



17<sup>th</sup> July 2023

# The Hemmel

Wolsingham  
DL13 3HG

## Bat Survey

Prepared for: Redgate Architectural Design

On behalf of: Mr A Hewison

Report reference: HemmelWolsingham\_Bat\_v2.0



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## Disclaimer

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Whilst every effort has been made to ensure the contents of this report best reflect the site conditions, this report has been produced based upon site visits and information which provide a snapshot of the site in time. The conclusions of this report reflect conditions within and around the site at the time of survey. Environmental conditions may vary in time and no warranty is given as to the site conditions at differing times.

Due to the dynamic nature of ecological habitats, survey reports such as this are generally considered valid for a period of up to two years (although this may vary). No liability is accepted by Durham Dales Ecology for any reliance on the information contained within this report after this period, and surveys may need to be repeated.

The conclusions drawn within this report are based, in part, on information supplied by third parties. No independent verification of third-party information has been undertaken, and no liability is accepted, or warranty given, in relation to the accuracy of this information.

Biological data collected during the course of the assessment outlined within this report will be submitted to the local environmental records centre, unless otherwise instructed.

It should be noted that the recommendations detailed within this report may, when used to inform a planning application, be directly translated (in their entirety) into a planning condition within any resulting planning approval. The applicant should ensure deliverability of all aspects of the recommendations, prior to submission of this report to the Local Planning Authority.

**It is the responsibility of the Client to implement any mitigation measures detailed within this report, including but not restricted to, the attainment of any protected species licences prior to commencement of works.**

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APPENDICES

Appendix 1a: Bat activity plan – Dusk survey, 10<sup>th</sup> May 2023.

Appendix 1b: Bat activity plan – Dawn survey, 8<sup>th</sup> June 2023.

Appendix 2: Ecological Compensation: Specification

## 1.0 EXECUTIVE SUMMARY

- 1.0.1 Durham Dales Ecology was commissioned by Redgate Architectural Design, on behalf of Mr A Hewison, to undertake a bat survey of The Hemmel, a small stone barn on the outskirts of Wolsingham, in County Durham. The bat survey was requested to inform a planning application for the conversion of the barn for use as holiday accommodation.
- 1.0.2 An internal and external inspection of the property was undertaken on 5<sup>th</sup> January 2023. During the building inspection, no evidence of use by bats was noted, however the barn was found to exhibit numerous cracks and crevices and was classified as being of **medium** risk of containing roosting bats. Two nocturnal activity surveys were undertaken on 10<sup>th</sup> May and 8<sup>th</sup> June 2023, during which a single brown long-eared bat was found to occasionally roost within the barn.
- 1.0.3 The proposed works will involve the replacement of the roof and the loss of the roof void. In the absence of avoidance and mitigation measures, the works are likely to result in the loss of one brown long-eared day roost of low conservation significance.
- 1.0.4 It is proposed to carry out the project under a Natural England mitigation licence, to legalise all otherwise unlawful activities. As part of this licence, any features deemed suitable of supporting roosting bats will be carefully dismantled under the supervision of a suitably licensed ecologist. As new roosting provision cannot be adequately accommodated within the barn if it is to be brought into residential use, it is proposed to create new roosting provision within a currently derelict building located 140m to the north and within the same landholding. **No works that may modify, destroy or cause disturbance to a bat roost may commence until such time as the project ecologist has confirmed that a Natural England licence is in place and has authorised the works to proceed.**

1.0.5 Active birds' nests were noted inside the barn and within exterior stonework gaps. No evidence of use of the building by barn owl was noted, however barn owls may leave no physical signs of their presence, and the barn is considered suitable for this species. It is recommended that a pre-works check is made for nesting birds of all species, including barn owl, and works are timed to avoid actively nesting birds. Compensatory habitat for nesting birds will be provided within a building 140m to the north, within the same landholding.

## 2.0 INTRODUCTION

### 2.1 Background

2.1.1 Durham Dales Ecology was commissioned by Redgate Architectural Design, on behalf of Mr A Hewison, to undertake a bat survey of The Hemmel, a small stone barn on the northern outskirts of Wolsingham, in County Durham. The bat survey was requested to inform a planning application for the conversion of the barn for use as holiday accommodation.

### 2.2 Purpose of Report

2.2.1 The purpose of this report is to:

- Undertake a risk assessment of the building with regards to potential bat usage,
- Undertake further survey work, where appropriate, to determine the presence or likely absence of roosting bats within the structure(s),
- Assess the potential of the proposals to affect bats, if present,
- Formulate an appropriate mitigation and/or compensation strategy, where required, in order to maintain compliance with relevant nature conservation legislation.

### 2.3 Site Description

2.3.1 The property is located 1.1 km to the northeast of Wolsingham town centre, in Weardale, County Durham (Figure 1). The OS National Grid reference for the building is NZ 08046 38239.

### 2.4 Details of Proposals

2.4.1 It is proposed to convert the building for use as holiday accommodation. This will involve the repointing of walls, the re-roofing of the building and the replacement of lintels, doors and windows. A corrugated metal lean-to to the rear of the building will also be replaced with a stone structure.

Figure 1: Site location plan.

