

**Milestone, Greenacres, Howey,
Llandrindod Wells,
Powys (23/1568/LBC)**

Written Scheme of Investigation

**Prepared
for**

Mr Gary Bevan and Ms Sophie Hopkins

By



**- BLACK MOUNTAINS ARCHAEOLOGY -
- ARCHAEOLEG MYNYDD DU -**

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Summary

Mae Archaeoleg Mynydd Du Cyf wedi'u comisiynu gan Sam Bartholomew Architects ar ran Mr Gary Bevan a Ms Sophie Hopkins i baratoi Cynllun Ymchwilio Ysgrifenedig (WSI) cyn y bwriad i adleoli carreg filltir o'r 18fed ganrif (LB83350) yn Greenacres, Hawy, Llandrindod (23/1568/LBC). Mae caniatâd cynllunio wedi'i roi ar gyfer datblygiad preswyl sy'n gofyn am wella mynediad i Gefnffordd yr A483. Mae carreg filltir LB83350 wedi'i lleoli ar hyn o bryd o fewn y fynedfa newydd arfaethedig ac felly mae Caniatâd Adeilad Rhestredig wedi'i roi i ail-leoli'r garreg filltir ychydig i'r gogledd.

Argymhellodd cynghorwyr archeolegol yr ACLI (CPAT) fod yr amodau a ganlyn yn cael eu gosod ar y caniatâd cynllunio:

Ni fydd unrhyw ddatblygiad yn digwydd hyd nes y bydd Arolwg Ffotograffig wedi'i sicrhau a'i weithredu, yn unol â briff a gyhoeddwyd gan yr awdurdod cynllunio lleol a chynllun ymchwilio ysgrifenedig (WSI) sydd wedi'i gyflwyno a'i gymeradwyo'n ysgrifenedig gan yr awdurdod cynllunio lleol.

Rheswm: Er mwyn sicrhau cofnod ffotograffig manwl o leoliad y garreg filltir wreiddiol cyn ei adleoli, a'r garreg filltir ei hun tra ei bod yn rhydd o leoliad.

Rhaid i'r datblygwr sicrhau bod contractwr archeolegol â chymwysterau addas yn bresennol yn ystod y gwaith o dynnu'r garreg filltir i ffwrdd fel y gellir cynnal briff gwyllo archeolegol. Mae'n rhaid i'r briff gwyllo archeolegol fodloni'r safonau a osodwyd gan Safon Sefydliad Siartredig yr Archeolegwyr ar gyfer monitro a chofnodi archeolegol (Rhagfyr 2023).

Rheswm: Er mwyn sicrhau cadwraeth trwy gofnod o unrhyw weddillion archeolegol a all gael eu datgelu yn ystod cloddio tir ar gyfer y datblygiad a ganiateir.

Mae'r adroddiad presennol yn nodi'r gofynion ar gyfer yr Arolwg Ffotograffig (Lloegr Hanesyddol 2016) a'r Briff Gwyllo archeolegol ar gyfer adleoli Carreg Filltir LB83350.

Black Mountains Archaeology Ltd have been commissioned by Sam Bartholomew Architects on behalf of Mr Gary Bevan and Ms Sophie Hopkins to prepare a Written Scheme of Investigation (WSI) in advance of the proposed relocation of an 18th century milestone (LB83350) at Greenacres, Howey, Llandrindod Wells (23/1568/LBC). Planning consent has been granted for a residential development which requires access to be improved to the A483 Trunk Road. Milestone LB83350 is currently positioned within the proposed new access and therefore Listed Building Consent has been granted to reposition the milestone a short distance to the north.

The archaeological advisers to the LPA (CPAT) recommended that the following conditions be attached to the planning consent:

No development shall take place until a Photographic Survey has been secured and implemented, in accordance with a brief issued by the local planning authority and a written scheme of investigation (WSI) which has been submitted and approved in writing by the local planning authority.

Reason: To secure a detailed photographic record of the original milestone location prior to its relocation, and the milestone itself whilst it is free of setting.

The developer shall ensure that a suitably qualified archaeological contractor is present during the removal of the milestone so that an archaeological watching brief can be conducted. The archaeological watching brief must meet the standards laid down by the Chartered Institute for Archaeologists Standard for archaeological monitoring and recording (December 2023).

Reason: To secure preservation by record of any archaeological remains which may be revealed during ground excavations for the consented development.

The present report sets out the requirements for the Photographic Survey (Historic England 2016) and archaeological Watching Brief for the relocation of Milestone LB83350.

Acknowledgements and Copyright

The project is managed by Richard Lewis BA FSA MCIfA. The report was prepared by Richard Lewis and Dr Rhys Morgan PhD. The Welsh summary translation was undertaken by Dr Rhys Morgan. The copyright of this report is held by Black Mountains Archaeology Ltd, who have granted an exclusive licence to Mr Gary Bevan and Ms Sophie Hopkins and their agents enabling them to use and reproduce the material it contains. Ordnance Survey maps are reproduced under licence 100058761. Black Mountains Archaeology Ltd retains copyright of any annotations.

Written Scheme of Investigation

1. Introduction

- 1.1.1. Black Mountains Archaeology Ltd/*Archeoleg Mynydd Du Cyf* have been commissioned by Sam Bartholomew Architects on behalf of Mr Gary Bevan and Ms Sophie Hopkins to prepare a Written Scheme of Investigation (WSI) in advance of the proposed relocation of an 18th century milestone (LB83350) at Greenacres, Howey, Llandrindod Wells (23/1568/LBC). Planning consent has been granted for a residential development which requires access to be improved to the A483 Trunk Road. Milestone LB83350 is currently positioned within the proposed new access and therefore Listed Building Consent has been granted to reposition the milestone a short distance to the north.
- 1.1.2. A Heritage Impact Assessment was previously compiled by Sam Bartholomew Architects (Bartholomew 2023), which includes a detailed methodology for lifting and repositioning the milestone.
- 1.1.3. The archaeological advisers to the LPA (CPAT) note:
- *Information held within the Regional Historic Environment Record indicates that the milestone to be relocated is Grade II listed (no. 83350) and believed to be erected in 1759. The removal of the stone should be completed with a qualified archaeologist present, conducting an Archaeological Watching Brief, due to the potential for damage, and as yet, unknown sub-surface archaeology.*
 - *The works will relocate the stone from its original location and a record of that original site should be made prior to the stone's removal. In this case we would recommend that an appropriate level of recording is completed by an approved archaeological contractor to record the milestone in its current condition prior to the relocation work commencing. The stone should also be photographed and recorded in full once clear of its setting, to fully record the object and any, as yet unknown text, or marks which are currently invisible. In this case we would advise that a Photographic Survey is completed prior to and during relocation.*
- 1.1.4. The archaeological advisers to the LPA (CPAT) also recommended that the following conditions be attached to the planning consent:
- *No development shall take place until a Photographic Survey has been secured and implemented, in accordance with a brief issued by the local planning authority and a written scheme of investigation (WSI) which has been submitted and approved in writing by the local planning authority.*
 - *Reason: To secure a detailed photographic record of the original milestone location prior to its relocation, and the milestone itself whilst it is free of setting.*
 - *The developer shall ensure that a suitably qualified archaeological contractor is present during the removal of the milestone so that an archaeological watching brief can be conducted. The archaeological watching brief must meet the standards laid down by the Chartered Institute*

for Archaeologists Standard for archaeological monitoring and recording (December 2023).

