



**Capel Y Glyn, Glynneath,
Neath**

Preliminary Ecological Appraisal and Bat Survey Report

November 2023

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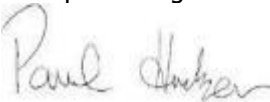
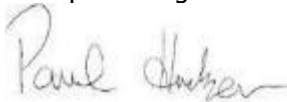
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Document Verification Table

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Preliminary Ecological Appraisal and Bat Survey				
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Summary

Brief and Site Location	Acer Ecology Ltd. were commissioned by Arron Booth to conduct a preliminary ecological appraisal and bat survey of land at Capel Y Glyn, Hoel Y Glyn, Glynneath, SA11 5BB, within the boundary Neath Port Talbot County Borough Council (Ordnance Survey Grid Reference centred at: SN 8842 0675).
Development Proposals	The preliminary development works proposed comprise the conversion of the two-storey chapel (B1) with a full internal renovation into a residential property and associated car parking. No works are currently proposed for the two outbuildings. External works to connect the development to services will also be undertaken. Trees to the north and east of the site boundary are proposed to be trimmed back to ensure safety of the site. At the time of writing a planning application has yet to be submitted and proposed development plans have not been finalised at present.
Impacts to Key Receptors	Provided appropriate precautionary and mitigation measures detailed in Section 4 are implemented, the development is not anticipated to result in adverse impacts to any protected sites, habitats and species.
Recommendations	The following provisional recommendations have been developed based on the development proposals available at the time of writing. They may be subject to change upon receipt of the final design: • Further Survey – CEMP, reptile survey; • Precautionary measures – timing of works; good construction practices for mammals; sensitive lighting strategy; and • Mitigation measures for bats confirmed to be roosting within the chapel. Full details of mitigation and compensation measures will be determined after the further surveys.
Licensing Requirements	A bat development licence will need to be granted by Natural Resources Wales (NRW) prior to the start of works.
Conclusions	Further survey work for reptiles will be required before such assessments can be comprehensively made. If development works do not begin within eighteen months to two years of the date of this report, an update survey is likely to be required in accordance with guidance from Natural Resources Wales (NRW) and BS 42020:2013, to determine if conditions have changed since those described in this report.

1. Introduction

1.1. Brief and Site Location

Acer Ecology Ltd. were commissioned by Arron Booth to conduct a preliminary ecological appraisal and bat survey of land Capel Y Glyn, Hoel Y Glyn, Glynneath, SA11 5BB, within the boundary Neath Port Talbot County Borough Council (Ordnance Survey Grid Reference centred at: SN 8842 0675)¹. The assessment documents the baseline ecological condition of the survey area, which is shown by the red line boundary on Plan 1. Designated sites, habitats, protected and notable species of conservation interest that could be affected by the proposed works are identified, and subsequent recommendations provided.

This assessment will provide initial recommendations based on the development proposals available at the time of writing. They should be revised upon finalisation of the design.

1.2. Site Description

The site proposed for development measures approximately 0.1ha, and mainly comprises poor semi-improved grassland and a corridor of mixed broadleaf trees and shrubland to the north and east of the site boundary. A two-storey chapel with associated hardstanding is located on the east of the site and links directly onto the A4109 which runs north to south of the site. The site has a central location in Glynneath and is bordered by detached developments with linked back gardens. A large amenity grassland used for recreational purposes lies 11m west of the site and the closest rural landscape is situated 0.1km to the south. The River Neath runs 90m south of the site and the Nant y Gwyddyl flows adjacent to the development site on the northern boundary.

1.3. Proposed Works

The preliminary development works proposed comprise the conversion of the two-storey chapel with full internal renovations into a residential property and associated car parking. No works are currently proposed for the two outbuildings. External works to connect the development to services will also be undertaken. Trees to the north and east of the site boundary are proposed to be trimmed back to ensure safety of the site. No works are anticipated for B2 and B3. At the time of writing a planning application has yet to be submitted and proposed development plans have not been finalised at present.

1.4. Scope of the Study

The study comprised the following:

- A desk study to identify existing information on statutory and non-statutory sites of nature conservation interest, and records of notable or protected habitats or species within the site and its environs;

¹ Latitude and Longitude: 51.748315 , -3.6174159 / what3words: petted.whiplash.mankind

- A Phase 1 Habitat Survey of the site, extended to search for evidence of, and potential for, protected fauna;
- Preliminary roost assessment of the chapel;
- Two dusk emergence surveys of the chapel; and
- Identification of potential ecological constraints to the proposed works at the site and assessments of impacts including appropriate mitigation measures where necessary.

1.5. Reporting

This report aims to:

- Outline the methodology used during the survey;
- Present the baseline ecological information;
- Provide an ecological evaluation of on-site habitats, including an assessment of the potential for protected species;
- Assess the potential impacts of the development proposals on ecological receptors;
- Assess the potential ecological constraints to the proposals; and
- Provide recommendations for further survey, avoidance, mitigation and enhancement where appropriate.

2. Methods

The survey was undertaken following standard methods as detailed in the Chartered Institute of Ecology and Environmental Management (CIEEM) Preliminary Ecological Appraisal 2017 guidelines, and the Phase 1 Habitat Survey manual (Joint Nature Conservation Committee, 2010). The methodology utilised for the survey work comprised a desk study, habitat survey and a survey of protected and notable species.

2.1. Desk Study

2.1.1. Protected Sites, Habitats and Species

Information on designated sites and protected species was obtained from the sources detailed in Table 2. The legislation and policy relating to statutory and non-statutory designated sites can be found in Appendix Plans 2 and 3 show the protected sites in relation to the proposed development site.

Table 1: Summary of Designated Sites and Other Abbreviations

Abbreviations	
Special Areas of Conservation	SAC
Special Protected Area	SPA
Site of Special Scientific Interest	SSSI
National Nature Reserve	NNR
Local Nature Reserve	LNR
Area of Outstanding Natural Beauty	AONB
Site of Importance for Nature Conservation	SINC
Ancient Semi-Natural Woodland	ASNW
Restored Ancient Woodland Site	RAWS
Plantation on Ancient Woodland Site	PAWS
Natural Resources Wales	NRW
South East Wales Biological Records Centre OR	SEWBRcC

Table 2: Sources of Data

Source	Data	Radius of Search
NRW Geographical Information Systems (GIS) Layers	Statutory and non-statutory nature conservation designated sites ASNW, RAWS and PAWS	Ramsar/SACs/SPAs/SSSIs/NNRs/LNRs – 2km ² SACs (designated for bats) - 10km. 2km.
SEWBRcC	Protected species records SINCs	1km. 1km.

All available records of bat roosts, badger, dormouse, amphibians and reptiles were considered. For other species, only records collected within the last 10 years were considered relevant.

2.1.2. Landscape Context

² The citations of all the SSSIs and SACs within 2km of the site were consulted to determine if any of them had features or species which could be affected by the development proposals.

The site and wider landscape were assessed and characterised using aerial images, Ordnance Survey maps and SEWBRc data. The presence of off-site features and habitats, which add to the ecological value within the wider area (for example, ponds within 0.5km of the site) were identified. Where appropriate, such features were scoped into the detailed assessment of impacts presented in Section 3.

2.1.3. Ancient Woodland

Although ancient woodland is not a designated site as such, it is often listed as a designated site due to its ecological significance and associated protection. Ancient woodland has therefore been included within the non-statutory designated site section of this report.

2.1.4. Planning Authority

The Neath Port Talbot County Borough Council Planning portal³ was consulted to determine if any previous survey information was available for the site, or immediate surroundings.

2.1.5. Site History

An NRW GIS Phase 1 habitat survey of Wales layer was searched containing survey information obtained by the former Nature Conservancy Council (NCC) during the period 1992-96. This information was reviewed to identify any change in habitat or management of the site and the surrounding area.

2.2. Field Study

2.2.1. Personnel

The field survey was undertaken in good weather on the 3rd of May 2023 by Daisy Smith⁴ and Kira Everett⁵. Bat surveys were undertaken on 25th of July and 29th of August 2023 by various surveyors.

2.2.2. Vegetation and Habitats

The vegetation and habitat types present within the survey area were categorised and mapped in accordance with the standard⁶ Phase 1 Habitat assessment methodology (Joint Nature Conservation Committee, 2010), dominant and conspicuous plant species were recorded for each habitat. Target notes were used to record information on features of ecological interest, such as evidence of, or habitats with potential to support protected species or where any features of interest too small to map were recorded. Following the completion of the survey, a colour-coded habitat plan was digitised using QGIS to show the extent and distribution of the different habitat types present within the site (see Plan 3).

³ <https://planningonline.npt.gov.uk/online-applications/>

⁴ Daisy graduated with a degree in Zoology from the University of Southampton. She is an Assistant Ecologist with Acer Ecology and has undergone training in botanical, habitat and protected species surveys.

⁵ Kira graduated with a degree in Wildlife Biology from the University of South Wales. Kira works as an Assistant Ecologist at Acer Ecology. Details of her qualification and experience can be found at <https://www.linkedin.com/in/kira-everett-221860231/>

⁶ Some additional categories were also used if applicable e.g. hard standing and Japanese knotweed.

Section 7 habitats (Environment Wales Act 2016), Priority Habitats of the UK Biodiversity Action Plan (BAP) (Biodiversity Reporting & Information Group, 2007) were identified and assessed to determine if the site meets the non-statutory designated site criteria (SINC).

Invasive plant species listed on Schedule 9⁷ of the Wildlife and Countryside Act 1981 (as amended), such as Himalayan balsam (*Impatiens glandulifera*), giant hogweed (*Heracleum mantegazzianum*) and Japanese knotweed (*Fallopia japonica*) were also noted during the survey, if present.

2.2.3. Protected and Notable Species

Evidence of, and habitats with, potential to support protected or notable species were noted, especially species meeting any of the following criteria:

- Listed under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019;
- Listed under Section 7 of the Environment (Wales) Act 2016 as being of principal importance for maintaining and enhancing biodiversity in Wales;
- Listed as a local priority for conservation, for example in the relevant Local Biodiversity Action Plan (LBAP);
- Red Listed using International Union for the Conservation of Nature (IUCN) criteria (e.g. in one of the UK Species Status Project⁸ reviews, in the Species of Conservation Concern Red, Amber or Near Threatened List⁹, Birds of Conservation Concern in Wales¹⁰, or, where a more recent assessment of the taxonomic group has not yet been undertaken, listed in a Red Data Book);
- Listed as a Nationally Rare or Nationally Scarce species (e.g. in one of the Species Status Project reviews) or listed as a Nationally Notable species where a more recent assessment of the taxonomic group has not yet been undertaken; and/or
- Endemic to a country or geographic location (it is appropriate to recognise endemic sub-species, phenotypes, or cultural behaviours of a population that are unique to a particular place).

Only those species with potential to be present on-site are mentioned within this report. The methodologies used were as follows:

Birds

Any birds observed during the field survey were recorded, in addition to features capable of supporting nesting birds (e.g. trees, hedgerows, buildings, bramble, ruderal vegetation and rough grassland etc.). The

⁷ Schedule 9 species of plants and animals are ones that do not naturally occur in Great Britain but have become established in the wild and represent a threat to the natural fauna and flora.

⁸ The Species Status project is the successor to the JNCC’s Species Status Assessment project, providing up-to-date assessments of the threat status of various taxa using the internationally accepted Red List guidelines (<http://jncc.defra.gov.uk/page-1773>).

⁹ Eaton *et al.* (2015) Birds of conservation concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds 108: 708-746.

¹⁰ Johnstone, I. and Bladwell, S. (2016) Birds of Conservation Concern in Wales 3: the population status of birds in Wales. Birds in Wales 13 (1).

site was also assessed for its actual and potential suitability to support Wildlife and Countryside Act 1981 (as amended) Schedule 1 species.

A comprehensive bird survey, such as a breeding bird survey, was not undertaken as this was beyond the scope of the assessment.

Bats

Preliminary Ground-level Roost Assessment

A preliminary ground-level roost assessment of the trees within the survey area was undertaken, looking for features that bats could use for roosting (Potential Roost Features¹¹ (PRF) and evidence of bats (i.e. droppings in, around or below a PRF; odour emanating from a PRF; audible squeaking at dusk or during warm weather; or staining below the PRF). A systematic inspection was carried out around all accessible aspects of the tree, from both close to the trunk and further away. The location of the trees is shown on Plan 5.

The trees were assessed for their suitability to support roosting and hibernating bats in accordance with Table 4.1 of the Bat Conservation Trusts Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016) (See Appendix 4). A high-powered torch (Clulite), an endoscope (Snake vision), binoculars and a ladder were used as appropriate during the survey.

Daytime Internal and External Building Inspection

A systematic search of the exterior and interior of the buildings was undertaken, looking for features that bats could use for entry/ exit and roosting¹² and to search for the presence of bats or evidence of bat use, such as droppings, feeding remains, urine staining, scratch marks and the remains of dead bats.

A high-powered torch (Clulite), an endoscope (Snake vision), binoculars and a ladder were used as appropriate during the survey. The location of the buildings are shown on Plan 5.

Dusk Emergence Surveys

The evening dusk emergence surveys commenced 15 mins before sunset and finished 90 mins after sunset. Four surveyors: Kira Everett, Kelsey Marshall, Jack Hole and Margareth Necesito, undertook the first dusk emergence survey on the 25th of July 2023. The second dusk emergence survey was carried out by four surveyors (Anita Connors, Evan Smith, Caleb Davies and Jack Hole) on the 29th of August 2023. Surveyor details can be found in Appendix 14.

The surveyors were all equipped with Elekon Batlogger M bat detectors. The whole of the building was kept in view of the surveyors at all times. Each surveyor was also equipped with a Nightfox red infrared camera each supplemented with a Nightfox XB5 850nm Infrared LED flashlight. Infrared cameras have the

¹¹ Potential Roost Features that bats may use identified by Andrews include: woodpecker-holes; squirrel-holes; knot-holes; pruning-cuts; tear-outs; wounds; cankers; compression-forks; butt-rots; lightning strikes; hazard-beams; subsidence-cracks; shearing cracks; transverse cracks; welds; lifting bark; frost-cracks; fluting and ivy.

¹² Bats may utilise gaps as small as 8mm by 20mm (Bat Conservation Trust, Cluster flies leaflet)

advantage that they are always on and not prone to distraction and they particularly aid the detection of bats in low light levels from 45-90 minutes after sunset.

In accordance with Section 2.6.1 of the Bat Conservation Trust's Bat Surveys for Professional Ecologist (Collins, 2016) surveys were undertaken during nights with temperatures above 10°C and during mornings where the previous sunset temperature was above 10°C. The surveys were also undertaken in the absence of rain and strong wind (5.4 m/s or greater, which is equivalent to 13 mph or Beaufort 4).

Terrestrial Habitat Assessment

A preliminary assessment of the value of the site for bats (and any potential roost sites therein) was made in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2016) (see Appendix 4). The assessment was based on the relative abundance and quality of habitat features within the site, and surrounding landscape, suitable for roosting, foraging and commuting bats.

Dormice

The woodland and scrub on the northern, eastern and southern boundary of the site were assessed for their suitability to support dormice (*Muscardinus avellanarius*). The structure and composition of these habitats within the site were assessed with respect to the presence of flower, fruit or nut-bearing food-plants such as hazel (*Corylus avellana*) (a favoured food-plant of dormice), oak (*Quercus* sp.), honeysuckle (*Lonicera periclymenum*), bramble (*Rubus fruticosus* agg.) and sycamore (*Acer pseudoplatanus*), as well as other trees and shrubs listed in the Dormouse Conservation Handbook (Bright, Morris & Mitchell-Jones, 2006) as being of value to dormice were identified on site. In addition, connectivity to other areas of suitable habitat in the wider landscape, such as hedgerows and woodland, was assessed.

A search for hazelnuts opened by dormice was undertaken to aid determination of their presence¹³. A full nest tube/box/footprint tunnel survey was not undertaken as this was beyond the scope of the assessment.

Great Crested Newts

The survey area was appraised for its suitability to support great crested newts (*Triturus cristatus*) (GCN). The assessment was based on guidance outlined in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee, 2003) and the Great Crested Newt Conservation Handbook (Langton, Beckett & Foster, 2001).

Nant y Gwyddyl is located on the northern boundary of the site and flows north to south, joining as a tributary to the River Neath. Whilst the River Neath lies 90m south of the site and is separated from the proposed development by Aberdare Road and the A4109. The Nant y Gwyddyl adjacent to the site was fast flowing which is considered to be unsuitable for GCN. In addition to this, both the Aberdare Road and the

¹³ As far as was practical given the vegetation structure within the survey area, the guidance set out in The Dormouse Conservation Handbook (Bright, Morris & Mitchell-Jones, 2006) was adhered to, whereby three 10m x 10m areas of heavily fruiting hazel were searched for 20 minutes each, therefore enabling an 80% confidence rating of dormouse absence in these areas.

A4109 act as a barrier to GCN migration (English Nature, 2001). Therefore, the likelihood of GCN migrating onto the proposed development site is considered to be very low, this species is not mentioned further in this report.

Otters

A preliminary assessment for signs of otter (*Lutra lutra*) was undertaken following the advice provided by Strachan & Jefferies (1996) and Chanin (2003). Where access was available, the banks of the watercourse were searched for evidence of otter activity within 10m of the bank. Field signs of otter were recorded if present including spraints (faeces showing food remains), footprints, feeding remains and couches (above ground resting sites normally in thick vegetation cover), as well as potential or actual breeding sites and resting places (i.e. holts or natal dens) which are usually found under roots of bank side trees or in rock piles.