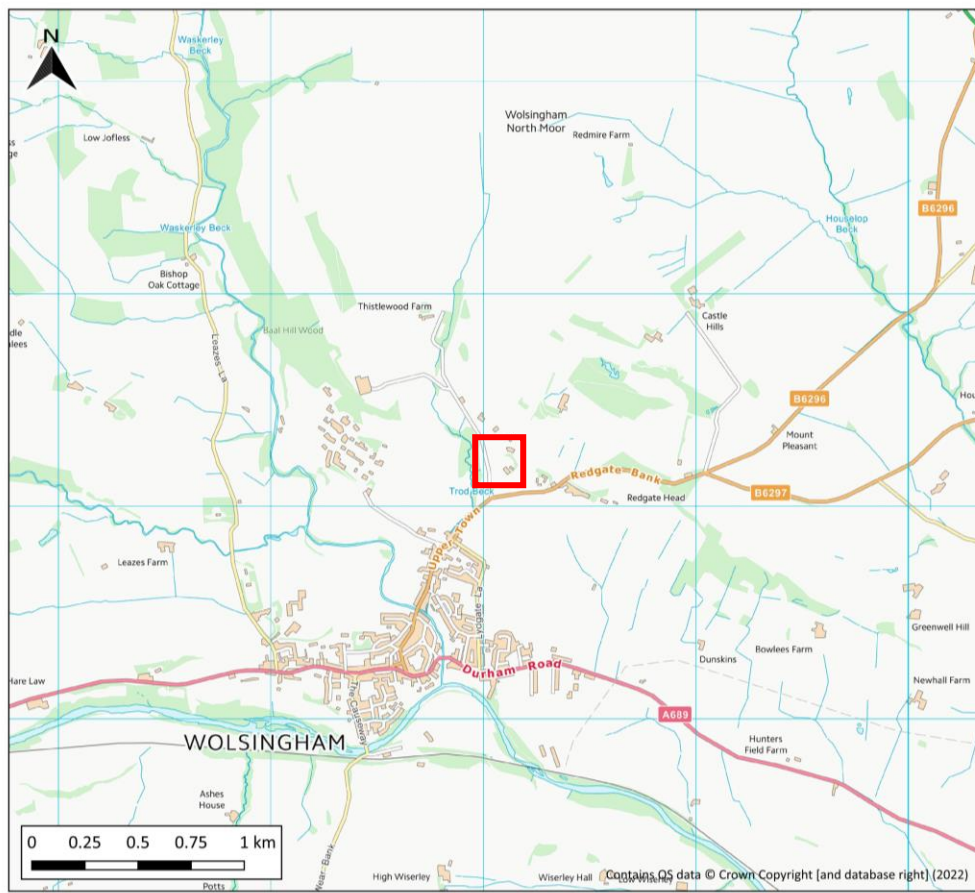
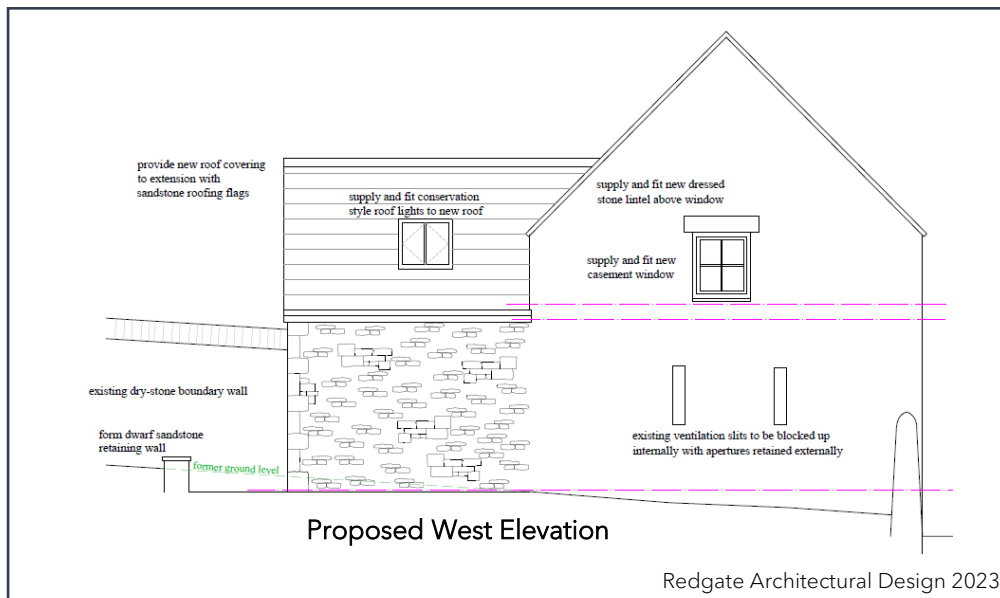


Figure 2: Proposed west elevation, showing extension to rear.



## 3.0 METHODOLOGY AND LEGISLATION

### 3.1 Scope of Assessment

3.1.1 The assessment incorporates a desk study, data search and field walkover survey of the site, followed by two nocturnal activity surveys of the building.

### 3.2 Desk Study

3.2.1 Information regarding known roosts and existing field records within 2 km of the proposals was requested from the Environmental Records Information Centre North East (ERIC NE). The Multi Agency Geographic Information for the Countryside (MAGIC) website was accessed to study aerial imagery of the site and the surrounding area, and to access further habitat and species information.

### 3.3 Field Survey

3.3.1 The field survey was conducted on 5<sup>th</sup> January 2023, in accordance with best practice guidance, as set out in *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition)* (Collins, 2016). Structures within the site, and/or with the potential to be affected by the development, were assessed in terms of their potential to support bat species. Potential bat roosting features were identified and noted, and a search for evidence of use by bats, such as droppings, urine or fur-oil staining, scratch marks, feeding remains, audible squeaking or live/dead bats was undertaken. Structures were attributed a risk level based on the above industry guidelines (see Table 1). Weather conditions during the field survey visit were cool (6°C), cloudy and dry, with a light breeze.

3.3.2 The survey was undertaken by Frances Mudd B.Sc. (Hons), who is an experienced ecologist, holding a Natural England Level 2 Bat Survey Class Licence (WML-CL18), with Earned Recognition accreditation for bats (WML-CL47), and is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).



Table 1: Guidelines for assessing the potential suitability of structures and trees for roosting bats (Collins, 2016), and recommended further survey effort.

Suitability	Description	Recommended <i>minimum</i> number of further survey visits required to give confidence in a negative result.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further survey effort required.
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 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). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Structures: One survey visit. One dusk emergence or dawn re-entry survey.  Trees: No further surveys required (although working methods may be necessary).
Medium	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	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.

### 3.4 Nocturnal Activity Survey(s)

3.4.1 Nocturnal activity survey(s) were undertaken in accordance with best practice guidance, as set out in *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition)* (Collins, 2016). The survey(s) were conducted by an experienced lead surveyor, holding a Natural England Level 2 Bat Survey Class Licence (WML-CL18) with Earned Recognition accreditation for bats (WML-CL47). The lead surveyor is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and was accompanied by additional surveyors with previous experience of carrying out such surveys. During the surveys, an infra-red camera (Canon XA11) and torches (2 x Nightfox XC5 IR850nm) were utilised to monitor bat activity; the field of view was as per Figure 3. The camera was deployed in addition to the human

surveyors required under the above guidance, to aid detection of bats, and did not replace human surveyor effort. Timing, personnel and weather conditions during the survey(s) are summarised in Table 2. Bat flight plan(s) are provided in Appendix 1.

Figure 3a: Screenshot from infra-red camera at darkest point of survey (dusk survey 10/05/2023): northwest and southwest elevations.



Figure 3b: Screenshot from infra-red camera at darkest point of survey (dawn survey 08/06/2023): interior of barn.



Table 2 -Timing, personnel and weather conditions during nocturnal activity survey.

Date	Weather Conditions					Surveyors and Licence numbers (Lead surveyor in bold)
	Precipitation	Cloud cover (%)	Wind (Beaufort)	Start temp (°C)	End temp (°C)	
10/05/23 (Dusk)	None	60-80%	1	12.1	11.1	<b>Fran Mudd 2015-11519-CLS-CLS</b> Louise Harrington
	Timing					
	Sunrise/Sunset time		Start time	End time		
	20:58		20:39	22:20		
08/06/23 (Dawn)	None	100%	1	10.0	9.4	<b>Fran Mudd 2015-11519-CLS-CLS</b> David Williams
	Timing					
	Sunrise/Sunset time		Start time	End time		
	04:33		02:55	04:33		

### 3.5 Limitations

3.5.1 The risk assessment survey was undertaken by an experienced surveyor in accordance with best practice guidelines. No evidence of use of the building by bats was noted during the survey, however the assessment was undertaken in January, when bats are hibernating, and physical evidence of their presence is less likely to be encountered. Nocturnal activity surveys were completed within the optimum survey period to overcome this constraint.