- *Reason: To secure preservation by record of any archaeological remains which may be revealed during ground excavations for the consented development.*

1.1.5. The present report sets out the requirements for the Photographic Survey (Historic England 2016) and archaeological Watching Brief for the relocation of Milestone LB83350.

1.1.6. The Photographic Survey will be carried out in accordance with Historic England's '*Understanding Historic Buildings: A Guide to Good Recording Practice* (2016) together with adhering to the standards of the Chartered Institute for Archaeologists Standard and Guidance for the '*Archaeological Investigation and Recording of Standing Buildings or Structures*' (2014, updated 2020). Any aerial (drone) survey, data capture and photogrammetric processing will be undertaken in accordance with the rules and regulations contained within *Air Navigation Order* 2016 and its 2018 and 2019 amendments and Historic England's *Photogrammetric Applications for Cultural Heritage Guidance for Good Practice* (2017). The archaeological watching brief will be carried out to the professional standards of the Chartered Institute for Archaeologists' *Standard for archaeological monitoring and recording* (December 2023).

2. Background

2.1. Archaeological and Historical

2.1.1. Prehistory

2.1.2. The earliest known prehistoric sites within the area are represented by the round barrow and burnt mounds at Llwyn Ceubren to the east (SMRd127; SMRd141), as well as the Broom Hill Standing Stone (SMRd233) and Little Hill Round Barrows (SMRd009), which are of Bronze Age date. An Iron Age enclosure has been identified at Broom Hill (CPAT143584) to the southeast, which survives in poor condition, having sustained plough damage. The Llandrindod Common Enclosure (CPAT5287) and Caer Du Enclosure (SMRd145; CPAT5285), both of which are situated to the south, are also of potential Iron Age or medieval origin. Beyond these sites, some isolated artefacts have also been recorded within the area, including a flint knife discovered in a field to the west (CPAT23321).

2.1.3. Roman

2.1.4. The Roman archaeology within the local area is significantly more numerous. Immediately to the north and west are the remains of a pair of Roman earthworks (SMRd126), which originally comprised military practice camps. Straddling the western edge of the A483 is a chain of seven practice camps (SMRd134). Beyond these practice camps to the west are the remains of the Llandrindod Wells Roman Road (SMRd259), which is today visible as a linear earthwork running in a N/S direction. The most noticeable feature of this monument is the agger, which survives as a raised embankment measuring approximately 7m in width and as much as 0.3m in height. The N/S aligned Roman road (RR621) is located 900m to the west of the A483 and Milestone LB83350. The Roman road follows a northerly course to the Roman fort of Castell Collen (SMRd3320; CPAT1159). According to current

understanding, this fort was constructed in the 70s AD (Burnham and Davies 2010, 234–7). The fort lies in a tactically advantageous position overlooking the River Ithon to the east. Initially, the fort covered an area of approximately 2ha and was defended by a pair of ditches, both 1.9m wide x 1.1m deep, along with an earthen rampart measuring 6–8m in width. Yet later in the fort's use its overall size was reduced to 1.5ha. The fort was surrounded by a sizeable vicus (CPAT39814). The ceramic and numismatic evidence obtained from within the area of the vicus indicates that both vicus and fort were occupied continuously until the 220s AD. However, this same evidence also suggests that both were abandoned between 259–96 AD, or at least that the occupation activity within them reduced drastically in scale. The numismatic assemblage associated with the vicus, which contains no coins belonging to the 4th century AD, indicates a *terminus ante quem* of 310 AD for the total cessation of Roman activity within the area (Walters 1996).

2.1.5. In 2021, an archaeological field evaluation was conducted by Black Mountains Archaeology Ltd within a parcel of land west of Ithon Road (Lewis *et al* 2021), the site of which is situated to the north of the development area. During this field evaluation, the remains of a probable Roman cremation pit were recorded. A linear feature not recorded on the HER (CPAT) was also identified from aerial photographs, possibly representing the remains of the Roman road (RR621), to the southwest of Ithon Road. A parch mark 340m long and 5m wide is shown leaving Ithon Road at NGR 305397.228, 261617.784 and following a straight course to NGR 305330.469, 261279.750 suggesting further survival of the Roman road RR621 to Castell Collen. These findings may suggest that other sections of Roman road and roadside cremations may survive within the wider area of Llandrindod Wells, particularly as the placement of cremations along roads was relatively common during the Roman period.

2.1.6. **Medieval**

2.1.7. Immediately to the east of the development area, near Caer Du, is an earthen enclosure of probable medieval date (SMRd145). This enclosure is difficult to interpret at present, although it possibly represents a military or at least defensive installation. Immediately south of here is the Caer Du Enclosure. Although the bank and ditch perimeter of this monument is of potential Iron Age date, it appears likely that it is also defined by medieval activity. The most notable medieval sites within the area of Llandrindod Wells are positioned on Castle Bank to the northeast (northern end of Gilwern Hill). At the top of the hill is Cefnlllys Castle (SMRd008), the remains of which comprise buried masonry associated with two distinct phases of construction and occupation. The castle was owned and inhabited by the Mortimer family – one of the most prominent and powerful baronial dynasties in the Welsh Marches during the Middle Ages. By the end of the 12th century, the Mortimer family also held Cymarion Castle (Pettifer 2000, 141). On the western edge of Cefnlllys Castle, towards the base of Gilwern Hill, are the remains of the Cefnlllys settlement and field systems (SMRd150). This site may represent the settlement of the historic borough of Cefnlllys which, during the early 14th century, included 20 burgesses (Rowley 1986, 109). As well as being defined by prominent military sites, the area also possessed a distinctive ecclesiastical character throughout the medieval period. Several medieval churches and chapels exist within and around Llandrindod Wells.