A full otter survey was not undertaken as this was beyond the scope of the assessment.

Water Voles

An assessment of the water body within and adjacent to the survey area was undertaken to determine its suitability for supporting water voles (*Arvicola amphibius*), following methods set out in the Water Vole Conservation Handbook (Strachan & Moorhouse, 2006). In addition, a search for evidence of activity was undertaken, including droppings, latrines, burrows, footprints and feeding lawns, of any areas considered suitable.

A full water vole survey was not undertaken as this was beyond the scope of this assessment.

White-Clawed Crayfish

An assessment of the water body within the survey area was undertaken to determine its suitability to support white-clawed crayfish (*Austropotamobius pallipes*) (WCC), based on the habitat requirements set out in the Ecology of the White-Clawed Crayfish Handbook (Holdich, 2003). Specifically, the presence of undermined/overhanging banks, soft banks for burrows, cobble and rock substrate, submerged refugia and macrophytes.

A full WCC survey was not undertaken as this was beyond the scope of this assessment.

Badgers

Earth embankments, wooded copses, hedgerows and dense bramble beds are habitat features that often contain evidence of badgers (*Meles meles*). Where present on-site and other suitable habitat features were searched for such evidence. Where present, the location of badger signs such as setts, runs, dung pits or latrines, prints, hair and foraging snuffle holes were recorded.

A full badger survey was not undertaken as it was beyond the scope of the assessment.

Reptiles

An assessment of the suitability of on-site habitats to support reptiles was made. Reptiles require a diverse range of habitats to meet their needs such as hedgerows, scrub, rough grassland, woodpiles, rubble, banks and compost heaps. The potential of the site to provide hibernation opportunities and spring/summer/autumn habitat was also assessed, with reference to guidance provided in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee, 2003), the Reptile Management Handbook (Edgar, Foster & Baker, 2011) and the Reptile Mitigation Guidelines Technical Note TIN 102 (Natural England, 2013). The following factors were considered: vegetation type and structure; insolation (sun exposure); slope aspect; topography; surface geology; habitat connectivity; habitat size; prey abundance; refuge opportunity; hibernation opportunity; egg-laying potential for grass snake (*Natrix helvetica*); public pressure; percentage of shade; levels of disturbance and management regime.

A targeted presence/likely absence reptile survey was not undertaken as it was beyond the scope of this assessment.

Hedgehogs

The sites potential to support hedgehog was assessed using guidance on habitats of importance in Hedgehogs and Development (Peoples Trust for Endangered Species, 2022)¹⁴ with the following habitats particularly favoured: dense scrub to build hibernation nests in during the winter; short grass to forage in for invertebrate prey; longer grass to forage in and to make nests in during the summer; areas of leaf litter to collect and use for hibernation nests; log piles and decaying vegetation to forage in and hibernate in; and hedgerows and boundary vegetation that are important corridors for travel and nesting sites.

Other Species

General habitat suitability and incidental sightings of other animal species were also noted.

2.2.4. Assessment of Ecological Value

The value of the habitats and features of the site have been provisionally evaluated and graded in accordance with a geographical frame of reference as detailed in Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland (CIEEM, 2018). The level of value of specific ecological receptors is assigned using a geographic frame of reference, i.e. international value being most important, then national, regional, county, district, local and, lastly, within the immediate zone of influence of the site only. Brief descriptions of how Acer Ecology interprets these categories are set out in Appendix 4.

2.2.5. Limitations

General Temporal Limitations

Any ecological survey can only identify what was present on-site at the time the survey was conducted and habitat usage by species can change over time.

¹⁴ <https://www.hedgehogstreet.org/wp-content/uploads/2022/08/PTES-BHPS-Hedgehogs-and-development-guide-2022.pdf>

Incomplete Survey Information

Full surveys for the protected species listed previously have not yet been carried out. For some species of fauna for which evidence has been found or which are considered likely to occur on site, further targeted survey is advisable at a more appropriate time of year (see Section 4).

Access

The internal void of B1, and the interior of B2 and B3 were inaccessible at the time of survey. This is not considered a serious constraint as bats were found roosting within B1 during the dusk emergence surveys, and no work is anticipated for B2 and B3.

3. Baseline Ecological Conditions, Evaluation and Development Impacts

The baseline conditions and evaluation of the *in-situ* habitats and the actual/ potential presence of protected species are discussed in this section. Potential impacts on protected sites, *in-situ* habitats and protected or notable species arising from the proposed development are identified, including both direct and indirect impacts, and those associated with construction and operational stages.

A summary of relevant legislation and planning policies relating to protected sites, habitats and species is provided in Appendices 2 and 3.

3.1. Statutory Nature Conservation Designated Sites

Statutory Sites (SACs or SSSIs) Designated for Bats within 10km of Site

No SACs or SSSIs specially designated for bats lie within 10km of the site.

SACs and SSSIs within 2km of Site

The proposed development site lies within 2km of the following statutory sites:

Table 3: Statutory Sites Designated Within 2km

Site Name	Designation	Description	Distance and Direction from Development Site	Development Impacts
Cwm Gwrelych and Nant Llyn Fach Streams ¹⁵	SSSI	The best sequence of Westphalian (Carboniferous) rocks in the South Wales Coalfield. It is a site of outstanding international significance.	0.7km to the south-east.	Due to the distance between the site and the SSSI no development impacts are anticipated.
Dyffrynnoedd Nedd a Mellte ¹⁶	SSSI	Dyffrynnoedd Nedd a Mellte, a Moel Penderyn is of special interest for its extensive and diverse semi-natural woodland, important populations of several flowering plants and supporting outstanding assemblages of mosses, liverworts and lichens. The site includes a range of geological features, well-exposed in the cliffs and rocky river beds.	1.8km to the north-east.	Due to the distance between the site and the SSSI no development impacts are anticipated.
Coedydd Nedd a Mellte ¹⁷	SAC	Old sessile oak woods with (<i>Ilex</i>) and (<i>Blechnum</i>) in the	1.8km to the north-east.	Due to the distance between the site and the SSSI no

¹⁵ https://naturalresources.wales/media/659336/SSSI_1097_Citation_EN0017414.pdf

¹⁶ https://naturalresources.wales/media/664002/SSSI_1434_Citation_EN0012bc8.pdf

¹⁷ https://naturalresources.wales/media/631012/SAC_UK0030141_Register_Entry001.pdf

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		British Isles and mixed woodland on base-rich soils associated with rocky slopes		development impacts are anticipated.
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3.2. Non-statutory Nature Conservation Designated Sites

SINCs

There are no non-statutory sites designated for their conservation value within 2km of the site.

The proposed development site lies within 2km of the following non-statutory sites:

Table 4: Non-Statutory Sites Designated Within 2km

Site Name	Designation	Description	Distance and Direction from Development Site	Development Impacts
Lamb and Flag ¹⁸	SINC	An area of former flood plain in the upper section of the Neath Valley, now raised by the addition of levelled spoil, the site lying between the River Neath River and town of Glynneath. The soils are mostly dry and neutral, though there are heathy elements on the sides of the old valley road (now defunct) with some areas of ephemeral flooding. The site which is unmanaged and overgrown in patches with scrub, young woodland and stands of Japanese Knotweed.	0.3km to the south-west.	Further work has been suggested in Section 4 in order to prevent pollution to the watercourse.
Selar ¹⁹	SINC	From URS Management Plan for Nature Reserve 2011: the Blaengwrach nature Reserve was established in 1994 as part of the mitigation package for the loss of Selar Farm SSSI as a result of planning permission granted for Selar open cast coal site. Habitats include: Translocated grasslands (rush pasture, unimproved acid and neutral), together with Purple moor-grass Mire, heathland, broad leaved wooded ravines.	0.9km to the south.	Due to the distance between the site and the SSSI no development impacts are anticipated.

¹⁸ <http://citations.lercwales.org.uk/sinc/npt/NPTSINC065.pdf>

¹⁹ <http://citations.lercwales.org.uk/sinc/npt/NPTSINC032.pdf>

Ancient Woodland Sites

The following table shows the ancient woodland sites within 2km of the site:

Table 5: Ancient Woodland Sites Within 2km

Ancient Woodland Site	Number within 2km of Site
Ancient Semi-Natural Woodland (ASNW) ⁷³	61
Restored Ancient Woodland Sites (RAWS) ⁷⁴	16
Plantations on Ancient Woodland Sites (PAWS) ⁷⁵	24
Ancient Woodland Sites of Unknown Category ⁷⁶	Five
Nearest Area of Ancient Woodland	An unnamed area of ASNW located 0.2km to the north of the site.

3.3. Habitats and Vegetation

The results of the general survey of habitats and vegetation are shown on Plan 5. A botanical species list is provided in Appendix 4.

The site consists of following elements which are described in detail overleaf. These comprise:

Table 6: Habitats Recorded on Site

Acer Ecology

Phase 1 Habitat	UK Habs Habitat	NVC Habitat	Description	Ecological Value	Development Impacts
Broadleaved Semi-Natural Woodland (A1.1.1)	Woodland and forest - Lowland mixed deciduous woodland (w1)	W10	Broadleaved semi-natural woodland was recorded on the south and eastern boundaries. Species present here include goat willow (<i>Salix caprea</i>), field elm (<i>Ulmus procera</i>), sycamore (<i>Acer pseudoplatanus</i>), field maple (<i>Acer campestre</i>), and hazel (<i>Corylus avellana</i>).	Site Value	Current proposal suggest that the woodland is proposed for retention with trimming in order to maintain safety on site. Precautionary measures are outlined in Section 4.
Dense Scrub (A2.1)	Heathland and shrub - Mixed scrub (h3)		Dense scrub was recorded in a large patch towards the north boundary of the survey site. The dominant species recorded was bramble (<i>Rubus fruticosus</i> agg.), other species were present include common ivy (<i>Hedera helix</i>), holly (<i>Ilex aquifolium</i>), hawthorn (<i>Crataegus monogyna</i>), dandelion (<i>Taraxacum officinale</i> agg.), forget me not (<i>Myosotis arvensis</i>), herb Robert (<i>Geranium robertianum</i>), buddleia (<i>Buddleja davidii</i>), and barberry (<i>Berberis vulgaris</i>).	Site value. UK Habs medium distinctiveness.	This habitat is currently proposed for retention, however, if any works do occur within this area precautionary and compensatory measures are outlined in Section 4.
Poor Semi-improved Grassland (B6)	Modified grassland (g4)	MG1	The majority of the survey site comprises poor semi-improved grassland. This habitat is typical of neglected and unmanaged neutral sites. Dominant grasses present are perranial rye-grass (<i>Lolium perenne</i>), with	Site value UK Habs low distinctiveness	Areas of this habitat will be permanently cleared to facilitate a car park. Recommendations to avoid and mitigate adverse impacts are presented in Section 4.

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			ribwort plantain, ox-eye daisy (<i>Leucanthemum vulgare</i>), dandelion, wild-strawberry (<i>Fragaria vesca</i>), wood-sorrel (<i>Oxalis acetosella</i>), common chickweed (<i>Stellaria media</i>), primrose (<i>Primula vulgaris</i>), doves's-foot cranes-bill (<i>Geranium mole</i>), meadow crane's-bill (<i>Geranium pratense</i>), buttercup (<i>Ranunculus bulbosus</i>), common speedwell (<i>Veronica persica</i>), wood-rush (<i>Luzula sp</i>), greater plantain (<i>Plantago major</i>), herb Robert, bracken (<i>Pteridium aquilinum</i>), dog's mercury (<i>Mercurialis perennis</i>) and cuckooflower (<i>Cardamine pratensis</i>).		
Buildings (J.3.6)	Urban - Developed land; sealed surface (u1b)		A chapel (B1) is located in the centre of the survey area. In addition to two outbuildings located on the eastern boundary of the survey area. Detailed building descriptions are provided in table 3.5.3 below.	Site value UK Habs very low distinctiveness.	Further surveys are recommended in section 4 in order to prevent development impacts on bats. B2 and B3 are proposed for retention.
Hard Standing ¹³	Urban - Developed land; sealed surface (u1b)		A concrete path is present leading into the main chapel (B1) and towards the southern front and eastern side. Parts of the hard standing is colonised by dandelion, ribwort plantain, and perennial rye-grass.	Negligible value. UK Habs very low distinctiveness.	Could largely be retained as part of the development. No negative impacts are anticipated.
Stone Wall (J2.5)	Urban – built linear features (u1e)		A stone wall borders the western elevation of the survey	Site Value	No adverse effects are anticipated as the wall is proposed to be retained.

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			site. It is generally in good condition and is proposed for retention on the development plans. Species include ivy, herb Robert, maidenhair spleenwort (<i>Asplenium trichomanes</i>), ivy-leaved toadflax (<i>Cymbalaria muralis</i>), and garden cotoneaster (<i>Cotoneaster sp.</i>).		
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Photo 1: Broadleaved Semi-Natural Woodland



Photo 2: Broadleaved Semi-Natural Woodland



Photo 3: Dense Scrub



Photo 4: Poor Semi-Improved Grassland



Photo 5: B1



Photo 6: B2



Photo 7: B3



Photo 8: Colonised Hard Standing

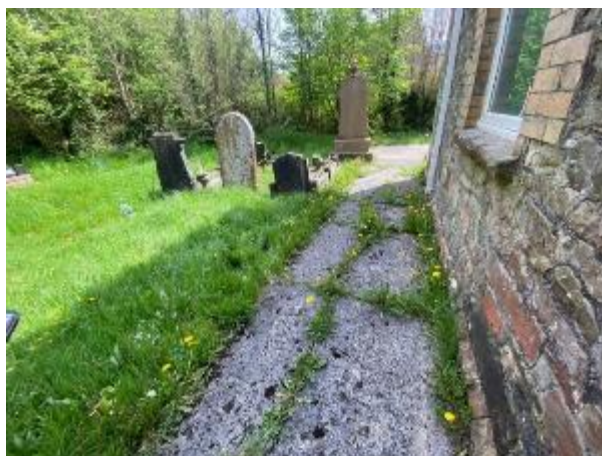


Photo 9: Hard Standing



Photo 10: Wall



3.4. Invasive Plant Species

No invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded during the site visit.

Buddleia, a non-native species, is present within the scrub towards the north of the survey site.

3.5. Protected and Notable Species

3.5.1. Notable Plant Species

Data Trawl Results

SEWBrEC returned one record of protected plant species or species of principal importance listed under the Environment (Wales) Act 2016 from within 1km of the site proposed for development namely: bluebell (*Hyacinthoides non-scripta*). However, bluebell is mainly protected from sale via its listing under Schedule 8 of the Wildlife and Countryside Act.

Two plants listed as species of conservation concern were recorded within 1km of the site, namely: northern buckler-fern (*Dryopteris expansa*) and small scabious (*Scabiosa columbaria*).

Nine plants listed as locally important species were recorded within 1km of the site, namely: viper's-bugloss (*Echium vulgare*), alder buckthorn (*Frangula alnus*), water avens (*Geum rivale*), yellow archangel (*Lamiastrum galeobdolon subsp. montanum*), toothwort (*Lathraea squamaria*), heath wood-rush (*Luzula multiflora subsp. congesta*), early forget-me-not (*Myosotis ramosissima*) and meadow saxifrage (*Saxifraga granulata*).

However, none of the records provided relate to the proposed development site.

Field Survey Results

No plant species, which individually are considered to be of either of national, regional or local significance were recorded on the site.

3.5.2. Birds

Desk Study Results

SEWBRc returned records of 23 priority bird species within 1km of the site, namely: butterfly-bush (*Buddleja davidii*), wall cotoneaster (*Cotoneaster horizontalis*), himalayan cotoneaster (*Cotoneaster simonsii*), montbretia (*Crocasmia pottsii x aurea = C. x crocosmiiflora*), japanese knotweed (*Fallopia japonica*), himalayan balsam (*Impatiens glandulifera*), himalayan honeysuckle (*Leycesteria formosa*), rhododendron ponticum (*Rhododendron ponticum*) and snowberry (*Symphoricarpos albus*).

20 birds listed as species of conservation concern were recorded within 1km of the site, namely: common sandpiper (*Actitis hypoleucos*), long-tailed tit (*Aegithalos caudatus*), mallard (*Anas platyrhynchos*), meadow pipit (*Anthus pratensis*), swift (*Apus apus*), grey heron (*Ardea cinerea*), dunlin (*Calidris alpina*), greenfinch (*Chloris chloris*), dipper (*Cinclus cinclus*), coot (*Fulica atra*), swallow (*Hirundo rustica*), lesser black-backed gull (*Larus fuscus*), grey wagtail (*Motacilla cinerea*), redstart (*Phoenicurus phoenicurus*), willow warbler (*Phylloscopus trochilus*), green woodpecker (*Picus viridis*), goldcrest (*Regulus regulus*), sand martin (*Riparia riparia*), woodcock (*Scolopax rusticola*) and mistle thrush (*Turdus viscivorus*).

Field Survey Results

A low number of birds were recorded on site, including house sparrow (*Passer domesticus*) and magpie (*Pica pica*). The house sparrow was recorded foraging around the broadleaved woodland and then entering through the cracks within the stone masonry on the southern and northern elevations.