3.5.2 Due to the deteriorating condition of the timber beams and floorboards, the mezzanine level of the barn was not walked across. Inspection of this area was undertaken by torchlight from the floor edge. It is possible evidence of bat or barn owl use exists in this area, which was not recorded during the risk assessment survey. This constraint was taken into account when attributing a risk level to the building, and recommendations for nocturnal activity surveys revised accordingly. Precautionary methods (pre works checking survey) have been recommended for barn owls.

### 3.6 Relevant Legislation and Policy

3.6.1 The following legislation and policy is of most relevance when assessing potential impacts on bats within the zone of influence of the site. The information below provides a very brief summary of relevant legislation and is not an exhaustive list.

#### 3.6.2 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

All UK bat species are protected under this legislation, making it illegal to:

- Deliberately capture, injure or kill a wild bat,
- Deliberately disturb a wild bat,
- Damage or destroy a bat roost or resting place (even if bats are not occupying the roost at the time).

Disturbance of bats includes, in particular, any event which is likely to:

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

#### 3.6.3 Wildlife and Countryside Act 1981 (as amended)

Under the Wildlife and Countryside Act 1981 (as amended), it is an offence to:

- Intentionally kill, injure or take a wild bat,
- Intentionally or recklessly damage or destroy a bat roost or resting place (even if bats are not occupying the roost at the time),
- Intentionally or recklessly disturb a bat in its roost, or deliberately disturb a group of bats,
- Intentionally or recklessly obstruct access to a bat roost,
- Possess, or advertise/sell/exchange a bat of a species found in the wild in the UK (dead or alive) or any part of a bat.

#### 3.6.4 Natural Environment and Rural Communities Act 2006

Under the Natural Environment and Rural Communities (NERC) Act (2006), public authorities have a statutory obligation to conserve and enhance biodiversity in the exercise of their functions, including planning and development decisions. Section 41 of The Act requires the publication of a list of species and habitats which are of principle importance for the conservation of biodiversity in England (referred to as 'priority species and habitats') and promotes the taking of such steps as appear reasonably practicable to further the conservation of these species and habitats.

#### 3.6.5 National Planning Policy Framework (NPPF) 2021

The National Planning Policy Framework is a statutory planning policy document focussing on land use development and protection. Chapter 15 of the NPPF sets out the national policy for conserving and enhancing the natural environment. Of particular relevance are the following paragraphs:

- 174(d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
- 179(b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

## 4.0 SURVEY RESULTS

### 4.1 Desk Study

4.1.1 The building is located within a field of sheep-grazed pasture, in amongst ash (*Fraxinus excelsior*) and larch (*Larix x eurolepis*) trees. Deciduous woodland grows approximately 60m to the east, surrounding the Trod Beck, a tributary of the Waskerley Beck, and subsequently the River Wear. The River Wear itself is located approximately 800m to the south. Bishop Oak Wood, containing ancient semi-natural woodland of high ecological value, can be found approximately 470m to the north-west of the barn, and is connected to the barn via linear features such as tree lines, hedgerows and the Trod Beck. Adjacent and to the north-west of this woodland lies Baal Hill Wood Site of Special Scientific Interest (SSSI), an ancient semi-natural woodland of approximately 20 hectares, stretching to the banks of Tunstall Reservoir, approximately 3 km to the north-west. The building is therefore well connected to high value bat foraging habitat in each direction.

4.1.2 Data supplied by ERIC NE shows the closest known roost is located approximately 760m to the west, where 7+ common pipistrelles (*Pipistrellus pipistrellus*) were recorded by Durham Bat Group in a building in summer 2009. A historical record (1997) of 5+ brown long-eared (*Plecotus auritus*) bats is also noted 1.1 km to the west. Further afield, the data reports several confirmed bat roosts within Wolsingham itself, which include residential dwellings, agricultural barns and a leisure centre approximately 1.2 km to the west, containing circa 300 soprano pipistrelles (*Pipistrellus pygmaeus*). Two further maternity colonies, containing common pipistrelles (*Pipistrellus pipistrellus*), are also recorded in the town of Wolsingham. Field records of at least eight bat species are noted within the search area, including records of Nathusius' pipistrelle from Tunstall Reservoir (3 km to the northwest) and The Batts, Wolsingham (1.2 km to the south), and it is suggested that the Waskerley Beck, which flows 640m to the southwest of the property, may provide a link between the two.

4.1.3 The status of bat species at county and national level is shown in Table 3.

Table 3: Bat status at county and national levels.

Species	County level <sup>1</sup>	National Level <sup>2</sup>
<b>Common pipistrelle</b> <i>(Pipistrellus pipistrellus)</i>	Ubiquitous throughout the county; found on modern housing estates.	Increasing
<b>Soprano pipistrelle</b> <i>(Pipistrellus pygmaeus)</i>	Known to occur on the rivers Tees, Wear and Derwent, but are probably more widespread.	Increasing
<b>Nathusius' pipistrelle</b> <i>(Pipistrellus nathusii)</i>	Recorded feeding over the Tees at Cotherstone and Bowes, and on the River Wear, but no roost sites are known.	Unknown (insufficient data)
<b>Brown long-eared</b> <i>(Plecotus auritus)</i>	Reasonably widespread, but localised. Require large, undisturbed roof spaces within flying distance of suitable woods.	Stable
<b>Noctule</b> <i>(Nyctalus noctula)</i>	Localised in the area's mature woodlands, in rural areas.	Stable
<b>Whiskered</b> <i>(Myotis mystacinus)</i>	Fairly widespread but localised. Roosts in the Durham area are of national importance.	Stable
<b>Brandt's</b> <i>(Myotis brandtii)</i>	Much rarer [than whiskered]. Roosts in the Durham area are of national importance.	Stable
<b>Natterer's</b> <i>(Myotis nattereri)</i>	Roost in trees and large roof spaces, where they can warm up before leaving; this is one of the area's rarer species.	Increasing
<b>Daubenton's</b> <i>(Myotis daubentonii)</i>	Widespread along watercourses and near water bodies throughout the region.	Stable

<sup>1</sup> North East England Nature Partnership (NEENP, 2023)

<sup>2</sup> Bat Conservation Trust (BCT, 2023)

## 4.2 Building Inspection

4.2.1 The property consists of a tall, detached, traditional stone barn, with pitched, stone flag roof and timber framed windows. A corrugated metal lean-to to the rear of the building currently provides shelter for livestock. The building is in a state of disrepair, with the eastern half of the roof having collapsed and been replaced with sheet metal. The south-eastern gable wall has also been sympathetically rebuilt within the past 12 months, to avoid collapse across the adjacent access track. Original stonework has been reused to the outer wall, whilst blockwork provides the inner leaf. Unlike the three original walls, there

is no rubble fill to the south-eastern gable wall and this has been replaced by a cavity. With the exception of the newly rebuilt gable, numerous potential bat access gaps were noted within the external joints of the stone walls and beneath the stone flags of the roof. Internally, stonework is generally well-pointed and stone flags sit directly onto roofing timbers, with no underfelt. No evidence of use of the barn by roosting bats was noted during the internal or external inspection (see also 3.5), however a window opening within the north-western gable would provide ample opportunity for bats to access the inside of the undisturbed building.

