



Pontygwaith Farm

Treharris

**Preliminary Bat Roost and Nesting Bird Assessment
and Walkover Survey of Area Proposed for New Store**

January 2021

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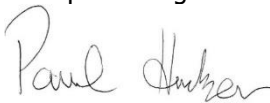
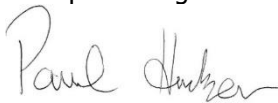
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DOCUMENT CONTROL

Pontygwaith Farm, Treharris Preliminary Bat Roost and Nesting Bird Assessment and Walkover Survey of Area Proposed for New Store				
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Summary

Brief and Site Location	This report presents the findings of a preliminary bat roost assessment and nesting bird survey of a farmhouse and stables, located at Pontygwaith Farm, Treharris, Merthyr Tydfil, CF46 5PD (Ordnance Survey Grid Reference: ST 0807 9766). A walkover survey of the site was also carried out. The farmhouse and stables are collectively referred to as "the building" throughout.
Proposed Works	Plans comprise the construction of a two-storey rear extension and store outbuilding. Existing and proposed plans can be found in Drawing 1: Development Proposals (Planning Reference number: P/20/0245). The new store building is proposed within an area of ruderal vegetation within the garden.
Survey Methodology	The preliminary bat roost assessment comprised a daytime internal and external inspection of the building, searching for signs of bats and nesting birds. The inspection provides a preliminary assessment of the potential of the site to support roosting bats. The walkover survey involved walking over the site, recording site information that may be relevant to the project.
Results of Preliminary Bat Roost Inspection	Bat droppings were located at the entrance to the roof void and scattered throughout. The building is located within an area providing high-quality foraging and commuting habitat for bats.
Area Where New Store is Proposed	The area where the new store is proposed is within an area of ruderal vegetation. This area has potential to support both reptiles and great crested newt.
Evidence of Nesting Birds	Two defunct swallow nests were observed in the stables and a further undetermined nest was also identified within the void above part of the stables. An updated assessment of nesting birds will be undertaken after the completion of further dusk emergence and dawn re-entry surveys.
Requirements for Additional Survey	Further surveys are required to determine the species roosting within the building, the roosting location/s and accurately characterise the roost/s. Current evidence suggests that the building is possibly used as a long-eared bat roost. However, the area where the roost is present will not be directly affected by the works. Current best practice guidelines (Collins, 2016) suggest that the building is a confirmed roost and has moderate roost suitability. Therefore, the building should be subject to two additional dusk emergence or dawn re-entry surveys undertaken between May and September. Two surveyors will be required for each survey. Additional surveys of the ornamental pond should be undertaken for great crested newt, as well as reptile surveys within the area the new store is proposed. Alternatively, if agreed with the county ecologist a Reasonable Avoidance Method Statement (RAMS) could be produced instead.
Predicted Impacts of Development on Bats and Nesting Birds	Full impacts on bats and birds will be considered after the further surveys have been undertaken.
Predicted Impacts of Development on Great Crested Newts and Reptiles	Full impacts on great crested newts and reptiles will be assessed after further surveys have been undertaken (if required).
Mitigation and Compensation of Proposed Impacts	Mitigation and compensation measures for bats, birds, great crested newts and reptiles will be determined after the further surveys have been undertaken.

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Licensing Requirements for Bats and Great Crested Newts	At this stage it is not possible to determine if a Protected Species Licence will be required from Natural Resources Wales to works being undertaken in relation to the extension and the new store. Evidence of roosting bats was found within the loft void at the northern end of the building, but this area will not be affected by the current proposals. The ornamental ponds are considered suitable for supporting great crested newt.
Required Actions	Further surveys are required.

1. Introduction

1.1. Brief

This report presents the findings of a preliminary bat roost assessment and nesting bird survey of a farmhouse and stables, located at Pontygwaith Farm, Treharris, Merthyr Tydfil, CF46 5PD (Ordnance Survey Grid Reference: ST 0807 9766)¹. The farmhouse and stables are collectively referred to as “the building” throughout.

The building is situated within the boundary of Merthyr Tydfil Council.

1.2. Site Description

The building is located in a rural area of Treharris, Merthyr Tydfil. The building lies approximately 20m to the east of the River Taff, and 100m east of the A470. The surrounding area mainly comprises woodland and grassland.

The location of the building is shown on Plan 1: Location Plan.

1.3. Proposed Works

Plans comprise the construction of a two-storey rear extension on the eastern end of the building, and the construction of a new store outbuilding.

Existing and proposed plans can be found in Drawing 1: Existing and Proposed Site Plans (Planning Reference number: P/20/0245).

1.4. Legislation and Planning Policy

1.4.1. Bats

All UK species of bat are designated as ‘European Protected Species’. Their breeding sites or resting places² (roosts) are fully protected under the Wildlife and Countryside Act 1981³ (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019.

Works affecting bats are subject to licensing procedures by Natural Resources Wales (NRW). The legal protection and licensing procedures are summarised in Appendix 1.

1.4.2. Nesting Birds

¹ Latitude and Longitude: 51.670204, -3.330730

² Resting places are defined as ‘areas that are essential to sustain an animal or group of animals when they are not active’ (Anon 2007).

³ <https://www.legislation.gov.uk/ukpga/1981/69>

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All wild British birds (whilst building nests, nesting and sitting on eggs) and their nests and eggs, (with certain limited exceptions⁴) are protected by law under Section 1 of the Wildlife and Countryside Act 1981⁵ (as amended) and the Countryside and Rights of Way Act 2000⁶. Some species, such as barn owls (*Tyto alba*), are listed in Schedule 1 have additional protection from disturbance during the breeding season as do their nests, eggs and dependent young.

1.5. Survey Scope

The preliminary roost assessment (PRA) comprised a daytime internal and external inspection of the building, searching for signs of bats and nesting birds and assessing the potential for bats to roost on site.

1.6. Reporting

This report aims to:

- Outline the survey methodology used;
- Present the results of the survey;
- Provide an interpretation of the survey results;
- Determine the need for further targeted surveys on site; and
- Provide suitable recommendations in line with planning policy and wildlife law including potential licencing requirements, mitigation, compensation and enhancement measures.

⁴ Details of the exceptions are available at <https://bit.ly/2KiQTFH>

⁵ <https://www.legislation.gov.uk/ukpga/1981/69>

⁶ <https://www.legislation.gov.uk/ukpga/2000/37>

2. Methods

2.1. Desk Study

An assessment of the site and surrounding area was carried out, including existing habitats, from maps and aerial photographs. A Geographic Information System (GIS) dataset, obtained from NRW was used to search for statutory and non-statutory conservation designated sites for bats within 10km. A 2km search was undertaken for all other statutory and non-statutory conservation designated sites.

A search of the local planning portal was undertaken to look for other sites within the same postcode area which have had bat surveys submitted as a part of their planning application.

2.2. Field Study

2.2.1. Daytime Internal and External Inspection

A systematic search was made of the exterior and interior of the building looking for features that bats could use for entering/exiting and roosting⁷. In addition, a search was made 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. The survey was undertaken on 10th December 2020 by Paul Hudson⁸ MCIEEM (NRW Licence Number: S088190/1), accompanied by Ffion Jones^{9/10}.

