). The associated Planning Application No. is C10D/0141/40/LL.

This WSI has been prepared by Kate Pitt, Project Officer, Archaeology Wales Ltd (henceforth - AW) at the request of Bourne Leisure.

The methodology set out in this WSI has been agreed with GAPS in its capacity as archaeological advisors to the local planning authority. GAPS has recommended that a watching brief of the development area is undertaken during ground works to mitigate the impact of the proposed development on the archaeological resource. This is noted on Condition 9 which details:

“No development shall be commenced on any parcel which is the subject of this permission until a desk-based study of the potential archaeological interest of each phase has been submitted to and approved in writing by the local planning authority. The desk-based study shall identify any further investigation and/or observation that may be required during the course of construction work. Any archaeological mitigation work required as a result of such investigation and/or observation shall be carried out in accordance with details which shall be approved by the local planning authority beforehand.”

The aim of the watching brief is to provide the local planning authority with sufficient information regarding the nature of the archaeological remains on the site of the development, the requirements for which are set out in Planning Policy (revised edition 9, November 2016), Section 6.5 and Technical Advice Note TAN24: The Historic Environment (2017). 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.

All work will conform to the *Standard and Guidance for Archaeological Desk Based Assessment* (ClfA 2014) and be undertaken by suitably qualified staff to the highest professional standards. AW is a Registered Organisation with the ClfA.

2. Site Description

The area subjected to the study is located to the northwest of Hafan Y Môr Holiday Park, and measures approximately 1.15 hectares. The site is bounded to the east by sewage works, to the north by an open field, to the south by caravan plots and an electrical substation, and to the west by the Cambrian train line. The site itself is located between 1.5m and 3m AOD.

The underlying geology is defined by the Dwyfach Formation, including sandstone formed during the Ordovician Period. The superficial soils are defined as glacial deposits formed during the Quaternary Period, containing diamicton, sand and gravel (BGS 2018).

3. Archaeological background

In 2011, Gwynedd Archaeological Trust (GAT) completed a programme of archaeological mitigation along the route of a replacement gas pipeline from Pwllheli to Blaenau Ffestiniog. Archaeological remains dating from prehistoric times to medieval chronologies were recovered during this programme of work, which run close to the development area. A rectangular pit showing evidence of firing and the remains of two burnt mounts were located to the north and east of the site. A large medieval corn drier was revealed to the west of the proposed study area (Kenney 2013). Furthermore, LP Archaeology carried out five phases of archaeological work at Hafan Y Môr (PRN 45327). These works revealed a number of archaeological features and finds dating from prehistoric times to modern chronologies (Rees et al 2013). The latter were associated with the remains of HMS Glendower naval training base.

In October 2018, Archaeology Wales was commissioned by Bourne Leisure Ltd to carry out an Archaeological Desk Based Assessment and Site Visit to determine the archaeological potential of the site. Three new sites have been recorded within the proposed development area during the assessment (Figure 2-3). Three circular features have been detected in Area A during the examination of LiDAR and aerial imagery (HYM 002). The function/date of these features is unknown, though their presence was observed during the site visit in the form of raised ground. The contemporary OS map documents the existence of a rectangular enclosure to the east of Area A probably associated with the adjacent sewage works (HYM 001). No evidence of this structure was observed during the site visit. Furthermore, aerial photographs dating to 1945 document a large rectangular enclosed area in Area B (HYM 003). Given the altitude of the flight and the under exposition of the photograph it was difficult to determine the function/date of this feature, though it is probable that it belongs to the HMS Glendower naval training base. Existing development plans confine groundworks to the southwest and central regions of Area A, and it is therefore established that they will have a Minor to Negligible Impact on the aforementioned features (Garcia Rovira, 2018).

4. Objectives

This WSI sets out a program of works to ensure that the watching will meet the standard required by The Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Watching Briefs* (2014).

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 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.

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.

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.

4.1. Site Specific Research Aims

It is important to recognize that whilst primarily designed to mitigate impacts, developer-led archaeology is also regarded as research activity with an academic basis, the aim of which is to add to the sum of human knowledge. Curators recognize the desirability of incorporating

agreed research priorities as a means of enhancing the credibility of the development control process, ensuring cost-effectiveness and legitimately maximizing intellectual return.