- 4.2.2 No evidence of use of the structure by barn owl (*Tyto alba*) was noted during the building inspection (see also 3.5), although the building holds good suitability for this species. Previously used jackdaw (*Corvus monedula*) (or similar) nesting material was noted along the wall tops of the south-eastern gable, which could only have been created after the rebuilding of the wall in 2022. Bird nesting material (blue tit (*Cyanistes caeruleus*), wren (*Troglodytes troglodytes*), or similar) was noted within a gap in the stonework of the north-western gable wall and a single swallow (*Hirundo rustica*) nest was noted internally.

### 4.3 Nocturnal Activity Survey(s)

- 4.3.1 Towards the beginning of the dusk survey, a single brown long-eared bat (Figure 4) was seen to emerge from a window opening in the northwest gable of the barn. Individual and pairs of common pipistrelles were noted commuting across the site from the north, pausing above the barn to forage amongst the tree canopy, before continuing south. Individual common pipistrelles were also noted foraging intermittently up and down the sheltered, tree-lined lane to the southeast of the barn. No further roosts were noted. Similar patterns of behaviour were recorded during the dawn survey. Individual brown long-eared bats were noted on two occasions during this survey, however no bats were seen to enter the building. Infra-red footage from within the barn during the dawn survey revealed no bat activity inside



the barn. The results of the bat activity surveys are summarised in Table 4, and bat flight plans are provided in Appendix 1.

Figure 4: Sonogram of echolocating bat emerging from barn window, with call parameters and peak frequency (36.6 kHz) indicating brown long-eared.

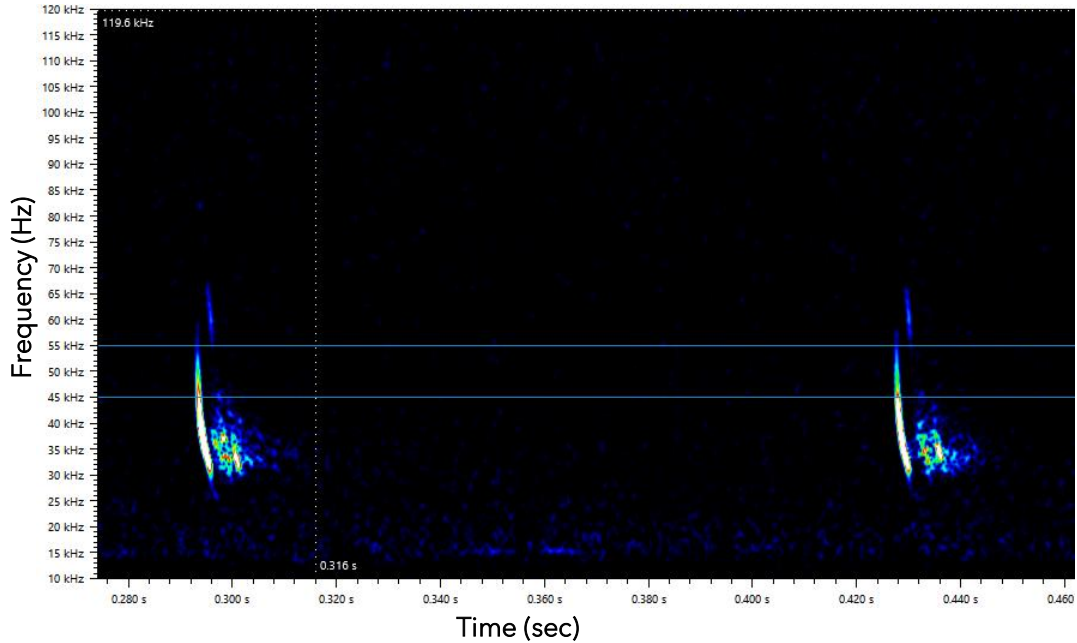


Table 4: Nocturnal survey results summary.

Date	Dawn/dusk	Species recorded	Roost(s) found
10/05/2023	Dusk	Brown long-eared Common pipistrelle Soprano pipistrelle	1 x brown long-eared emerged through window opening on northwest gable.
08/06/2023	Dawn	Brown long-eared Common pipistrelle Whiskered/Brandt's	None



**Photograph 1**

Front (southwest) elevation of barn.



**Photograph 2**

Rear (northeast) elevation of barn and north-western gable.



**Photograph 3**

Side (northwest) elevation of property, with window opening.



**Photograph 4**

Typical mortar gaps in stonework.



**Photograph 5**

South-western roof pitch, showing gaps beneath ridge and stone flags.



**Photograph 6**

Recently rebuilt (2022) south-eastern gable wall. This area contains fewer potential bat access gaps, however gaps remain over the wall top and potentially into the cavity.



**Photograph 7**

Interior leaf of rebuilt south-eastern gable, showing bird nesting material on wall top.



**Photograph 8**

Interior of barn, showing roof construction and interior walls.



**Photograph 9**

View of mezzanine floor, from vantage point.

## 5.0 CONCLUSIONS

### 5.1 Presence/Absence

- 5.1.1 A single brown long-eared bat has been confirmed roosting inside the barn. The roost is accessed via a window opening in the northwest gable.

### 5.2 Population Assessment

- 5.2.1 A peak count of one brown long-eared was recorded during the dusk survey of 10<sup>th</sup> May 2023.

### 5.3 Site Status Assessment

- 5.3.1 A small roost containing a single brown long-eared bat was noted during the survey of 10<sup>th</sup> May 2023, but was absent on 8<sup>th</sup> June 2023, suggesting the building is occasionally used. The building is not considered to hold a maternity colony, as bats were absent in June and thermal conditions are deemed unsuitable for such use. Being an unheated stone barn, shaded by trees, it is possible the building could be used by hibernating bats in the winter months, although this is not proven. Brown long-eared bats are a widespread species and occasional day roosts of small numbers of bats of a common species are considered to be of low conservation status under the Bat Mitigation Guidelines (Mitchell-Jones, 2004).

Table 5: Summary of roost status, conservation significance and mitigation requirements.

Adapted from the Bat Mitigation Guidelines (Mitchell-Jones 2004).

Roost status	Conservation significance	Proportionate mitigation
Individuals or small numbers of common species (not a maternity site)	Low	Flexibility over new roosting provisions. No conditions about timing or monitoring
Individuals or small numbers of rarer species (not a maternity site)	Low/Medium	New roosting provisions need not be like for like but should be suitable based on species requirements.  Minimal timing constraints and monitoring requirements
Hibernation sites for small number of bats  Maternity sites for common species	Medium	Timing constraints. More or less like for like roost replacement and bats not to be left without a roost.  Monitoring for 2 years preferred.
Maternity sites for rarer species	Medium/High	Timing constraints. Like for like roost replacement as a minimum. No destruction of roost until replacement is in use  Monitoring for 2 years minimum.
Significant hibernation sites for rarer/rarest species and species assemblages  Maternity sites for rarest species	High	Ideally no interference. Design changes must be strongly considered. Timing constraints. Improved roosting provisions. No destruction of roost until replacement is in use.  Monitoring for as long as possible.