Evaluation of Ecological Value of Site for Birds

The semi-natural broadleaved woodland and multiple scattered broadleaved trees provide nesting and foraging opportunities for a range of tree and scrub nesting bird species. Including a range of Section 7 species of principle importance within Wales.

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As a whole, the site is considered to be of site value to birds. It contains individual features that provide nesting and foraging opportunities for a range of tree and scrub-nesting bird species; however, these features are widespread and common in the surrounding landscape.

Impact Assessment of Proposed Development on Birds

Development proposals indicate that there will be no losses to the broadleaved woodland and dense scrub habitats, which would have resulted in the loss of high-quality bird nesting and foraging habitat. However, some of the trees along the bank are anticipated to be trimmed, which may result in the direct loss of, or disturbance, to nesting birds, as well as the loss of potential nesting sites. Furthermore, it is possible that some areas of bramble scrub may be cut back which could result in direct disturbance to birds nesting within these habitats. Such impacts can be avoided by timing the works so that they occur outside of the nesting bird season (September to February inclusive), as detailed in Section 4.

3.5.3. Bats

Desk Study Results

SEWBReC returned a total of six records of bat roosts within 1km of the site. The roost records are summarised in the table below.

Table 7: Bat Roost Records

Species	Total Number of Records	Distance to Nearest Record	Most Recent Record	Maximum Count
Whiskered/Brandt's bats (<i>Myotis mystacinus</i> / <i>Myotis brandtii</i>)	Two	0.2km	2015	Three
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	One	0.2km	2015	One
Pipistrelle bat species (<i>Pipistrellus sp.</i>)	One	0.8km	2009	10
Lesser horseshoe (<i>Rhinolophus hipposideros</i>)	Two	1.9km	2020	158

In addition to the roost records, SEWBReC returned many records of bats foraging or commuting within 1km of the site. These included: brown long-eared bat (*Plecotus auritus*), common pipistrelle, Daubenton's bat (*Myotis daubentonii*), greater horseshoe (*Rhinolophus ferrumequinum*), lesser horseshoe (*Rhinolophus hipposideros*), soprano pipistrelle (*Pipistrellus pygmaeus*) and whiskered bat (*Myotis mystacinus*).

There were no records of bat surveys having been previously undertaken on the building on the Local Authority planning portal.

Field Survey Results and Evaluation of Ecological Value of Site for Bats

Trees

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The majority of the scattered trees were young in age, with Diameters at Breast height (DBH)' ranging from 15cm with no PRF'S, with the exception of one mature Goat Willow with dense ivy on the south-west border of the survey site.

Table 8: Trees Assessed for Bat Potential

No.	Description	Evidence of Roosting Bats	PRF	Suitability for Roosting Bats
T1	Mature Goat Willow 50cm DBH and approximately 7m high	None.	Dense ivy that could potentially be utilised by roosting bats.	Low
DBH – Diameter at Breast Height DBH. This refers to the tree diameter measured at 4.5 feet above the ground.				

Photo 11: T1, Showing Dense Ivy Around Base



Buildings and Other Structures

The buildings on site were inspected for its suitability to support roosting bats, as set out in the table below:

Table 9: Buildings Assessed for Bat Potential

Building Number	Description and PRF	Evidence of Bats	Roosting Potential	Hibernation Potential
B1	Building 1 is a two-storey structure, comprised of stone with red brick decoration (Photo 12 and 14). The roof is dual pitch, constructed of slate with clay ridge tiles, with the bottom tiles raised in numerous places on western side (Photo 19) which could be potential roosting feature for bats. The ridge tiles seem to be in good condition. The barge board and soffit box around the building are made up of uPVC. The barge board sits raised on external wall on southern front, with an additional gap at the apex (Photo 21), potentially allowing access into the roof space for bats. The main door on southern front is made of wood, with the window	None	Moderate	Moderate

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	above also sitting in a wooden frame (Photo 12), all other windows are uPVC and sitting well within their frames (Photo 24). The external walls have gaps between the red brick decoration around the lintel of the windows (Photo 20), where we witnessed sparrows emerging and re-entering. The southern front has been colonised by ivy (Photo 12). On the eastern side, the fascia sits proud to the external wall (Photo 23). There is a single-storey extension towards the northern rear, comprised of render (Photo 16). The roof of the single-storey extension is dual pitch, also constructed of slate and clay ridge tiles. Some slates are raised in areas (Photo 25). There are multiple cracks in the stone masonry on the northern rear, and large gaps where the mortar has eroded away (Photo 25) which could potential be utilised by roosting bats. There is a permanently open window (Photo 26), allowing potential bats to have direct access into the interior/roof space. The inside of the building appears to be in good condition (Photo 17 and 18). However, we were unable to access the void of B1 due to the presence of a suspended ceiling and dilapidated state of the stairs.			
B2	Outbuilding comprised of stone, red brick and mortar (Photo 27). The roof is mono pitched and constructed of corrugated asbestos. There is presence of holes between the stone masonry and where the mortar has eroded away (Photo 30) which can be a potential roosting feature for bats. There is a large gap by the corrugated sheeting (Photo 28) allowing direct access species to inter the interior of the outbuilding. There are multiple holes between the window frames and external walls (Photo 29). The exterior of the building is colonised with ivy.	None	Moderate	Moderate
B3	Outbuilding comprised of brick and mortar, that extends into a wall (Photo 31 and 32). There is a window on the western side, covered with metal grill. The door is made of wood, with gaps around the frame (Photos 33 and 34). This was locked and so no access into the interior was possible at the time of the survey.	None	Moderate	Moderate

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Photos Showing the Buildings and their Features

Photo 12: Southern Front – B1



Photo 13: Western Side – B1



Photo 14: Eastern Side – B1



Photo 15: Northern Rear – B1



Photo 16: Single-storey Extension – B1



Photo 17: Internal View – B1



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Photo 18: Internal View, Showing Suspended Ceiling – B1



Photo 19: Rasied Tiles on Western Side – B1



Photo 20: Holes in the Stone and Red Brick Decoration on Southern Front – B1



Photo 21: Raised Barge Board and Gap within the Apex on Southern Front – B1



Photo 22: Gaps under Barge Board on Southern Front – B1



Photo 23: Raised Fascia on Eastern Side – B1



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Photo 24: Window Frames in Good Condition – B1



Photo 25: Raised Bargeboard on Northern Rear of Single-Storey Extension, and Gaps within the Stone Masonry (Circled) – B1



Photo 26: Permanently Open Window and Further Cracks in Stone Masonry (Circled) – B1



Photo 27: Northern and Western Elevation – B2



Photo 28 Large Gap Between Corrugated Metal and External Walls (Circled) – B2



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Photo 29: Large Gap Between Window Frame – B2



Photo 30: Large Gaps in the Stone Maontry and Red Brick Decoration – B2



Photo 31: Southern and Western Elevation – B3



Photo 32: Showing the Building Going into a Wall – B3



Photo 33: Southern Front – B3



Photo 34: Gap in Wooden Frame – B3



Dusk Emergence Surveys

Table 10: Summary of Conditions During Dusk Emergence Surveys

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	Survey 1	Survey 2
Date	25/07/2023	29/08/2023
Sunset/Sunrise Time	21:15	20:10
Start Time	21:00	19:55
Finish Time	22:45	21:40
Start Temperature (°C)	15	13
Dusk Temperature (°C)	15	13
Rain	None	None
Wind (Beaufort scale)	1	1
Cloud Cover (Oktas)	0	1

Table 11: Summary of Dusk Emergence Survey Results

	Survey 1: Dusk Emergence	Survey 2: Dusk Emergence
Emergences/ Re-entries	One lesser horseshoe (<i>Rhinolophus hipposideros</i>) emerged through the circular window on the northern rear of the chapel at 21:25pm. One common pipistrelle (<i>Pipistrellus pipistrellus</i>) emerged out of the brickwork on the southern front, on the east side of the middle window at 22:37pm.	No bats interacted closely or returned to roost within the chapel.
Important Commuting/ Foraging Routes	Common pipistrelle and soprano pipistrelles (<i>Pipistrellus pygmaeus</i>) were regularly seen foraging and commuting adjacent to the south and north of the building along the woodland to the north and east of the chapel. Many common pipistrelles commuted adjacent to the south elevation of the building, in a east to west flight line.	Soprano pipistrelles were observed occasionally foraging at the edge of the woodland at the north and north-eastern side of the chapel.
Bat Activity	There was low bat activity throughout the majority of the survey, with the activity of common and soprano pipistrelles increasing in the last 30 minutes.	Moderate levels of bat activity were recorded. Soprano pipistrelles were recorded regularly throughout the survey. Lower levels of activity of noctules (<i>Nyctalus noctula</i>) and common pipistrelle was recorded.

Characterisation of Identified Roosts

The dusk emergence surveys confirmed that the following roosts are present within the building:

Table 12: Dusk Emergence Survey Results

Bat Species	Maximum Count	Roost Type	Roosting Location/Access Points	Rarity Category ²⁰ and Estimated Population ²¹	Importance of Roost ²²
Common pipistrelle	One	Day roost	Within the gaps in the brickwork on the southern front of the B1, east of the middle window.	Abundant and widespread. Estimated population in England in 2021: 1,870,000 (609,000 – 4,620,000) (JNCC and Bat Conservation Trust, 2021)	Local
Lesser horseshoe	One	Day roost	Within the loft of the chapel, emerging from the circular window on the northern rear of the chapel.	Annex II Rare in the UK with a distribution restricted to Wales and western England. Estimated population by Bat Conservation Trust 2021: 50,000.	High Local

Photos Showing Confirmed Lesser Horseshoe and Common Pipistrelle Roost /Access Sites

Photo 35: Photo Showing Roost/access Point of Lesser Horseshoe (Red Circle)



Photo 36: Photo Showing Common Pipistrelle Access Point (Blue Circle)



²⁰ Rarity as defined in Table 3.1 of the Bat Mitigation Guidelines (2nd edition) Beta version.

²¹ JNCC and Bat Conservation Trust (2021) *National Bat Monitoring Programme Annual Report 2021*

²² Importance of Roost as defined in Table 3.2. of the Bat Mitigation Guidelines (2nd edition) Beta version.

Potential Foraging and Commuting Habitat

The site is collectively considered to provide moderate quality foraging and commuting habitat for bats due to the surrounding trees on the south-eastern border, that are also connected to the wider landscape and could be used by bats for commuting such as the lines of trees and scrubs as well as linked back gardens towards the east of the survey site. The site is located 90m north of the river neath which would provide strong commuting routes for bats, as well as Nant y Gwyddyl that runs adjacent to the development on the northern boundary.

Impact Assessment of Proposed Development on Bats

Short-term Impacts: Disturbance

If the proposed work is undertaken whilst bats are present, it could result in the physical disturbance of bats, direct human interference increased noise²³ and vibration disturbance, and potentially direct injury or killing of bats from being crushed or entombed. If the work is undertaken between April and September, there is greater potential bats to be impacted. There is also greater potential for any hibernating bats to be disturbed or entombed if the works are undertaken between November and March.

Short-term Impacts: Noise, Dust and Vibration During Construction Phase

Potential indirect impacts on bats during the construction phase include noise, dust and vibration disturbance or obstruction of access points due to the possible installation of scaffolding, particularly if it is combined with netting, sheeting or boarding.

Long-term Impacts: Roost Loss and Modification

In the absence of mitigation, the development would lead to the permanent loss of a lesser horseshoe and common pipistrelle day roost as a result of the modifications to the interior of the chapel.

Long-term Impacts: Increased Levels of Lighting

In the absence of mitigation, increased lighting could be installed within the site. Given the presence of light sensitive species (lesser horseshoe) any artificial lighting used after the development has been completed from both external lighting sources and light spill via windows has the potential to disturb bats roosting within the chapel and have detrimental effect of bats foraging and commuting through the area if the light spill is not controlled (Stone, 2013, Institution of Lighting Professionals & Bat Conservation Trust, 2018 and EUROBATS Advisory Committee, 2018)²⁴. The implementation of a sensitive lighting strategy, as detailed in Section 4, will help avoid such impacts.

B2 and B3

No works are currently proposed on the two outbuildings (B2 and B3), therefore no impacts to bats are

²³ Low-pitched noises, audible to humans but not to bats, are unlikely to cause significant disturbance; conversely ultrasound could do so. Sudden, loud noises could potentially disturb bats and cause abandonment of roosts (Pearson, Koford and Pearson, 1952; Humphrey and Kunz, 1976; Kunz 1981; Fenton, 1997; Ferrara and Leberg, 2005).

²⁴ Most UK bat species are sensitive to light pollution which can create a barrier to roost use, foraging and dispersal (Stone, 2013), with lesser horseshoe bats (Schofield 2008), long-eared bats and some *Myotis* species (Natterer's bat) particularly affected.

anticipated.

3.5.4. Dormice

Desk Study Results

SEWBrEC did not return any published records of dormice from 1km of the site.

Field Survey Results

A search for nuts opened by dormice in the woodland areas of the site did not find any showing signs characteristic of the species. Many opened nuts were found, but those that were, were assessed as having been opened either by squirrels, bank vole or birds.

Multiple habitats within and surrounding the site are suitable for dormice. The dense scrub in the north-eastern corner of the site, the semi-natural broadleaved woodland dominated by mature fruiting hazel in the south of the site. In addition, the scrub and woodland support a number of species known to form part of the dormouse diet such as hazel, elder, sycamore, ash, pedunculate oak, bramble, blackthorn, common hawthorn, holly, honeysuckle and field maple.

Evaluation of Ecological Value of Site for Dormice

Dormice are under-recorded in many areas (Eden and Eden, 1999). On other sites dormice have been recorded within stands of bramble and bracken (Chanin and Woods, 2003). There is dense bramble scrub within the site, linking to areas of scrub and woodland in the wider area. Although non-woodland habitats have traditionally been considered sub-optimal for dormice, dormice are increasingly recorded in such habitats. The relative importance of sub-optimal habitats is, therefore, not fully understood (Highways Agency et al., 2001). The presence of dormice within these habitats cannot, therefore, be ruled out.

Impact Assessment of Proposed Development on Dormice

The presence of dormice within the site is considered possible. The woodland on site is proposed for retention and no areas are intended to be breached. Adverse impacts to dormice are therefore anticipated to be unlikely. However, direct impacts could feasibly occur through accidental damage to the woodland during construction works, as well as indirect impacts, including increases in noise disturbance, vibrations and artificial lighting. Precautionary measures to avoid such impacts are set out in Section 4.

3.5.5. White-Clawed Crayfish

Data Trawl Results

SEWBrEC did not return any published records of dormice from 1km of the site.

Field Survey Results

No WCC were recorded within Nant y Gwyddyl. However, it has some features favoured by this species. The large, submerged cobbles and sections of ballast on the bed, rubble and undermined/overhanging

banks and fallen tree trunks/submerged root stock offer potentially suitable refuges and spawning sites and the surveyed section of brook appears to have good water quality.

Evaluation of Ecological Value of Site and Impact Assessment of Proposed Development on WCC

The proposed development works are not anticipated to impact the Nant y Gwyddyl provided that appropriate pollution and sedimentation management is implemented as set out in section 4.

3.5.6. Otter

Desk Study Results

SEWBReC returned a total of one otter records within 1km of the site. This was made in 2021 some 0.7km from the site.

Field Survey Results

No direct evidence of otters was recorded on site.

Evaluation of Ecological Value of Site and Impact Assessment of Proposed Development on Otters

No evidence of otters was recorded from the site by the present survey. However, it remains possible that the otters that forage and commute along the River Neath, may venture onto the site in the future due to the river corridor south-east of the site having good vegetation cover. Certain construction methods are recommended in Section 4 to ensure no otters potentially moving through the site are injured during the construction phase of the development.

3.5.7. Water Vole

Desk Study Results

SEWBReC did not return any records of water vole from within 1km of the site.

Field Survey Results

The banks are superficially suitable for burrowing by this species, although no such evidence was recorded during the survey, and no records of water vole in the wider area.

Evaluation and Impact Assessment for Water Voles

Due to lack of evidence of water vole and the fact that the no works are proposed to the Nant y Gwyddyl it is considered highly unlikely the development will have an adverse impact upon water vole, provided that precautionary measures are implemented to ensure that indirect impacts do not occur (see section 4).

3.5.8. Badgers

Desk Study Results

SEWBRc returned one badger record within 1km of the site. This was of a sett and latrine located 0.8km to the north.

Field Survey Results

No setts or other signs of badgers were recorded on site.

Evaluation of Ecological Value of Site for Badgers

Although no evidence of badgers was recorded on site, there is considered to be some limited potential for them to venture onto the site from the surrounding landscape to forage sporadically.

Impact Assessment of Proposed Development on Badgers

No direct impacts to badgers are anticipated as a result of the development. However, there is still a chance that badgers may pass through the site occasionally when foraging or commuting. As badgers are nocturnal, the risk of encountering badgers on site during the works is considered to be negligible. However certain construction methods are recommended in Section 4 to ensure no badgers moving through the site are injured during the construction phase of the development.

3.5.9. Reptiles

Desk Study Results

SEWBRc returned one record of reptiles within 1km of the site. This is a record of slow-worm (*Anguis fragilis*).

Field Survey Results

No direct evidence of reptiles was recorded on site.