A high-powered torch (Clulite), an endoscope (Ridgid Micro CA-300), binoculars and a ladder were available for use, as appropriate during the survey.

Bat droppings¹¹ were collected into grip seal bags and stored in a cool, dry area.

2.2.2. Assessment of Bat Roost Suitability

The value of the site for bats (and any potential roost sites therein) was assessed, in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2016) (see Appendix 2). The assessment was based on the relative abundance and quality of potential roost sites; and the habitat features within both the site and the surrounding landscape, suitable for roosting, foraging and commuting bats.

⁷ Bats may utilise gaps as small as 8mm by 20mm (Bat Conservation Trust, Cluster flies leaflet).

⁸ Paul graduated with a degree in Environmental Biology from Reading University and a Postgraduate Diploma in Conservation Management from the University of East Anglia. He has worked within ecological consultancy since 2000 and has been involved in bat work since 2001. He holds licences to disturb bats in both Wales (S088190/1 valid until June 2022) and England (2018-36707-CLS-CLS valid until 2028). Further details of his qualifications and experience can be found at <http://linkd.in/19aGTf4>.

⁹ Ffion was acting as an accredited agent under the license of Paul Hudson (NRW Licence Number: S088190/1).

¹⁰ Ffion graduated with a degree in Ecology and Conservation from the University of Exeter. She is an Assistant Ecologist with two years' experience of working with Acer Ecology Ltd.

¹¹ It should be noted that pygmy shrew (*Sorex minutus*) droppings can closely resemble bat droppings (i.e. this species is an insectivore and so the droppings are crushable, and contain insect remains and so can easily be confused with bat droppings). Pygmy shrew droppings are occasionally found within loft voids.

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2.2.3. Survey for Nesting Birds

Searches were carried out for old nests, as well as any signs which might indicate previous nesting activities, such as piles of discarded nesting materials or large aggregations of guano.

2.2.4. Constraints

General Temporal Constraints

An ecological survey can only identify what was present on site at the time it was conducted. However, habitat usage by species can change over time.

Timing

The time of year when the preliminary roost assessment was carried out (December) coincides with the period when most bats have retreated to winter hibernation sites and are most difficult to detect. However, signs of roosting activity from previous summers can still be identified and the potential of a building can be assessed outside the active season. Therefore, the timing of the inspection is unlikely to have significantly constrained the survey.

Restricted Access Due to Presence of Suspended Ceiling

Due to the presence of a suspended ceiling, the loft void of the stables had a search for evidence of bats that was constrained to areas near the loft hatch of the suspended ceiling only.

Data Search

A Local Records Centre (LRC) data search has not been undertaken at this stage but will need to be undertaken as part of ecology surveys (i.e a Preliminary Ecological Appraisal) undertaken on the proposed development site.

3. Results

3.1. Desk Study

3.1.1. Bat Roosts Reported in Planning Applications Within the Same Postcode

The search on the planning portal returned no records of bat roosts within the same postcode area as the proposed development.

3.1.2. Protected Sites

The location of protected sites is shown in Plan 2: Protected Sites.

Statutory Sites Notified for Bats (Special Areas of Conservation (SACs)) or Sites of Special Scientific Interest (SSSIs) Within 10km

No SACs or SSSIs that have been specially designated for bats lie within 10km of the building.

Other Protected Sites Within 2km

There are no statutory designated sites such as SACs, SSSIs, National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) either within the proposed development site or within 2km of the building.

Non-statutory Protected Sites

Sites of Importance for Nature Conservation (SINCs)

There are 12 SINCs within 2km of the building. The closest SINC to the building is the River Taff, which immediately borders the stables. These sites are rich in wildlife and are considered important for their local biodiversity value.

Ancient Woodland Sites

There are 93 areas of Ancient Semi-Natural Woodland (ASNW)¹², five Restored Ancient Woodland Sites (RAWS)¹³, 22 Plantations on Ancient Woodland Sites (PAWS)¹⁴, and 12 Ancient Woodland Sites of Unknown Category¹⁵, located within 2km of the site. The nearest area of ancient woodland is an unnamed area of ASNW situated immediately to the west of the building.

¹² Ancient Semi-Natural Woodland (ASNW) – broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years.

¹³ Restored Ancient Woodland Sites (RAWS) – woodlands which are predominately broadleaves now and are believed to have been continually wooded for over 400 years. These woodlands will have gone through a phase when canopy cover was more than 50% non-native conifer tree species and now have a canopy cover of more than 50 percent broadleaf.

¹⁴ Plantation on Ancient Woodland Sites (PAWS) – sites which are believed to have been continuously wooded for over 400 years and currently have a canopy cover of more than 50 percent non-native conifer tree species.

¹⁵ Ancient Woodland Site of Unknown Category (AWSU) – woodlands which may be ASNW, RAWS or PAWS. These areas are predominantly in transition and existing tree cover is described as 'shrubs', 'young trees', 'felled' or 'ground prepared for planting'.

Protected Sites Summary

Given the small scale of the proposed development, the localised nature of the proposed works, as well as the limited scope for impacts outside of the footprint of the proposed works, no adverse impacts to the protected sites are likely to occur. These sites are not mentioned any further in this report.

3.2. Field Study

3.2.1. Ecological Context of Site

Lighting

The site is assessed as being within Zone E2¹⁶ (Institute of Lighting Professionals, 2012) as it is situated in a rural area with no streetlights in the immediate vicinity, so artificial lighting nearby is minimal and therefore the building is dark at night¹⁷.

Site and Surrounding Habitats

The area surrounding the building provides high-quality foraging and commuting habitat for bats, due to features such as the ancient woodland immediately adjacent to the building, and the numerous other woodlands in the surrounding area, where bats could forage. Additionally, linear features surrounding the building, like treelines and hedgerows, provide ecological corridors along which bats could commute and forage. The River Taff, situated only 20m to the west, is an excellent ecological corridor which connects the building to the wider landscape. The building is also likely to be dark and quiet at night.

3.2.2. Building Description from the Perspective of Bat Habitat

External inspection of the building

The building is a large, complex structure which is a mix of single and two-storey sections and appears to have been extended several times during its history. The building is almost entirely rendered, and some sections of the house display exposed timber features (Photo 1). The building is L-shaped with a roof that is complex with a variety of pitches, however there are two significant symmetrical pitches, one running north-south and the other east-west. The roof is constructed of terracotta tiles and ridge tiles which are generally in good condition (Photo 1). The tiles and ridge tiles were generally close fitting; however, one ridge tile presents a gap on the eastern elevation which crevice-dwelling bats could use to roost, and void-dwelling bats could potentially use to access any roof voids inside the building (Photo 2).

There are two chimneys, one is of the same construction as the building and the other is a metal flue chimney. Each is in good condition, but there are raised sections of lead-flashing around the central

¹⁶ E2: Rural lighting zone, with low district brightness.

¹⁷ Lighting can impact on bats' roosting sites, commuting routes and foraging areas.

