

A Bat Survey Report
on behalf of

Mr. Matthew Edwards
for
36-37 Fox Street
Treharris
Merthyr Tydfil
CF46 5HE



Produced by: **Little Wing Ecology CYF (A Not-for-profit Company Limited by Guarantee)**
Company no: **13743223**
Address: **24 Alma Street, Brynmawr, Blaenau Gwent, NP23 4DY**
Email: **nic@littlewingecology.cymru**
Telephone: **07985 395251**



Project Overview

Client	Matthew Edwards
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Report Type	Bat Survey Report
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Lead Surveyor(s)	Nic Aldridge

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1	Draft	29.09.2023	Nic Aldridge	Phil Morgan

Limitations

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The assessments made assume that the site(s) and facilities will continue to be used for their current purpose without significant change. The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from third parties has not been independently verified by Little Wing Ecology (CYF).

Executive Summary

Summary	Little Wing Ecology (CYF) was commissioned to undertake a Preliminary Roost Assessment, and Activity Survey, of a site known as, '36-37 Fox Street, Treharris, Merthyr Tydfil, CF46 5HE.' The survey was undertaken to inform the client of any constraints, and associated planning requirements with regards to protected species, and to inform a planning application.
About the Site	Building A is a mid-terrace Victorian building, previously two units, now knocked through into one. The structure occupies an urban plot of approximately ≈11m x ≈20m, is traditionally built with stone and brick. Materials include a bitumen-based roofing membrane, timber bargeboards, plastic guttering, timber bargeboards and lead flashing.
Proposed Development	Planning permission is sought for the renovation of a former commercial building.
Results	During a preliminary roost assessment, lesser brown-eared droppings were identified under the ridge board, along with several examples of feeding remains. While A 14-day static survey returned no evidence of bats currently using the interior of the structure, local records document the presence of a local population of brown long-eared and this space has likely been used by the species in recent years. The property has been empty for approximately ≈20 years and previous work to the interior such as stripping out of ceilings has likely made this space less suitable. Consequently, provision should be made to reinstate a suitable roost area in the loft space. As this space was unlikely a maternity roost (due to the number of droppings) a small style, 'Gable Roost,' would provide sufficient space (refer to section five). Building A was categorised as being of moderate risk, requiring a dusk survey for bats on two occasions. During two dusk emergence surveys a day roost, supporting a single common pipistrelle was identified at the south elevation (at the eaves). Very limited bat interest was recorded on site and consisted of incidental foraging and commuting. In total, only one species was identified as using the site for commuting and foraging: common pipistrelle. As pipistrelle species are known to hibernate in buildings a precautionary approach will be followed.
Other Considerations	The interior and exterior of Building A was fully accessible. The roof space was exposed to the second storey. Due to previous renovation works, building debris, dust and general detritus are present in all areas and this hinders the identification of evidence.
Recommendations	<u>Recommendation 1 (Applying for an EPS Licence)</u> Building A supports a day roost for common pipistrelle. Bats and their breeding sites and resting places are protected under the Conservation of Habitats and Species Regulations 2019. Where these species are present and a development proposal is likely to contravene the legal protection they are afforded, the development may only proceed under licence issued by NRW, having satisfied the three requirements set out in the legislation. <u>Recommendation 2 (Lighting During Development)</u> If any development is to be conducted between March and September (inclusive), efforts must be made to avoid any adverse impacts on the commuting and foraging of bats near the site. External lighting must be restricted during the development period to that which is necessary for safety and security. This must be kept to a minimum. <u>Recommendation 3 (Post Development Lighting Scheme)</u> To prevent any adverse impact upon the potential roosting, commuting and foraging habitats for bats adjacent to Building A (post development), specifically at the southern elevation, overlooking the Afon Bargoed Tâf (SINC), the lighting plan for the site must be functional and directional only and kept to a minimum servicing the public areas of the proposed development (as required for safety and security). It must be achieved using baffles and screens, if necessary, to ensure no light spill on any retained or planted vegetated (including off-site vegetation - e.g., there is a potential to impact animals using the nearby habitat features). <u>Recommendation 4 (Hibernation and Pipistrelles)</u> As pipistrelle species are known to hibernate in buildings a precautionary approach will be followed. Any works with regards to the striping of roofing materials or exposing the wall plate, particularly on the northern aspects of the structure, during the winter months (October-April – inclusive), to be supervised by a suitably qualified and experienced bat ecologist under the direction of a method statement.

Recommendation 5 (Nesting Birds)

If any features associated with nesting birds are required to be altered during the bird breeding season, then a further inspection by a suitably qualified ecologist is required no more than 24 hours before this process commences.

Recommendation 6 (Post Development Enhancements)

Bats: To encourage bat roosting activity and increase roosting opportunities on-site post-development, it is recommended that an addition of two new roosting opportunities are provided as part of the development (ridge access points). These to give access to a F1 bitumen felt membrane running over the ridge, with access to the southern and northern elevations (Appendix).

This Executive Summary is intended to provide an overview of the assessment of the proposed development site based on information received by Little Wing Ecology (CYF) at the time of production. This Executive Summary should be read in conjunction with the full report.



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SECTION ONE: INTRODUCTION

1.1 Background

- 1.1.1 Little Wing Ecology (CYF) was commissioned to undertake a Preliminary Roost Assessment, and Activity Survey, of a site known as, '36-37 Fox Street, Treharris, Merthyr Tydfil, CF46 5HE.' The survey was undertaken to inform the client of any constraints, and associated planning requirements with regards to protected species, and to inform a planning application. For the purposes of this report, the structure will be referred to as, 'Building A' Map reference ST 09961 97109.
- 1.1.2 This report contains the results from a preliminary roost inspection, two dusk activity surveys, and three 14-day internal passive surveys, conducted during the summer months. Surveys were carried out with the purpose of identifying the presence/likely absence of bat roosts at Building A. Following survey, an assessment of the likely impact that the proposed works will have on bat interest at the site was carried out. This report has been prepared with recommendations for enhancement features to improve opportunities for local species post-development.