Evaluation of Ecological Value of Site for Reptiles

The survey area contains a range of optimal and sub-optimal habitats for reptiles. More suitable areas include the interfaces between habitats. These transitional zones, or ectones, generally contain a greater diversity of plant species and habitat structures, and hence a range of microhabitats favoured by reptiles and many other species. Examples of these habitats recorded include:

- Grassland-scrub interfaces;
- Interfaces within grassland or varying sward heights; and
- Bramble junctions.

Impact Assessment of Proposed Development on Reptiles

The presence of reptiles on site cannot be ruled out completely. The proposed work carries a low risk of inadvertently killing, injuring or disturbing reptiles. Further surveys are recommended and detailed in Section 4.

3.5.10. Other Mammals

Desk Study Results

SEWBRc returned nine records of common hedgehog (*Erinaceus europaeus*) within 1km of the site.

Field Survey Results

No evidence of other mammals was recorded during the field survey.

Evaluation of Ecological Value of Site and Impact Assessment of Proposed Development on Other Mammals

Losses of some suitable small mammal habitat will inevitably occur. However, overall, much of the habitat loss will be in areas of limited suitability for small mammals. Furthermore, additional landscaping and planting can potentially increase the availability of prey (invertebrates, plants etc.) and may increase the suitability of the site for mammals in the long-term. No indirect impacts are anticipated. They are therefore not mentioned further in this report.

3.5.11. Invertebrates

Desk Study Results

SEWBRc returned a large number of notable invertebrate records from within the study area, comprising: 10 priority invertebrate species were recorded within 1km of the site, namely: small pearl-bordered fritillary (*Boloria selene*), broom moth (*Ceramica pisi*), small heath (*Coenonympha pamphilus*), small phoenix (*Ecliptopera silaceata*), marsh fritillary (*Euphydryas aurinia*), grayling (*Hipparchia semele*), shoulder-striped wainscot (*Leucania comma*), white ermine (*Spilosoma lubricipeda*), buff ermine (*Spilosoma lutea*) and blood-vein (*Timandra comae*).

10 invertebrates listed as species of conservation concern were recorded within 1km of the site, namely: acalles ptinoides (*Acalles ptinoides*), amara equestris (*Amara equestris*), chaetocnema confusa (*Chaetocnema confusa*), dactylolabis transversa (*Dactylolabis transversa*), helochares punctatus (*Helochares punctatus*), paradelphacodes paludosa (*Paradelphacodes paludosa*), phloiotrya vaudoueri (*Phloiotrya vaudoueri*), black-headed cardinal beetle (*Pyrochroa coccinea*), liverwort snipefly (*Spania nigra*) and zodion cinereum (*Zodion cinereum*).

Four invertebrates listed as locally important species were recorded within 1km of the site, namely: silver-washed fritillary (*Argynnis paphia*), devon carpet (*Lampropteryx otregiata*), emerald damselfly (*Lestes sponsa*) and blomer's rivulet (*Venusia blomeri*).

Field Survey Results

Two sighting of small white butterflies (*Pieris rapae*) were recorded during the survey.

Evaluation of Ecological Value of Site for Invertebrates

Acer Ecology

Due to the habitats present it is assumed the site will support an assemblage of invertebrates but is unlikely to support notable or rare species.

Impact Assessment of Proposed Development on Invertebrates

The invertebrates using the site for habitat are unlikely to solely rely on the site for their continued survival. They are therefore not mentioned further in this report. Additional landscaping and planting may increase the suitability of the site for invertebrates in the long-term.

4. Recommendations and Conclusions

The following recommendations are likely to be secured through planning conditions. They have been developed based on the development proposals available at the time of writing. It should be noted that they may be subject to change upon receipt of the final design. The implementation of these recommendations will ensure compliance with the Planning Policy Wales version 11 (Welsh Government, 2021)²⁵, TAN 5 *Nature Conservation and Planning* (2009), Section 6 and 7 of the Environment Wales Act, 2016, the Conservation of Habitats and Species Regulations 2017 which has been updated by the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019 and Neath Port Local Development Plan.

The recommendations aim to avoid or minimise adverse impacts on the environment and protected species, mitigate and compensate for losses where damage is unavoidable and promote opportunities to enhance biodiversity. There is a requirement that developments must provide net benefit for biodiversity.

4.1. Licensing Requirements for Bats

An NRW bat development licence is required. An application can only be made when planning consent has been granted and requires the following elements:

1. A completed and signed application form;
2. A copy of the planning consent/listed building consent (if applicable) and supplementary planning reports (planning officer delegated report/committee meeting minutes);
4. A completed method statement which sets out a timetable of the development and details the provision for new or continued roosting opportunities for bats;
5. The bat survey report/s;
6. Confirmation that any relevant associated planning conditions have been discharged by the Local Authority; and
7. A fee to be paid for some applications²⁶.

4.2. Further Work

It will not be possible to determine the planning application until the surveys outlined below have been carried out. Results from these surveys will inform and allow for targeted recommendations for the avoidance (timing of works), future mitigation and compensation measures required as part of the development and determine if any protected species derogation licences are required.

²⁵ Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions ... and in so doing promote the resilience of ecosystems. Development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity.

²⁶ <https://naturalresources.wales/permits-and-permissions/species-licensing/species-licensing-charges/?lang=en>

4.2.1. CEMP

Due to the proximity of the Nant y Gwyddyl, a Construction Environmental Management Plan (CEMP), will be produced prior to commencement of the proposed development works. Pollution prevention measures required are detailed within Section 4.2.1 but these will be built and expanded upon within the CEMP. The CEMP can be secured by a planning condition.

4.2.2. Reptile Survey

Works in parts of the site that could affect reptiles should not commence until further surveys have been carried out to assess the potential impact to common reptiles.

Surveys to determine the presence/likely absence of reptiles should be carried out between April and September – ideally in the months of April, May, June or September (Natural England Technical Information Note TIN 102¹). The survey will need to follow the advice provided by the Herpetofauna Workers' Manual² (Gent and Gibson, 2003), and comprise a 'direct search' and the monitoring of artificial and naturally occurring refugia placed in areas of the site assessed as being most attractive to reptiles (e.g. longer grass, scrub margins etc.).

A variety of different types of refugia should be used. Approximately 40 refugia are required to be set across the whole site, including within the grassland and scrub margins. Refugia will comprise primarily of squares of roofing felt, carpet tiles, corrugated metal tins and corrugated bitumen-based roofing felt of varying sizes but at least 60cm x 60cm in size. Naturally occurring refugia including discarded logs, timber and large rocks etc. will also be checked. Where possible, artificial refugia should be laid in south-facing positions in areas deemed least likely to attract human interference. Refugia will be left undisturbed on site for two weeks, prior to commencement of the survey to allow the reptiles on the site sufficient time to find and start utilising them. The refugia will then be checked on at least seven separate occasions, non-consecutively, in suitable weather conditions (warm, overcast periods with low wind speeds) to record any reptile species beneath or basking upon them.

The survey results will determine whether reptiles are present on the site, and if so will provide the basis for designing and implementing a reptile mitigation strategy prior to the start of the development.

4.3. Precautionary Measures

Precautionary measures are detailed below:

4.3.1. Pollution Prevention Measures

Appropriate pollution control measures, both during construction and post construction, will be employed to protect the water quality of the Nant y Gwyddyl at the western site boundary. Surface water/pollutant run-off from the construction site into the Nant y Gwyddyl will be avoided during site preparation and construction phases. Current Natural Resources Wales best practice guidance will be observed. The

measures to be implemented are partly outlined in the Environment Agencies guidance document 'Working at construction and demolition sites: PPG6 Pollution Prevention Guidelines' and 'Guidance for Pollution Prevention Works and maintenance in or near water: GPP 5'. In addition, the following measures have been adapted from the best practice guidelines for pollution prevention (GPP) full list 1/2.

Contingency Measures

Contingency measures for unforeseen incidents such as spillages will be set in place prior to commencement of construction works. Such procedures and measures will cover atmospheric, aquatic or land pollution and procedures in the event of fire. Contingencies to control and contain hydrocarbon spillages from, for example parked vehicles, once the area is developed will also be implemented. Plan ahead for intense and prolonged wet weather and consider all relevant pollution mitigation measures including:

- Minimise the amount of time stripped ground and soil stockpiles are exposed;
- Only remove vegetation from the area that needs to be exposed in the near future; and
- Seed or cover stockpiles.

Spill Response

If an accidental spill does occur on site, a quick response is needed to contain the spilled material (e.g. fuel, hazardous material etc.). Spill kits and a staff induction will be provided prior to the start of works to enable a quick response.

Deliveries

Deliveries to site can be a common cause of pollution. Vehicles can cause water, noise and dust pollution as they enter and exit the site, for example by spreading mud or contaminated material on neighbouring roads. Pollution can also be caused at the point of delivery, especially with fuels, oils and hazardous materials; for example, a fuel hose not correctly connected. Measures to prevent pollution caused by deliveries include:

- Ensure all deliveries are made as far away from watercourses and drains as possible (i.e. at the north of the site);
- Define times for deliveries to site and communicate these to suppliers and those working on site. Make sure these delivery times are suitable for neighbours, i.e. after 9am;
- Ensure any tanks, drums or containers coming to site are in a satisfactory condition. These will be regularly checked for damage or leaks;
- Clearly define delivery and material storage areas;
- Make sure that deliveries of polluting materials are delivered directly to a safe storage area, and not left anywhere else on site; a safe storage area may need secondary containment depending on the material to be stored e.g. oil and hazardous chemicals; and
- Ensure that all material deliveries will be supervised, especially hazardous materials.

Hard Surfaces

Any footpaths and hard surfaces will utilise infiltration systems as far as practicable, for example, by utilising porous paving solutions.

Duty of Care for Waste

The developer must comply with the Duty of Care Regulations and has a legal responsibility to ensure controlled waste is produced, stored, transported and disposed of without harming the environment. This involves:

- Accurately describing waste, including any hazardous properties;
- Safe and secure storage of waste;
- Segregation of recyclable waste;
- Segregation of hazardous/special waste; and
- The use of a registered waste carrier to remove waste from your site.

4.3.2. Good Construction Practices for Mammals

Any open trenches, steep sided holes and excavations associated with the development will either be closed and covered at night, or a means of escape provided (e.g. plank or reinforced plywood board over 60cm wide at no greater angle than 30° or gently graded site wall of the same angle or equivalent) to prevent any badgers, hedgehogs or other animals falling in and becoming trapped). Any exposed pipes and trenches must be checked for trapped wildlife each morning before starting construction activities.

4.3.3. Protective Measures for Adjacent Woodland

The adjacent woodland by the Nant y Gwyddyl will be protected and securely fenced-off with appropriate temporary fencing (e.g. 'Heras' fencing) and treated in accordance with British Standard BS5837(2012) Trees in Relation to Design, Demolition and Construction – Recommendations. The retained fenceline will be 2m for the centreline of the woodland. Fences will be erected prior to the commencement of construction work and will left in place until development completion. These protective measures will prevent any accidental damage to the woodland and mitigate potential direct impacts to any protected or priority species that may be utilising the habitat, including dormice, nesting birds, reptiles and hedgehogs.

Any future developments will avoid clearance or breaching of the woodland. This will help to maintain the biodiversity value and ecological connectivity of the site and reduce the potential requirements for further protected species or breeding bird surveys.

The fencing will be installed under supervision of an ecologist to ensure that a suitable buffer is retained around the woodland habitats.

4.4. Measures to Avoid Disturbing, Injuring or Killing Bats

The implementation of the following precautionary measures will minimise the potential for disturbing, injuring or killing bats during works.

4.4.1. Installation of Bat Boxes for Bat Displaced During Works

In advance of the works, one Vivara Pro WoodStone bat box will be installed on T1 to provide compensatory alternative roosting habitats during the construction period for any vesper bats which may be displaced as a result of the works (see Appendix 12).

The bat box will be installed at 3m above ground level. The box will be clear of obstructions such as branches, and so some may need to be trimmed off or otherwise the bat box carefully positioned. The bat box will be positioned away from horizontal branches directly below or above the bat box which could easily be accessed by cats. Where applicable, the bat boxes should utilise straps rather than nails to avoid damaging trees.

4.4.2. Timing of Works

The works will commence during October to November or March to April to avoid the active bat season of May to September and the core hibernation period of December to February, to minimise disturbance to bats. This timescale would also eliminate the risk of causing accidental harm to nesting birds.

4.4.3. Site Induction/Toolbox Talk

Prior to the start of works, a suitably qualified bat ecologist will deliver a 'tool-box talk' to all contractors undertaking works that could affect bats. All site workers will be made aware of the role of the ecologist and briefed on the legal status of bats, the likely places to find them, the working practices that will be undertaken to minimise and avoid harming or disturbing bats (e.g. the procedure required for removing tiles etc.), the action to be taken if bats are encountered during the works and that all activities relating to bats and bat roosts are restricted to the terms and conditions of the licence.

All site workers will be made aware that in the event of bats (or occupied birds' nests) being found, or suspected, when the ecologist is not on site, all works must stop in the affected area until appropriate expert advice sought from the bat ecologist or NRW. A copy of the NRW licence and the Bat Licence Method Statement will remain on site at all times and a summary sheet of guidance will be given to the contractors working on site.

4.4.4. Ecological On-site Supervision of Works/Soft Strip

A licensed bat worker will supervise the 'soft strip' whereby all features with bat roosting potential will be exposed and removed. This will include (but not be limited to) the ridge tiles, roof tiles, roofing felt, soffit, fascias and bargeboards etc. The tiles and any associated timbers must be lifted off vertically (and not rolled or sprung), and checked on their underside to ensure that no bats are clinging to the underside. This will minimise the chance of bats being killed/injured.

Any removal work will be undertaken using hand tools, (i.e. picks, crowbars, slate rippers, bow saws etc.). These features will be carefully removed by hand and contractors will check for the possible presence of bats on the undersides of these features before they are lifted off, prior to discarding or storing them.

During the soft strip process, any cracks or crevices that have the potential to be used by bats will be inspected by a licensed bat worker using a high-powered torch to ensure they are not in use. Cavities will be carefully prised open using a crowbar.

4.4.5. Bat Discovery Action Plan

Vesper Bats

If vesper bats are encountered during supervised works, the licensed bat handler will capture the bat/s with thin gloved hands or a hand-held net, conduct a health check and then place it in a drawstring calico cloth bag. Removed bats will be temporarily transferred to a well-ventilated container. The removed bat will then be transferred into a species-specific bat box that was fixed at a suitable location before works commenced. The access point of the bat box will be blocked with a cloth or other suitable material until the working day has been completed. This will allow the bat/s to settle in a safe place for the remainder of the day, and to emerge safely in the evening. Any injured bats or bats requiring supplementary feeding will be immediately taken into care.

If a bat is discovered during unsupervised times when the ecologist is not present, work will cease immediately, and the bat ecologist will be consulted for advice or attend the site. If it is not possible to contact the bat worker, the NRW Species Protection Officer must be contacted immediately and their advice sought.

If individual bats species not covered by the licence are discovered unexpectedly, works to that building/structure must stop immediately²⁷. The Named Ecologist will re-assess the structure and determine whether works can continue under this licence, or whether a modification/amendment to the licence is required prior to works recommencing. A written record will be kept of this decision and be made available to NRW or any police officer on request. This incidence will also be reported on the licence return form.

Horseshoe Bats

Prior to the commencement of works, the Named Ecologist will conduct a thorough internal inspection for the presence of horseshoe bats. If a horseshoe bat is encountered, it will be left undisturbed during daylight an emergence survey will be undertaken After all bats have dispersed overnight, the void will be closed and the access points sealed (windows, doors, etc.) by use of boarding, sealed tarpaulin or similar. If all bats have not emerged, the Named Ecologist will either use torchlight and non-tactile human presence to disturb the bat to encourage it to emerge and disperse, during night only, or through use of a handheld net. Only after all bats have emerged from the building or void will it be sealed.

The works including the supervised soft strip will then proceed as soon as possible.

Reduction in Risk of Humann to Bat Disease Transmission

²⁷ If the roost already been destroyed by the amount of tiles that have been removed and the bat will be very exposed to rain and wind, it may be most appropriate from a bat welfare point of view to install another bat box which the bat is re-homed to rather than waiting for a response from NRW.

To reduce the risk of human-to-bat transmission of Covid-19, the licensed bat handler will wear gloves and a face mask, use disinfectant regularly and efforts will be made to minimise contact by conducting a swift health check and transfer of the bat to the bat box.

4.5. Mitigation Measures

4.5.1. Bats

A suitably qualified and experienced bat ecologist will oversee the installation of all aspects of the bat mitigation. A summary of the proposed mitigation is given in the table below:

Bat species	Proposed Mitigation/Compensation Measures
Common pipistrelle	• One Vivara Pro WoodStone bat box on T1; • Retention of eight gaps within the stone work; ; and • Two bat access slates on the roof of the single storey northern extension.
Lesser horseshoe	• Bat loft; • Dormer access window; and • Baffle within loft void
Additional requirements	• Installation of 1F black bitumen roofing felt; • Bat mitigation check; and • 'Dark corridor' sensitive lighting strategy.

Retention of Crevices

Four gaps within the external walls will be retained on both the southern front and northern rear. This will include the emergence point of the common pipistrelle on the southern front of b1, east of the middle window.

