



# ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



## PHASE 2 BAT ACTIVITY SURVEY

72 HEATH HILL

Lower Betton Farm, Cross Houses, Shrewsbury, Shropshire, SY5 6JD

**Project name:** 72 Heath Hill, Sheriffhales, Shifnal TF11 8RR.

**Grid Reference:** SJ 76262 14112

**Date:** 11/09/2023

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# 1 INTRODUCTION

## 1.1 BACKGROUND TO DEVELOPMENT

Planning consent will be sought for the renovation of a semi-derelict residential property to elevate it to current living standards.

Preliminary examination of the building indicated that it has 'moderate' potential as a bat roost. Whilst there are numerous crevices that could be exploited by bats, no evidence of bats was found internally.

## 1.2 SCOPE OF SURVEY

Arbor Vitae were commissioned to undertake two bat activity surveys to determine if the house at Heath Hill used by roosting bats.

- Bats and their roosting sites are legally protected under The Conservation of Habitats and Species Regulations 2017 and The Wildlife and Countryside Act 1981.

The survey was also designed to assess the presence of any breeding birds using the building.

- All wild nesting birds, their nests and eggs are legally protected under The Wildlife and Countryside Act 1981.

## 1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

**Avoidance** - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

**Mitigation** - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

**Compensation** - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

**Enhancements** - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

## **2 SITE DESCRIPTION**

### **2.1 LOCATION, LANDSCAPE, AND BACKGROUND**

The site at 72 Heath Hill is located approximately 5km from the town of Shifnal.

The surrounding landscape is primarily composed of arable farmland with some residential properties present to the east of the site. In addition, a large broadleaved deciduous plantation is present 1.37km the west of the site. More woodland is present surrounding a quarry 0.45km to the north of the site.

The proposed plans aim to renovate a derelict residential accommodation to bring it up to the standards of the modern living.

### **2.2 BUILDING DESCRIPTION**

The building subject to survey is a two-storey semi-detached property. The construction is red brick with a clay tiled pitched roof. The ridge tiles are also clay and are cemented in place. Overall, the roof is in relatively good condition with minimal tiles slipped or damaged.

There is a single storey extension at the north elevation which has a half-pitched clay tile roof and timber cladding across the top third of its elevations. A further single storey extension has been added to the south elevation, forming a small glazed porch with brick base. A single dormer window with pitched clay tile roof section is present at the north-facing elevation. Two are present at the south-facing elevation, whereas these have a flat roof consisting of bitumen felt.

An open archway to a workshop is present at the south-facing elevation, the workshop is in poor condition and the ceiling is collapsing. With regards to the west-facing gable, the top half has been covered with MDF boarding, whereas the lower section is traditional red brick.

The garden area at the rear of the property is overgrown with shrubs and mature trees, but mostly bramble and other ruderal species.

### 3 SURVEY METHODOLOGY

#### 3.1 VISUAL INSPECTION

One visit on 26/07/2023 was made to carry out a preliminary visual assessment of the property prior to the first dusk activity survey 09/08/2023.

The objective of the survey was to find and record any signs of use by bats, for example:

- Droppings, sometimes in concentrations below roost sites,
- Feeding signs such as butterfly and moth wings,
- Staining of timber, brickwork around access points.

The general structure of the building was assessed for its potential to provide bats with roosting opportunities.

#### 3.2 ACTIVITY SURVEYS

DATE	SURVEY TIME	SUNSET SUNRISE	WEATHER	OBSERVERS	STATIC RECORDERS
09/08/2023	20:30-22:15	20:47	Cloud: 100% Rain: No Wind: 1 (BFT) Temp: 20°C	Phillipa Stirling Charlotte skinner	Anabat Express internally x2
28/08/2023	20:00- 21:45	20:17	Cloud: 100% Rain: No Wind: 0 (BFT) Temp: 16°C	Phillipa Stirling Matthew Bailey	Anabat Express internally x2

Bat activity was registered and recorded externally using Echometer 2 Pro microphone with iPad Air and Nightfox infrared HD binoculars.

#### 3.3 BREEDING BIRDS

The building was assessed for its potential to provide birds with nest sites, and to record any existing evidence of previous nesting.