A research framework for the archaeology of Wales has been produced (2011-2014) and currently in the process of review. The strategy to be taken if such remains are encountered during the watching brief has been designed following the recommendations given by the aforementioned research framework.

This watching brief has the capacity to identify areas where subsequent mitigation may contribute to better understandings about the prehistoric activity in the area.

Broader themes are also to be addressed as follows:

- The changing nature of funerary activity across different historical periods.
- Patterns of landscape occupation in North West Wales.
- Novel information regarding human activity on the aforementioned area during prehistoric times.
- Military and leisure themes for the modern period associated with HMS Glendower naval training base, and to the former holiday park.

5. Timetable of works

5.1. Fieldwork

The watching brief will be undertaken during ground works associated with the proposed development. The work is proposed to start in the week of 7th of January 2019. Archaeology Wales will update GAPS with the exact date.

5.2. Report delivery

The report will be submitted to Bourne Leisure 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. Detail

An archaeological watching brief will be undertaken during all intrusive ground works associated with the development (Figure 1), including:

- Landscaping and terracing works;
- Surface stripping and levelling;
- Construction of infrastructure
- Service installation;
- Any other ground disturbing works

The watching brief will be undertaken using a tracked 360 degree excavated equipped with a flat-bladed bucket and will be monitored by a suitably qualified archaeologist until the natural substrate has been reached.

The work will be undertaken to meet the standard required by The Chartered Institute for Archaeologists' *Standard and Guidance for Watching Briefs* (2014).

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.

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 archaeological recording has been completed. If significant archaeological features are revealed during the work a meeting between Bourne Leisure, GAPS and AW will be called at the earliest convenience.

To comply with professional guidelines, a contingency for uninterrupted access to each such area for a team of archaeologists to be employed should be provided. Contingency costs will be agreed in advance before any extension to the programme commences and will follow a site meeting between Archaeology Wales, Bourne Leisure and GAPS.

6.2. Recording

Recording will be carried out using AW recording systems (pro-forma context sheets etc) using a continuous number sequence for all contexts.

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.

All features identified will be tied in to the OS survey grid and fixed to local topographical boundaries.

Photographs will be taken in digital format with an appropriate scale, using a 12MP camera with photographs stored in Tiff format.

The archaeologist undertaking the watching brief will have access to the AW metal detector and be trained in its use.

6.3. Finds

The professional standards set in the Chartered Institute for Archaeologists' *Standard and guidance for the collection, documentation, conservation and research of archaeological* (2014) will form the basis of finds collection, processing and recording.

All manner of finds regardless of category and date will be retained.

Finds recovered that are regarded as Treasure under *The Treasure Act 1996* will be reported to HM Coroner for the local area.

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).

6.4. Environmental sampling strategy

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* (2002).

6.5. Human remains

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 Archaeologists' *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains: Technical Paper Number 13* (1993).

A meeting with GAPS, Bourne Leisure 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.

6.6. Specialist advisers

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
Flint	Kate Pitt (Archaeology Wales)
Animal bone	Richard Madgwick (Cardiff University)
CBM, heat affected clay, Daub etc.	Rachael Hall (APS)
Clay pipe	Hilary Major (Freelance)
Glass	Rowena Hart (Archaeology Wales)
Cremated and non-cremated human bone	Malin Holst (University of York)/Richard Madgwick (Cardiff University)

Metalwork	Kevin Leahy (University of Leicester)/ Quita Mold (Freelance)
Metal work and metallurgical residues	Dr Tim Young (GeoArch)
Neo/BA pottery	Dr Alex Gibson (Bradford University)
IA/Roman pottery	Jane Timby (Freelance)
Roman Pottery	Rowena Hart (Archaeology Wales)/ Peter Webster (Freelance)
Post Roman pottery	Stephen Clarke (Monmouthshire Archaeology)
Charcoal (wood ID)	John Carrot (Freelance)
Waterlogged wood	Nigel Nayling (University of Wales – Lampeter)
Molluscs and pollen	Dr James Rackham
Charred and waterlogged plant remains	Wendy Carruthers (Freelance)

6.6.1. Specialist reports

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

7. Monitoring

GAPS will be contacted approximately five days prior to the commencement of archaeological site works, and subsequently once the work is underway.