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chimney which could be utilised by crevice-dwelling bats (Photo 2). In addition, on the southern elevation, the large dormer window has gaps underneath its lead flashing that could be utilised as a potential roost (Photo 3). On the building's eastern elevation there are gaps under the edge tiles that could be utilised by bats (Photo 4). However, their location close to guttering makes them sub-optimal features.

The uPVC doors and windows are in good condition. The soffits and fascia around the building are generally in good condition, however on the western elevation there is a large gap between the soffit and tiles which is a potential roost feature (Photo 19). The large conservatory on the eastern elevation is in good condition.

Internal inspection

The internal loft space of the main building is constructed of a mixture of old and modern timbers (Photo 20). The roof is designed as a single roof with joists and is lined with breathable membrane. The northern and southern walls of the internal roof space are traditional stone walls (Photo 21). In addition, inside the loft space of the main building, a draft can be felt. Droppings were located immediately at the entrance to the void and were found scattered throughout the void.

The inside of the southernmost section of the building, known as the stables, is used as a general and wood store (Photos 23 and 24). A single loft hatch was identified, inside stable 3, however inspection was limited to the area immediately around the hatch due to a suspended ceiling.

Table 1: Photos Showing the Building and its Features

Photo 1: Western Elevation



Photo 2: Chimney and Raised Ridge Tile



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Photo 3: Southern Elevation Dormer



Photo 4: Eastern Elevation Gaps Under Tiles



Photo 5: Northern Elevation



Photo 6: Northern Elevation



Photo 7: Northern Elevation of Void Where Bat Evidence Found



Photo 8: Eastern Elevation



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Photo 9: Eastern Elevation



Photo 10: Gaps Under End Tiles Above Conservatory



Photo 11: Western Elevation Lean-to With Gaps Under Ends of Tiles



Photo 12: Western Elevation Lean-to With Gaps Under Ends of Tiles



Photo 13: Southern End of Eastern Elevation



Photo 14: Southern Elevation



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Photo 15: Northern Elevation of Stables Section



Photo 16: Western Elevation



Photo 17: Western Elevation



Photo 18: Western Elevation



Photo 19: Gap Between Soffit and Tiles



Photo 20: Attic Loft Space at Northern End of Building



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Photo 21: Attic Space at Northern End of Building



Photo 22: Interior Space Constructed Upto Ridge



Photo 23: Stable 2 Wood Storage



Photo 24: Stable 3 General Storage and Hatch



Photo 25: Attic Space Above Void 3 – Nest Location Indicated

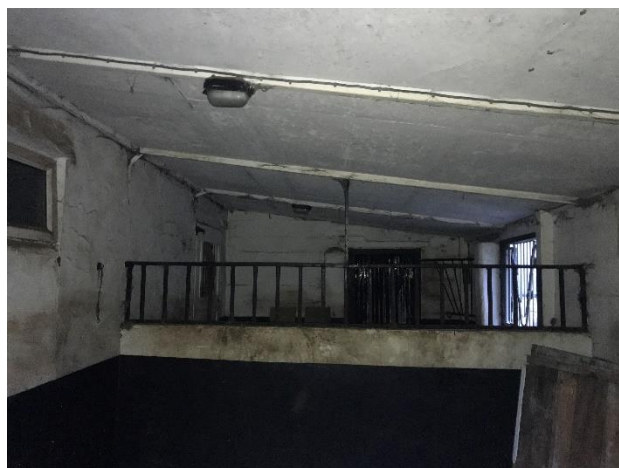


Photo 26: Void at South-eastern Corner of Building



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Photo 27: Void at South-eastern Corner of Building Photo 28: Stables at South-western End of Building



3.2.3. Potential Bat Access Points and Bat Roosting Locations

Potential Access Points for Bats in the Building

There are numerous potential access points for bats to gain entry to the interior, namely through the gaps in the ridge tiles and through various sections of raised lead flashing, as shown in the photos in table 1.

Potential Roosting Sites for Bats

The following potential roost sites were recorded:

- R1 – Gaps under raised ridge tiles (see Photo 2);
- R2 – Between lead flashing surrounding the chimney (see Photo 2);
- R3 – Underneath lead flashing under dormer window (see Photo 3);
- R4 – Gaps under edge tiles on eastern elevation (see Photos 4 and 10); and
- R5 – Gap between soffit and tiles on western elevation (see Photo 19).

3.2.4. Evidence of Bats

The preliminary bat roost assessment recorded a collection of droppings around the hatch and scattered around the void of the attic space at the northern end of the building.

3.2.5. Nesting Bird Survey

Three nests were identified during the survey. Two defunct swallow (*Hirundo rustica*) nests, and one further undetermined defunct nest were located in the stable.

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Photo 29: Swallow Nest in Stable 1



Photo 30: Attic Space Above Void 3 – Nest Location Indicated



3.2.6. Garden Habitats in Relation to Proposed Store

The area where a new store is proposed to be constructed supports ruderal vegetation dominated by great hoary willowherb (*Epilobium hirsutum*), with common nettle (*Urtica dioica*) and bramble (*Rubus fruticosus* agg.) also frequent.

Elsewhere poor semi-improved grassland is present within the grassland, generally dominated by Yorkshire fog (*Holcus lanatus*) with lesser amounts of red fescue (*Festuca rubra*), common bent (*Agrostis capillaris*) and cock's-foot (*Dactylis glomerata*). Broadleaved herbs are scarce apart from creeping buttercup (*Ranunculus repens*) which is frequent throughout.

Photo 31: Ruderal Habitats in Location of Proposed Store



Photo 32: General View of Garden with Ponds in Distance



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Photo 33: General View of Garden



A group of connected ornamental ponds are present within the grassland. Although they are small in size, they are considered to have potential to support great crested newt. The ruderal habitats also have potential to support great crested newts in its terrestrial phase, as well as common reptile species.

Photo 34: Ornamental Pond



Photo 35: Ornamental Pond



4. Evaluation

4.1. Confirmed Summer Roosts

The building is assessed as supporting a confirmed roost. Droppings were found scattered within the roof space of the second northernmost section of the house confirming the presence of bats, although this section of roof will not be directly impacted by the proposed extension.

Although the droppings were indicative of long eared bats, the droppings have not been analysed for DNA and so this species has not been confirmed definitively.

The building is deemed to have an overall moderate bat roosting suitability. This assessment will be used to determine the level of further survey effort required (see Appendix 2).

4.2. Characterisation of Identified Roosts

Further surveys will be required to determine if the area where the extension is proposed supports roosting bats. Any future conversion of the stables will also need to be supported by a bat survey.

4.3. Potential Winter Roosts

A full assessment of potential for winter use (i.e hibernation) will be undertaken after the completion of further dusk emergence and dawn re-entry surveys.

4.4. Birds – Interpretation of Nesting Bird Survey

Two defunct swallow nests were observed in the stables, a further undetermined nest was also identified. An updated assessment of nesting birds will be undertaken after the completion of further dusk emergence and dawn re-entry surveys.