## 6.0 IMPACT ASSESSMENT

### 6.1 Short-Term Impacts: Disturbance

6.1.1 A small bat roost is present within the building during the summer months and therefore renovation works have the potential to disturb individual or small numbers of brown long-eared bats. In the absence of suitable supervision, it is possible individual bats could be injured or killed, should bats be present within the roost at the time of the works. The works also have the potential to disturb hibernating bats, should they be present. The short-term disturbance or injury/death of small numbers of non-breeding bats, whilst unlawful, is unlikely to be significant in the context of wider bat populations beyond the site level, however disturbance of small numbers of hibernating bats may cause impact at a local level.

### 6.2 Long-Term Impacts: Roost Modification

6.2.1 The barn is to be re-roofed and internal flight space will be lost. In the absence of avoidance and mitigation measures, the works have the potential to modify an occasionally used day roost to the point that it is lost.

### 6.3 Long-Term Impacts: Roost Loss

6.3.1 The barn is to be re-roofed and internal flight space will be lost. In the absence of mitigation and compensation measures, the works are likely to result in the loss of an occasionally used day roost. Impacts of such roost loss would be unlikely to be significant in terms of wider bat populations, but may be felt at the site level.

### 6.4 Long-Term Impacts: Fragmentation and Isolation

6.4.1 The works involve the renovation and extension of the building and will not directly affect adjacent habitats. Indirect effects on adjacent habitats as a result of artificial lighting are discussed below, but are unlikely to cause complete severance of commuting routes or fragmentation of habitat.

## 6.5 Post Development Interference Impacts

6.5.1 The building currently experiences no artificial lighting. This is likely an important contributing factor to the use of the barn by a brown long-eared bat. Lighting of the site has the potential to reduce its value to commuting, foraging and roosting bats, however impacts are likely to be localised and are unlikely to be significant beyond the site itself.

## 6.6 Summary of Potential Impacts

6.6.1 A summary of potential impacts in the absence of avoidance and mitigation measures is provided in Table 6.

Table 6: Likelihood of potential impacts occurring as a result of the proposals.

Nature of Impact	Likelihood
Short-term:	
Disturbance	✓
Long term:	
Roost modification	✓
Roost Loss	✓
Fragmentation/isolation of habitats	X
Post development interference	✓

✓ = Possible

X = Highly unlikely



## 7.0 RECOMMENDATIONS

### 7.1 Licensing Requirements

7.1.1 A European Protected Species mitigation licence, issued by Natural England, will be required in order to permit otherwise unlawful activities within the site. Such licences can only be applied for after planning consent has been granted and, depending on the type of licence applied for, determination of the licence application by Natural England may take up to 30 working days (6 weeks). The applicant must give as much notice as possible of the commencement of works (two calendar months' minimum), in order for the licence application to be prepared and a licence obtained. **No licensable activities may commence without the authorisation of the project ecologist**, who will confirm that a licence is in place, as appropriate. Licensable works include, but are not restricted to, any works which may directly affect the roof or interior of the barn, or cause disturbance by noise, dust or vibration through the roof or interior of the barn.

### 7.2 Timing and/or Phasing of Works

7.2.1 Works with the potential to disturb hibernating bats will be timed to avoid the hibernation season, which runs from November to April (inclusive).

### 7.3 Supervision

7.3.1 As part of the requirements of the mitigation licence, a Toolbox Talk will be delivered to the contractor prior to the commencement of works. The Toolbox Talk will include details of legislation, bat presence at the site, working in proximity to bats and emergency procedures if bats are found. The licensed ecologist will then supervise any works deemed to potentially affect bats or their roosts, until such a time as all contentious features have been declared free of roosting bats.

7.3.2 The project ecologist will provide an emergency standby service in the event that bats are unexpectedly discovered at any time during the project.

## 7.4 Capture and Exclusion

7.4.1 No exclusion is to take place. The roost will be carefully disassembled by hand under the supervision of a suitably qualified and licensed ecologist. Any bats found will be captured and relocated either to temporary roosting provision in a bat box located on nearby mature trees, or to the permanent replacement roost outlined in 7.7 below (if already available at the time of works).

## 7.5 Roost Retention

7.5.1 It is not possible to avoid the destruction of the roost if the building is to be developed to the extent where it can be brought into residential use.

## 7.6 Roost Modification

7.6.1 The roost is to be lost, and therefore roost modification is not applicable.

## 7.7 Replacement Roosts

7.7.1 In order for the small barn to function as a residential dwelling, it will be necessary to incorporate an upper storey, and therefore a roof void cannot be retained. It is proposed to provide permanent replacement roosting provision within an alternative building, located 140m to the north of the barn at NZ 08082 38374. A derelict outbuilding within the same landholding will be modified to encourage use by brown long-eared bats. Details of how this will be achieved are provided in Appendix 2.

## 7.8 Lighting

7.8.1 Artificial light levels across the exterior of the property and gardens should be kept to an absolute minimum. However, if safety or security lighting is required, the following guidance should be followed:

- Lights should be spaced in order to require the minimum number of units necessary.
- Lights should be installed as low as possible to the ground to avoid illumination of roosts within the barn roof. Light should be directed to

the ground below the horizontal and away from surrounding vegetation (up-lighting should be strictly avoided).

- Directional lighting with a narrow beam or shielding (hoods or cowls) should be used to further reduce light spill. LEDs and new directional, full cut off lights are preferred.
- The lowest light intensity, suitable for the intended use of the site, should be used.
- Lights should only be illuminated when the area is in use. Motion activated light sensors on short timers (<1 minute) can be used to trigger lights to reduce light pollution when not in use. These should be sensitive to large moving objects only.
- Lighting times should be limited, to provide dark periods.
- Metal halide and mercury light sources should be avoided, as these emit high levels of UV light, which is particularly disturbing to bats.

## 7.9 Monitoring

7.9.1 Under the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004) (Table 5), monitoring is not required for roosts of a low conservation status, and no post-development bat activity surveys or checks will be undertaken. However, all nest and roost boxes will be monitored during years 2, 5, 10, 20 and 30 to ensure they continue to provide opportunities for wildlife. Where boxes have become damaged or absent, they will be replaced on a like-for-like basis for at least the first 30 years of the project. In instances where it is deemed by a suitably qualified ecologist (SQE) that the choice of nest/roost box was, in retrospect and due to unforeseen circumstances, unsuitable for the conditions, the SQE will offer an alternative choice of similar quality.

## 7.10 Post-Development Safeguarding

7.10.1 The applicant and current owner intends to retain the property, which contains both the barn and the permanent replacement roosting provision, and therefore will be responsible for maintaining the proposed

mitigation/compensation during their ownership. No third-party permissions are required.