These include, most notably, the Llandrindod (or Holy Trinity) Church (CPAT16199), which dates to the 13th century, and Capel Maelog (CPAT15844), which dates to the late 12th or early 13th century. Within the former church a *Sheela na gig* (a stone carving of a naked woman displaying her vulva) (CPAT5960) was housed, which likely dates to the early medieval period (Hemp 1938). This stone carving is now found in Radnorshire Museum. Also found within the ground of the former church is a possible holy well (CPAT81710), consisting of a wet hollow measuring approximately 15m² (Silvester and Hankinson 2004, 13).

2.1.8. **Post-medieval**

2.1.9. During the post-medieval period Llandrindod Wells developed into a significant tourist attraction and by the 19th century it was a popular spa town. The waters here are rich in sulphides and iron, which were purported to cure rheumatism and obesity (Altman 2000, 223). The popularity of Llandrindod Wells was elevated by the construction of the Heart of Wales railway line, which linked the town to the major urban centres of South Wales, the Midlands and Lancashire. The significance of Llandrindod Wells as a centre of healing is said to date as far back as the 17th century.

2.1.10. Due to the poor roads in Radnorshire in the 18th century (and much of Wales and England at the time) Turnpike Trusts emerged, usually by Acts of Parliament, to improve roads and enable more free flowing movement of people and trade. The Radnorshire Turnpike Trust was established by an Act of Parliament in 1767 (Pawson 1977). Milestones were erected along new turnpike roads together with toll houses where the traveller was expected to pay a 'toll' to use the new road. The name turnpike originates from the horizontal pole or pike that blocked the road at toll houses.

2.1.11. It is unclear when the Radnorshire Turnpike Trust started making improvements to the Builth Wells to Llandrindod Wells road (A483). Milestones dating to 1759 are known (LB83349) at Disserth Mill and form a typologically similar set of nine milestones along the A483 from Builth Wells to Llandrindod Wells. They are not recorded on the 1840 tithe map of the local area (*Plan of Llandrindod Parish in the County of Radnor*), during this time much of the proposed development area comprised common land (Land Parcel 133), owned by Prebendary of Llandrindod. The later 1st Edition 1888 Ordnance Survey (OS) map of the local area (*Radnorshire XXIII.SW*) depicts Milestone LB83350 near the location of the benchmark (671.5ft) on the L&NW railway bridge. The map notes "Newtown 28 / Builth 6" (miles). The road appears to have been sufficiently improved by 1823, by the Radnorshire Turnpike Trust, for the Royal Dart light mail and coach to run a daily service from Brecon to Newtown. Towards the end of the 19th century many turnpike roads began to be 'disturnpiked' and responsibility of the road passed to the highway boards of local parishes and then county councils. The A483 road is now officially known as the Swansea to Manchester Trunk Road.

2.1.12. **Placename Evidence**

2.1.13. The name *Llandrindod* is composed of two words, the prefix *llan*, denoting the enclosed land surrounding a church (or parish), and the noun *drindod*, meaning 'trinity'. *Llandrindod*, therefore, translates literally to 'Parish of Trinity Church'. A church possessing this name still survives today and is located at 5 Temple Street (LB9061) in the town centre of Llandrindod Wells, although as the construction of

this church dates to no earlier than 1871 (Haslam 1979, 247) it cannot be the church from which the town is named. Yet this church was constructed in order to replace a far older church of the same name, situated just over 1km to the southeast of the town centre. This church originally comprised a single chamber of 13th or 14th century date accompanied by a southern porch and western spire. It has been asserted that this church (as well as the one at Cefnlllys) was left roofless by Archdeacon De Winton during the late 19th century to encourage parishioners to attend the New Holy Trinity Church at 5 Temple Street instead. According to records from the medieval period, this church was known as *Llandduw* or 'Parish of God', a name that is now generally spelt as *Llandow*. By 1535 the name of the church had changed to *Llandynddod* before changing again in the 1550s to its current name *Llandrindod*. However, in the early 17th century the church was briefly known as *Llanydryndott* (Richards 1970, 126). The name *Llandrindod Wells* began to be used during the post-medieval period as a result of the town becoming a renowned spa.

3. Location, Topography and Geology

- 3.1.1. The milestone (LB83350) is centred on NGR (SO) 305235.339, 259274.864, W3W///confronts.salmon.shutting, on the eastern side of the A483 road near the entrance to the former Greenacres Garden Centre, Howey, Llandrindod Wells, Powys. The milestone is currently partially buried with around 700mm of the stone standing above ground.
- 3.1.2. The superficial geological deposits within the proposed development area comprise Devensian till in the form of diamicton, which formed up to 2 million years ago during the Quaternary period in an environment dominated by ice age conditions. The underlying bedrock comprises laminated hemipelagic mudstone of the Built Mudstone Formation, formed approximately 433.4 – 427.4million years ago during the Silurian period. These bedrock deposits are marine in origin and consist of both coarse- and fine-grained detrital slurries derived from the continental shelf flowing into the local deep-sea environment (BGS 2024).

4. Objectives

- 4.1.1. The *definition* of an archaeological **Building Investigation and Recording** as set out by the *Chartered Institute for Archaeologists* (CIfA) is a programme of work intended to establish the character, history, dating, form and archaeological development of a specified building, structures, heritage assets or complexes and its setting, including buried components, on land, inter-tidal zone or underwater.
- 4.1.2. The *purpose* of an archaeological **Building Investigation and Recording** is to examine a specified building, structures, heritage assets or complexes, and its setting, in order to inform:
 - the formulation of a strategy for the conservation, alteration, demolition, repair or management of a building, or structure, or complex and its setting.
 - or
 - to seek a better understanding, compile a lasting record, analyse the findings/record, and then disseminate the result.