4.5. Great Crested Newts and Reptiles

The ornamental ponds have potential to support great crested newt in the aquatic phase, whilst the ruderal vegetation where the store is proposed has potential to support terrestrial phase great crested newts and common reptile species.

5. Required Actions

5.1. Further Work

Bat Surveys

Works should not commence until further surveys have been carried out. This will enable the likely impacts of the proposals on bats to be assessed, determine if a NRW European Protected Species development licence will be required, inform the avoidance measures (timing of works), and determine the requirement for mitigation (retention of roosts and access points) and/or compensation measures (creation of new replacement/additional bat roosts).

Current best practice guidelines (Collins, 2016) state that two separate survey visits should be undertaken on a building with moderate roost suitability comprising one dusk emergence and a separate dawn re-entry survey. The surveys should be undertaken from May to September with at least one of the surveys between May and August.

If the survey is restricted to the area around the proposed extension only one surveyor will be required.

If the stables are included within the survey three surveyors will be required to cover this part of the building.

Six surveyors would be required to cover the entirety of the building.

It should be noted that even if work is undertaken affecting a small proportion of the building, sometimes surveys need to be undertaken on other parts of the building so that any indirect impacts on roosting bats can be determined.

Great Crested Newts and Reptiles

Additional surveys of the ornamental ponds should be undertaken for great crested newt, as well as reptile surveys within the area the new store is proposed. Alternatively, if agreed with the county ecologist a Reasonable Avoidance Method Statement (RAMS) could be produced instead.

Preliminary Ecological Appraisal

A preliminary ecological appraisal should be undertaken on the wider site including a Local Records Centre search, covering a 2km buffer.

5.2. Licensing Requirements for Bats

Evidence of bat roosting has been confirmed within the building although the area where the evidence was found will not be directly affected by the works. There is also potential for bats to be present within the area where the extension is proposed.

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Further surveys are required to determine if a protected species licence is required from Natural Resources Wales prior to works being undertaken on the building. The details of the licence and method statement will be finalised after further dusk emergence and/or dawn re-entry surveys have been completed.

5.3. Licensing Requirements for Great Crested Newts

Further surveys are required to determine if a protected species licence is required from Natural Resources Wales prior to clearance works being undertaken in relation to the proposed new store. Alternatively, if agreed with the county ecologist it may be possible to prepare a Reasonable Avoidance Method statement (RAMS) instead of undertaking surveys for great crested newts and reptiles.

5.4. Avoidance, Mitigation, Compensation and Enhancement Measures for Bats and Birds

These measures (if required) will be formulated after the completion of dawn re-entry and dusk emergence surveys.

5.5. Longevity of Report

Bat Surveys for Professional Ecologists (Collins, 2016) states that the survey data should ideally be from the last survey season before a planning or licence application is submitted, although the length that survey data remains valid should be decided on a case-by-case basis and is dependent upon several factors¹⁸. It is considered that if development works do not begin within eighteen months (CIEEM, 2019) to two years of the date of this report, an update survey may be required in accordance with guidance in BS 42020:2013¹⁹ and CIEEM (2019), to determine if conditions and evidence of bat use has changed since described in the current report.

¹⁸ The factors identified are as follows: Were the original surveys carried out according to good practice guidelines?; Were the original surveys constrained in any way?; Do the results of the original surveys support the original conclusions and are these still relevant?; Has the nature of the site or the surrounding area changed since the original surveys were undertaken; and are additional surveys likely to provide information that is material to a decision, the design of mitigation measures, or specific advice relating to a proposed activity.

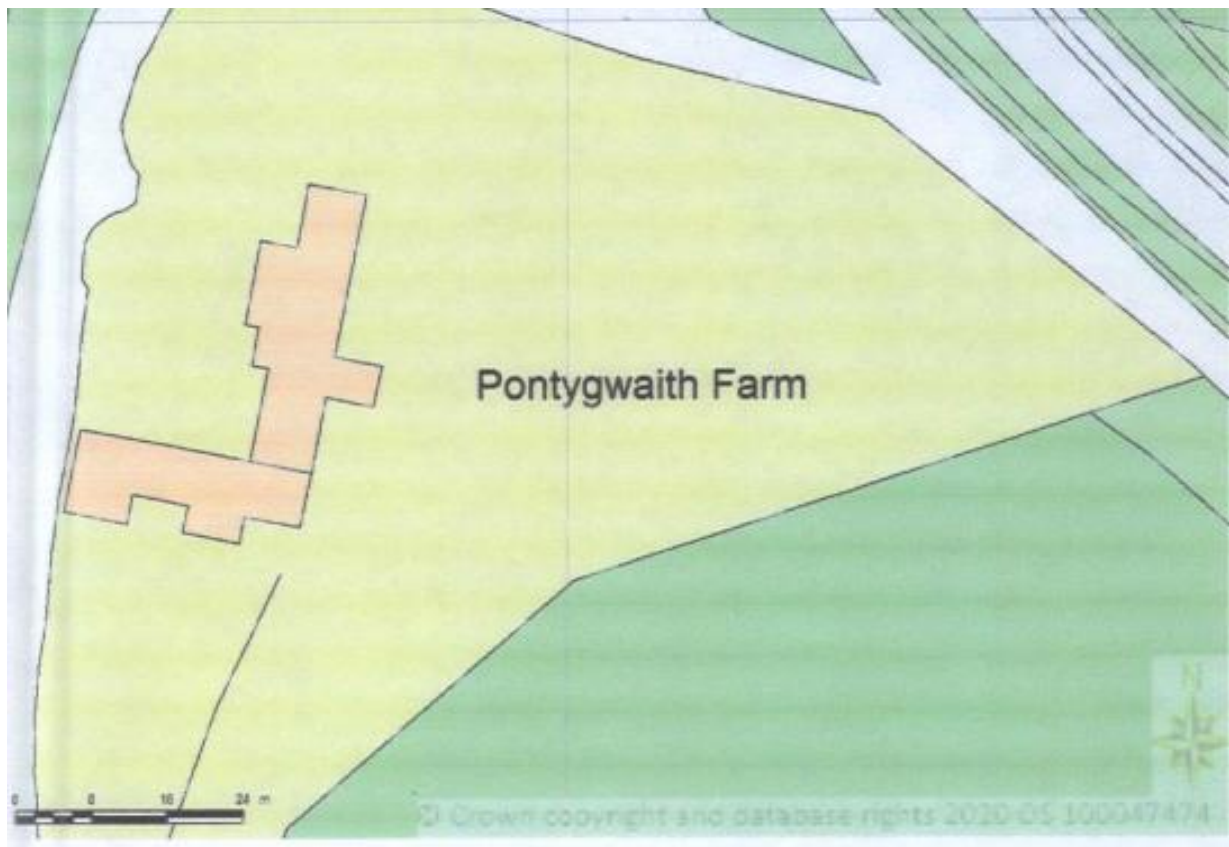
¹⁹ As set out in Section 6.2.1, Point 7 which states that ecological information should not normally be more than two/three years old, or as stipulated in good practice guidance).