1.2 Proposed Works

- 1.2.1 Planning permission is sought for the renovation of a former commercial building.



QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.

1.3 Site Description

- 1.3.1 Building A is a mid-terrace Victorian building, previously two units, now knocked through into one. The structure occupies an urban plot of approximately $\approx 11\text{m} \times \approx 20\text{m}$, is traditionally built with stone and brick. Materials include a bitumen-based roofing membrane, timber bargeboards, plastic guttering, timber bargeboards and lead flashing.
- 1.3.2 Building A is located on a main service (Fox Street) within the eastern portion of the village of Treharris. Habitat in the immediate vicinity of the structure is mixed, comprising other buildings, and made surfaces,

such as roads and pavements. The frontage (north-west elevation) is exposed to high levels of artificial lighting while the rear of the structure presents darker space with a mixture of urban and natural vegetation continuing relatively unbroken to the Tâf Bargoed river (150m south-east). The Tâf Bargoed flows south-west through a mature broadleaved woodland and joins the Afon Tâf ($\approx 720\text{m}$ downstream). The settlement of Treharris extends continuously as ribbon development $>1.6\text{km}$ to the west (merging with Edwarsville), $\approx 275\text{m}$ (north) and $\approx 620\text{m}$ east, beyond which the landscape opens up to habitat with an upland characteristic.



QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.

1.4 Policy and Legislation

- 1.4.1 In Wales, all bat species and their roosts are legally protected, by both domestic and international legislation. This means you may be committing a criminal offence if you:
- Deliberately take, injure, or kill a wild bat.
 - Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
 - Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time).
 - Possess, advertise, sell, exchange a bat of a species found in the wild in the EU (dead or alive) or any part of a bat.
 - Intentionally or recklessly obstruct access to a bat roost.
- 1.4.2 The framework for this protection is provided within three pieces of legislation from the Government of Wales and the UK Government.
- 1.4.3 These are:
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
 - The Environment (Wales) Act 2016.
 - The Wildlife and Countryside Act (1981) – as amended.
- 1.4.4 Additional information on the legal scope of these acts can be found in the Appendix and a link to the full documentation can be found in, 'References and Bibliography.'

1.5 Survey Aims & Objectives

1.5.1 Considering this legal framework and local planning requirements, the objectives of this survey were to:

- Determine the presence/likely absence of bat roost(s) at Building A.
- Determine the species of bat present.
- Determine the type of roost present (maternity, day roost etc).
- Identify any bat foraging or commuting behaviour in relation to the location.
- Consider if there will be impacts on bats from the proposed works.
- Consider if nesting birds are present which might be affected by the development proposals.
- Gather sufficient information to be able to make appropriate recommendations, inform mitigation and licencing.

SECTION TWO: THE SURVEY METHOD

2.1 Desktop Survey (Bats)

2.1.1 Available records for bats (2km) were collated from the from the local biological records centre (SEWBReC).

2.2 Desktop Survey (Habitat)

2.1.1 A review of aerial photography was undertaken to assess the provision of suitable foraging and commuting habitat within proximity to Building A. This information was used in combination with a review of statutory designated sites, via the MAGIC website, including Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI) to help in confirming the presence of bat species locally.

2.1.2 Bats are considered cryptic species and therefore it can be difficult to confirm whether they are present or not. Although the provision of local biological records would provide a range of information, such records can only be relied upon as relative where they are reasonably recent and when supplied by an experienced bat surveyor. It was therefore considered necessary to undertake a detailed survey regardless of the data search results, as this is most likely to be beyond the acceptability of current data as defined in BS 42020:2013 Biodiversity: Code of practice for planning and development and will not be as effective as spending time examining and or monitoring the buildings for the presence of bats.

2.3 Preliminary Roost Assessment

2.3.1 A potential nest and roost assessment survey was carried out on the interior and exterior of Building A by a suitably experienced ecologist and Natural Resources Wales (NRW) licenced bat worker, on the 24th May 2023. The external fabric of the structure was methodically inspected using close-focusing binoculars and a high-powered torch for potential access points such as gaps in the fabric of the building, beneath lifted roof materials or other gaps in the roof. Loose flashing, smudge marks and droppings on walls directly below eaves and gables etc were also searched for. A description of the building, including construction material and current condition was recorded. Internally, the buildings were searched using a high-powered torch to identify possible links to exterior roost entrances and clear signs of presence via urine staining, feeding remains, odour, piles of droppings, live bats, and bat carcasses. The space was also examined in the dark to identify areas where the presence of light would identify potential entry points for birds and bats. The aim of this survey was to determine the actual or potential presence of bats and the need for further survey and/or mitigation. During the field survey, an assessment of the habitats on-site and beyond the site boundary was undertaken. The aim of this was to identify potential commuting and foraging corridors, and suitable foraging sites. This enabled the suitability of the location for bats to be determined.

2.3.2 Nesting birds were also considered at the time of the survey, with the surveyor looking for signs of bird activity, nests, nest building, feeding at nest sites, and evidence of collections of bird droppings, feathers, or any other indications of use by birds.

2.5 Additional Ecological Considerations

- 2.5.1 Whilst a full ecological appraisal was not undertaken at the site, a note was made of any additional ecological considerations identified during the survey. For ease of reference these have been included within this report (Section 3).

2.6 Limitations of the Survey Method

- 2.6.1 A record was made of any constraints that limited the results of this survey report (Section 3).