- 4.1.3. (Chartered Institute for Archaeologists *Standard and guidance for the archaeological investigation and recording of standing buildings or structures*. Published 2014, revised 2020)
- 4.1.4. The **archaeological building survey** work would also be undertaken to Historic England's *Understanding Historic Buildings: A Guide to Good Recording Practice* (2016), the only nationally (UK) recognised building recording standard. Specifically, a Photographic Survey together with some additional recording elements associated with a Level I & II Record (see scope below). The historic building record, from the most basic Level I record to the most comprehensive Level III or IV record, and Photographic Surveys, are intended to allow clarification of the heritage asset's history and also "*draw on the full range of available resources and discuss the heritage asset's significance in terms of structural, architectural, social, regional and or economic history*". The presentation of these observations in a written report, taking account of related documentary and historical evidence. The preparation of an archive of digital data recovered and records made as a result of the project, and the deposition of this archive in a suitable receiving museum or similar institution.
- 4.1.5. The definition of an archaeological **Watching Brief (Archaeological monitoring and recording)** as set out by the *Chartered Institute for Archaeologists* (CIfA) is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.
- 4.1.6. The purpose of an archaeological **Watching Brief** (as defined CIfA 2023):
- will record and report on the archaeological resource within a specified area, using methods that are described in a project design that is fit for purpose. The programme of work undertaken will be carried out by suitably competent persons in accordance with that project design and the CIfA *Code of Conduct* and give due regard to the guidance for archaeological monitoring and recording. All archaeological monitoring and recording will result in a report, published accounts where appropriate, and a stable, ordered, accessible archive.
- 4.1.7. A watching brief is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.
- 4.1.8. The objective of a watching brief is to establish and make available information about the archaeological resource existing on a site.
- 4.1.9. (*Chartered Institute for Archaeologists Standard for archaeological monitoring and recording* (December 2023))
- 4.1.10. Where archaeological structures, features or deposits require archaeological recording in 3D using photogrammetry, the archaeological survey work (where appropriate) will be undertaken to Historic England's *Photogrammetric Applications for Cultural Heritage Guidance for Good Practice* (Published 2017), the only nationally (UK) recognised photogrammetry standard for the historic environment.

- 4.1.11. The main objectives of our photogrammetric records/surveys are to produce metrically accurate rendered photorealistic 3D modelling of the survey area, buildings and general scenes georeferenced with high accuracy. Modelling utilises Structure from Motion (SfM) photogrammetric techniques obtained through DSLR, mobile phone cameras and camera capable SUA (drone) to produce measurable 3D models of the photographed scene. The term photogrammetry was first coined by a Prussian architect Albrecht Meydenbauer in an 1867 article called 'Die Photometrographie' and Dominique Arago, a French surveyor, was using photographs to create topographic maps as early as 1840. Modern photogrammetric methods used flat lensed cameras to create photogrammetric montages of buildings or other methods such as stereoscopy using multiple aerial images to create the illusion of depth (3D) from 2D images. Present day photogrammetry uses sophisticated algorithms and workflows to digitally stitch each pixel together to create real world measured 3D representations of the photographed scene with outputs including dense point clouds (LAS), triangular meshes (OBJ) and orthophotography (plans and elevations – georeferenced TIFF). The accuracy or more appropriately the margin of error is calculated using the ground sampling distance (GSD), which is the distance between two adjacent pixel centres normalised to real world dimensions. Centimetre accuracy of photogrammetric outputs is reached by using Real Time Kinematic (RTK) GPS (satellite navigation systems) survey methods of control points within the surveyed area.
- 4.1.12. The *Research Framework for Wales* sets out the knowledge base of past research and sets out a rationale for future studies (<https://www.archaeoleg.org.uk/index.html>). The present investigations will be undertaken considering the key themes and where there are limitations in current knowledge, particularly where the present investigations can enhance our understanding of some of these key areas. For example, current important Post-medieval themes for consideration are the development of religion following Dissolution and associated historic buildings developed in the Anglicisation of Wales and early Protestant nonconformity, the rapid change from rural to industrial in areas of rapid population growth and the effect on settlement patterns and land-use in the rural landscape. The impact of the gentrified landed estates on the landscape, the establishment of formal Parks and Gardens and the development of the picturesque movement. Other important themes in the period include the industrialisation of agriculture and the significance and scale of technical change within the major industries of coal, iron, copper, tin, lead and slate, and the impact of that change within the landscape; their context and significance in terms of similar sites elsewhere in the world, and their relationship with the markets they served. Particular focus should be applied to the significance, form and archaeological survival of transport corridors, such as turnpikes, roads, canals, tramways and railways, their engineering, the industries they served and the settlements they sustained. Communications routes should not be considered individually but rather part of an interconnected networks of industries, settlements, culture and religion.

5. Legislative Framework

- 5.1.1. Planning legislation is set out in the *Town and Country Planning Act 1990*. *Planning Policy Wales (PPW 11th Edition)* sets out the land use planning policies of the Welsh Government. Chapter 6 sets out the Welsh Government's policy towards the historic environment. It states "*The planning system must take into account the Welsh Government's objectives to protect, conserve, promote and enhance the historic environment as a resource for the general well-being of present and future generations. The historic environment is a finite, non-renewable and shared resource and a vital and integral part of the historical and cultural identity of Wales. It contributes to economic vitality and culture, civic pride, local distinctiveness and the quality of Welsh life. The historic environment can only be maintained as a resource for future generations if the individual historic assets are protected and conserved. Cadw's published Conservation Principles highlights the need to base decisions on an understanding of the impact a proposal may have on the significance of an historic asset.*" (PPW 2021, 126).
- 5.1.2. Underpinning PPW are a series of legislative powers and TANs. The *Planning (Wales) Act 2015* sets out a series of legislative changes to deliver reform of the planning system in Wales, to ensure that it is fair, resilient and enables development. The 2015 Act also introduces a mandatory requirement to undertake pre-application consultation for certain types of development. The *Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016* defines in *Schedule 4(I)* the parameters and definitions for the requirement of pre-application consultation by Welsh Ministers, particularly in response to the effect of statutory designated monuments, buildings, and parks and gardens.
- 5.1.3. Any works affecting an ancient monument and its setting are protected through implementation of the *Ancient Monument and Archaeological Areas Act 1979*. In Wales the 1979 Act has been strengthened by *The Historic Environment (Wales) Act 2016*. The 2016 Act makes important improvements for the protection and management of the Welsh historic environment. It also stands at the centre of an integrated package of secondary legislation (Annexes 1-6), new and updated planning policy and advice, and best-practice guidance on a wide range of topics (*TAN 24 Historic Environment*). Taken together, these support and promote the careful management of change in the historic environment in accordance with current conservation philosophy and practice.
- 5.1.4. The *Ancient Monument and Archaeological Areas Act 1979* and *The Historic Environment (Wales) Act 2016* sets out a presumption in favour of preservation *in-situ* concerning sites and monuments of national importance (scheduled/listed), and there exists in the current *Planning Policy Wales (Chapter 6)* a presumption in favour of preservation *in-situ* of all types of heritage assets.
- 5.1.5. The *Civil Aviation Authority (CAA)* is the airspace controlling body for the United Kingdom (UK). The UK is divided into three Flight Information Regions (FIRs), Shanwick Oceanic (Atlantic), London (England and Wales) and Scottish (Scotland) FIRs. In the UK there are currently five classes of airspace; A,C,D,E and G. The classification of the airspace within a FIR determines the flight rules which apply and the minimum air traffic services which are to be provided.