Any changes to the WSI that AW may wish to make after approval will be communicated to GAPS for approval on behalf of Planning Authority.

Representatives of GAPS will be given access to the site so that they may monitor the progress of the field evaluation. No area will be back-filled, until GAPS has had the opportunity to inspect it, unless permission has been given in advance. GAPS will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

8. Post-fieldwork programme

8.1. Archive assessment

8.1.1. Site archive

An ordered and integrated site archive will be prepared in accordance with: Management of Research Projects in the Historic Environment (MoRPHE) (Historic England 2006) upon completion of the project.

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). The legal landowners consent will be gained for deposition of finds.

8.1.2. Analysis

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
- 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.

8.2. Reports and archive deposition

8.2.1. Report to client

Copies of all reports associated with the watching brief together with inclusion of supporting evidence in appendices as appropriate, including photographs and illustrations, will be submitted to Bourne Leisure and GAPS upon completion.

8.2.2. Additional reports

After six months, copies of all reports will be deposited with the relevant county Historical Environment Record, the National Monuments Record and, if appropriate, Cadw.

8.2.3. Summary reports for publication

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.

8.2.4. Notification of important remains

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.

8.2.5. Archive deposition

The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution, usually the relevant Local Authority museums service. Arrangements will be made with the receiving institution before work starts.

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 six months after completion of the work.

Copies of all reports, the digital archive and an archive index will be deposited with the *National Monuments Record*, RCAHMW, Aberystwyth.

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.

8.2.6. Finds deposition

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 land owners.

9. Staff

The project will be managed by Irene Garcia Rovira (AW Project Manager) and the fieldwork undertaken by a suitably experienced and qualified member of AW staff. Any alteration to staffing before or during the work will be brought to the attention of GAPS and Bourne Leisure.

Additional Considerations

10. Health and Safety

10.1. Risk assessment

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.

10.2. Other guidelines

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).

11. Community Engagement and Outreach

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.

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.

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

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

13.1. Professional standards

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.

13.2. Project tracking

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

14. Arbitration

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.

15. References

Bale, R., Bates, M., Cootes, K., Giorgi, J., Goodwin, J., Grants, F., Hamilton, D., Jenkins, D., Macphail, R., McKinley, J., Nayling, 2013, Gas Pipeline Replacement: Pwllheli to Blaenau Ffestiniog: Report on Archaeological Mitigation, Volume 2: Specialist Report. GAT Report No. 1136

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McKinley, J., Roberts C., 1993, Excavation and post-excavation treatment of cremated and inhumed human remains, Technical Paper 13.

Research Framework for the Archaeology of Wales, 2003. A Research Framework for the Archaeology of Wales. North West Wales, Early and Later Prehistoric. Regional Seminar papers 22/12/2003.

British Geological Survey: Geology of Britain viewer:

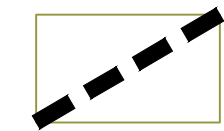
www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

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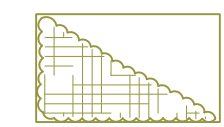
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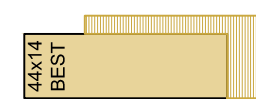
PROPOSED DEVELOPMENT AREA



EXISTING PLANTING/TREES



PROPOSED PLANTING/TREES



PROPOSED 'BEST' UNITS (44x14ft)
19 NO.

BEST UNITS:

1. DEVELOPMENT BASED ON 10 UNITS PER ACRE.
2. MIN 6m SPACING.
3. 2 NO. PARKING SPACES (TOTAL LENGTH 3.5m X 11m): -
 SPACE 1 BLACK TARMAC WITH BLOCK EDGING (3.5m X 6m)
 SPACE 2 RESIN BOUND (3.5m X 5m).
4. FOOTPATHS TO BE BLACK TARMAC WITH BLOCK EDGING 1.2m
 WIDE WITH EXTRA SPACE FOR STEPS.
5. LANDSCAPING: HIGHER COST AT ENTRANCE TO ZONES AND
 INTEGRAL TO UNITS.

REV	DESCRIPTION	DATE	INITIAL
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Bratherton 

PARK DESIGN CONSULTANTS

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HAFAN-Y-MOR HOLIDAY PARK
PROPOSED DEVELOPMENT 2018/19

GENERAL ARRANGEMENT

DATE • 27/06/18		SCALE • 1:500 @ A1	
DRAWN • JG/LD	CHECKED •	REV •	JOB • 1087/41/3

Figure 1. Proposed development plans.