2.7 Activity Surveys

- 2.7.1 Following guidelines set out in, 'Bat Conservation Trusts Good Practice Guidelines (Collins, J. (Ed.) (2016),' Building A will be categorised for the level of risk of supporting bats and recommendations made as to the requirement (if any) for dusk activity surveys to determine the presence/likely absence of roosting bats, species identification, population size, roost type, and the requirement for any associated mitigation. If required, dusk survey(s) for bats will be conducted no less than 14 days apart. During any subsequent activity surveys, sufficient surveyors will be required to adequately cover all features identified during the PRA. Nocturnal bat surveys can be undertaken May–mid September, inclusive. Taking a precautionary approach, and dependent on the outcome of these surveys, additional survey work may be required, but only if higher than expected activity is recorded. Details of our surveyors and their experience is recorded in the Appendix.

2.8 Equipment (Activity Surveys)

- 2.8.1 The equipment used for dusk activity surveys provides high quality recordings of bat calls which are analysed using BatSound and AnalookW software. Recordings are annotated by the surveyors to provide contextual information on bat behaviour and flight patterns. At Little Wing Ecology (CYF) we use Pettersson D240x time expansion bat detector and Tascam DR-05X Portable Digital Recorder, Peersonic RPA3B full spectrum recorders and Anabat SD2 Frequency Division detectors. As a night vision aid (NVA) we use a MELCAM Video Camera Camcorder 1080P IR Night Vision Digital Camera. Audio for this is provided by an Anabat SD1. In addition, we use Audiomoth – a full-spectrum acoustic logger, based on the Gecko processor range from Silicon Labs.

SECTION THREE: RESULTS

3.1 Desktop Survey Results

- 3.1.1 The survey location was examined by consulting Magic Map. No part of the site contains, or is within, any statutory sites of nature conservation interest, such as a Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs). There are no Sites of Species Scientific Interest (SSSIs) on or adjacent to Building A.
- 3.1.2 The nearest SSSIs is, 'Nelson Bog,' which is located ≈1.km south-east of Building A. The nearest National Nature Reserve is Glaswelltiroedd Aberbargoed/Aberbargoed Grasslands located ≈6.4km to the north-east, a portion of which is also designated as a special area of conservation.
- 3.1.3 There are no non-statutory sites, such as Site important for Nature Conservation (SINC), on the proposed development site, however, there are several SINC in close proximity to Building A. The closest and most significant is Afon Bargoed Tâf, located 150m south-east. The Afon Bargoed Tâf flows south-west through a mature broadleaved woodland and joins the Afon Tâf (≈720m downstream). In addition, there are three SINC in close proximity, Cwm Bargoed/Lower Cwm Bargoed, Coed Edwardsville/Edwardsville Woods, and Trelewis (ancient woodland).

3.2 Preliminary Roost Assessment (PRA)

PRA	Evidence
Building A: A traditional stone and slate shop frontage with boarded up windows. Formally two units. Four Windows to the first floor, all boarded up. Concrete roof tiles in good order. Chimney to party wall on the north-east side, with flashing neat and in good order. Timber barge boards to the north-eastern elevation with sections missing centrally. Some areas of barge boards replaced to a northwest end. Original box sash windows present and visible behind boarding. Gaps present around boarded up windows and gaps around sash frame, particularly windows one and four on either end of the first story. Gaps present along all the barge board on the frontage of the building. Chimney present above the northeast party wall with all flashing and pointing neat and in good order. Barge boards are missing providing access to the roofing felt. The first-floor windows are sealed with foam. Ground floor doorway blocked up with concrete blocks leaving a gap above. This opens to a cavity of unknown proportions. Boarded up windows with gaps around the edges. This is very sunny elevation lots of solar gain. Two droppings (pipistrelle type) found at the base of the door nearer an opening to the exterior. Gaps available around both the door and the window providing access to the exterior space. Gaps present between first floor joists and the wall. Some small gaps available between stones especially above the window. The rear portion of the first-floor ceiling and floor is missing. Cement render to walls. Stonework exposed at the level of the floor joists with a significant cavity at the western corner. Debris to the floor including sand and leaves – hindering the identification of evidence. Small sections of stonewall are exposed, some cavities recorded. A cavity present between floor joists and party walls at four locations. Aluminium frame shop windows to the front elevation are well sealed. Two potential droppings recorded here, these having suffered significant deterioration to the extent that they cannot be relied upon to confirm the presence of bats. Gaps around the sash window frames and one sash was left ajar giving access to the exterior. Ceilings removed and open to the roof structure including a bitumen based felt. Party wall in the roof space was well pointed. The first-floor walls were well pointed. Gaps were present above party walls providing access to neighbouring roof spaces. A ridge board was present. Droppings were identified below the ridge of a brown long-eared type. However, these are not likely fresh, are considered to have some age to them. Several very old droppings and five butterfly wings (small tortoiseshell - <i>Aglaia urticae</i>) recorded, most remains recorded below the ridge board. Four of these were dusty and old while one was bright and considered to be fresh. An abandoned swallow nest (<i>Hirundo rustica</i>) was identified centrally on the ridge. Droppings beneath this nest have been cleared. No fresh droppings were present.	Basement Two bat droppings located very close to the boarded up rear door, next to an opening to the exterior space. Ground floor Potentially two bat droppings located but due to deterioration not sufficient to confirm the presence of bats. No evidence recorded of nesting birds. First Floor (east) Several historic bat droppings identified beneath the ridge board of brown long-eared type; no fresh droppings were identified. Five remains of butterfly wings were identified, four of which were old (covered in dust) one of which was considered fresh. First Floor (west) Two confirmed bat droppings of a brown long-eared type. Nine remains for butterfly wings we identified, seven of which were old - two of which were considered fresh.