- 5.1.6. The rules and regulations for the use of SUAs (drones) in UK airspace is set out in the *Air Navigation Order 2016* and its *2018* and *2019 (ANO)* amendments. The CAA publishes the ANO within CAP393 (Civil Aviation Publication). CAP382 details the safety occurrence reporting scheme for aircraft. CAP722 Unmanned Aircraft System Operations in UK Airspace – Guidance and Policy, is compiled by the Civil Aviation Authority's Unmanned Aircraft Systems Unit (UAS Unit). All UAS flights are operated in accordance with CAP722 and within the limitations and conditions of the company Operational Authorisation (OA), Operations Manual and the applicable articles of the ANO. The European UAS Regulatory Package was implemented on the 31st December 2020. *Air Navigation (Amendment) Order 2020* introduces some changes, with guidance provided in CAP2013. Full details of the UAS Regulatory Package and its implementation are published in CAP722 Edition 9. Three new operational categories have been introduced: Open (geared to hobbyists/some commercial users), Specific (mainly enterprise drone pilots), Certified (very high-risk operations).

6. Scope

- 6.1.1. The proposed works will consist of a pre-commencement Photographic Survey and archaeological watching brief during the relocation of Milestone LB83350. The proposed archaeological mitigation works will comprise building recording by aerial and terrestrial survey and 3D photogrammetric modelling methods complimented with a photographic record of milestone both in-situ and also when lifted. An archaeological watching brief will be implemented during groundworks, specifically during the relocation of the milestone to obtain a record of any buried historic elements and the excavation for the new location for the milestone. The proposed blend of RTK GPS measured survey, photogrammetry (3D modelling) and photography derived from both aerial (drone) and terrestrial cameras, and archaeological watching brief during groundworks will provide a suitable record of the relocation of the milestone.

6.2. Photographic Survey

- 6.2.1. The programme of building recording will be implemented to Photographic Survey standard to Historic England's *'Understanding Historic Buildings: A Guide to Good Recording Practice* (2016), prior to the commencement of any on-site works. A Photographic Survey (Section 5.5, p27) differs from historic building records Levels I-IV in that it provides a very full visual record, but without a written or drawn survey at a comparable level of detail. A comprehensive photographic survey may be called for when recording a building which has complex and important decoration or historic furnishing but for which there is no need for detailed analysis. It may also be appropriate in recording a building of well-known type which is under threat but where existing documentation is in other respects adequate or when for some other reason drawings and historical analysis are not required.
- 6.2.2. In addition to the photographic survey, CPAT as advisors to the LPA have requested additional levels of recording usually associated with a Level I and II historic building record. Specifically, the written record Items 4-5, (6 optional) and 7; and drawn record Items 7 and 8 (Historic England 2016). The written record is a basic summary with the structures seen, described and photographed. A plan and sometimes other

drawings may be made included but the drawn record will normally not be comprehensive and may be tailored to the scope of a wider project. The presentation of these observations in a written report. The preparation of an archive of digital data recovered and records made as a result of the project, and the deposition of this archive in a suitable receiving museum or similar institution.

- 6.2.3. The contractors on site will need to allow the site archaeologist conducting the photographic record reasonable access to their works for the purpose of recording the milestone. **No demolition or ground works should be undertaken until the programme of photographic survey has been implemented.** The area around the milestone will require vegetation removal prior to the commencement of the photographic survey.
- 6.2.4. The Chartered Institute for Archaeologists produce a detailed Standard and Guidance for the '*Archaeological Investigation and Recording of Standing Buildings or Structures*' (2014, revised 2020), and together with Historic England's '*Understanding Historic Buildings: A Guide to Good Recording Practice* (2016), the only nationally (UK) recognised building recording standard, and Historic England's '*Photogrammetric Applications for Cultural Heritage Guidance for Good Practice* (Published 2017), these will be followed by any archaeologist undertaking the work.

6.3. Archaeological Watching Brief

- 6.3.1. The **archaeological watching brief** will be applied to all ground penetrating works for the relocation of the milestone (Figure 1). This includes *but is not limited to* vegetation clearance, top and subsoil excavations, excavation for the relocated milestone, and excavation to free the milestone from its existing location in accordance with the advice from the archaeological advisors to the LPA. Subject to the limitations placed on the watching brief by safe working practice.
- 6.3.2. The watching brief will meet the standards of the Chartered Institute for Archaeologists' *Chartered Institute for Archaeologists Standard for archaeological monitoring and recording* (December 2023) and shall be undertaken on the specified works likely to expose archaeological features, deposits and structures.
- 6.3.3. A watching brief involves an archaeologist(s) observing demolition and ground penetrating works for the development. This can take the form of any demolition work, ground penetration or earth moving work such as structural demolition, topsoil stripping, the excavation for foundations, test-pitting and service trenches. In some cases the watching brief may need to observe vegetation clearance.
- 6.3.4. The watching brief process is a staged approach:
- a) If archaeological features or deposits are revealed, then the archaeologist(s) will quickly record these with minimum interruption to the construction programme.
 - b) Should the discovery be more complex and require more time and resources then a programme that allows the archaeological discovery to be recorded/mitigated can be agreed on-site with the developer and archaeologist(s).
 - c) Should the archaeological discovery be of such importance, scale or complexity, or result in significant difficulties to the construction programme, then a meeting would have to be convened with the client,

the Archaeological Advisor to the LPA, Cadw (if appropriate) and site archaeologist(s) to agree an appropriate way forward for the watching brief and the construction programme. This may include contingency arrangements for additional staff to be deployed.

- 6.3.5. Contingency costs are beyond the scope of this specification and would need to be agreed in advance before any extension to the programme commences.
- 6.3.6. The contractors on site will need to allow the site archaeologist(s) conducting the watching brief reasonable access to their works for the purpose of recording archaeological remains. No demolition or ground works should be undertaken without the site archaeologist(s).