Bat Access Slates

Two purpose-built bat access slates will be installed in the single storey northern extension to allow crevice-dwelling bats to roost in between slates and roofing felt (see Plan 8 and Appendix 13).

Bat Loft

To mitigate/compensate for the modification of the existing bat roost a new dedicated bat loft with dimensions of a height of 3m, a width of 6m and a length of 8m will be created in part of the roof space of the converted building (see Plan 8C and 8D).

Any internal exposed woodwork will be left with a rough surface allowing bats to cling on. Roughened timber cross-battens will be secured to the battens, will also be attached to rafters and walls to provide extra roosting opportunities and increase the range of crevices and niches available. The interior void will remain uncluttered.

Access for the lesser horseshoe bats into the dedicated bat loft will be via a custom-built 'dormer' opening which leads directly into the void interior. The entrance will be sloped down outwards with waterproofing (e.g. lead lining) below to minimise access by rain. The entrance will have dimensions of 300mm wide and 200m high.

A single baffle will sit 50cm beyond the opening. The baffle will be made from timber boards and painted black (see Appendix 15).

The bat loft will be lined internally with 1F black bitumen felt which complies with BS8747:20072 and BS 5250:2011. Non-woven roofing underlay (NWRU), or 'breathable membranes' (BRM)³ as they are also known, will be avoided as they tend to rip due to wear and can give rise to dislodged fibres (spun-bond polypropylene) which can entrap bats.

Bat Mitigation Check

On completion of work, confirmation of the works carried out and photographs of the works including retained access points and the bat mitigation features will be recorded by a licensed ecologist and submitted to NRW. The bat mitigation features will be checked by a bat worker to ensure that they are not obstructed or illuminated, and that they provide the intended access points.

Post-development monitoring of the works will be undertaken for two years (in years one²⁸ and three), following implementation of the mitigation measures and will consist of an internal and external inspection and one dusk emergence survey undertaken between May and September by suitably qualified ecologist. A report will be submitted to the Local Planning Authority and NRW following completion of the monitoring surveys. The report will detail any remedial measures required. If the first year of monitoring shows that bats are occupying the building in similar numbers to those found before the work was undertaken for all of the species identified, no further monitoring will be considered necessary. If no bats are found roosting, or they are present in significantly lower numbers, further monitoring will be undertaken in year three. A report will be submitted to the Local Planning Authority and NRW following completion of the monitoring surveys. The report will detail any remedial measures required.

Long-term Security and Management

The installed bat roosting features will be owned and maintained in perpetuity by the owners, with future occupiers being made aware of their purpose, function and importance by the developed at the point of sale. The owner will fund long-term maintenance of the roost.

4.5.2. Sensitive Lighting Strategy

The lighting design for the site will be of a dormice and bat 'friendly' specification and kept to the minimum level which meets the needs of security and health and safety. The unnecessary lighting of habitats which could potentially be used by foraging bats such as nearby trees, hedgerows etc. will be avoided. External lighting will be installed at low-level only (i.e., no higher than eaves level and lower than 2.4m) and directed downward (i.e., below the horizontal plane with no upward tilt). Fully shielded lights with front and side hoods/shields or cowls will be installed to prevent upwards and horizontal light spill.

²⁸ Year 0 is the year when works are completed.

Lighting will not be in the vicinity of or shine towards the bat access points or possible/actual commuting routes and flight lines, so that a 'dark corridor' is maintained and disturbance to roosting bats avoided/minimised. Any security lights used will operate off a passive infrared (PIR) motion sensor sensitive to large objects only, to avoid constant triggers by bat passes and with timers set on a short duration (i.e., a maximum 'on' time of one minute) to reduce the amount of 'lit time'. The bulbs in the lights will ideally be low intensity (i.e., circa 11 watts), and red, amber or warm light (<2700Kelvin²⁴) LED bulbs. The bulbs will feature peak wavelengths 550nm or greater. White, blue and green²⁵ lighting sources including mercury or metal halide, CPO and CDO (ceramic discharge metal-halide) bulbs which have a significant effect on bats will be avoided.

The outlined dark corridor can be seen in Plan 7, suitable light fixtures are outlined in Appendix 11.

4.6. Longevity of Report

If development works do not begin within twelve to eighteen months of the date of this report of this report, an update survey is likely to be required in accordance with guidance from NRW²⁹ (CIEEM, 2019) and BS 42020:2013³⁰, to determine if conditions have changed since those described in this report.

4.7. Conclusions

The full extent of ecological impacts and potential constraints of the proposed development cannot be fully determined, based on the results of the preliminary ecological appraisal survey alone. Further survey work will be required before such assessments can be comprehensively made, as detailed in Section 4.2.

²⁹ As set out in Point 5 of the NRW *Bat Surveys - Frequently Asked Questions* and Point 4 of the guidance included within the NRW European Protected Species Development Application Form.

³⁰ As set out in Section 6.2.1, point 7 which states that ecological information should not normally be more than two/three years old, or as stipulated in good practice guidance).

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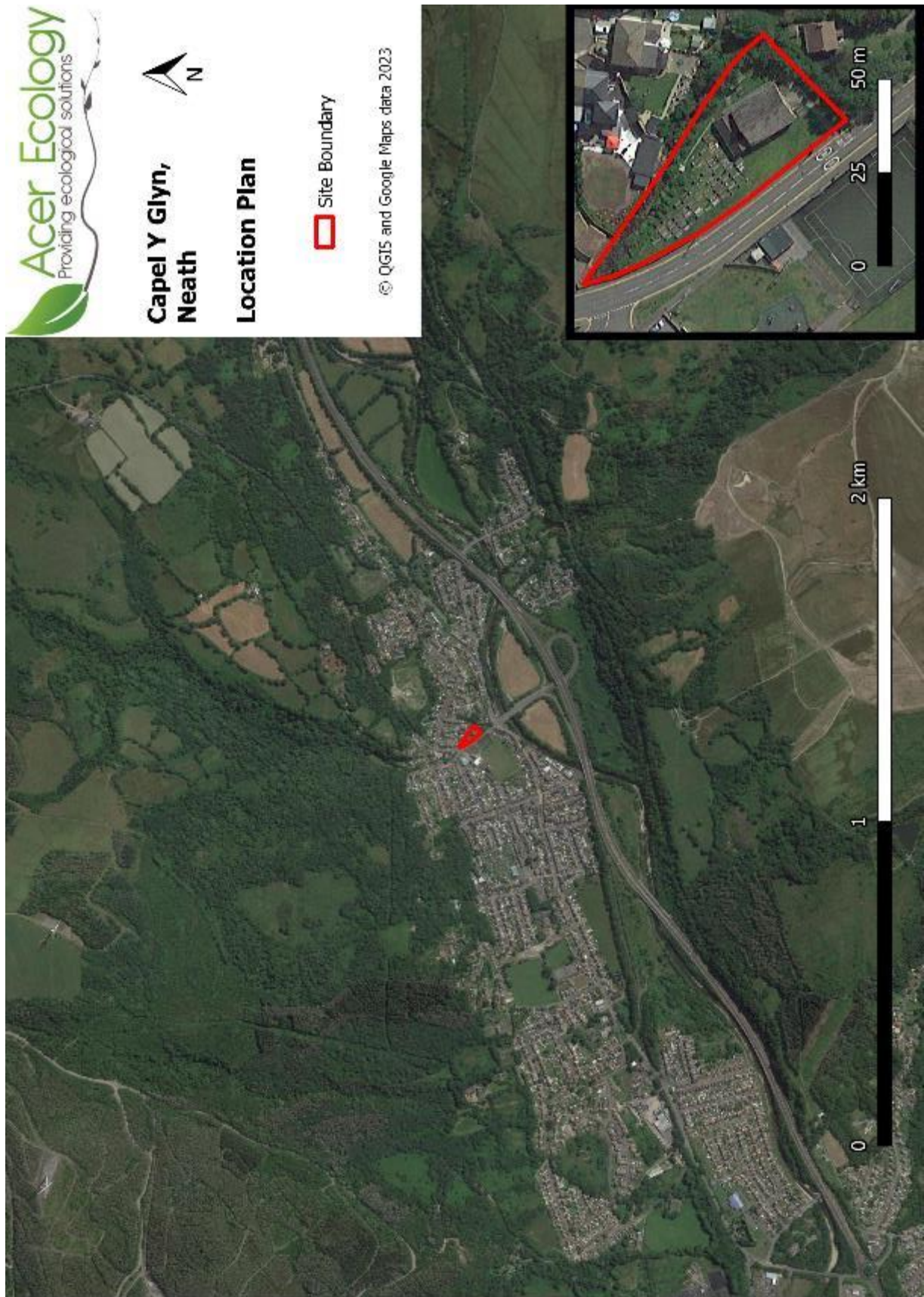
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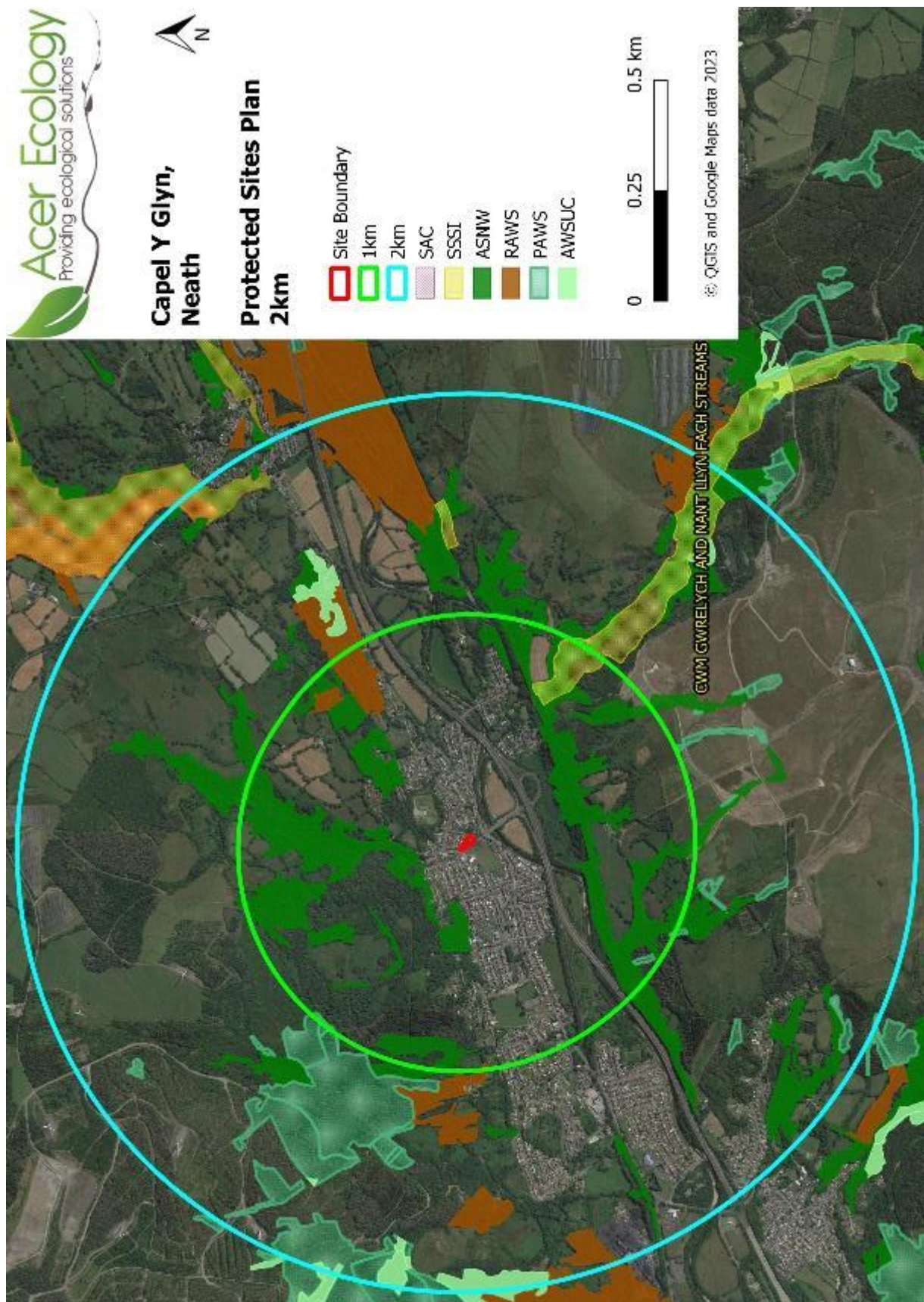
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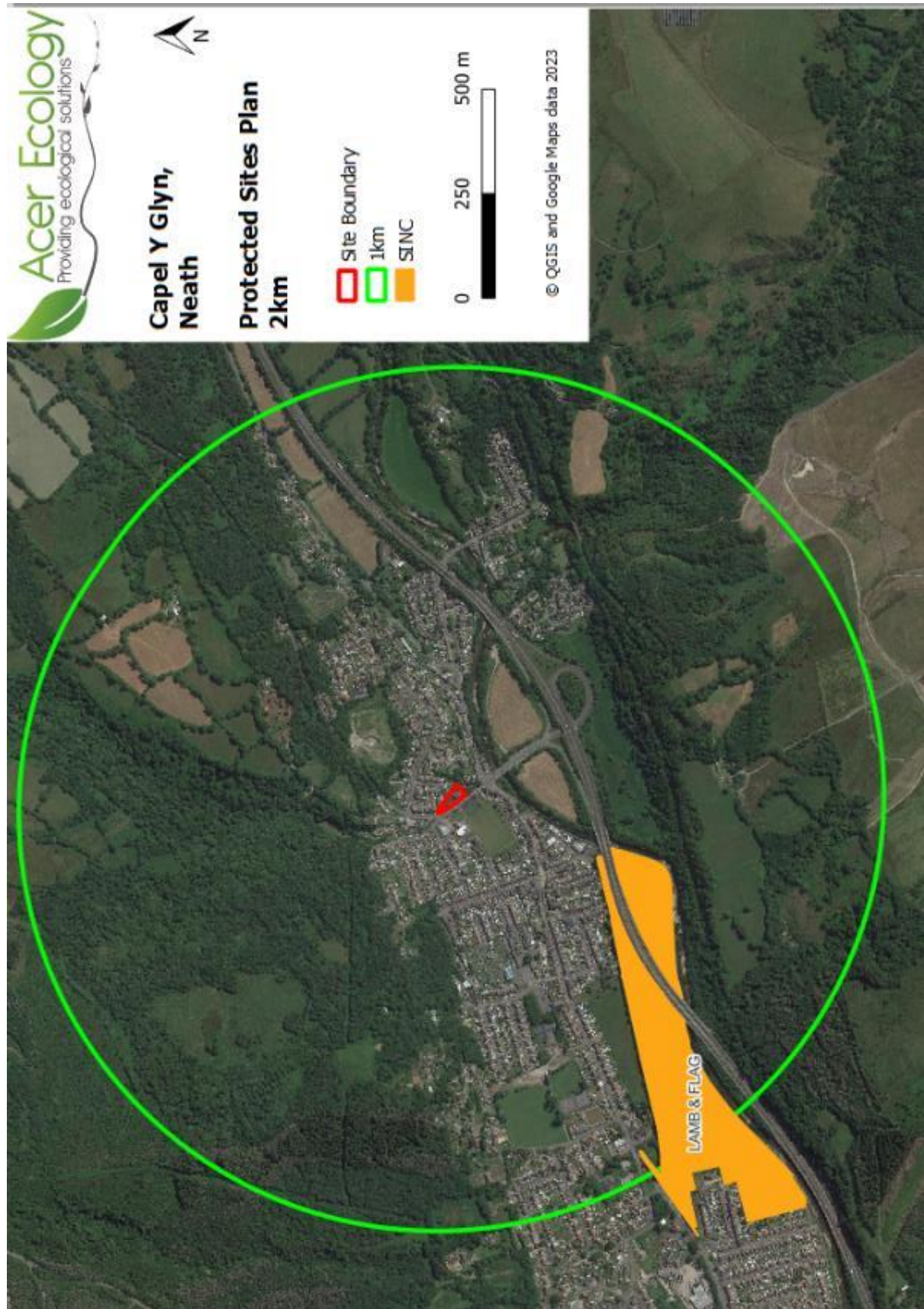
Plan 1: Site Location