Table 3.1: PRA

3.3 Results of Preliminary Roost Assessment

- 3.3.1 Following guidelines set out on Bat Conservation Trusts Good Practice Guidelines (Collins, J. (Ed.) (2016), Building A has been categorised as being of moderate risk, requiring a dusk survey for bats on two

occasions. These surveys must be conducted no less than 14 days apart. These surveys represented the minimum recommended number of visits to give confidence in a negative result for structures. In addition, a 14-day passive survey is required at the interior of the building to evidence the use of the building by bats. Three passive detectors will be deployed, one on each level of the structure.

3.4 Local Records for Bats

- 3.4.1 The local biodiversity records provided by SEWBReC returned 218 species records, including 156 records for bat species, and 62 records for bird species locally. Some of these were too old to be considered viable. The closest (<1km) and most significant records are summarised here. There are 16 records for bats within 500m. These are for noctule, common pipistrelle, soprano pipistrelle, brown long-eared bat, an unidentified pipistrelle and an unidentified bat, an unidentified myotis and an unidentified bat. There are an additional two species recorded between 0.5-1km including Daubenton's bat and an unidentified pipistrelle.
- 3.4.2 In total there are five roost records within 500m the closest three being a day roost for common pipistrelle (375m). In addition, there is a record of brown long-eared roosting inside a garden shed (420m) and an unidentified bat found in a house (457m) and a night roost for lesser horseshoe (135m).

3.5 Habitat and Satellite Imagery - Suitability for Commuting and Foraging Bats

- 3.5.1 The impact of artificial lighting on Building A is mixed with the northern elevation exposed to high levels of artificial lighting and the southern elevation representing a dark site. A row of broadleaved trees runs for a short distance directly behind the properties of Fox Street (including Building A). These run adjacent to a main service road (also Fox Street). Directly south east of this road is an extensive area of broadleaved, woodland scrub, and grassland, which borders the Afon Bargoed Tâf / Taff Bargoed River. The river and its associated woodland flows southwest where it enters the larger Afon Tâf / River Taff at Quakers yard, at approximately 720 metres downstream. At this location both rivers are bordered by mature broadleaved woodlands including areas of ancient and semi ancient woodland which provides connectivity North and South to the wider landscape.

3.6 Suitability for Hibernating Bats

- 3.6.1 The features identified within the PRA are considered to offer a low risk at providing the hibernating conditions that bats prefer. A split-level cellar is present, open at the rear of the structure, level with the garden. As pipistrelle species are known to hibernate in buildings, this will need to be taken into consideration, particularly in the winter shaded areas on the north and west sides of structures.

3.7 Activity Survey Recordings

- 3.7.1 On 21.07.23, a common pipistrelle was recorded emerging from the southern elevation at gutter level (centrally). This animal began foraging around the garden for ≈2 minutes before commuting away from the building. No bats were recorded at the northern elevation and no other activity was observed.
- 3.7.2 On 05.08.23, no evidence was recorded of bats using Building A as a roost. However, two common pipistrelles were recorded, one at the southern elevation within the garden space, and one animal was recorded commuting along the northern elevation. No bats were recorded at the northern elevation and no other activity was observed.

3.8 Passive Survey Recordings

- 3.8.1 Between 18.08.23-01.09.23, three full spectrum passive recorders were present, one each on the ground floor, first floor and split-level basement. No evidence was recorded of bats using the interior of Building A.

3.9 Infrared Video Survey

- 3.9.1 In addition to active monitoring using bat detectors, an infrared camera was deployed on the dusk activity

surveys.



Figure 3: Infrared Monitoring (Image quality)

3.10 Field Survey Details & Weather Conditions

Date	Timings (BST)		Notes, Sunset Times	Weather Conditions		
	Start	End		Variable	Start	End
24.05.23	10.30	12.30	PRA	Temp (°C)	20.3	22.2
				Cloud Cover (Oktas)	0	0
				Precipitation	Nil	Nil
				Beaufort Scale	F3	F2
21.07.23	21.05	22.35	Dusk Activity Survey	Temp (°C)		
			Sunset 21.18	Cloud Cover (Oktas)		
				Precipitation	Nil	Nil
				Beaufort Scale		
05.08.23	20.40	22.10	Dusk Activity Survey	Temp (°C)	13.6	11.8
			Sunset: 20.56	Cloud Cover (Oktas)	1	1
				Precipitation	Nil	Nil
				Beaufort Scale	F1	F1

Table 3.2: Field Survey Details and Weather Conditions

3.10 Additional Ecological Constraints (Results)

- 3.10.1 The interior and exterior of Building A was fully accessible. The roof space was exposed to the second storey. Due to previous renovation works, building debris, dust and general detritus are present in all areas and this hinders the identification of evidence.
- 3.10.2 No additional limitations were recorded during the field survey.

3.11 A Summary of Evidence

Survey Location	Species (Recorded)	Notes
Building A	Common pipistrelle	Droppings: 10-15 droppings found over three floors, possibly historic, including some of a pipistrelle type and some of a brown long-eared type. Feeding debris: 14 butterfly wings identified some beneath an exposed ridge-board. Most were dusty and appeared to have been in situ for some time.