7. Programme

7.1. Notification

- 7.1.1. Notification will be provided to the LPA and their advisors for the start date of the archaeological mitigation works. Black Mountains Archaeology Ltd is happy for its work to be monitored at any time during the programme of works by:
- The client and/or their representatives,
 - CADW and/or their representatives,
 - The LPA and/or their representatives,
 - The *Chartered Institute for Archaeologists* (CIfA) and/or their representatives,
 - *Provided that:*
 - Advance notice is provided for the monitoring visit,
 - Attendees fully observes site and Health & Safety rules,
 - Attendees cause no undue delay to the programme of works,
 - Attendees do not provide any instruction to vary the agreed works without prior consultation and agreement with all relevant parties,
 - Attendees have the appropriate academic and professional qualifications and relevant experience to comment on the archaeological works being undertaken, or in lieu of are attended by an appropriate specialist.
 - Attendees provide a written monitoring report in line with CIfA guidance, particularly Para 1.69.3, *Chartered Institute for Archaeologists (CIfA) Standard and guidance for archaeological advice by historic environment services* (Published December 2014, updated June 2020). Monitoring reports should be provided within one week of the visit or in line with the organisation's monitoring policy.

7.2. Human Remains

- 7.2.1. Should human remains be encountered, the nature and extent of those remains will be established and recorded, and the coroner, police, client, Archaeological Advisor to the LPA, Cadw (if appropriate) and LPA informed. Following consultation with the Archaeological Advisor to the LPA, and if appropriate, an exhumation programme would be agreed. In such cases, contingency arrangements would need to be agreed prior to the commencement of the exhumation.
- 7.2.2. The human remains would be archaeologically recorded and removed under current professional guidelines and legislation, including the provision of exhumation licences and for eventual reburial following appropriate analysis. All human remains

would be excavated by hand in accordance with the Chartered Institute for Archaeologist's *Professional Practice Paper No 7 Guidelines to the Standards for Recording Human Remains* (2004) and *Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains: Technical Paper Number 13* (1993).

7.3. Fieldwork

- 7.3.1. The photographic survey and watching brief will be conducted in accordance with the construction programme. The total requirement of these programmes of work is entirely dependent upon the construction programme, however, where areas have been proved devoid or mitigated (recorded) of archaeological deposits and features then with LPA approval the programmes will no longer apply to these areas.

7.4. Reporting

- 7.4.1. Following completion of the fieldwork, an assessment of the archive will be prepared within six weeks of the cessation of fieldwork activities in line with current professional guidelines.

8. Fieldwork methodology

8.1. Method of recording

- 8.1.1. The archaeological recording techniques will conform to the best industry standard. All significant archaeological deposits and architectural features in the survey area will be recorded with a single continuous context numbering system pro forma. All significant archaeological deposits (contexts) and architectural features in the survey area will be recorded and if required drawn at a suitable scale in plan and in section usually, but not always, 1:50, 1:20, and 1:10 in plan and section. Digital recording techniques will be employed and will include GPS total station survey, photogrammetry and photography and hand drawn sketch elevations and plans if necessary. All significant features/contexts will be photographed in digital at 24MP and the images archived in TIFF and JPEG format. All surveys will be located and benchmarked to the Ordnance Survey.
- 8.1.2. The photogrammetric survey will be carried out by both terrestrial digital (DSLR) camera (24mp), mobile phone camera (24MP, 48MP RAW) and UAV (drone) equipped with large 24mm equivalent 20MP 4/3 CMOS sensor, fitted with a mechanical shutter, and 4k UHD camera, and a 35mm equivalent (24mm) camera with a 12MP/48MP 1/2.3" CMOS sensor. The ground investigations and aerial survey will be tied into the Ordnance Survey National Grid and Datum using an RTK GNSS/Glonass (GPS) Receiver and data logger with a 10mm tolerance. All 3D models will be produced using proprietary photogrammetry software and aligned using known ground control points (GCPs). Dimensional control will then be applied to each model and then reprocessed using the new parameters and optimised cameras to create dense point clouds and high face count meshes exported to OBJ format. All high resolution orthographic renders (orthoplanes and orthomosaics) will be exported and scaled in georeferenced raster (TIFF and JPEG) format
- 8.1.3. The use of photogrammetry in modern survey is rapidly evolving and as such there are a limited number of published standards and guidance documents available to help clients (commissioners of work) and surveyors maintain quality control. Historic England's *Photogrammetric Applications for Cultural Heritage Guidance for Good Practice* (published 2017) provides guidance on SfM techniques in relation to

cultural heritage, particularly the photogrammetric recording of historic buildings and landscapes, and outputs (3D models, 2D topographical plans, building plans and elevations etc). The principles of this guidance will be followed by any archaeologist undertaking the survey work.

- 8.1.4. The Survey Association have produced a series of handy guides to surveying with drones and photogrammetry. They are primarily aimed at other professionals such as engineers, architects, planners and clients in general. They are not intended to go 'in depth' into practical issues but to act as a basic guide on a particular topic and, in particular, on procedures and regulations which may govern how a particular aspect of the survey is carried out. Further information can be found here <https://www.tsa-uk.org.uk/downloads>.

8.2. Artefact recovery and recording

- 8.2.1. All items that may be subject to *The Treasure Act 1996* (2003 as amended) will be reported to the HM Coroner for the local area and the Scheme Archaeological Curator (SAC).
- 8.2.2. All classes of finds will be retained (cleaned and catalogued) in appropriate conditions until arrangements for final deposition have been agreed, in line with the requirements of the Chartered Institute for Archaeologists' *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (2014, revised 2020). Ownership will be transferred to the institution receiving the archive unless other arrangements are agreed with the archaeological advisor to the LPA.
- 8.2.3. If substantial quantities of undiagnostic, residual or modern material are recovered, an on-site recording and discard policy for these classes of find will be employed. However, sufficient material will be retained to understand the nature, date and function of the deposit from which it was recovered.
- 8.2.4. Specialist contingency artefact advice, analysis or conservation may be necessary during the course of the fieldwork or in post-excavation. The scope for such work would need to be agreed in advance with the archaeological advisor to the LPA.

8.3. Sampling

- 8.3.1. Environmental recording and sampling will follow the principles of Historic England's *Guidelines for Environmental Archaeology* (2011). All deposits will be assessed for high potential for the preservation of palaeoenvironmental material. Sampling of such deposits would be carried out by column, bulk etc, for subsequent analysis. In accordance with professional guidelines sampling and recording will be the responsibility of an identified member of the field team with relevant experience. As a minimum, discrete negative features (pits and postholes) will be sampled at 50% and linear features at 25%. It is accepted that some linear features may only warrant a 10% sample. Any such sampling strategy would be agreed with the archaeological advisor to the LPA in advance.