### 3.4 PERSONNEL

The survey was carried out by ecologist Phillipa Stirling MSc ACIEEM, Natural England bat licence number: 2021-52205-CLS-CLS and bat survey assistants Charlotte Skinner BSc and Matthew Bailey BSc.

### 3.5 CONSTRAINTS

There were no constraints to the survey according to the Bat Conservation Trust good practice guidance.

## 4 SURVEY RESULTS

### 4.1 VISUAL INSPECTION

The loft spaces and undercrofts were closely searched for evidence of bats. No droppings were found and there was no evidence of feeding signs. However, due to numerous roosting features which could be exploited by bats, the structure was assessed as providing 'moderate' suitability as a bat roost.

### 4.2 ACTIVITY SURVEYS

#### *Dusk emergence survey 9<sup>th</sup> August 2023*

A total of four species of bats were recorded during the first dusk emergence survey: Common and soprano pipistrelle, noctule and Natterer's bats. The first record of the survey was a common pipistrelle at 21:07. Subsequent visual confirmation was made at 21:10, the individual was seen to commute to the site from the west and proceeded to fly north adhering closely to the profile of the roof.

At 21:10 two common pipistrelles were seen to appear from the area present the southwest of the site. Soprano and common pipistrelles were observed foraging down the lane to the west of the site at 21:14 and 21:16. Moments after at 21:17 two common pipistrelles were seen foraging around the site, clear social calls were evident throughout. At 21:18 and 21:43 a noctule was observed commuting over the site at approximately a height of 30m.

The final record of the survey was a brief call from a Natterer's bat; however, no visual confirmation was made by the surveyor.

The internal detectors located in the loft space and the open workshop recorded no calls for the duration of the survey. In addition, infra-red video equipment was used as a survey aid during the survey, focusing on the southern and northern elevation. No bats were seen to emerge from the building according to all site surveyor observations and IR footage analysis.

#### *Dusk emergence survey 28<sup>th</sup> August 2023*

A total of five species of bats were observed or recorded during the final dusk emergence survey: common and soprano pipistrelle, noctule, Daubentons and brown long-eared bats. Calls from both common pipistrelle and noctule were recorded at 20:25, but no visual confirmation was made by either surveyor.

Later at 20:28 a soprano pipistrelle was observed foraging down the track located to the west of the site. Several soprano and common pipistrelles were observed to commute from the house located to the west of the site and proceed to forage along the aforementioned track, this was between 20:32-20:38. In addition, the calls from both brown long-eared (20:51) and Daubentons bats (21:15) were recorded. These were the final records of the survey.

The internal detectors located in the loft space and workshop recorded no calls for the duration of the survey. No bats were seen to emerge from the building according to all site surveyor observations and IR footage analysis.

### **4.3 BREEDING BIRDS**

No evidence of breeding birds was found in association with the building during the surveys.

The rear garden is likely to provide nesting opportunities for breeding birds given the dense vegetation and undisturbed nature.

## **5 EVALUATION OF RESULTS AND IMPACT**

### **5.1 BATS**

Six species of bats were observed or recorded during the two dusk emergence survey: common and soprano pipistrelle, noctule, Natterer's, Daubentons and brown long-eared bats. However, only the two former species were observed commuting and foraging around the site.



No bats were seen to emerge from or re-enter the property during the survey work. Additionally, no calls were recorded by the Anabat express internal static detectors placed in the loft space of the house or the workshop.

The survey concludes that the property at 72 Heath Hill is not the current roosting site for any species of bats.

The refurbishment of the house will have no impact upon bat species or their roosting sites. Therefore, a European Protected Species Mitigation Licence will not be required for the conversion work to proceed.

Bats are clearly active within the vicinity of the site and it will be necessary to adopt a precautionary approach, outlined in Section 6.1.

## 5.2 BREEDING BIRDS

The survey demonstrated that no breeding birds were using the house as a nesting site however, the garden area could be in use for nesting. Mitigation will be required.