6. References

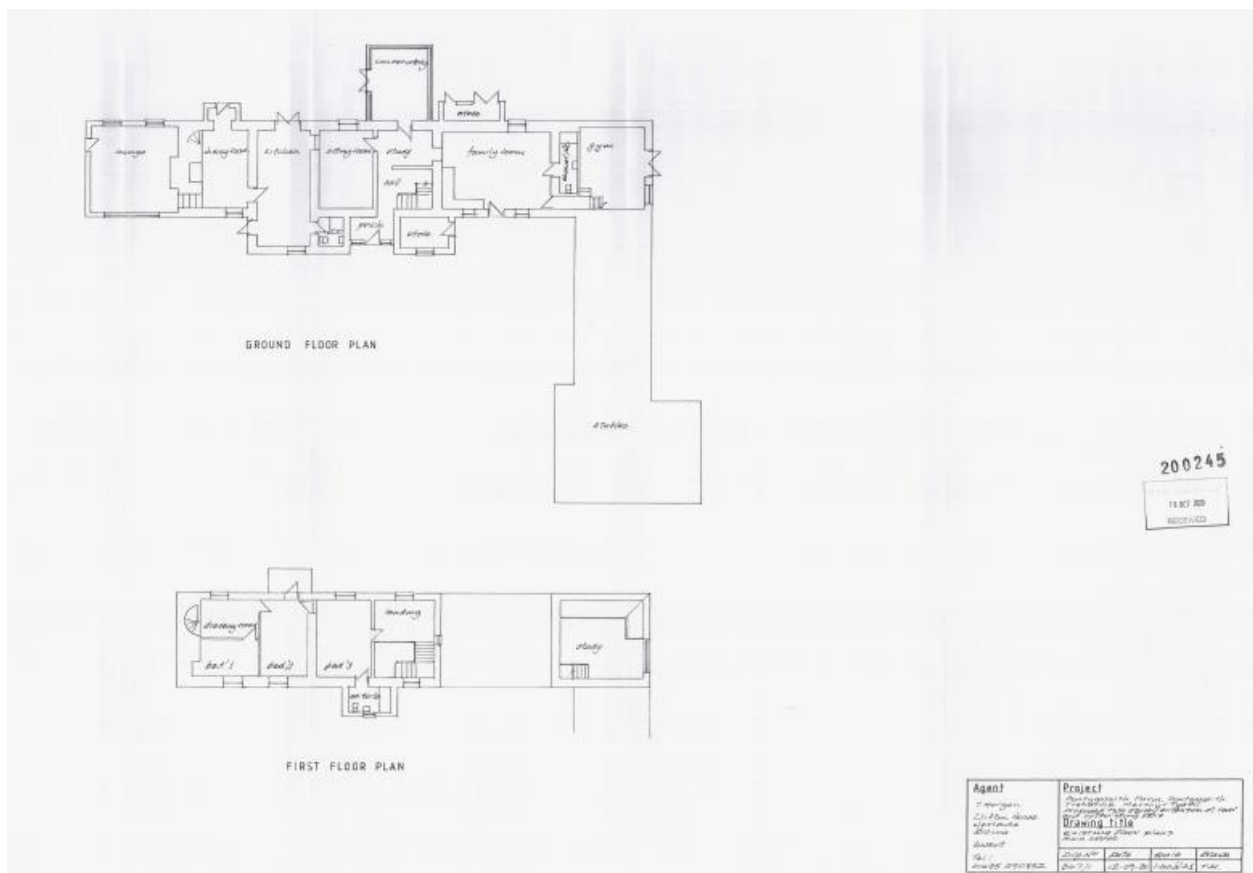
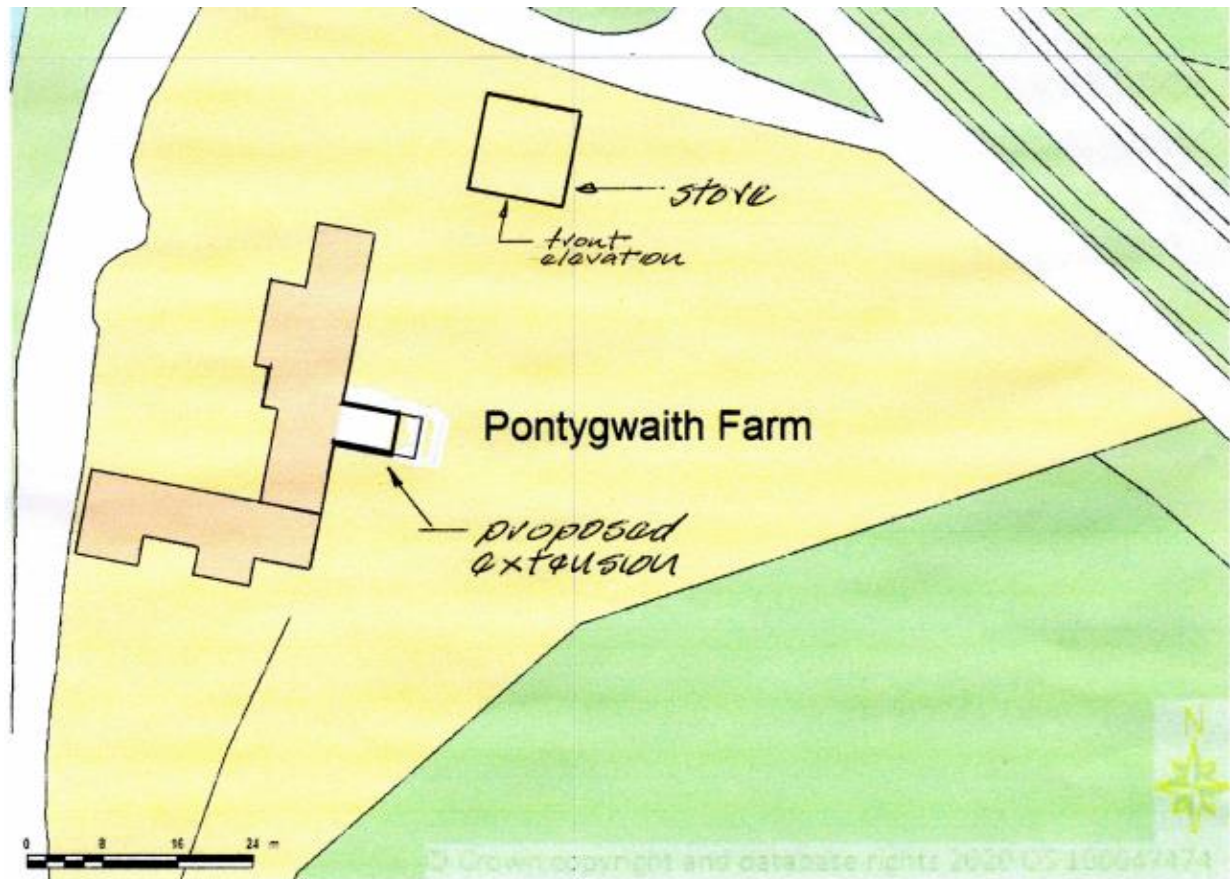
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Drawing 1: Existing and Proposed Site Plans