9. Reporting

9.1. Assessment and archive preparation

- 9.1.1. Following completion of the fieldwork programme all artefacts, ecofacts and samples will be processed, assessed and packaged in accordance with Chartered

Institute for Archaeologists' *Standards and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (published 2014, updated 2020), and *Museums and Galleries Commission Standards in the Museum Care of Archaeological Collections* (1994). The archive of archaeological records and artefacts will be prepared to the guidelines set out in Historic England's *Management of Archaeological Projects*² (1991) Appendix 3, the *National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (published 2017, but see also 2019 supplement) and if appropriate for the project the *Management of Research Projects in the Historic Environment MoRPHE* (2015). A report on the photographic survey and watching brief will be produced incorporating the survey and watching brief data, a site narrative with supporting information, including finished drawings and photographs.

- 9.1.2. Subject to the landowner's permission the site archive, including all artefacts, ecofacts, samples and records will be deposited whole with a receiving institution (excepting any that may be subject to the Treasure Act 1996) in accordance with ClfA Guidelines (*Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (2011, updated October 2020)). The final archive of records relating to the preparation of the reports will be prepared to Historic England's guidelines set out in the *Management of Archaeological Projects*² (1991), Appendix 6, the *National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales 2017* and if appropriate for the project the *Management of Research Projects in the Historic Environment MoRPHE* (2015).
- 9.1.3. A final report detailing the results of the photographic survey and watching brief will be submitted when reporting process has been completed. The report will conform to the professional standards as set out in section 6.4 of the *Chartered Institute for Archaeologists Standard and guidance for the archaeological investigation and recording of standing buildings or structures*, as well as the *Guidance for the Submission of Data to the Welsh Historic Environmental Records (HERs)* (published 2018). Following formal approval, a digital copy of the report and archive summary will be supplied to the client, Cadw, regional HER and the *Royal Commission on the Ancient and Historical Monuments of Wales*. Submission of photogrammetric images acquired by drone to the RCAHMW will follow *RCAHMW Unmanned Aerial Vehicle (UAV) Policy*. All data will be digitally stored in appropriate formats (SHP, DXF, TIFF, RAW, JPEG, PDF etc) with the archive destination in mind. All data will be submitted to the relevant archives in accordance with the RCAHMW's *Guidelines for Digital Archaeological Archives* (2015). Paper copies can be provided on request at a small cost.

9.2. Publication

- 9.2.1. As a minimum, and if appropriate, short summaries of the report should be submitted to the local CBA Journal or regional equivalent. Larger journal contributions should be set according to the agreed post-excavation project design for more significant archaeological projects.

9.3. Notification of important remains

- 9.3.1. Where it is considered that remains that may satisfy the criteria for statutory protection have been identified, the archaeologist will inform the national archaeological agency with statutory responsibility (Cadw).

9.4. Archive deposition

- 9.4.1. With the permission of the landowner, the report and archive will be deposited with Powys Museum or National Museum Wales. An accession number will be generated on completion of the project. The digital report and archive will be deposited the *Royal Commission on the Ancient and Historical Monuments of Wales* (RCAHMW). Submission of photogrammetric images acquired by drone to the RCAHMW will follow *RCAHMW Unmanned Aerial Vehicle (UAV) Policy*. A digital copy of the archive will also be offered to the regional HER (CPAT)
- 9.4.2. Black Mountains Archaeology Ltd *Data Management Plan* sets out the company's policy on managing data (both physical and digital) during archaeological projects and is available upon request. We operate a paperless office system, whereby we effectively reduce the use of all paper records as far as feasibly possible. All data gathered in the field, whether paper or digital records, are digitised and stored on our servers, which are both physical servers on-site, duplicated live on cloud servers hosted by Microsoft and regularly backed up off-site. All data is digitally stored in appropriate formats (SHP, DXF, TIFF, RAW, JPEG, PDF etc) with the archive destination in mind. All data will be submitted to the relevant archives in accordance with the RCAHMW's *Guidelines for Digital Archaeological Archives* (2015) and the WAT's *Guidance for the Submission of Data to the Welsh Historic Environmental Records (HERs)* (published 2018).

10. Project

- 10.1.1. The project will be managed by Richard Lewis, who is a full *Member* of the *Chartered Institute for Archaeologists* (MCIfA) and implemented by a suitably qualified members of our team. All work will be carried out to the Codes of Conduct, Bylaws and Guidelines of the *Chartered Institute for Archaeologists*, irrespective of the status of individual's membership of the Chartered Institute.

10.2. Staff Structure

- Richard Lewis FSA MCIfA, Managing Director/Chief UAV Pilot: responsible for project management, fieldwork, survey and post-excavation operations. Civil Aviation Authority Operational Authorisation (OA) Number – **10885**.
- Elizabeth Langlands MA, Senior Archaeologist/UAV Pilot: responsible for project management, fieldwork, survey and post-excavation operations. Civil Aviation Authority Remote Pilot Certificate of Competence (A2) Number – **832124**.
- Dr Rhys Morgan PhD, Archaeologist: responsible for community engagement, fieldwork and post-excavation finds analysis.

10.3. Specialists

- 10.3.1. Black Mountains Archaeology Ltd have an established network of specialist advisors. Should specialist expertise be required then these will be sought as required from our network of suitably qualified institutions and individuals.

11. Community Archaeology

- 11.1.1. Community archaeology is a strong focus for the company and we have successfully delivered several major community projects in south Wales. Our experience and energy make our community projects both rewarding and fun whilst delivering

important academic results. Our volunteers gain many transferable skills into the workplace and we routinely host work experience placements. Where possible and practicable from a health and safety/contractual perspective we aim to have some community benefit from all of our investigations. Whether by publication of archaeological findings, local talks, information panels or a more 'hands on' experience 'digging' and 'surveying' we are keen to involve the local community in our projects. However, we do have limitations placed on us from an insurance and safety standpoint and it is not always possible to engage with the local community where sites are deemed inappropriate and/or unsafe.

12. Variations to the specification or contract

- 12.1.1. The archaeological resource is unpredictable, and the encountering of unexpected archaeological deposits or structures on the site cannot be ruled out. Where the examination of such archaeological deposits or structures is required but exceeds the scope of this specification a variation to the contract may be required and this specification updated. Such variations will be agreed in advance with the Client and notified to, and wherever possible or appropriate, agreed in advance with the archaeological advisors to the LPA.