# 6 MITIGATION & ENHANCEMENT

## 6.1 BATS

The house is not in use as a roosting site for bat species, however a small number of common and soprano pipistrelles were observed foraging around the house located to the southwest of the site. In addition, due to the continued suitability of roosting features that the house provides and the potential roosting activity close to the site, the following method statement will need to be adopted. This will remove any residual risk to bats:

**Timing of works:** removal of the roof will be postponed until at least October 2023, being removed before April 2024. However, when the roof is removed all work can continue without restriction, as the main potential roosting feature of the building has been dismantled.

- **Lighting plan:** the following advice will be incorporated into a lighting plan scheme for the site:
  - mature hedgerows adjacent to the site will not be illuminated in order to retain dark movement corridors for nocturnal wildlife.

- Any exterior security or decorative lights to be installed on the development site will be less than 3 m from the ground and fitted with hoods to direct the light below the horizontal plane, at an angle of less than seventy degrees from vertical, and shall not be fixed to, or directed at, bat boxes or gables or eaves.
- Security lighting will be set on motion sensors with short timers (<1minute) and will be LED with a passive infrared trigger.
- External lights will be hooded and directed toward the ground to reduce upward light spill.
- A warm white spectrum will be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
- Internal luminaires will be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires will be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.
- Luminaires will always be mounted horizontally with an upward light ratio of 0%.

## 6.2 BREEDING BIRDS

All vegetation clearance from the site will be carried out during winter months to avoid disturbing breeding birds.

Replacement nesting opportunities will be provided in the following way:

- Three Woodcrete open-fronted nest boxes to be installed into a nearby mature tree *or* onto a 2.5m tall timber pole as a temporary solution.

## 6.3 ENHANCEMENT

Whilst six species of bats were recorded during the surveys, only common and soprano pipistrelles were observed foraging around site and are clearly roosting within the vicinity. Therefore, the opportunity should be taken to add to their roosting sites by installing artificial roosting sites as follows:

- Two Woodcrete Bat boxes to be installed into a nearby mature tree or onto the side of the newly renovated house once work has concluded.

## 7 SUMMARY

Planning consent will be sort for the renovation of a semi-derelict residential property to elevate it to current living standards. Due to the possible impact on bats and/or breeding birds, a protected species survey was carried out in August 2023.

Preliminary examination of the building indicated that it has 'moderate' potential as a bat roost. Whilst there are numerous crevices that could be exploited by bats, no evidence of bats was found internally. As a result, two further activity surveys were undertaken, these were both conducted at dusk with the aid of Infra-Red HD binoculars.

No bats were seen to emerge of re-enter the building subject to survey. Additionally, no calls were recorded by the Anabat express internal static detectors placed in the two loft spaces of the house.

Six species of bats were recorded during the two dusk emergence survey: common and soprano pipistrelle, noctule, Natterer's, Daubentons and brown long-eared bats. However, only the two former species were observed commuting and foraging around the site.

The survey concluded that the building in question is not used as a roost site by bats and therefore no further surveys or Development licence is required.

However, a small number of common and soprano pipistrelles were observed foraging around the house located to the southwest of the site and are most likely roosting in the vicinity. In addition, the house provides continued suitability as a bat roost. Therefore, to remove the residual risk to bats a Wildlife Sensitive Lighting Plan and timing of works methods statement will be adopted.

The survey demonstrated that no breeding birds were using the house as a nesting site however, the garden area could be in use for nesting. Mitigation will be required.

All vegetation clearance from the site will be carried out during winter months to avoid disturbing breeding birds.

Replacement nesting opportunities will be provided in the following way: Three Woodcrete open-fronted nest boxes.

Ecological enhancement for bat species is recommended in the following way: • Two Woodcrete Bat boxes.

## 8 REFERENCES

Bat Conservation Trust (2018) Bats and artificial lighting in the UK. *Bats and the Built Environment series*, Guidance Note 08/18. Institution of Lighting Professionals.

Collins, J (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edn). The Bat Conservation Trust, London.

Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust.

Mitchell-Jones, A.J. (2004) Bat mitigation guidelines. English Nature.