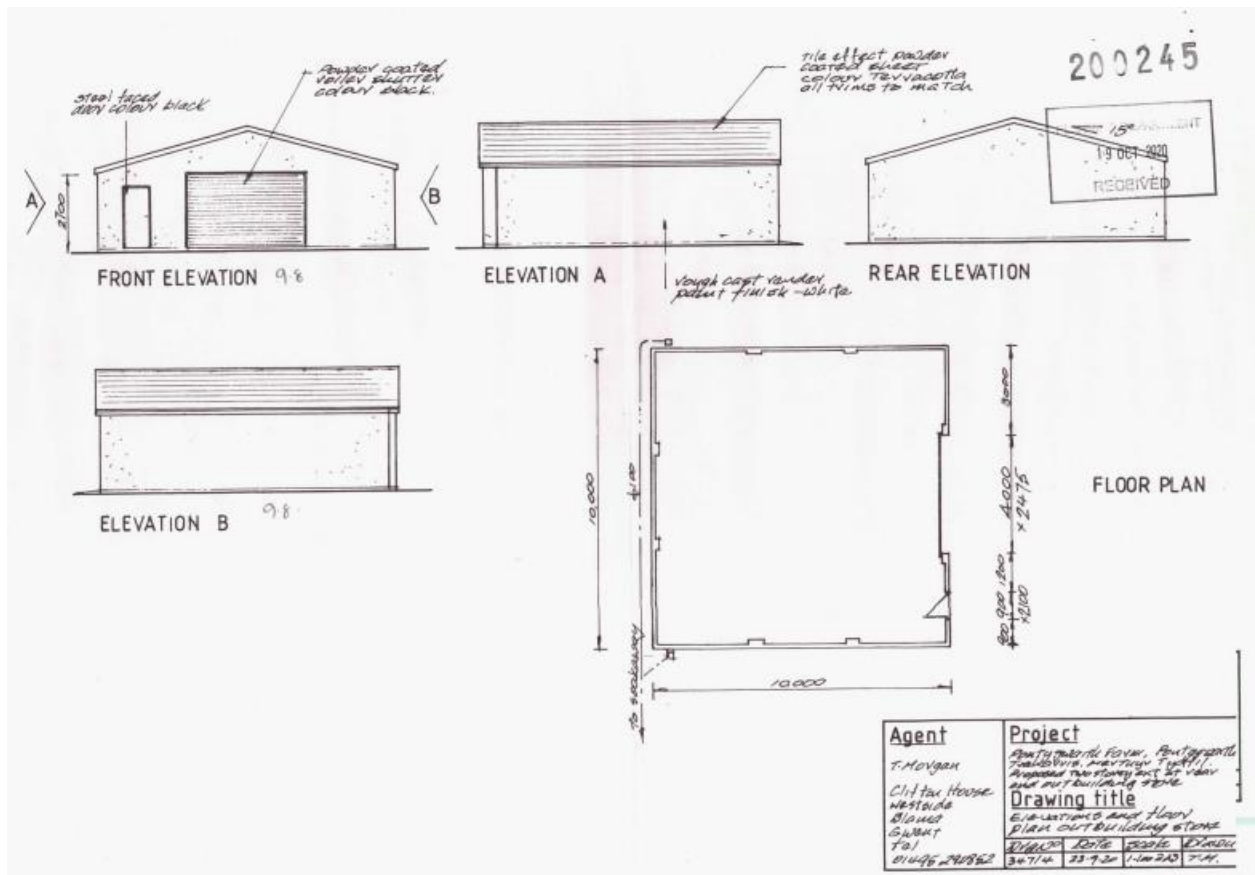


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[illegible]