		Live sightings: During two dusk observations, one species was identified foraging/commuting on or near the site: common pipistrelle. Very limited foraging was recorded over the garden area. Roost Type: During two dusk observations, a common pipistrelle was recorded emerging from the southern elevation at gutter level (centrally). Static Survey: No evidence was recorded of bats using the interior of the structure over a 14-day period.
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Table 3.3: Summary of Evidence

3.12 Impact Assessment

- 3.12.1 When the nature conservation significance of the site is considered against recognised criteria (Bat Mitigation Guidelines 2004 and Good Practice Guide: NRW Approach to Bats and Planning October 2015 and IUCN Red List of Threatened Species), the nature conservation status of the site is assessed to be low, due to the presence of a day roost for a small number of a common species – common pipistrelle (*Pipistrellus pipistrellus*). If unmitigated, the scale of this development is considered to affect the local bat population, with a low risk of detrimental impacts to the conservation status at a local level. One species were recorded commuting/foraging near Building A: common pipistrelle (Least Concern – IUCN Red List). A cautionary approach will be recommended to mitigate impacts on commuting and foraging bats: especially at the southern elevation.

SECTION FOUR: CONCLUSIONS

- 4.1 There are no non-statutory sites, such as Site important for Nature Conservation (SINC), on the proposed development site, however, there are several SINCs in close proximity to Building A in addition, there are three SINCs in close proximity, Cwm Bargoed/Lower Cwm Bargoed, Coed Edwardsville/Edwardsville Woods and Trelewis (ancient woodland). Provision must be made in the lighting plans to avoid any potential impacts on these features.
- 4.2 During a preliminary roost assessment, Brown long-eared droppings were identified under the ridge board, along with several examples of feeding remains. While a 14-day static survey returned no evidence of bats currently using the interior of the structure, local records document the presence of a local population and this space has likely been used by the species in recent years. The property has been empty for approximately ≈20 years and previous work to the interior such as stripping out of ceilings has likely made this space less suitable. Consequently, provision should be made to reinstate a suitable roost area in the loft space. As this space was unlikely a maternity roost (due to the number of droppings) a small style, 'Gable Roost,' would provide sufficient space (refer to section five).
- 4.1 Following guidelines set out on Bat Conservation Trusts Good Practice Guidelines (Collins, J. (Ed.) (2016), Building A was categorised as being of moderate risk, requiring a dusk survey for bats on two occasions. Two dusk emergence surveys returned a positive result for Building A supporting a small day roost for common pipistrelle with the roost being located centrally on the southern elevation, with the roost entrance being at gutter level (there is no bargeboard present). All bat species and their places of rest are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. The legal protection for bats concerns impacts from disturbance, loss of roost locations, modifications to roosts and loss of access or obstruction to roost locations. As the proposal would result in the disturbance/destruction of the identified roost, a European Protected Species (EPS) licence will be required from Natural Resources Wales (NRW) before any work commences.

- 4.2 As pipistrelle species are known to hibernate in buildings a precautionary approach will be followed.
- 4.3 As Building A supports several features that could be exploited by nesting birds, specifically house sparrows, a cautionary approach is recommended.

SECTION FIVE: RECOMMENDATIONS & ENHANCEMENTS

Based on the results of this report, it is recommended that the following conditions be included in the plans. These recommendations include enhancement features. These enhancement features are designed to support 'net gain' for biodiversity onsite, or off-site (if the proposed development cannot accommodate such requirements *in-situ*).

Recommendation 1 (EPS Licence)

A. Applying for an EPS Licence

Building A supports a day roost for common pipistrelle and in its recent history a day roost for brown long-eared bats. Bats and their breeding sites and resting places are protected under the Conservation of Habitats and Species Regulations 2019. Where these species are present and a development proposal is likely to contravene the legal protection they are afforded, the development may only proceed under licence issued by NRW, having satisfied the three requirements set out in the legislation. A licence may only be authorised if:

- a. The development works to be authorised are for the purpose of preserving public health or safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- b. There is no satisfactory alternative; and,
- c. The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in its natural range.

Subject to planning consent being granted by the local planning authority, an EPS licence will be required to facilitate the proposals. The EPS licence is issued under Regulation 55 of the Habitats Regulations by NRW. Once the planning application has been approved the applicant must appoint a suitably qualified ecologist, known as the Ecological Clerk of Works (ECOW), to prepare;

1. European Protected Species Licence - Application form
2. European Protected Species Licence - Method Statement
3. The application form and method statement are prepared to detail how the requirements of the Habitats Regulations will be met for managing the effects on bats during the renovation works. In addition, the applicant is also required to collate and pass on to the appointed ecologist the following documents:
 - A copy of the 'Local Planning Authority Decision Notice.'
 - A copy of either the Delegated Decision report or committee meeting minutes (whichever format was used to approve the planning application).
 - Local Planning Authority Consultation Form.
 - Architects' drawings containing the location of the bat mitigation measures (detailed below), any proposed external lighting and any proposed changes to the landscaping around the development.

Once the planning application has been approved it is advised that the ecologist is engaged as early as possible as there can be a waiting time of approximately 40 working days / 8 calendar weeks for NRW to process the application, in addition to the time it takes to prepare and collate the documents. NRW now charge for issuing an EPS licence, but the exact charge is assessed on a case by case basis. It is not possible at this time to indicate what any likely charge might be.

B. Further Survey

No further survey is recommended at this time. If works do not start within two years (i.e., September 2025) further survey may be necessary to qualify the roost status and recommended adaptations (if required) to the mitigation measure detailed below.

C. Timing of Works

The day roost identified at Building A is considered to be of low conservation significance (Mitchell-Jones 2004) with breeding bats, not a concern. Thus, works will not be restricted by time of year. The main concern is absolute harm to the bats themselves, which will be mitigated by the presence of a licenced Ecological Clerk of Works (ECoW) and the provision of temporary roosting opportunities.

D. Order of Works

Appropriate works for the development at Building A will include:

1. The provision of a temporary roosting location prior to works commencing.
2. The capture/exclusion of bats at the start of works.
3. The modification/replacement of existing roosts (Building A - during the winter months November- March).
4. The creation of a new roost.
5. Provision of appropriate external lighting.