FIGURE 1 LOCATION. 1:50,000

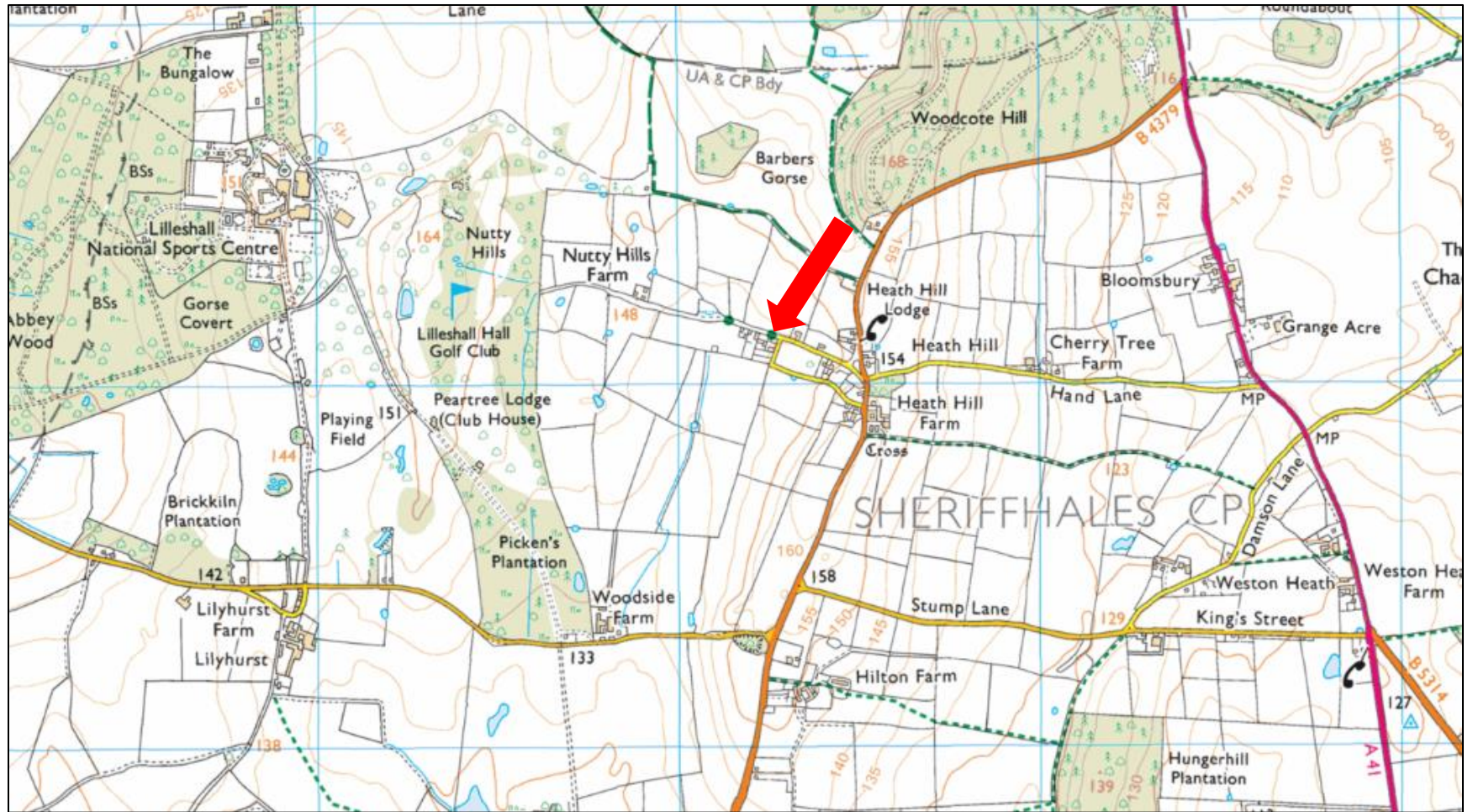


FIGURE 2 AERIAL PHOTOGRAPH AND SURVEYOR LOCATION



**APPENDIX 1 PHOTOGRAPHS**



West facing gable and south elevation



North elevation and extension



North facing elevation



Interior of workshop



Interior of workshop



Interior of loft above the main house