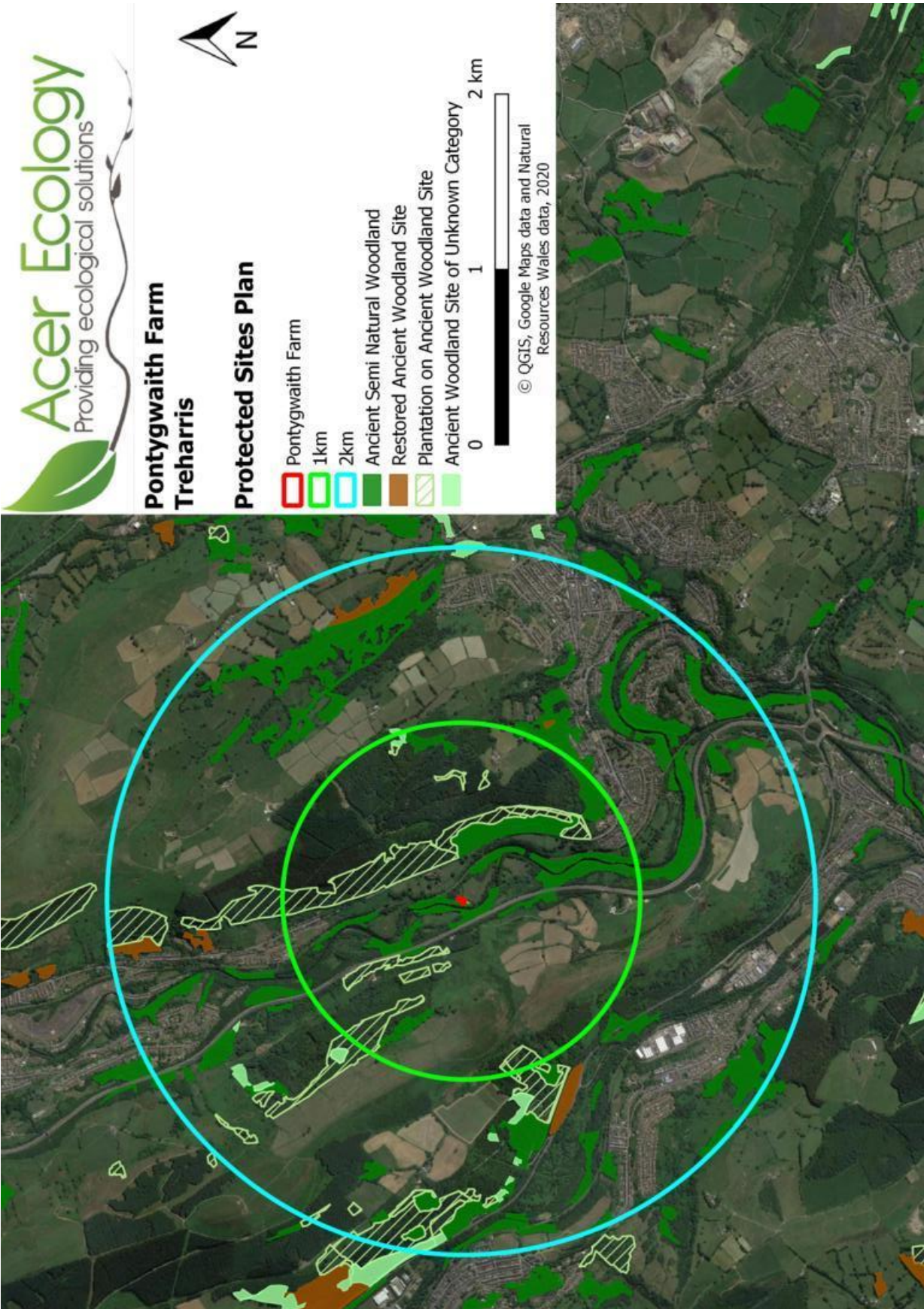
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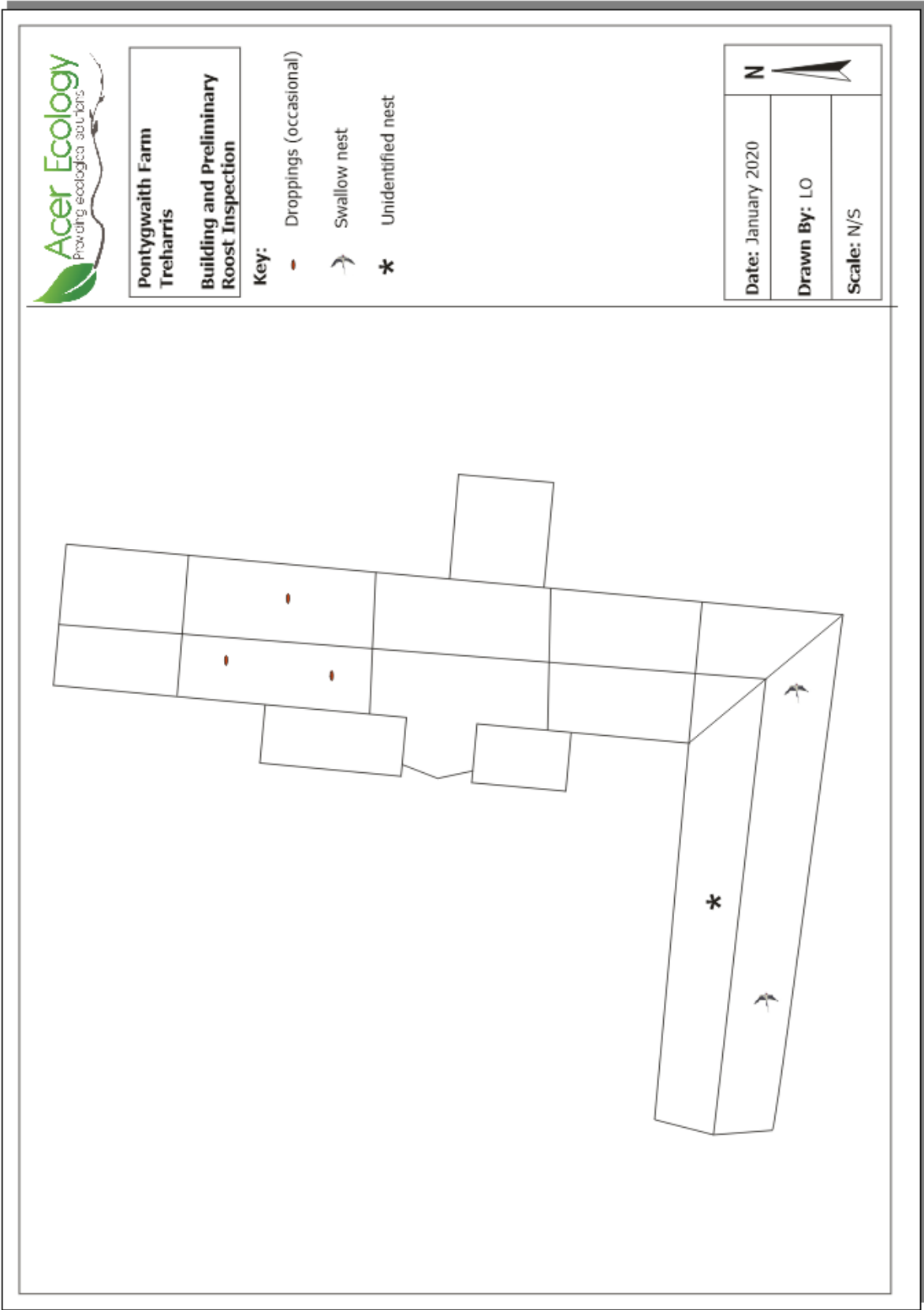
Plan 1: Location Plan