E. Capture/Exclusion of Bats & the Start of Works

An Ecological Clerk of Works (ECoW) will need to be appointed to advise the best location for a new bat roost, the temporary bat boxes and features of mitigation.

The ECoW will also provide a toolbox talk to the building contractor on the specific requirements relating to bats and will remain on-site during specific works such as the erection of scaffolding, if applicable, and stripping of bat roost features. They will also be on-site when the roosts are to be modified, creation of new roosting features and prior to the strike of scaffolding, to inspect the placement and suitability of new roosting features.

Once scaffolding has been erected or a cherry-picker/telehandler is on-site, the ECoW will attend the site to apply exclusion devices (if required) to the known roosting locations, in the form of a one-way gate using acetate sheets, bubble wrap or other effective material. Works may commence the day after, following a toolbox talk given to all site workers by the ECoW about bats and bat behaviour. Due to the complexity of the site and numerous roosting locations available the ECoW will need to be present during removal of materials from significant areas of the building including roofing materials at the wall plate and the stripping of or removal of flashing.

At the same time that the exclusion devices are affixed, two, 'Eco Kent,' bat boxes (The Nestbox Company – or similar) are to be installed. This is ideally done on mature trees and located close to Building A. Provided the boxes will remain unaffected by artificial light, they may be erected on part of the structure that is to remain unaffected by works (including scaffolding), i.e., the boxes will not need to be removed to complete the works and then re-attached. The ECoW will advise on the suitable locations for the boxes, which may include the installation of a free-standing pole, such as those used with, 'Rocket Bat Boxes' (The Nestbox Company).

Works may start with the stripping of the barge boards and roofing materials, to expose the roosts and to discourage further roosting activity by bats. The activity must be undertaken with a sympathetic approach where all roof coverings, barge boards will be removed carefully, by hand, i.e., lifting vertically to prevent scraping.

When all roosting features and the roof has been removed, works may proceed without supervision by the ECoW. In the unlikely event that a bat is discovered during a time when the ECoW is not present on-site, all works must cease and the ECoW contacted for advice before proceeding.

F. The Modification / Replacement of Existing Roosts

As a day roost for common pipistrelle will be impacted and/or destroyed during works, a total of two new bats access points must be installed on the proposed new structure. Access to be provided behind a replacement timber bargeboard at the southern elevation, one of which to be consummate with the existing access points. These access

points to provide access to an area between F1 bitumen felt (roof membrane) and a slate-type roofing material.

New or replacement timbers for the roof frame and fascia boards must be checked to ensure there is no use of chemicals harmful to bats. Ideally, new fascias must not be made of uPVC.

The location of access points must reflect the existing roost location as far as possible.

G. The Creation of a New Roost

Pipistrelle Roost: To encourage bat roosting activity and increase roosting opportunities on-site post-development, it is recommended that new roosting opportunities are provided as part of the development. Two additional roosting locations will be positioned to allow bats to moderate temperature variations in the summer months. These features will be provided at the ridge of the renovated structure (See enhancement features below).

Brown long-eared 'Gable' Roost: An internal roost is to be constructed against the eastern gable in the roof space. This will extend from the eaves up to the ridge board and will be between 3m in length. Access to the roost can be provided via gaps beneath the adjoining bargeboards. Increasing the number of the internal roosting opportunities can be achieved by ensuring that any exposed woodwork in the artificial roost is left with a rough surface, allowing bats to cling onto it. Roughened timber cross battens with tiles or plywood squares secured to the battens can also be attached to the rafters and walls to provide extra roosting opportunities and increase the range of crevices and niches available. As long-eared bats roost in crevices, tending to roost inside the ridge tiles or against the ridge board, consideration will be given to installing double or triple ridge boards to increase the availability of roosting sites. Multiple ridge boards can run parallel with each other, maintaining a 20–30mm gap between each board. This creates a roosting crevice running along the length of the ridge inside the loft. The loft access hatch will be 400mm x 400mm and the loft will not be used for storage.

Recommendation 2 (Lighting During Development)

As a European Protected Species, disturbance of bats during foraging/commuting, even if accidental, is to be avoided. It is therefore recommended that the use of artificial lighting during the development of the site is avoided. External lighting must be restricted during the development period to that which is necessary for safety and security. This must be kept to a minimum.

If any development is to be conducted between March and September (inclusive), efforts must be made to avoid any adverse impacts on the commuting and foraging of bats near the site. External lighting must be restricted during the development period to that which is necessary for safety and security. This must be kept to a minimum.

Recommendation 3 (Post Development Lighting Scheme)

To prevent any adverse impact upon the potential roosting, commuting and foraging habitats for bats adjacent to Building A (post development), specifically at the southern elevation, overlooking the Afon Bargoed Tâf (SINC), the lighting plan for the site must be functional and directional only and kept to a minimum servicing the public areas of the proposed development (as required for safety and security). It must be achieved using baffles and screens, if necessary, to ensure no light spill on any retained or planted vegetated (including off-site vegetation - e.g., there is a potential to impact animals using the nearby habitat features).

- A sensitive lighting scheme is recommended and must be created. The sensitive lighting scheme must follow advice details in 'Bats and Artificial Lighting in the UK: Technical Guidance Note 08/23' (2023) and comprise of:
- Light fixtures, filaments, light spill and artificial light must be directed away from bat roost entrances, both existing and those to be created as part of the mitigation.
- Luminaries are to be LED only, due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. Luminaires must have a warm white spectrum (ideally <2700 Kelvins), reducing the blue light component and increasing the red-light component.
- Luminaries must feature peak wavelengths high the 550nm to avoid the component of light most disturbing to bats.
- Heights of fixtures must be carefully considered to minimise light spill. Only luminaries with an upward light ratio of 0% and with good optical control must be used.
- Luminaries must always be mounted on the horizontal, i.e., no upward tilt.

