

354 Barkham Road  
Barkham  
Wokingham  
RG41 4DE

# Preliminary Roost Assessment

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| Author                             | Conor Watson ACIEEM |
| Reviewer                           | Sarah Foot MCIEEM   |

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1 Diesel House, Honey Hill, Wokingham, Berkshire RG40 3BL  
Telephone: 0118 3271810 Mobile: 07979 403099 E-mail: [info@wenman-ecology.co.uk](mailto:info@wenman-ecology.co.uk)  
[www.wenman-ecology.co.uk](http://www.wenman-ecology.co.uk)

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Registered office: 100 New Wokingham Road, Crowthorne, Berkshire RG45 6JP where you may look at a list of members' names.

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## 1 EXECUTIVE SUMMARY

- 1.1.1** John Wenman Ecological Consultancy was instructed by Matt Cloughton to prepare a Preliminary Roost Assessment (PRA) for 354 Barkham Road in Barkham, Wokingham. The PRA was commissioned to accompany a householder planning application to be submitted to Wokingham Borough Council seeking consent for extensions and alterations to the existing bungalow.
- 1.1.2** A site visit was undertaken on the 25<sup>th</sup> March 2025 by Conor Watson ACIEEM registered under Natural England Survey Class Licences CL18 and Jake Morgan (a qualifying member of CIEEM). Externally, the roof of the bungalow had a few potential roost sites which were considered to provide conditions suitable only for opportunistic/transitional use by small crevice-dwelling bat species, such as the locally recorded common pipistrelle and soprano pipistrelle. These potential roost sites were confined to crumbling ridge and hip mortar and narrow gaps associated with timber barge boards on the half-hipped gables and front gable.
- 1.1.3** Due to the nature and scale of the potential roost sites, the bungalow is considered to have the potential to support opportunistic/transitional use by individual small crevice-dwelling bats and as such, has been classified as low suitability. The dilapidated garage possessed no potential roost sites and has therefore been classified as negligible suitability.
- 1.1.4** The development proposals will impact the potential roost sites and do not have the scope to be altered to avoid potential adverse effects on bats. Therefore, further survey is recommended to determine the presence or likely absence of a bat roost in the bungalow. The recommended survey approach and indicative mitigation proposals are detailed in **Section 7** below.
- 1.1.5** This report contains information regarding a mobile species so it will likely be valid for 12 months only (CIEEM 2019).

## **2 INTRODUCTION**

### **2.1 Project Background**

**2.1.1** John Wenman Ecological Consultancy was instructed by Matt Cloughton to prepare a Preliminary Roost Assessment (PRA) for 354 Barkham Road in Barkham, Wokingham.

**2.1.2** The PRA was commissioned to accompany a householder planning application to be submitted to Wokingham Borough Council seeking consent for extensions and alterations to the existing bungalow.

### **2.2 Site Location and Context**

**2.2.1** The property is a bungalow located on the southern side of Barkham Road in Barkham, Wokingham (central OS grid reference: SU 7882 6734).

**2.2.2** The bungalow is set amongst other suburban properties situated along Barkham Road and has deciduous woodland at the bottom of its garden. Countryside extends to the south of the property and is characterised by agricultural fields and pasture with hedgerows/treelines, occasional woodland parcels and the Barkham Brook (approx. 740m southwest).

### **2.3 Report Objectives**

**2.3.1** The aim of the PRA is to ascertain if there is evidence of the presence of bats and/or potential for roosting bats to be present, and therefore whether further survey and/or mitigation would be required for the proposed development activities.

### **3 LEGISLATIVE AND POLICY BACKGROUND**

#### **3.1 Relevant Legislation**

**3.1.1** In England and Wales, all bat species found in the wild are fully protected under the Wildlife & Countryside Act 1981 (as amended) (WCA) and Conservation of Habitats and Species Regulations 2017 (as amended); the regulations are commonly referred to as the Habitat Regulations and hereafter referred to as such. The Habitat Regulations refer to European Protected Species (EPS) and all species of bats in the United Kingdom (UK) are EPS. Although the UK left the European Union on the 31<sup>st</sup> January 2020 and is therefore no longer tied to European legislation, the Habitat Regulations have been retained in their current format.

**3.1.2** The legal framework underpinned by the WCA and Habitat Regulations makes these specific actions an offence as follows:

- Deliberately kill, injure, capture or take a wild bat;
- Deliberately, intentionally or recklessly disturb bats; in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or to significantly affect local distribution or abundance;
- Damage or destroy a place used by a bat for breeding or resting; and
- Intentionally or recklessly obstruct access to any place used by a bat for shelter or protection.