## 7.11 Other Considerations – Nesting Birds

7.11.1 All wild birds within the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), making it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy the nest of such a bird (whilst being built or in use) or its eggs. Barn owls are listed under Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended), and as such are afforded a high level of legal protection. In addition to the legislation afforded to all wild birds, it is an offence to intentionally or recklessly *disturb* a Schedule 1 bird *at, on or near* an active nest, or to disturb the dependent young of a Schedule 1 bird.

7.11.2 The barn was identified as being suitable for nesting barn owl, although none were found at the time of survey. Barn owls show a high fidelity to their roosting sites and maintain home ranges from year to year and through successive generations. Barn owls may leave no evidence of their presence; they do not 'construct' a nest as such, preferring to lay eggs directly onto a flat surface, such as the mezzanine floor. Active nests can occur in any month of the year (Barn Owl Trust, 2012), although usually they occur in the spring and summer months. Because of the possible delay between survey, granting of planning consent and works commencing, combined with the ability for barn owl status to change at any time, a further site checking survey should be conducted immediately prior to any potentially disturbing works taking place. If, as a result of a new site survey, barn owl status has changed, then the appropriate measures for the new status should be taken, as recommended by a suitably qualified ecologist.

7.11.3 To compensate for the loss of opportunities for barn owl, it is recommended that a barn owl nest box is mounted within the land holding, ideally within 200m of the barn. Nest boxes inside tall buildings are ideal, however where

these are unavailable, an outdoor tree-mounted nest box should be erected no less than 3m above ground level. The box entrance holes must be clearly visible to a bird flying past at some distance and therefore trees with an elevated or dead canopy and visible trunk must be selected. The entrance hole should be faced to avoid the prevailing weather. Further information about the sourcing/building and erection of barn owl boxes, including recommended suitable fixings, can be found on the Barn Owl Trust website: <https://www.barnowltrust.org.uk/barn-owl-nestbox/owl-boxes-for-trees/>. The alternative roosting provision should be provided in advance of the commencement of works to convert the barn.

7.11.4 Redundant swallow nests and previous use of the wall tops inside the barn by jackdaw (or similar) was noted. External stonework gaps also appear to be used by wren, blue tit or similar. Works should be careful to avoid impacts to active nests, which may involve the timing of works to fall outside of the bird nesting season. If in doubt as to whether birds are actively nesting, a check should be undertaken by a suitably qualified ecologist immediately prior to the commencement of any works. Where nesting birds are found, works will not proceed in this area until chicks have vacated the nest or the nest is otherwise no longer active. To compensate for the loss of nesting opportunities, particularly for swallows, it is proposed to position at least two artificial swallow nest cups within a building 140m to the north. Nest boxes for blue tit and wren will also be provided to the exterior of this building, as shown in Appendix 2.

## 8.0 REFERENCES

**Bat Conservation Trust, 2023.** *The National Bat Monitoring Programme Annual Report 2022.*

Bat Conservation Trust, London. Available at:

<https://cdn.bats.org.uk/uploads/pdf/Our%20Work/NBMP/NBMP-annual-report-2022.pdf?v=1684762664>

**Barn Owl Trust (2012).** *Barn Owl Conservation Handbook.* Pelagic Publishing, Exeter.

**Collins, J. (ed.) (2016)** *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).* The Bat Conservation Trust, London.

**Mitchell-Jones A. J., (2004).** *Bat Mitigation Guidelines.* English Nature.

**Mitchell-Jones, A.J, & McLeish, A.P. (eds). (2004).** *Bat Workers' Manual* (3rd Edition) JNCC, Peterborough.

**National Planning Policy Framework (2021).**

Available at:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1005759/NPPF\\_July\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf)

Accessed 30<sup>th</sup> May 2023.

**North East England Nature Partnership**

Available at:

<https://neenp.org.uk/natural-environment/durham-priority-species/847-2/>

Accessed 6<sup>th</sup> May 2023.

**The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (2019)**

Available at:

<https://www.legislation.gov.uk/ukxi/2019/579/contents/made>

Accessed 30<sup>th</sup> May 2023.

**Wildlife and Countryside Act (1981)**

Available at: <http://www.legislation.gov.uk/ukpga/1981/69/contents>

Accessed 30<sup>th</sup> May 2023.

## 9.0 APPENDICES

Appendix 1a: Bat activity plan – Dusk survey, 10<sup>th</sup> May 2023.

Appendix 1b: Bat activity plan – Dawn survey, 8<sup>th</sup> June 2023.

Appendix 2: Ecological compensation: Specification.

Appendix 1a:  
Bat Activity Plan  
10/05/2023

Legend

- Surveyed building
- Infra-red camera location
- Surveyor location
- Bat flight line
- Bat foraging area
- Bat roost