- Any external security lighting must be set on motion sensors and short (15 second) timers.
- As a last resort, accessories such as baffles, hoods or louvres must also be used, and directed away from any natural features and must not encroach outside the Site boundaries, particularly the surrounding trees, hedgerows, and other vegetation in the landscape.

Recommendation 4 (Hibernation and Pipistrelles)

As pipistrelle species are known to hibernate in buildings a precautionary approach will be followed. Any works with regards to the striping of roofing materials or exposing the wall plate, particularly on the northern aspects of the structure, during the winter months (October-April – inclusive), to be supervised by a suitably qualified and experienced bat ecologist under the direction of a method statement.

Recommendation 5 (Nesting Birds)

All nesting birds, their chicks' eggs and active nests are protected under the Wildlife and Countryside Act 1981 (as amended). If a nest is discovered during works and is active, it must be left undisturbed until all the chicks have fledged. If any features associated with nesting birds are required to be altered during the bird breeding season, then a further inspection by a suitably qualified ecologist is required no more than 24 hours before this process commences. If an active nest is found by a site inspection, an exclusion zone around the nest will be necessary to preserve this feature until the chicks have fledged the nest.

These measures will allow the development to conform to current protective legislation as laid out in the Wildlife and Countryside Act 1981 (plus amendments).

Recommendation 6 (Post Development Enhancements)

Under the Environment (Wales) Act 2016, public authorities (including local councils and the National Parks), 'must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.' This replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, which states that; 'All public authorities have a statutory duty to conserve biodiversity in all of their functions.'

Local authorities are legally required to make efforts to protect and enhance wildlife and its habitat and this is executed, in part, through the requirement of an ecological assessment for planned development sites and therefore, we recommend the following principles of design must be followed:

- **Bats:** To encourage bat roosting activity and increase roosting opportunities on-site post-development, it is recommended that an addition of two new roosting opportunities are provided as part of the development (ridge access points). These to give access to a F1 bitumen felt membrane running over the ridge, with access to the southern and northern elevations (Appendix).

SECTION SIX: ADDITIONAL INFORMATION

6.1 ENCOUNTERING A PROTECTED SPECIES DURING WORKS

- 6.1.1 If at any point during works a protected species is encountered on-site, it is essential that all work is to cease and that a suitably experienced ecologist is contacted for advice.

6.2 EXPIRATION OF THIS REPORT

- 6.2.1 This report is valid for two years. In the event that works do not start within two years (i.e., September 2025) further survey and assessment will be necessary to qualify the results of this report and its recommendations.

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A. Site Photographs

Building A



B. Bats and The Law: Legislation in Wales

Policy	Description
The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019	Bats are specifically protected by (The Habitat Regulations). The Habitat Regulations are the way in which EU legislation is transposed into UK law. All species protected via this legislation are defined as 'European Protected Species.' The Habitat Regulations make it an offence to deliberately capture, kill, disturb, or trade in European Protected Species (i.e., those listed on Schedule 2), of which all UK bats are included. However, these actions can be made lawful through the granting of a license by Natural Resources Wales (NRW). Licenses may be granted for a number of purposes but only after the LPA and NRW is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on the wild populations of bats.
The Environment (Wales) Act 2016	Section 7 of the Environment (Wales) Act 2016 requires all statutory authorities including Local Planning Authorities (LPA) to have due regard for living organisms and types of habitats that are of key significance to sustain and improve biodiversity in relation to Wales. Furthermore, the LPA have a duty under the Act to take all reasonable steps to maintain and enhance the living organisms and types of habitats included on any list published under Section 7 and to encourage others to take such steps.
Wildlife and Countryside Act 1981 (as amended)	The Wildlife and Countryside Act 1981 (as amended) (The WCA 1981) is the principal legislation by which most species are protected in Wales. Bats are protected under Schedule 5 of the WCA 1981, which makes it an offence to damage or destroy a bat roost; intentionally or recklessly disturb a bat or a roost, or intentionally or recklessly obstruct access to a roost. The interpretation of a bat roost is "any structure or place which any wild [bat]...uses for shelter or protection". Because bats tend to reuse the same roosts, the legal opinion is that the roost is protected whether or not the bats are present at the time. In relation to birds, the WCA 1981 makes it an offence to intentionally kill, injure or take any wild bird; take, damage, or destroy the nest of any wild bird while that nest is in use or being built. Schedule 1 of the WCA Act 1981 includes bird species for which addition the additional offence of disturbing these species at their nests or their dependent young.

C. Meet our Survey Team

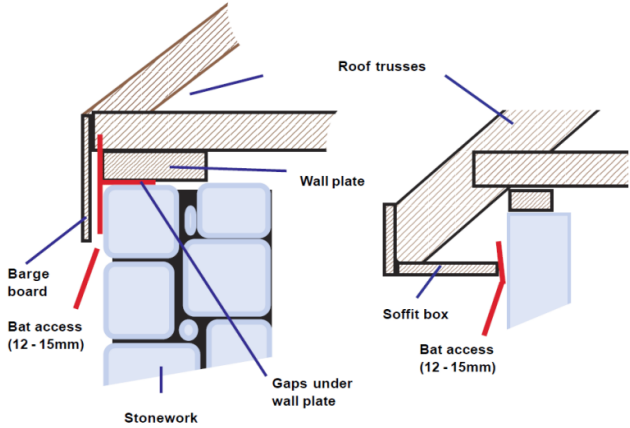
Nic Aldridge (NA) is an ecologist with Little Wing Ecology and the author of this report. He is a licenced bat worker with over 20 years' experience in education and conservation and over five years' experience surveying built-structures, open habitats, and woodlands for bats. Following a degree in Botany and Zoology, Nic completed an MSc in Wildlife Management, Conservation and Control, at the University of Reading. He has practical experience in field-based research with a focus on invertebrate and vegetation diversity and producing phase 1 habitat surveys and habitat management plans. He has carried out the ringing of Daubenton's bats as part of a multi-year project on the species and has undertaken monitoring work on several important lesser horseshoe bat roosts. He has attended courses with the Bat Conservation Trust to improve his knowledge and skills and has led voluntary projects to develop habitats and collect species data. Nic founded Little Wing Ecology in 2021 as a social enterprise, to use the skills and expertise of an ecological consultancy to work with the local community, support local conservation projects and provide training and education for the next generation of ecologists.