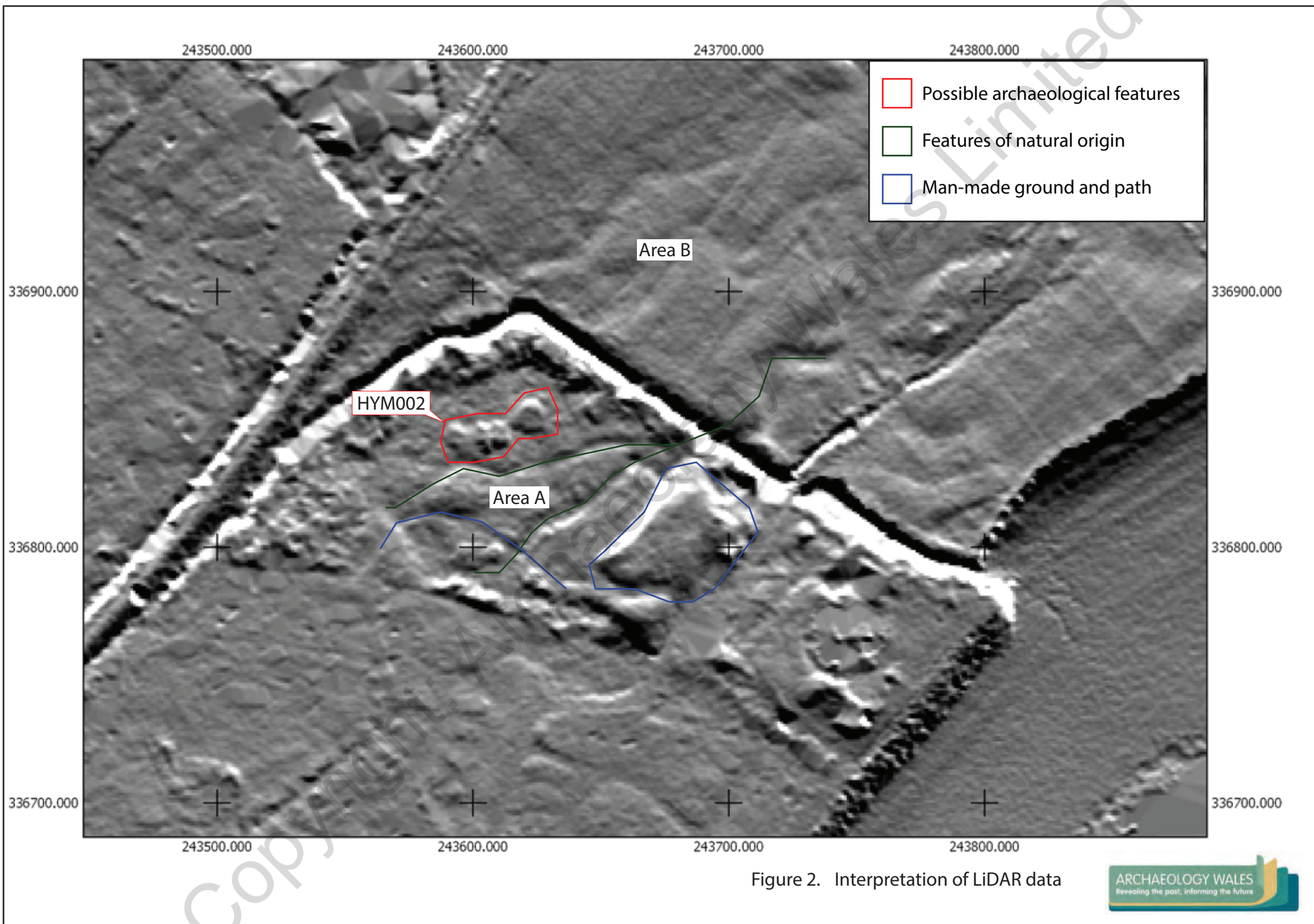


Figure 2. Interpretation of LiDAR data



Figure 3. Contemporary OS map

Archaeology Wales

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Archaeology Wales Limited

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