Project Details:  
The Hemmel  
Wolsingham

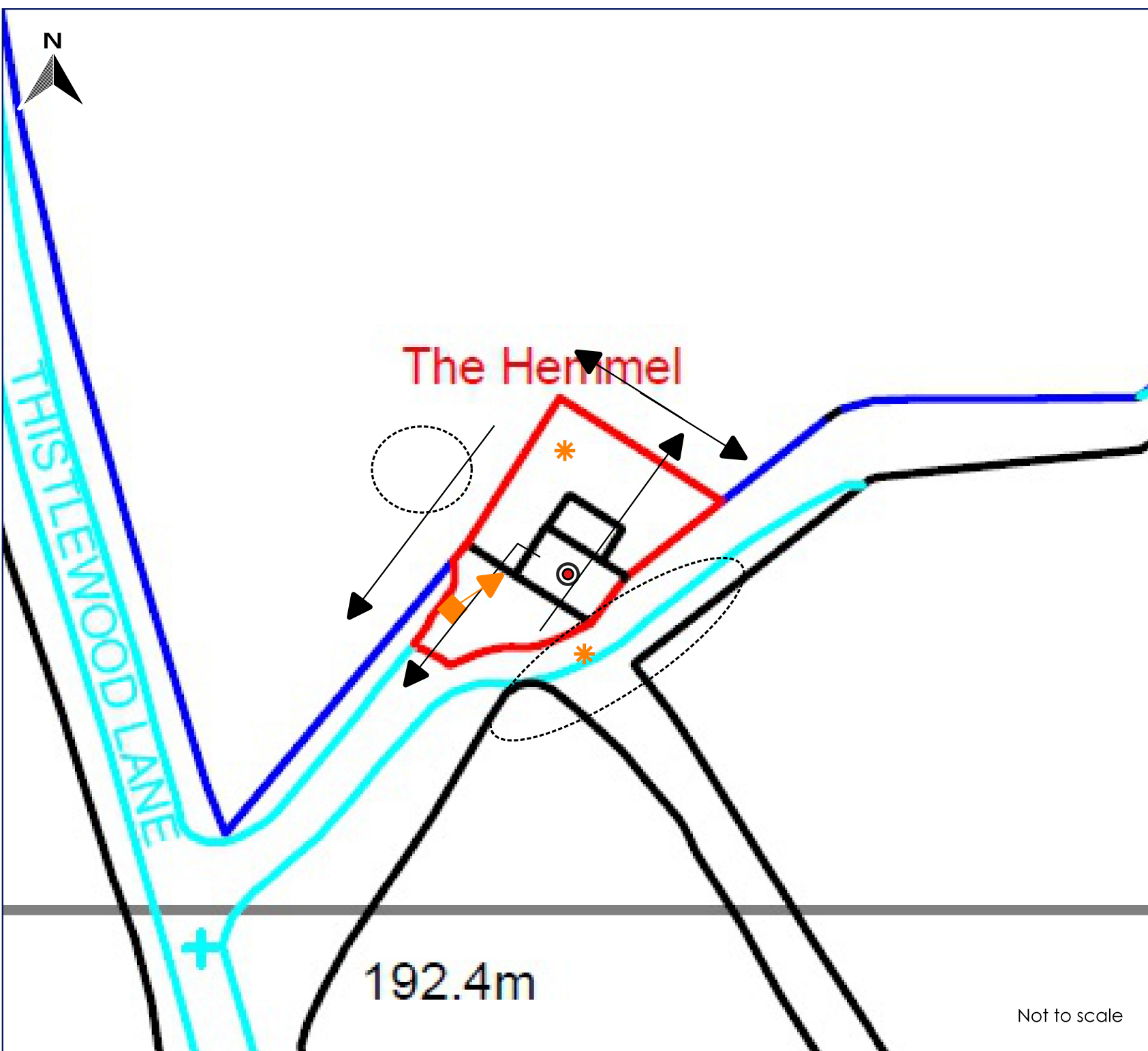
Prepared for:  
Mr A Hewison

Report ref:  
HemmelWolsingham\_Bat

Date: 17th July 2023

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The Hemmel

THISLEWOOD LANE






192.4m

Not to scale



Appendix 1b:  
Bat Activity Plan  
08/06/2023

Legend

-  Surveyed building
-  Infra-red camera location
-  Surveyor location
-  Bat flight line
-  Bat foraging area

Project Details:  
The Hemmel  
Wolsingham

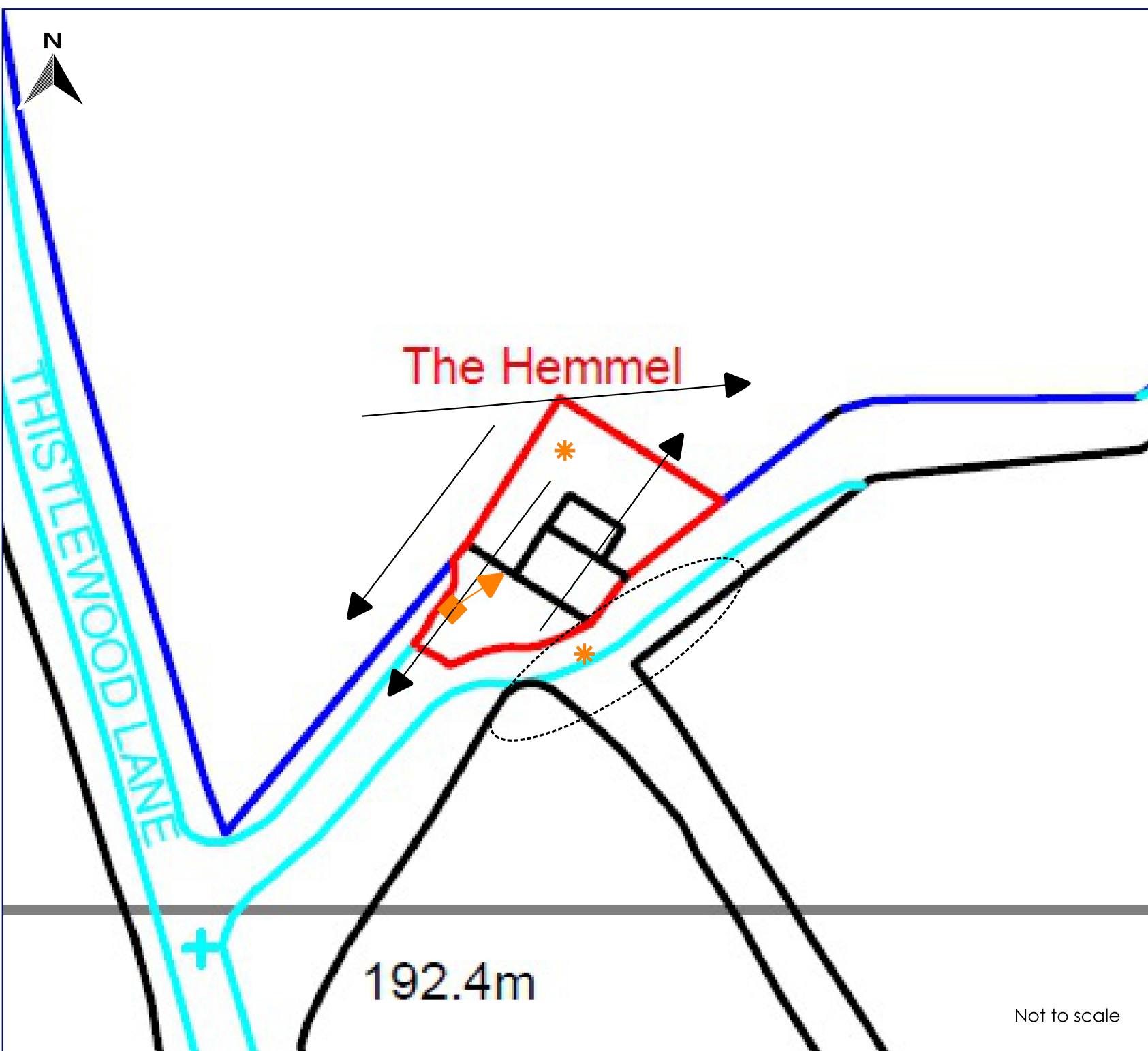
Prepared for:  
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Not to scale

## Appendix 2: Ecological Compensation: Specification.

### A. Location

- A.1 Ecological compensation is to be delivered off-site, but within the same landholding, 140m to the north of the barn conversion at NZ 08082 38374 (Figure A).

Figure A: Location of compensatory bat roosting and bird nesting provision in relation to site.