Yvette Amos (YA) is a civil servant with Companies House and a wildlife surveyor with Little Wing Ecology. She has a lifelong love of nature and enjoys spending her spare time and vacations centred around nature and wildlife focused destinations. Yvette enjoys being outdoors, where she expresses her love of photography along with her interest in the natural world. She is experienced in data collection at a high level, having formerly worked for Cardiff University, School of Social Sciences and Computer Science. Yvette has attended several training sessions to develop her knowledge, understanding and practical skills in bat monitoring and bat ecology and is dedicated to gaining experience in nature conservation, wildlife management and ecology.

Reviewer

Phil Morgan (PM) has over 40 years' experience of undertaking building, tree and cave surveys for all bat species (S091084/1; expiry April 2024). In addition, he has undertaken foraging and flight line surveys using heterodyne and other echo-location equipment, and in 1991 made a significant contribution to a Bristol University run project, which established the methodology used in the National Bat Monitoring Programme. Phil has also undertaken numerous radio tracking exercises on both lesser horseshoe and Daubenton's bats. He holds Natural Resources Wales licence for other protected species including dormice, otter, and great crested newt. Phil was the previously the Conservation Officer with Dŵr Cymru Welsh Water, with an all-Wales remit, before leaving to start the Just Mammals Consultancy, where he was Principal Ecologist for 21 years. Phil is a Chartered Environmentalist, with the Society for the Environment (CEnv), and a full Member of the Chartered Institute for Ecology and Environmental Management (MCIEEM).

D. Biodiversity Enhancement Features

Enhancement / Supporting Features	Information
	<u>Replacement Roosting opportunities</u> Gaps behind soffit, fascia, or barge boards. Access points should measure 15mm x 200mm (approximately). This gap must be against the wall. Gaps should not be placed directly above windows or doors. The apex and corners are suitable locations.
	<u>Supplementary Roosting Opportunities</u> For the bat access point at the ridge, it will be necessary to cut a slot in the lining membrane 20 x 40mm, to facilitate bat access into the loft. The slot in the lining membrane must be offset from the ridge access gap by 100mm, to reduce draughts and loss. This would provide opportunities for additional species.

E. Activity Survey – Recordings (Raw data)

DATE	Time (start)	Time (end)	SPECIES (COMMON)	No	Surveyor's Position	OBSERVER'S NAME	COMMENT	CLASS OF SITE
21.07.23	21.40	21.40	Common pipistrelle	1	South	Yvette Amos	Emergence	Day roost
21.07.23	21.42	21.42	Common pipistrelle	2	South	Yvette Amos	Foraging	Foraging
05.08.23	21.36	21.36	Common pipistrelle	1	North	Yvette Amos	Heard-not-seen	
05.08.23	21.40	21.40	Common pipistrelle	1	South	Nic Aldridge	Foraging	Foraging



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Produced by: **Little Wing Ecology CYF (A Not-for-profit Company Ltd by Guarantee)**
Company no: **13743223**
Address: **24 Stryd Alma, Brynmawr, Blaenau Gwent, NP234 DY**
Email: **nic@littlewingecology.cymru**
Telephone: **07985 395251**

About Us

Little Wing Ecology is a not-for-profit ecological consultancy based in the South Wales Valleys. Specializing in bat surveys for housing developments, but providing a wide range of ecological services, it provides appropriate expertise on behalf of a range of clients.

We are a small ecological consultancy dedicated to providing an easy-to-use and jargon-free service. We produce the following products:

- Preliminary Ecological Appraisal
- Preliminary Roost Assessment
- Bat Surveys
- Mitigation Planning
- European Protected Species License Applications
- On-site Services to Support Planning Applications and Development

As a Consultancy, we use our experience, expertise, and love of wildlife to provide an easy to access and pragmatic service that upholds the highest standards of conservation.

As a Not-for-Profit Social Enterprise, we reinvest our profits. We work with valleys communities, conservation groups, local authorities, and other groups to support these three key areas:

A. Helping Nature

Developing and supporting habitat gain in the valleys through:

- Habitat improvement.
- Developing the built environment for the benefit of wildlife.
- Long-term monitoring projects for wildlife populations in the valleys.

B. Working with People

- Providing employment, training and voluntary opportunities for the local community and young people to help them build their skills, develop a stronger relationship with nature and build confidence in themselves.

C. Supporting Communities

- Reinvesting in nature and people, locally.
- Supporting education within communities to promote a positive relationship between people and wildlife.
- Providing pro-bono surveys for worthwhile causes.

Adroddiad Arolwg gan



Cynhyrchwyd gan:
Rhif Cwmni:
Address:
e-bost:
Telephone:

Little Wing Ecology CYF (di-elw wedi'i gyfyngu gan warant)
13743223
24 Stryd Alma, Brynmawr, Blaenau Gwent, NP234 DY
nic@littlewingecology.cymru
07985395251