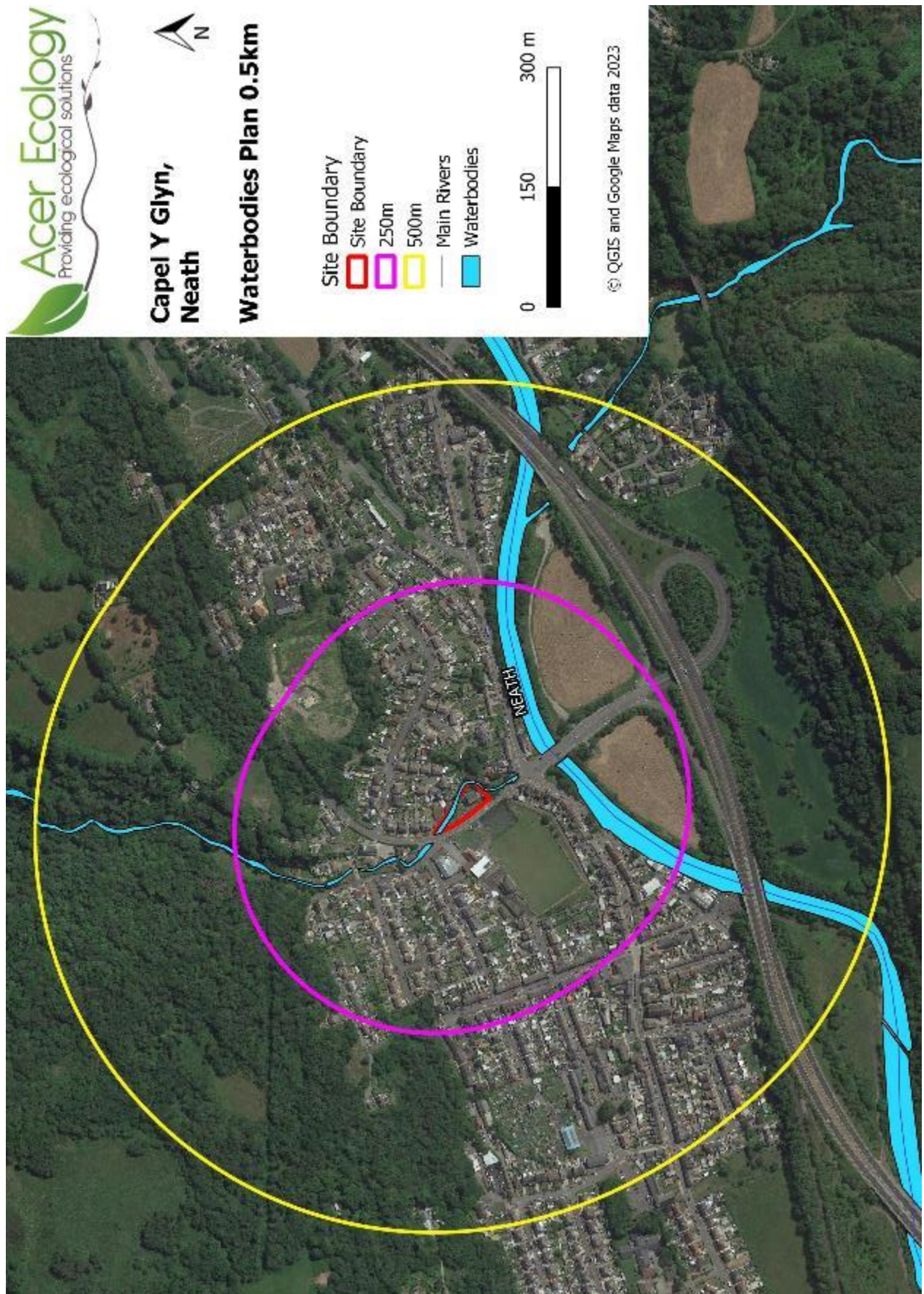
Plan 2: Site Location and Protected Sites (2km Buffer)



Plan 3: Site Location and SINCS (0.5km Buffer)