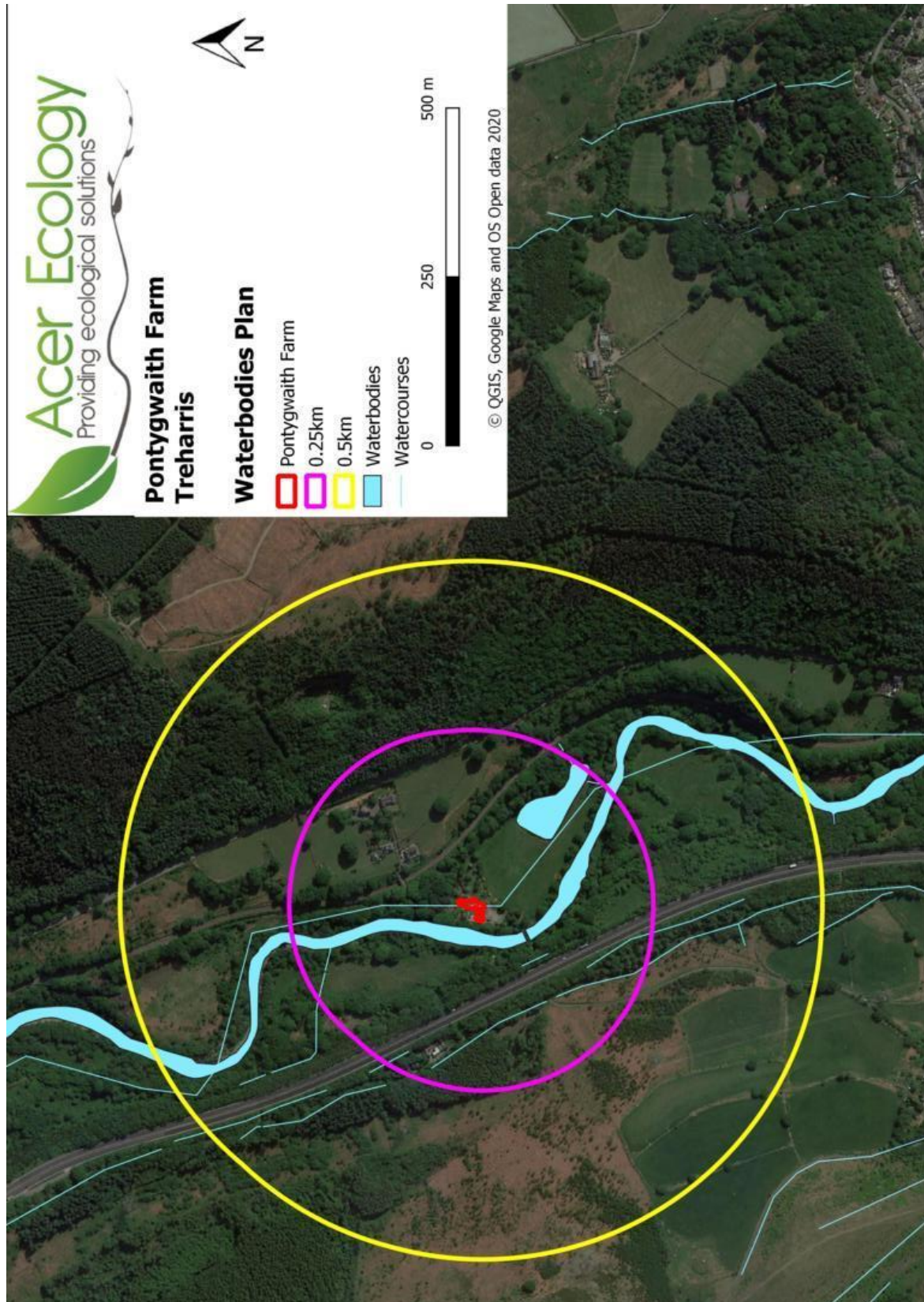
Plan 2: Protected Sites



Plan 4: Building and Preliminary Roost Inspection



Plan 5: Waterbodies Plan



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Appendix 1: Bat Ecology and Legislation Protecting Bats and Their Roosts

Bat Ecology

There are 17 known breeding species of bat found in the UK, with additional species recorded as migrants or vagrants. All of them are small, nocturnal, flying, insectivorous mammals that are under conservation threat and many having undergone massive population declines over the last century. Some species, such as common and soprano pipistrelle are relatively common and widespread in the UK, while others, such as greater horseshoe (*Rhinolophus ferrumequinum*) bats, have an extremely restricted distribution.

Most bats will use a variety of roosts of different types throughout the year. The winter hibernation sites typically have cool, humid conditions with a stable microclimate and low levels of disturbance. Most British bats hibernate in caves or artificial structures that fulfil these requirements such as mines, tunnels and cellars. Bats emerge from hibernation around late March or early April and move into transition or intermediary roosts. Around early May, female bats gather in colonies to form summer or maternity roosts, and it is here where they will give birth between late May and early July. A colony may consist of many individuals (sometimes hundreds of bats) of mixed age and sex. Roosts may be in a variety of habitat types including tree-holes, caves, buildings and other secure crevices or internal spaces with appropriate stable temperatures and humidity. Bats may change roost locations many times during a year and colonies may split up and reform during this period. Males occupy solitary roosts in autumn, to which they attract females for mating.

Legislation

All British bat species and any place used for shelter or protection, or a breeding site or resting place (their roosts) are fully protected under the amended Wildlife and Countryside Act 1981 through inclusion in Schedule 5. The roosts are protected irrespective of whether bats are present at the time. All bats are protected species and fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species (Amendment) (EU Exit) [‘CHSAEU’] Regulations 2019. These pieces of legislation make it illegal to deliberately or recklessly:

- kill, injure or capture bats;
- disturb bats;
- damage, destroy, or obstruct access to bat roosts (including sites that are currently unoccupied);
- possess or transport a bat or any part of a bat unless acquired legally; or
- sell, barter or exchange bats or parts of bats.

Disturbance is defined as that which is likely to impair bats ability:

- to survive, to breed or reproduce, or to rear or nurture their young;
- to hibernate or migrate; or
- to significantly affect the local distribution or abundance of the species to which they belong.

Habitats Regulations Licensing

If a European Protected Species will be affected by a development, Natural Resources Wales (NRW) can issue licences under the Habitats Regulations to permit otherwise prohibited acts. Licences for certain activities can be granted providing “3 tests” are satisfied, that is:

1. the purposes of “preserving public health or safety, or for reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment”;
2. there must be “no satisfactory alternative”; and,
3. the derogation is “not detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

Licences are issued by NRW, with NRW assessing Test 3, and the Local Planning Authority assessing tests 1 & 2 (where proposals are not subject to planning, then NRW alone will assess all three tests). Where Planning regulations apply, NRW will only issue a licence after determination of the planning application.

The licence application will require the production of a detailed method statement, which sets out the activities to be carried out under the licence to minimise the risk of bats being harmed during construction works, and to ensure that bats will be conserved during the development of the site. This will need to detail the mitigation proposed (such as the replacement or compensation roost), the timescale and schedule of works, the number, size and locations of bat access points to be provided, the type of materials to be used (roofing material, roof lining, fascias, soffits and bargeboards etc.), lighting proposals, action to be taken in the event bats are found during works and a post-development monitoring programme. The method statement will need to be accompanied by scaled plans and maps detailing the bat mitigation features. A cross-section of the access points and roost space is often required. The method statement must ensure that provision is made for new or continued roosting opportunities after the completion of development works. In some instances, a method statement is requested by the Local Planning Authority or Natural Resources Wales before the planning application is determined.

Environment (Wales) Act 2016

The Environment (Wales) Act 2016²⁰ dictates that Local authorities have a duty to have regard to the conservation of biodiversity in exercising their functions. The duty affects all public authorities and aims to raise the profile and visibility of biodiversity, to clarify existing commitments relating to biodiversity, and to make it a natural and integral part of policy and decision making. Part 1 Section 7 of the Act provides a list of the ‘*living organisms of principal importance for maintaining and enhancing biodiversity in relation to Wales*’. This includes seven bat species (soprano pipistrelle (*Pipistrellus pygmaeus*), barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteinii*), noctule, brown long-eared, lesser horseshoe and greater horseshoe bats).

²⁰ <http://www.legislation.gov.uk/anaw/2016/3/contents>

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Appendix 2: Guidelines for Assessing Potential Bat Roosting Suitability and Determining Required Number of Dusk/Dawn Surveys

Suitability	Description of Roosting Habitat	Minimum Number of Dusk/Dawn Surveys Required ²¹
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None.
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 conditions ²² 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 hibernation ²³ .	One survey visit. One dusk emergence or dawn re-entry survey (Survey period from May to August) (Collins 2016).
Moderate	A structure 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 ²⁴ (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey ²⁵ . Surveys should be undertaken from May to September with at least one of the survey between May and August (Collins 2016).
High	A structure 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.	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 (Collins 2016).
Confirmed Roost	Evidence of bats or use of bats found.	Minimum of two required to characterise the roost. If it is not possible to characterise the roost on the basis of two surveys, additional surveys may be required. In the event that no evidence of bat roosting is detected during the dusk and dawn surveys a third survey may be required. In this situation DNA analysis of the droppings may also be required.

²¹ Adapted from Tables 7.1 and 7.3 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

²² For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

²³ 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 urbanized environments.

²⁴ 'High roost status' is not defined within Collins, 2016. Acer Ecology Ltd. interpret maternity, hibernation, swarming sites, mating sites, and satellite roosts as being of 'high roost status' and exclude day roosts, night roosts, feeding roosts, transitional/occasional roosts from this definition. Pre-maternity/collecting roosts are not included within Collins, 2016 and will be assessed on an individual basis.

²⁵ Multiple surveys 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.

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Appendix 3: Guidelines for Assessing Bat Habitat Suitability

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.