### B. Site Description

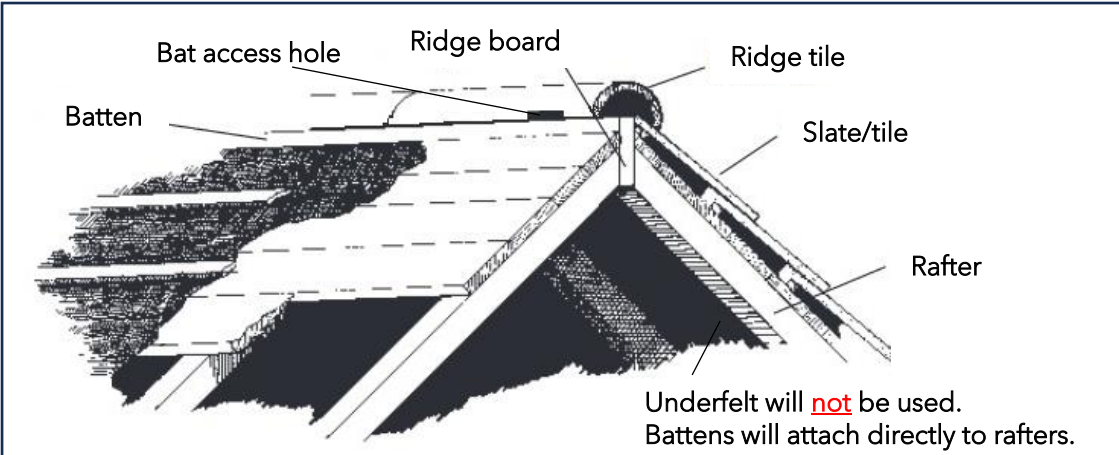
- B.1 An existing building is to be modified to encourage uptake by wildlife. The building consists of a brick structure with mono-pitched, corrugated metal roof supported on modern, machined timbers. Externally, the building measures 3600 x 2730 mm, with a height of 2160 mm to the highest side of the mono-pitch and 1930 mm at the lowest point. A partially glazed window is present to the south elevation and a broken stable door provides the main access to the north elevation. Young sycamore, lilac and ash trees grow along the southern elevation and overhang the structure.

C. Required Renovation Works


C.1 Roof

C.1.1 The building will require a pitched roof. The existing corrugated metal roof should be removed and replaced with a slate or tiled roof of purlin and rafter construction (Figure B). It is important that the internal roof space does not contain roof trusses, so as to allow an uncluttered internal flight space for bats. Cross beams should also be avoided for this reason. The roof pitch must be at least 2000 mm in height from ground level, but preferably higher.

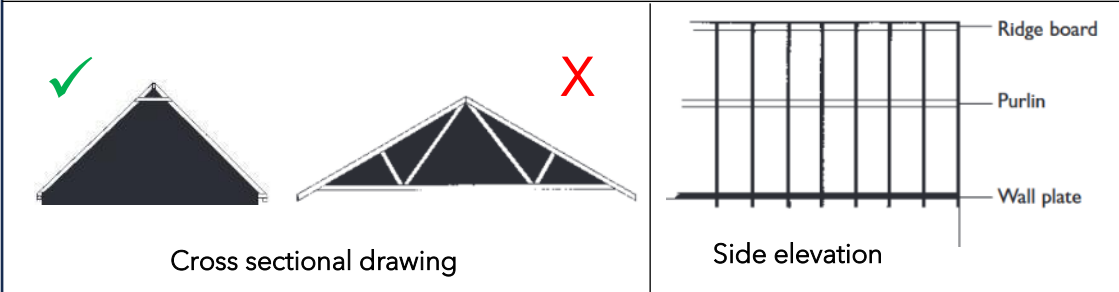
Figure B: Proposed roof construction (adapted from Mitchell-Jones & McLeish (eds). 2004).



Underfelt will **not** be used.  
Battens will attach directly to rafters.



The proposed roof structure is designed to replicate the existing barn.



Cross sectional drawing

Side elevation

C.1.2 Where the compensatory roost is to be created after the conversion of The Hemmel, old timbers from the barn can be re-purposed to create purlins and rafters. Where the compensatory roost is to be created before the barn conversion, and where new timbers are required, only timber treatments which have been certified 'bat-friendly' may be used. Guidance on timber treatment products suitable for use in or near bat roosts is continually updated; the most recent list of treatments can be found on the gov.uk website:

<https://www.gov.uk/government/publications/bat-roosts-insecticides-and-timber-treatments/timber-treatment-products-suitable-for-use-in-or-near-bat-roosts>

C.1.3 Access for bats will be provided via gaps along the trailing edge of a ridge tile located at either end of the roof (2 no. in total) (Figure B). To achieve this, a small notch 100 mm wide x 20 mm high will be cut from the base of the ridge tile, as per Figure C. The notch should not exceed these dimensions, so as to discourage use of the ridge gap by birds. It is important to also provide a narrow (15-20 mm) gap alongside the ridge board (as per Figure D) to allow bat access into the building itself.

Figure C: Example cut ridge tile to provide bat access.



Figure D: Ridge board access.



C.1.4 Crevices for roosting bats will be provided **inside the building** in the form of at least two wooden bat boxes, attached to the **internal** gable walls. The boxes should be positioned as high as possible towards the roof. Bats are often found roosting within crevices where timbers meet stonework, and wooden boxes have been selected to replicate this.

## C.2 Doors & Windows

C.2.1 The broken window to the south elevation will be retained as existing. Future maintenance works should aim to retain the same ratio of broken and intact panes (Photograph E).

C.2.2 A replacement upper stable door will be installed at the entrance way to the north of the building, and both the upper and lower stable doors will be kept closed at all times. The upper stable door will be constructed so as to allow a narrow gap along the door top (Figure E), equal in height to one brick (100 mm approx.).

Figure E: Proposed door-top gap on north elevation.



#### D. Compensation for Nesting Birds

- D.1 At least two artificial swallow nest cups will be installed **inside** the building, positioned towards the wall tops, but leaving at least 100 mm clear above the top of the nest to enable access by birds. Nests should be spaced at least 1 m apart. The stable door to the north elevation should be kept closed, and swallows will gain access through the 100 mm door-top gap shown in Figure E.
- D.2 At least two bird boxes will be affixed to the **exterior** of the building, on the north and/or east elevation, to provide compensatory habitat for common garden birds.
- D.3 Old swallow and wren nests were noted inside the small brick building to be renovated, on the only ledge currently available. Works should be careful to avoid impacts to birds already using the building, particularly active nests. This may involve the timing of works to fall outside of the bird nesting season. If in doubt as to whether birds are actively nesting, a check should be undertaken by a suitably qualified ecologist immediately prior to the commencement of any works. Where nesting birds are found, works will not proceed in this area until chicks have vacated the nest or the nest is otherwise no longer active.

## E. Post Renovation Works Site Safeguarding

### E.1 Lighting

E.1.1 Security lighting is present to the rear of the adjacent house, however this is motion activated, and the area around the compensatory roosting provision is rarely illuminated. No lighting should be installed within the compensatory roost and artificial light levels across the exterior of the property and rear garden should be kept to an absolute minimum. No additional lighting should be installed that could cast additional or prolonged light across the compensatory roosting provision.

### E.2 Retention of tree cover

E.2.1 Ash, sycamore and lilac trees currently overhang the compensatory roosting provision, however the height of ash and sycamore trees may soon cause conflict with the neighbouring residential dwelling. The removal of these trees would increase solar gain across the building, however some vegetation cover should be retained, e.g. lilac, or the replanting of small shrubs such as rowan, bird cherry, or similar, which would not cause conflict with the house.



**Photograph A**  
Northern elevation of building.



**Photograph B**  
North and west elevations of building.



**Photograph C**  
South elevation of building.





Photograph D  
Interior of building.



Photograph E  
Window to south elevation.



Photograph F  
Swallow nest, with wren nest built on top.