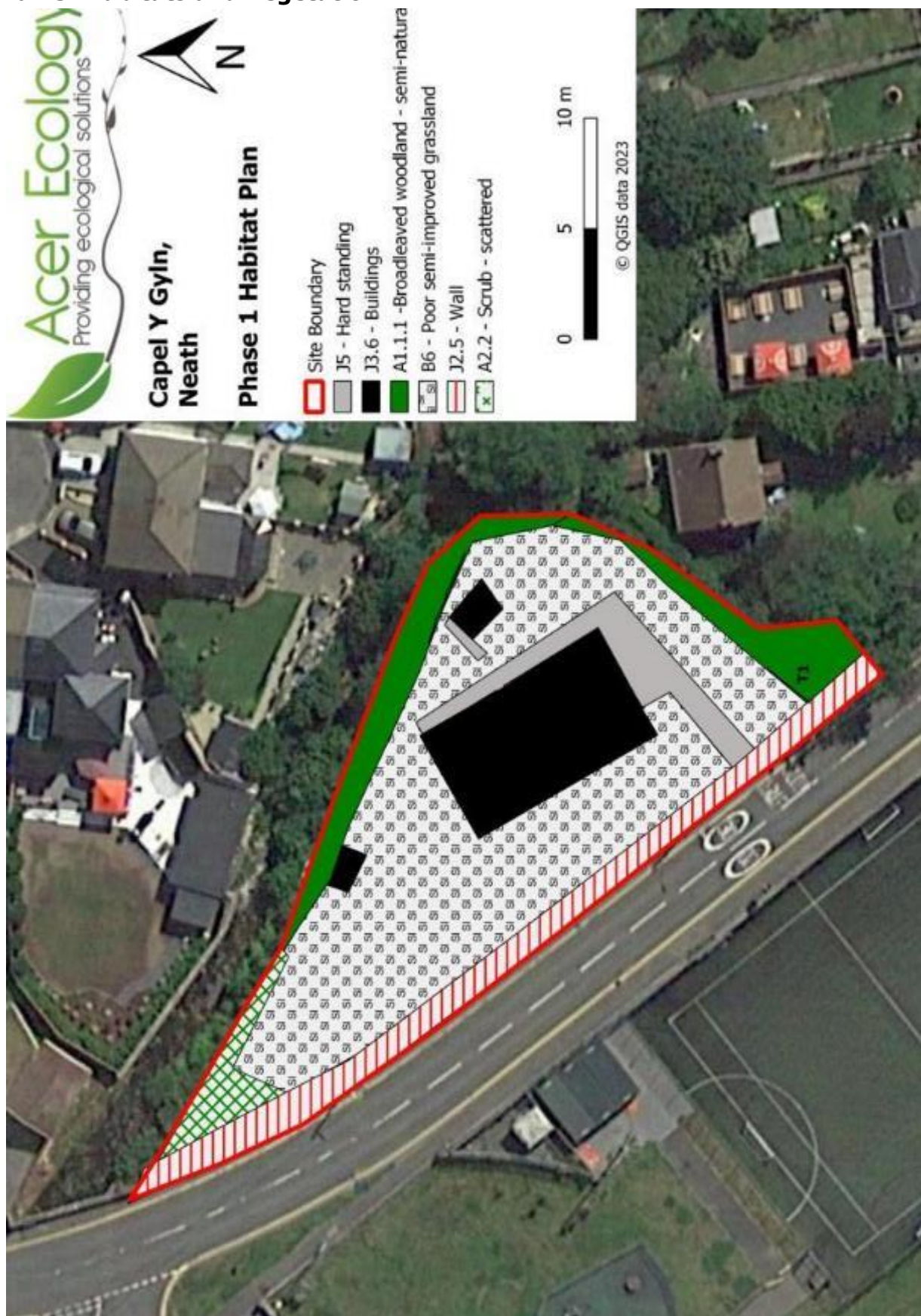


Plan 4: Location of Water Bodies within 0.5km of Site



Acer Ecology

Plan 5: Habitats and Vegetation

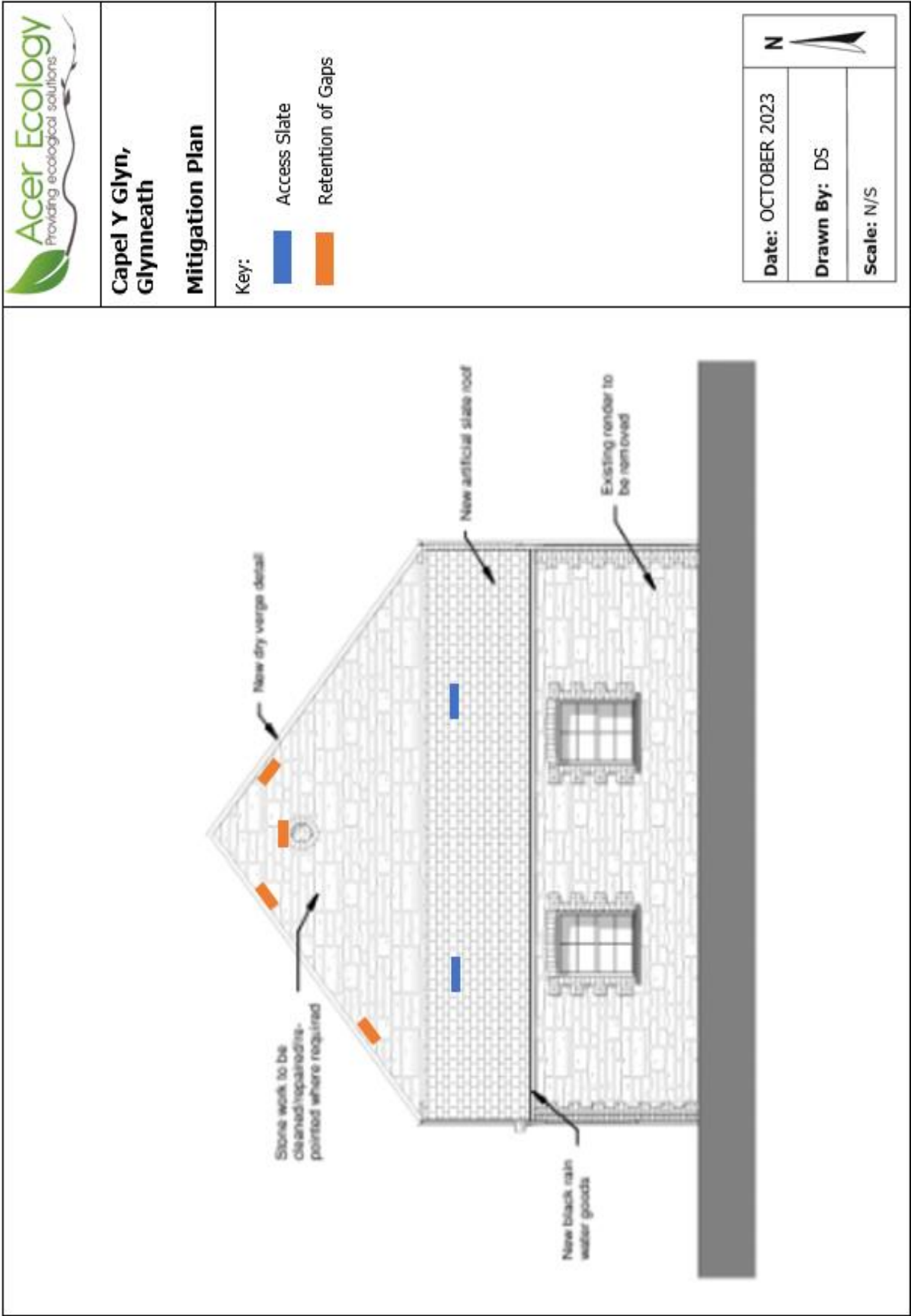






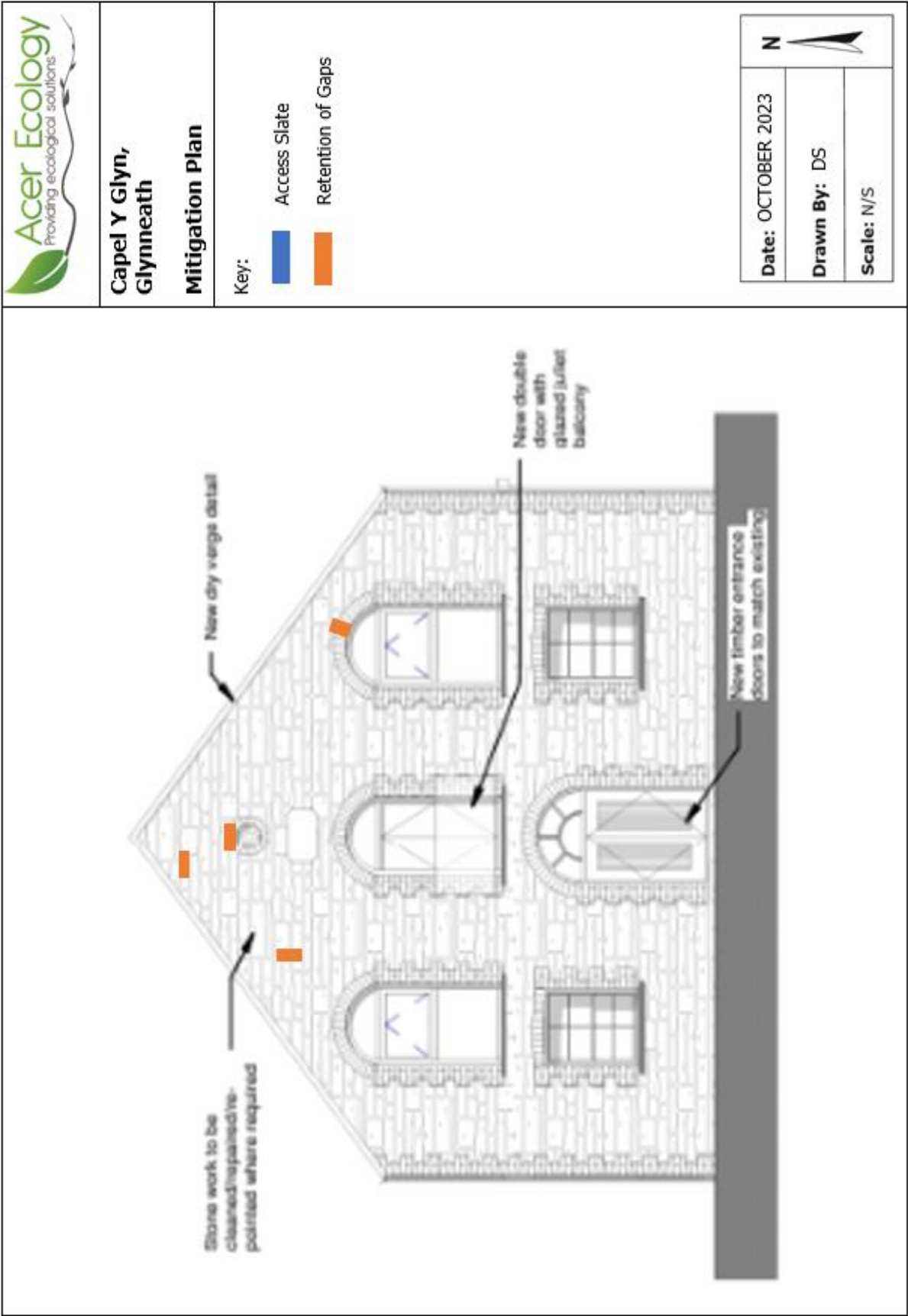
Plan 7: External Lighting

Plan 8A: Mitigation Plan – Northern Rear



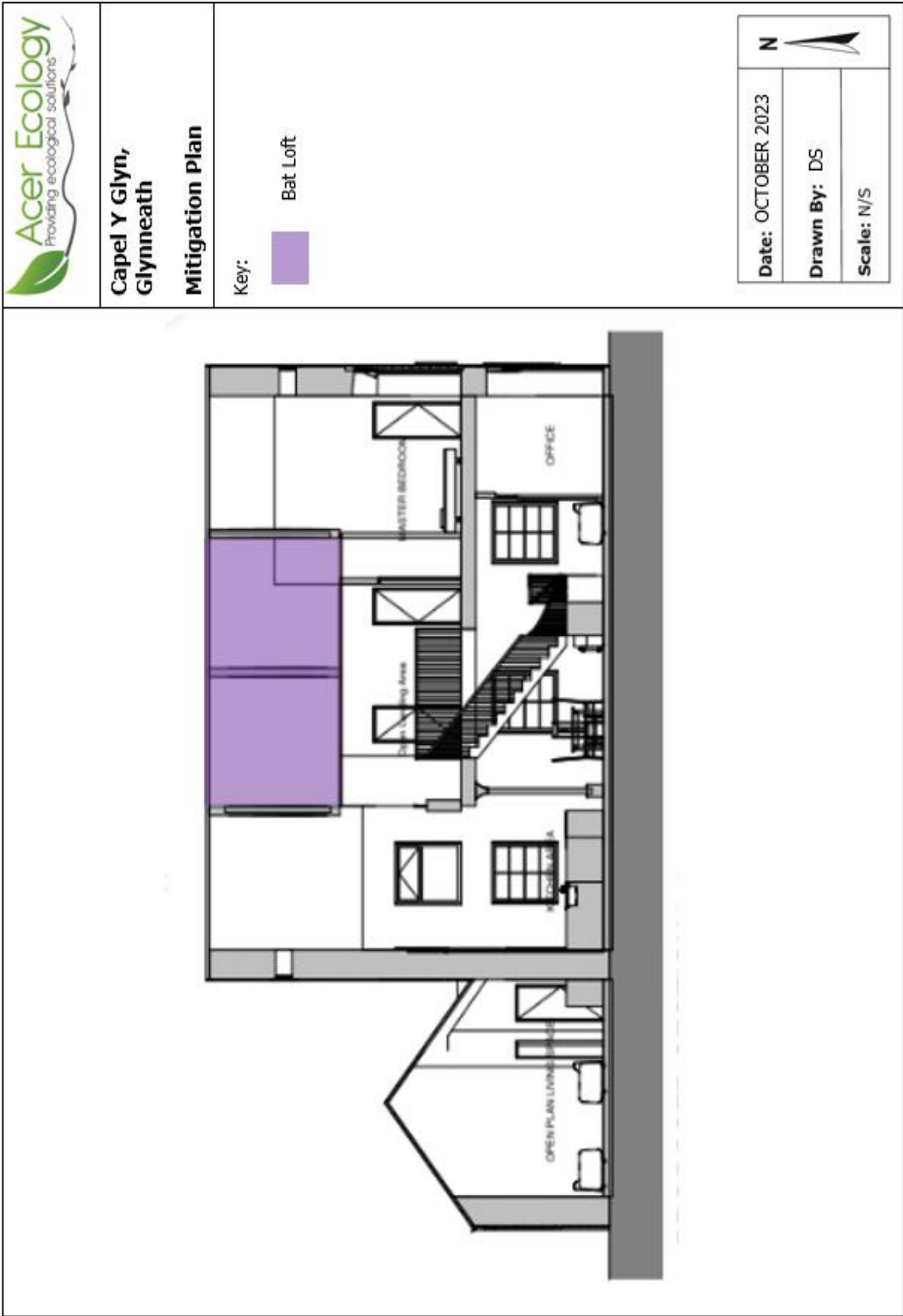
Acer Ecology

Plan 8B: Mitigation Plan – Southern Front



Acer Ecology

Plan 8C: Mitigation Plan – Bat Loft Void Plan

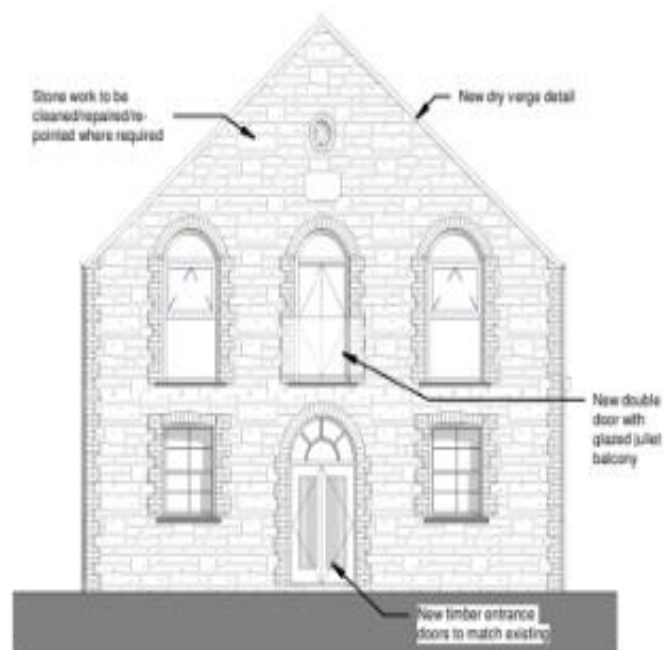


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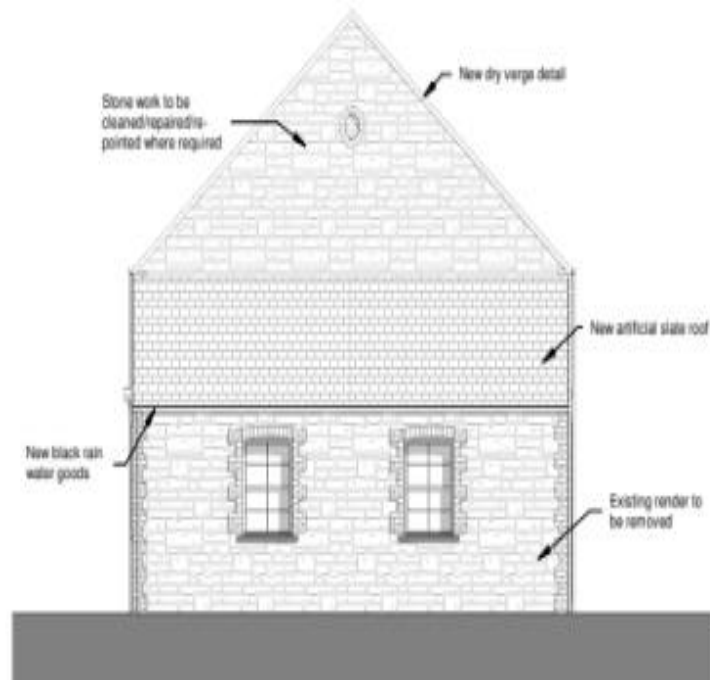
Plan 8D: Mitigation Plan – Bat Loft Western Side



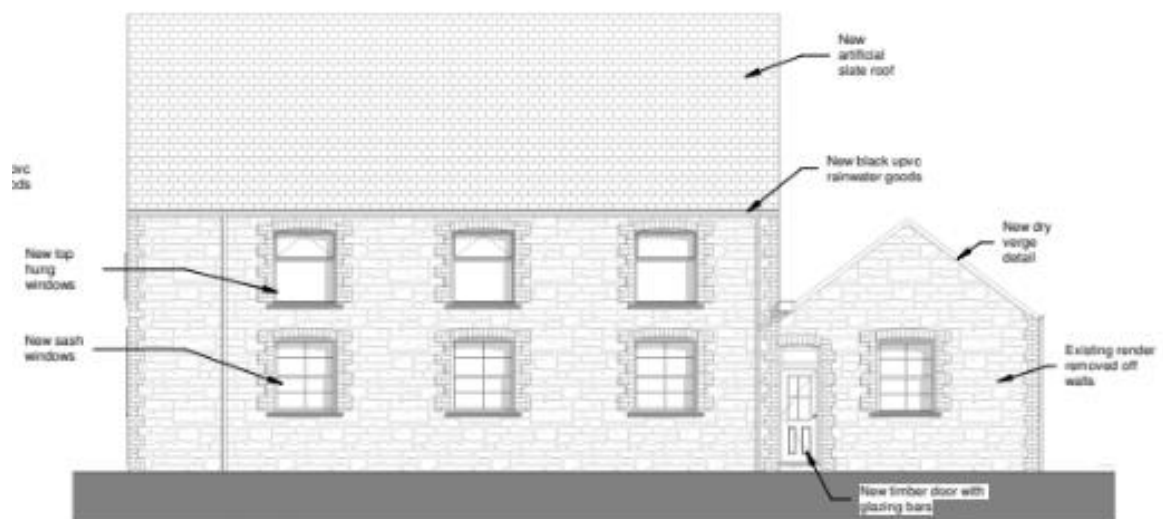
Appendix 2B: Proposed Elevations



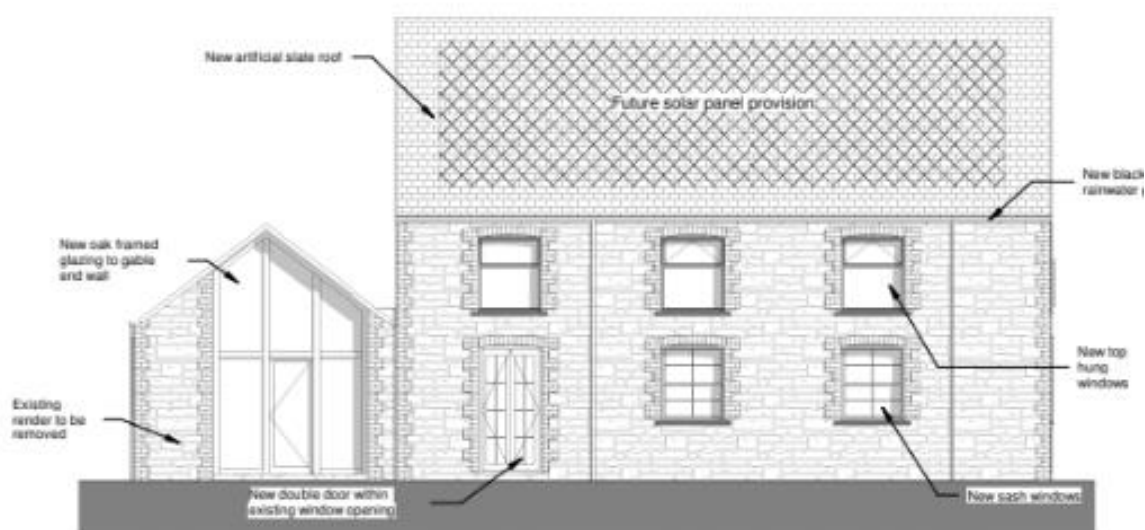
Proposed Southern Front



Proposed Northern Rear



Proposed Eastern Side



Proposed Western Side

Appendix 2: Legislation and Policy Relating to Statutory and Non-Statutory Designated Sites and Planning Policy Relevant to Site

SACs

SACs are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds). Of the Annex I habitat types, 78 are believed to occur in the UK. Of the Annex II species, 43 are native to, and normally resident in, the UK.

Development proposals within 10km of an SAC must be subject to Habitats Regulations Assessment's (HRA). If the LPA determine that a significant effect is likely, then it will be necessary to undertake an Appropriate Assessment³¹.

³¹ For more information, consult 'Assessing Projects Under the Habitats Directive' David Tyldesley (2011) for CCW

SSSIs

SSSIs are important as they support habitats and/or species of national importance. SSSIs are legally protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006, and are of national (second tier) biodiversity significance and form the essential building blocks of the United Kingdom's protected areas for nature conservation. Many are also designated as Natura sites i.e. internationally (first tier) designated sites. It is an offence for any person to intentionally or recklessly damage the protected natural features of a SSSI.

SINCs

SINCs are a class of nature conservation designations collectively referred to as 'Wildlife Sites'. Wildlife Sites are so-called 'third tier' sites, generally ranked below sites which are of international (first tier) or national (second tier) biodiversity significance, but which are considered to have '*substantive nature conservation value*' at the regional or district level. They are usually designated at the county or county borough level by the relevant local planning authority, and are recognised as a planning constraint in the relevant statutory development plan.

The framework for the identification and designation of 'Wildlife Sites' is set out in various Government documents, and is referred to in *Planning Policy Wales* (2021) and *Technical Advice Note (Wales) 5: Nature Conservation & Planning*. Defra published *Local Sites: Guidance on their identification, selection and management in 2006*³².

Environment (Wales) Act 2016

The Environment (Wales) Act Section 6 duty, or the Biodiversity Duty, requires public authorities to seek to maintain and enhance biodiversity and in so doing promote the resilience of ecosystems. In fulfilling this duty, planning authorities must have regard to the list of habitats and species of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016.

The Section 6 duty requires that developments should not be permitted which result in net loss of value to biodiversity, and must seek to achieve biodiversity net gain. Where net loss cannot be achieved through avoidance or mitigation, compensation is required.

Future Wales - the National Plan 2040

Future Wales is the national development framework, setting the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-

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<https://webarchive.nationalarchives.gov.uk/ukgwa/20111108175609/http://archive.defra.gov.uk/rural/documents/protected/localsites.pdf>

resilience, developing strong ecosystems and improving the health and well-being of our communities. Future Wales - the national plan 2040 is the national development framework and it is the highest tier plan, setting the direction for development in Wales to 2040. It is a framework which will be built on by Strategic Development Plans at a regional level and Local Development Plans. Planning decisions at every level of the planning system in Wales must be taken in accordance with the development plan as a whole.

National Planning Policy Wales (2021)

The primary objective of PPW is to ensure the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation.

Planning Policy Wales (PPW) Edition 11 - 24th Feb 2021 states that planning authorities must follow a stepwise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible. The first priority for planning authorities is to avoid damage to biodiversity and ecosystem functioning. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites that would result in less harm, no harm or gain have been fully considered.

Neath Port Talbot Local Development Plan³³

Biodiversity net-gain policy is not specifically mentioned however policy EN 6 states that development must '*conserve and where possible enhance the natural heritage importance of the site or mitigation measures will need to be agreed*'. The Local Biodiversity Action Plan (2014) focuses to '*achieve no net loss of listed habit and species, and a gain in the (perceived or actual) extent / population of listed habitats and species*' (pg.15).

Relevant ecological policies include:

- SP15 Biodiversity and Geodiversity
- SP16 Environmental Protection
- EN7 Important Natural Features

Biodiversity Net Gain

Net benefit for biodiversity Planning Policy Wales (PPW) 11 sets out that "*planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity*" (NBB) (para 6.4.5 refers). This policy and subsequent policies in Chapter 6 of PPW 11 respond to the Section 6 Duty of the Environment (Wales) Act 2016.

³³ Neath Port Talbot County Borough Council (2016) Neath Port Talbot County Borough Council Local Development Plan.

DECCA is the framework that Natural Resources Wales (NRW) has developed for evaluating ecosystem resilience to demonstrate NBB34. This is based on five attributes:

- Diversity;
- Extent;
- Condition;
- Connectivity; and
- Aspects of ecosystem resilience

Appendix 3: Protected and Invasive Species Legislation Relevant to Site

Birds

All wild British birds (while nesting, building nests and sitting on eggs), their nests and eggs (with certain limited exceptions) are protected by law under Section 1 of the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. Included in this protection are all nests (at whatever stage of construction or use) and all dependent young until the nest is abandoned and the young have fledged and become independent. Particularly rare species such as barn owl (*Tyto alba*) are listed on Schedule 1 which gives them additional protection from disturbance whilst nest building, whilst near a nest with eggs or young, or from disturbing the dependent young.

Section 10.8 of the Conservation of Habitats and Species Regulations 2017 state that Local authorities must use all reasonable endeavours to avoid any deterioration of habitats of wild birds.

Bats

All species of bats and their roosting sites are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 which continues to apply in UK law through the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019.

All species of UK bats are designated as ‘European protected species’. Seven species of bat (soprano pipistrelle (*Pipistrellus pygmaeus*), barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*), lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe bats (*Rhinolophus ferrumequinum*)) are listed under Section 7 of the Environment (Wales) Act 2016 as being of principal importance for maintaining and enhancing biodiversity in Wales.

Dormice

Dormice are a ‘European protected species’ and afforded full protection under UK legislation. Dormice are listed under section 7 of the Environment (Wales) Act 2016 as being of principal importance for maintaining and enhancing biodiversity in Wales. Since 2000, the UK population has declined by over a half (51%), decreasing on average by 3.8% per year (PTES, 2019).

Otters

Otters are a ‘European Protected Species’. Their breeding sites or resting places³⁵ are fully protected under UK legislation. Otter is a priority species in Wales Under Section 7 of the Environment (Wales) Act 2016.

³⁵ Resting places are defined as ‘areas that are essential to sustain an animal or group of animals when they are not active’ (Anon 2007).

Water Voles

Water voles are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which prohibits the deliberate killing or injury of individuals, damaging, destroying or blocking access to their places of protection (either intentionally or through ignorance), disturbing them in a place of shelter, or possessing them. The habitats of common water voles are not specifically protected. Water voles are listed as a priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

White-clawed Crayfish

White-clawed crayfish are listed in the Habitat's and Species Directive (Annex 2 non-priority species) and are listed in Wales under Schedule 5 of the Wildlife and Countryside Act (1981). They are also listed as priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

Badgers

Badgers are protected under the Protection of Badgers Act 1992. Protection applies both to the animal itself and to its nesting burrows (setts), and current interpretation of the Act also confers some protection to key foraging areas.

Reptiles

With the exception of smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) (which are afforded greater protection), common reptiles are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are given so-called 'partial protection', which prohibits the deliberate killing or injury of individuals. The habitats of common reptiles are not specifically protected. These species are listed as priority species in Wales under Section 7 of the Environment (Wales) Act 2016.

Hedgehogs

Hedgehogs are listed as a Red List mammal species in Britain and are protected under Schedule 6 of the Wildlife and Countryside Act (1981). They are "protected from being killed or taken by certain methods under Section 11(1) of the Wildlife and Countryside Act 1981. The methods listed are: self-locking snares, bows, crossbows, explosives (other than ammunition for a firearm), or live decoys. The species listed are also protected from the following activities: trap, snare or net, electrical device for killing or stunning, poisonous, poisoned or stupefying substances or any other gas or smoke, automatic or semi-automatic weapon, device for illuminating a target or sighting device for night shooting, artificial light, mirror or other dazzling device, sound recording, and mechanically propelled vehicle in immediate pursuit. They are also listed as priority species under Section 7 of the Environment (Wales) Act 2016.

The legislation afforded to hedgehogs in Section 7 of the Environment (Wales) Act 2016 means that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper

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exercise of those functions, to the purpose of conserving biodiversity³⁶. In effect, 'conserving biodiversity' includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat.

³⁶ Biodiversity conservation in respect to hedgehogs is interpreted as a commitment to restoring or enhancing their population.