#### **3.2 Planning Policy**

**3.2.1** The biodiversity duty imposed through the Environment Act 2021 states that Local Planning Authorities (LPAs) must consider what action they can take to conserve and enhance biodiversity in England. Government planning policy, such as the ODPM Circular 06/2005, requires LPAs to account for the conservation of protected species when considering and determining planning applications.

**3.2.2** The ODPM Circular 06/2005 states that *'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.'* This policy means that in instances where there is a reasonable likelihood of bats being present and affected by a development, surveys must be undertaken to inform a mitigation strategy to be agreed prior to granting planning permission.

### 3.3 Mitigation Licensing

**3.3.1** The government's statutory nature conservation body, Natural England, is responsible for issuing European Protected Species (EPS) mitigation licences that would permit activities that would otherwise lead to an infringement of the Habitat Regulations. An EPS mitigation licence can be issued if the following three tests derived from Regulation 55 have been satisfied:

- (2)(e) – the derogation is for the purposes of '*preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.*'
- (9)(a) – there is '*no satisfactory alternative*' to the derogation; and
- (9)(b) – '*the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.*'

**3.3.2** LPAs have a statutory duty under Regulation 7(3)(e) of the Habitat Regulations to consider and determine whether these three tests are likely to be satisfied by planning proposals affecting EPS before granting planning permission. If an EPS mitigation licence is necessary, a licence can be sought once all the necessary planning consents have been granted. Natural England aims to issue a decision on licence applications within 30 working days of submission.

**3.3.3** The Bat Mitigation Class Licence (BMCL) scheme allows ecologists to apply to become Registered Consultants to use this licence for low conservation status roosts, i.e. roosts comprising small numbers of seven commonly occurring species. A site registration form must be completed as a condition of the licence and submitted to Natural England at least three weeks before the licensable activities are due to start; Natural England aims to register sites within two weeks of submission.

**3.3.4** Baseline survey information supporting EPS mitigation licence applications or BMCL site registrations must be up-to-date and have been completed within the current or most recent optimal season. A suitably experienced ecologist will be required to undertake a site walkover/check within three months prior to application/registration submission to confirm that conditions have not changed since the most recent survey.

## 4 SURVEY METHODOLOGY

### 4.1 Desk Study

**4.1.1** A desk-based study for bats was undertaken to collate and review existing information about the site and the surrounding land. The study utilised the following open access resources:

- Google Earth and OS maps – satellite imagery and maps were used to identify potential flight paths and foraging habitats;
- MAGIC – examined to locate granted European Protected Species (EPS) licences; and
- Pre-existing bat reports – any available reports were obtained from the client or relevant planning portal to provide background information for the site.

### 4.2 Building Inspection

#### *Survey Details*

**4.2.1** A detailed inspection of the exterior and interior of the property was undertaken on the 25<sup>th</sup> March 2025 by Conor Watson ACIEEM registered under Natural England Bat Survey Class Licence CL18 (Registration no.: 2024-11877-CL18-BAT) and Jake Morgan (a qualifying member of CIEEM), in accordance with good practice guidelines (Collins 2023). The equipment used during the inspection comprised binoculars, a high-power (1 million candlepower) LED torch, a headtorch, an industrial endoscopic camera, ladder and PPE (facemask, gloves etc.). The inspection involved a systematic search of the exterior and interior of the structure during daylight hours to compile information on potential and actual bat access points; potential and actual bat roost sites; and any evidence of bat presence.

#### *External Survey*

**4.2.2** Frequently used bat access points and/or roost sites include (but are not limited to) spaces:

- behind hanging tiles, weatherboarding, soffit boxes and barge boards;
- under lead flashing (particularly around chimneys) and roof tiles/slates; and
- in existing bat boxes.

**4.2.3** It is important to note that the two most abundant and widespread bat species, common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*),

typically only require gaps measuring 15mm by 20mm to gain access to a roost inside a building.

**4.2.4** The external survey involved a systematic search for evidence of bats including:

- live or dead specimens;
- droppings;
- urine marks;
- fur-oil staining; and
- squeaking noises.

**4.2.5** It should be noted that bats can be present in a building while leaving no visible signs externally and wet weather has the potential to wash any evidence away. The search for evidence was focused on (but was not limited to) the ground, windowsills, windowpanes and walls (including cladding and hanging tiles); particularly in places near to potential bat access points and/or roost sites.

*Internal Survey*

**4.2.6** The internal survey comprised a systematic search for evidence of bats on the upper floors of the building (i.e. checking the exterior from windows) and inside the roof and eave spaces. Evidence of bats found during an internal inspection can include:

- live or dead specimens;
- droppings;
- urine marks;
- fur-oil staining;
- feeding remains (i.e. moth wings);
- squeaking noises;
- bat-fly (Nycteribiid) pupal cases; and
- odour.