13. Reinstatement

- 13.1.1. The reinstatement of any part of the archaeological work outlined in this document are beyond the scope of this specification and if required must be agreed by separate negotiation.

14. Insurance

- 14.1.1. Black Mountains Archaeology Ltd is fully insured to undertake the work and full details of our policies can be supplied on request.
- 14.1.2. Black Mountains Archaeology Ltd will not be liable to indemnify the client against any compensation or damages in discharging the responsibilities set out in this document, including satisfying professional and statutory/legislative obligations.

15. Health and Safety

- 15.1.1. Black Mountains Archaeology Ltd takes health and safety issues seriously and is committed to protecting the health and safety of its staff and all those affected by its business activities and attending its premises or places of work (site). We have prepared a Health and Safety Policy (2023) in accordance with current legislation, including *The Health and Safety at Work etc Act 1974*, *The Management of Health and Safety Regulations 1999* and current Coronavirus legislation and regulation. At the design stage of any project a Health and Safety Risk Assessment will be undertaken and continuously updated as risks are identified/mitigated. A copy of these documents is both available on request, and will be displayed in any site office, and will be supplied to any other contractors working on site.
- 15.1.2. Archaeological work is not covered under the *Construction Design and Management Regulations 2015*; however, archaeological work may be undertaken where CDM regulations are applied. In such cases we will prepare any documentation required.

16. Professional standards

- 16.1.1. Irrespective of corporate membership all employees are expected to adhere to the *Codes of Conduct, Bylaws and Guidelines* of the *Chartered Institute for Archaeologists* as a condition of employment. All work is overseen by a full *Member* of the *Chartered Institute for Archaeologists*.

17. Copyright and Arbitration

- 17.1.1. Black Mountains Archaeology Ltd/*Archaeoleg Mynydd Du Cyf* shall retain full copyright of any commissioned reports, tender documents or other project documents, under the *Copyright, Designs and Patents Act 1988* (chapter IV) with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project.
- 17.1.2. Any dispute or difference arising out of a contract 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 Chartered Institute for Archaeologists* applying at the date of the agreement.

18. Bibliography

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Other Sources

BGS <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> accessed 29/01/2024.

19. Appendix I – Figures

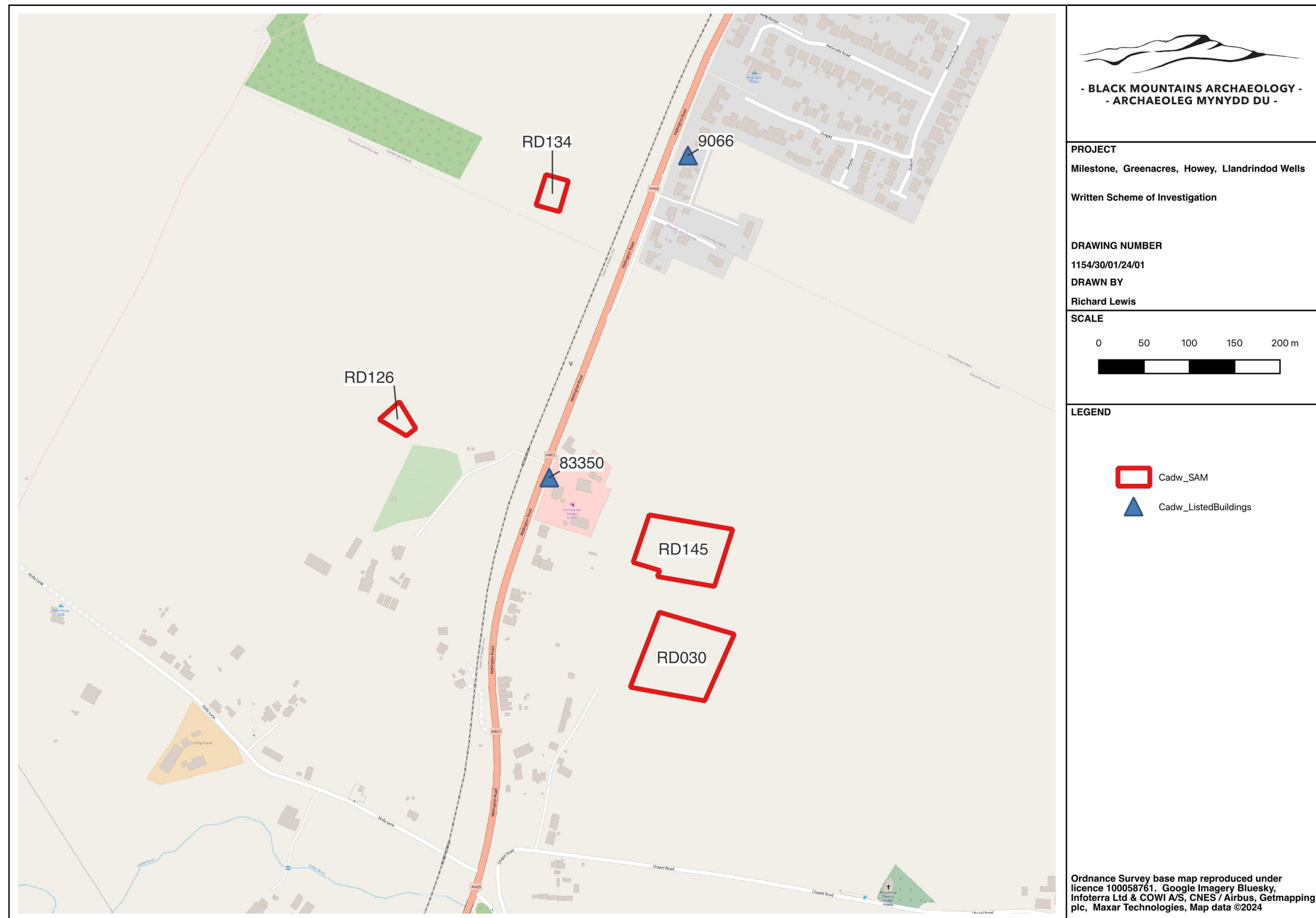


Figure 1. Location plan showing location of listed milestone LB83350 and nationally designated monuments.



Figure 2. Location plan showing location of listed milestone LB83350.



**- BLACK MOUNTAINS ARCHAEOLOGY -
- ARCHAEOLEG MYNYDD DU -**

Yn rhan o'n hawydd i wella ansawdd ein gwasanaeth, rydym yn croesawu unrhyw adborth y gallwch ei ddarparu.

As part of our desire to improve our quality of service we welcome any feedback you are able to provide.

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