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Appendix 4: Species Recorded

All species recorded by Acer Ecology, 2022

Taxonomic Name	Common Name	W	LM	CG	LDA	PMG	PIL	TF	Status
Trees and Shrubs									
<i>Acer campestre</i>	Field maple	W							
<i>Acer pseudoplatanus</i>	Sycamore								Alien
<i>Berberis vulgaris</i>	Barberry								Cs, alien
<i>Buddleja davidii</i>	Buddleia								Alien
<i>Corylus avellana</i>	Hazel								
<i>Cotoneaster sp</i>	Garden cotoneaster								Alien
<i>Crataegus monogyna</i>	Common hawthorn								
<i>Fraxinus excelsior</i>	Ash								
<i>Ilex aquifolium</i>	Holly								
<i>Rubus fruticosus agg.</i>	Bramble								
<i>Salix caprea</i>	Goat willow								
<i>Ulmus procera</i>	English elm								
<i>Aquilegia sp</i>	Garden columbine								
<i>Asplenium trichomanes</i>	Maidenhair spleenwort								
<i>Cardamine pratensis</i>	Cuckooflower		LM			PMR			
<i>Cymbalaria muralis</i>	Ivy-leaved toadflax								
<i>Deschampsia flexuosa</i>	Wavy hair-grass	W			LDA		PIL		
<i>Fragaria vesca</i>	Wild strawberry								
<i>Geranium molle</i>	Dove's-foot crane's-bill								
<i>Geranium pratense</i>	Meadow crane's-bill		LM						Cs
<i>Geranium robertianum</i>	Herb-robert								
<i>Glechoma hederacea</i>	Ground-ivy								
<i>Hedera helix</i>	Ivy								
<i>Leucanthemum vulgare</i>	Ox-eye daisy		LM						
<i>Lolium perenne</i>	Perennial rye-grass								
<i>Luzula sp</i>	Wood-rush species								
<i>Mercurialis perennis</i>	Dog's mercury	W							
<i>Myosotis arvensis</i>	Field forget-me-not								
<i>Oxalis acetosella</i>	Wood-sorrel	W							
<i>Plantago lanceolata</i>	Ribwort plantain								
<i>Plantago major</i>	Greater plantain								
<i>Primula vulgaris</i>	Primrose	W							Torfaen sap
<i>Pteridium aquilinum</i>	Bracken								
<i>Ranunculus bulbosus</i>	Bulbous buttercup		LM	CG					
<i>Rumex obtusifolius</i>	Broad-leaved dock								
<i>Stellaria media</i>	Common chickweed								

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<i>Taraxacum officinale agg.</i>	Dandelion								
<i>Veronica persica</i>	Common field speedwell								
'Habitat Indicator Species' Totals (Wales Biodiversity Partnership 2008³⁷)		5	4	1	1	1	1	0	
		W	LM	CG	LDA	PMR	PIL	TF	
'Primary' and 'Contributory' Totals (Wales Biodiversity Partnership 2008)		0				0			
		Primary Species				Contributory Species			

Key to Indicator Species (Wales Biodiversity Partnership 2008³⁸)

W - Woodland, LM – Lowland meadow, CG - Calcareous Grassland, LDA – Lowland Dry Acid Grassland, PMR Purple moor-grass and rush pasture, PIL – Post Industrial Land, TF Species-rich Tillage Fields, Margins, PS – Primary Species, CS – Contributory Species [Delete these for sites in England]

SINC Selection

Sites which support one primary species or five contributory species; or habitats which support eight lowland meadow, eight calcareous grassland, seven lowland dry acid grassland, twelve purple moor-grass and rush pasture or eight tillage field and margins indicator species, should be considered for SINC selection. Post-industrial sites supporting 20 or more indicator species from the combined post-industrial land, acid, neutral, calcareous and marshy grassland lists should be also considered for selection.

WCA 5 – Species protected under Schedule 5 of the Wildlife and Countryside Act WCA
9 – Species listed under Schedule 9 of the Wildlife and Countryside Act [Edit status column for invasive species so that it says WCA 9]

³⁷ Wales Biodiversity Partnership (2008) Wildlife Sites Guidance Wales: A Guide to Develop Local Wildlife Systems in Wales. Wales Biodiversity Partnership/Welsh Assembly Government.

Appendix 5: Definitions of Site Value

International Value

Internationally designated or proposed sites such as Ramsar Sites, Special Protection Areas, Biosphere Reserves and Special Areas of Conservation, or non-designated sites meeting criteria for international designation. Sites supporting populations of internationally important species or habitats.

National Value

Nationally designated sites such as Sites of Special Scientific Interest (SSSIs), or non-designated sites meeting SSSI selection criteria (NCC 1989), National Nature Reserves (NNRs) or Nature Conservancy Review (NCR) Grade 1 sites, viable areas of key habitats within the UK Biodiversity Action Plan. Sites supporting viable breeding populations of Red Data Book (RDB) species (excluding scarce species), or supplying critical elements of their habitat requirements.

Regional Value

Sites containing viable areas of threatened habitats listed in a regional Biodiversity Action Plan, comfortably exceeding Site of Importance for Nature Conservation (SINC) criteria, but not meeting SSSI selection criteria. Sites supporting regionally significant areas of BAP habitats or large and viable populations Nationally Scarce species, or those included in the Regional Biodiversity Action Plan on account of their rarity, or supplying critical elements of their habitat requirements.

County Value/District Value

Site identified as a Site of Importance to Nature Conservation (SINC) at the district level; meeting South Wales Wildlife Sites Partnership (SWWSP) 2004 published designation criteria, but falling short of SSSI designation criteria, whether designated as a SINC or not. Ancient woodlands and sites supporting regionally significant areas of UK BAP habitat. Large scale examples of BAP habitats or areas supporting small populations of protected, UK BAP/ LBAP or threatened species (other than badger).

High Local

Habitats which just fail to meet Regional value criteria, but which appreciably enrich the ecological resource of the locality. Sites supporting species which are notable or uncommon in the county; or species which are uncommon, local or habitat-restricted nationally, and which might not otherwise be present in the area. Moderate scale examples of BAP habitats or areas supporting small populations of protected, UK BAP/LBAP or threatened species.

Local Value

Old hedges, woodlands, ponds, significant areas of species-rich grassland, small scale examples of BAP habitats or areas supporting small populations of protected, UK BAP/LBAP or threatened species. Undesignated sites or features which appreciably enrich the habitat resource in the context of their immediate surroundings, parish or neighbourhood (e.g. a species-rich hedgerow). Rare or uncommon species may occur but are not restricted to the site or critically dependent upon it for their survival in the area.

Site Value (within the immediate zone of influence)

Low-grade and widespread habitats. Woodland plantations, structured planting, small areas of species-rich grassland and other species-rich habitats not included in the UK or Local BAP.

Negligible

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No apparent nature conservation value.

Appendix 6: Guidelines for Assessing Potential Suitability of Proposed Development Site for Bats

Suitability	Commuting and Foraging Habitat
Negligible	Negligible habitat features on-site likely to be used by commuting and foraging bats.
Low	<u>Commuting Habitat</u> Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. <u>Foraging Habitat</u> Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	<u>Commuting Habitat</u> Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. <u>Foraging Habitat</u> Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	<u>Commuting Habitat</u> Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. <u>Foraging Habitat</u> High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. <u>Proximity to Known Bat Roosts</u> Site is close to and connected to known roosts.

Appendix 7: Guidelines for Assessing Potential Suitability of Proposed Development Site for Bats ³⁹

Suitability	Description of Roosting Habitat	Commuting and Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting and foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection appropriate conditions⁴⁰ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity) or hibernation⁴¹. A tree of sufficient size and age to contain PRFs but with none seen from the ground⁴².	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

³⁹ Table 4.1 in Collins (2016)

⁴⁰ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

⁴¹ Evidence from the Netherlands, shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for large numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

⁴² This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Appendix 8: Bat Survey Protocol for Trees Affected by Arboricultural Work

The trees were assigned to the following categories:

Suitability	Description of Roosting Habitat	Commuting and Foraging Habitat
Negligible		Negligible habitat features on site likely to be used by commuting and foraging bats.
Low	A tree of sufficient size and age to contain PRFs but with none seen from the ground ⁴³ .	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

⁴³ This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

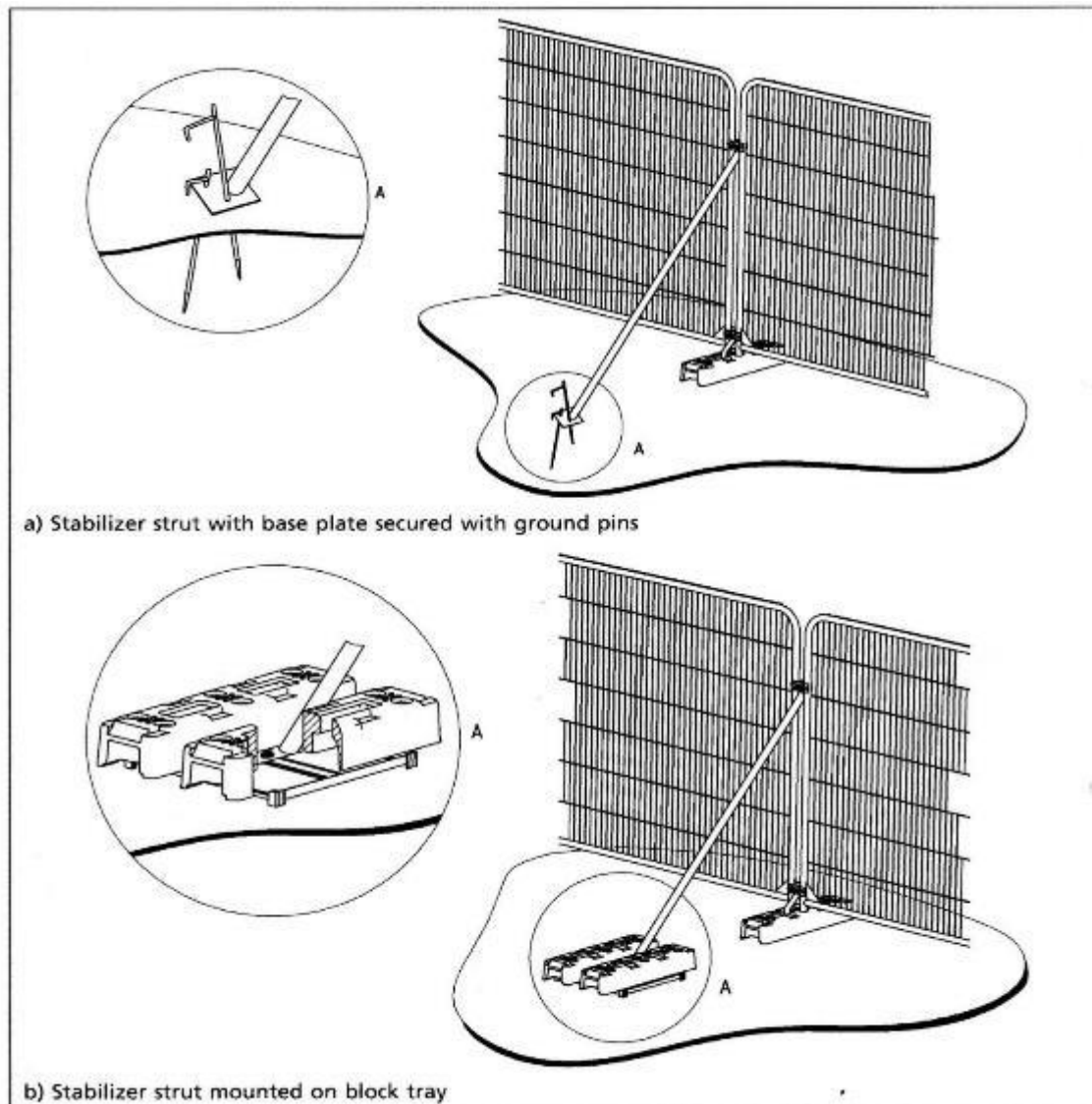
Appendix 9: Minimum Number of Dusk Emergence and Dawn Re-entry Surveys Required ⁴⁴

High Roost Suitability	Moderate Roost Suitability	Low Roost Suitability
Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. Surveys should be undertaken from May to September with at least two of the surveys from May to August.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey ⁴⁵ . Surveys should be undertaken from May to September with at least one of the survey between May and August.	One survey visit. One dusk emergence or dawn re-entry survey (Survey period is from May to August).

Note: Table is reproduced from Collins 2016

⁴⁴ Multiple survey should be spread out to sample as much of the survey period as possible; It is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk survey is considered only one visit.

Appendix 10: Protective Fencing – Retained Habitat



Appendix 11: Bat Friendly Lighting

	Description
	Light fitting sourced from http://www.energylightbulbs.co.uk/products/single-outdoor-wall-with-pir-movement-sensor-stainless-steel?gclid=CLuf2c63hM4CFYVAGwod0sYPvg
	Light fitting sourced from https://www.screwfix.com/p/lap-bronx-outdoor-wall-light-black/7323r
	Lighting sourced from https://energylightbulbs.co.uk/outdoor-lighting/single-wall-lights/black-single-wall-lights/single-outdoor-wall-light-black-stainless-steel-ip65-zlc076b https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/#!/Bronze-Outdoor-LED-Wall-Lantern-Sconce/p/50117847/category=12541418
	Light fitting sourced from https://energylightbulbs.co.uk/outdoor-lighting/single-wall-lights/black-single-wall-lights/cone-shape-outdoor-wall-light-stainless-steel-black-finish-exterior-single-downlight-zlc068b
	Lighting sourced from https://www.dunelm.com/product/houston-outdoor-wall-light-1000189390?defaultSkuId=30730458
	Lighting sourced from https://www.lights.co.uk/lindby-jarte-led-outdoor-wall-light-23-9-cm-down.html?gclid=Cj0KCQiAys2MBhDOARIsAFF1D1cN-g6FdvDbjkJcq57t5Ym6RuP5BjnsVPsMI465W2D8SILoTRmA5kaAkHZEALw_wcB&gclsrc=aw.ds
	Lighting sourced from http://www.theopenboxshop.com/hampton-bay-lexington-collection-outdoor-rustic-bronze-led-medium-wall-lantern/ Note: bulb is in unit above glass casing.

A tool for finding 'bat-friendly' lighting is available at <https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/> although the majority of suppliers are based in America

Appendix 12: Vivara Pro Woodstone Bat Box



The Vivara Pro WoodStone Bat Box is a hard-wearing bat box. It is made from WoodStone, a mixture of wood fibres from fully certified FSC wood sources and concrete, and it is designed to last for years.

It is breathable so there will be no problems with condensation and WoodStone maintains a consistent temperature inside, providing excellent insulation for roosting bats. WoodStone also provides a rough surface which the bats can easily cling to and move around the box. The Vivara Pro WoodStone Bat Box is black with a grey front panel.

Siting - The box can be attached to either a wall or a tree and should be sited at a height of at least 3 m from the ground. Bats prefer to change roosts to benefit from varying ambient temperatures, so bat boxes should ideally be clustered in small groups.

Dimensions - (H) 250 x (W) 190 x (D) 165 mm, weight: 4.5 kg.

Bat Box Availability

The bat box is available from NHBS (www.nhbs.com) where it retails at approximately £20.99 including VAT plus postage costs.

Appendix 13: Habitat Access Slate



The Habitat Bat Access Slate has been carefully designed to provide access for bats to the gap between the roof slates and the 1F bitumen underfelt, whilst blending in with the slate roof. It consists of a standard sized slate, with a capped vent which allows access to the gap between the tile and the roofing felt. Either a standard slate can be provided or a custom slate that is coloured and sanded to match your roof exactly. In this situation, a slate may need to be provided made to order and you may need to provide a slate to the manufacturer for customisation.

Dimensions: (H) 418 x (W) 375 x (D) 80mm
Entrance hole dimensions: (H) 20 x (W) 100mm
Weight: 1.3kg

Bat Access Slate Availability

The habitat bat access slate is available from a number of suppliers including Jacobi Jayne (www.jacobijayne.com), NHBS (www.nhbs.com) where it retails at approximately £129.95+VAT. Additional shipping/postage costs may apply.

Delivery time is expected to be 1-2 months.

Appendix 14: Surveyor Experience

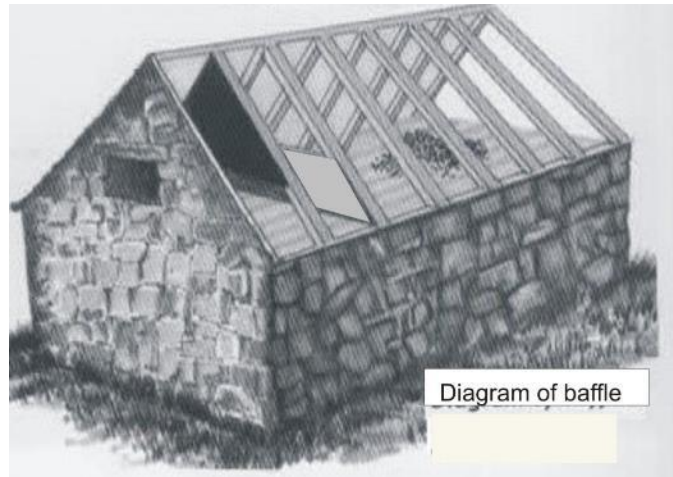
Anita Connors – Anita graduated from the University of South Wales with a degree in International Wildlife Biology. She is currently working for and receiving training from Acer Ecology and is in her first bat survey season. Full details of Anita's qualifications and experience can be found at: <https://www.linkedin.com/in/anita-connors-a2a887182/>

Evan Smith – Evan graduated with a degree in Conservation Biology and Ecology from the University of Exeter. Evan is currently working as an Assistant Ecologist and receiving training from Acer Ecology. Further details of his qualifications and experience can be found at: <https://www.linkedin.com/in/evan-smith-9b73a719a>

Jack Hole - Jack graduated with a degree BSc Zoology from Swansea University. He currently works as a store manager and in his spare time is undertaking his first season of bat surveying with Acer Ecology.

Caleb Davies – Caleb is currently in his first season of undertaking bat dusk emergence survey work with Acer Ecology Ltd.

Appendix 15: Installation of Single Baffle



Internal vertical baffles of standard plywood painted black with blackboard paint, positioned and fitted inside the bat loft so to reduce light spillage and draughts from the opening.