**4.2.7** It should be noted that only specimens or droppings can be relied upon in isolation to confirm the presence of a bat roost.

**4.2.8** Frequently used roosting locations within the roof include (but are not limited to):

- the apex of the gable end or dividing walls;

- the top of chimney breasts;
- ridge and hip beams;
- mortise and tenon joints;
- behind purlins; and
- between tiles and roof lining.

*Survey Limitations and Validity*

- 4.2.9** There were no significant survey limitations because PRAs can be carried out at any time of year under any weather conditions and the building was fully accessible.
- 4.2.10** It should be noted that it is not always possible to inspect all potential roost sites during a survey, particularly for bat species which typically roost in hidden crevices. Therefore, an absence of bat evidence found during a survey does not necessarily equate to evidence of bat absence in a building.
- 4.2.11** This report contains information regarding a mobile species so it will likely be valid for 12 months only (CIEEM 2019).

## 5 SURVEY RESULTS

### 5.1 Desk Study

**5.1.1** The property is set adjacent to countryside characterised by agricultural fields and pasture with hedgerows/tree-lines, occasional woodland parcels and the Barkham Brook (approx. 740m southwest). The hedgerows/tree-lines provide flight paths to the high-quality foraging areas, i.e. nearby woodland and riparian habitats, for bats roosting locally.

**5.1.2** Bat mitigation licences that have been granted within the last 10 years inside a 2km radius of the application site are detailed in **Table 1** below.

*Table 1. Bat mitigation licences granted within a 2km radius (Source: MAGIC).*

| Case Reference of<br>Granted Licence       | Species on the<br>Licence                 | Licensable<br>Period | Licensable Works                                   | Distance<br>(m) |
|--------------------------------------------|-------------------------------------------|----------------------|----------------------------------------------------|-----------------|
| 2017-31502-EPS-MIT                         | Common pipistrelle                        | 2017-2023            | Destruction of<br>resting place                    | 470NW           |
| 2016-24999-EPS-MIT<br>2016-24999-EPS-MIT-1 | Common pipistrelle<br>Soprano pipistrelle | 2016-2027            | Destruction of<br>breeding site &<br>resting place | 1910SW          |

**5.1.3** There were no pre-existing bat survey reports for the property.

### 5.2 Building Inspection

#### *Overview*

**5.2.1** The findings from the external and internal inspections carried out for the property are described with photographs and are annotated in a plan (see **Figure 1**), as follows:

#### *External Survey*

**5.2.2** The property was an empty bungalow with brick walls and a half-hipped roof (**Photographs 1 & 2**).



Photograph 1. Front of property viewed from north.



Photograph 2. Rear of property viewed from south.

- 5.2.3** The roof was covered in interlocking clay tiles that were tightly fitted and intact, with substantial patches of moss and sedum (**Photograph 3**). Mortar beneath the ridge and hip tiles was recessed and had crumbled away in places, potentially enough to provide a few opportunistic roosting opportunities for small crevice-dwelling bats (**Photograph 4; Target note 1**).



Photograph 3. Interlocking clay tiles (front elevation).



Photograph 4. Crumbling ridge and hip mortar (rear elevation).

- 5.2.4** The lead flashing fitted around all three chimneys was flush against roof tiles (**Photographs 5 & 6**).



Photograph 5. Lead flashing flush around chimney (rear elevation).



Photograph 6. Lead flashing flush around chimney (northeast elevation).

- 5.2.5** Occasional narrow gaps associated with timber barge boards at the half-hipped gables

and on the front gable could potentially offer opportunistic roosting opportunities to small crevice-dwelling bats (**Photographs 7 & 8; Target notes 2 & 3**).



*Photograph 7. Barge boards at half-hipped gables (southwest elevation).*



*Photograph 8. Barge boards at front gable (front elevation).*

- 5.2.6** Brick sheds on the rear side of the bungalow and a dilapidated garage had collapsing roofs (**Photographs 9 & 10**).



*Photograph 9. Brick sheds (rear elevation).*



*Photograph 10. Dilapidated garage viewed from (east elevation).*

- 5.2.7** No evidence of bat presence was identified during the external inspection.

#### *Internal Survey*

- 5.2.8** The roof void of the bungalow was accessible via a loft hatch. The void was over 2 metres in height and of 'cut and pitch' roof construction (**Photograph 11**). The roof was unlined and the space was heavily cobwebbed throughout, indicating an absence of void-dwelling bat activity (**Photograph 12**).



Photograph 11. Bungalow roof void.



Photograph 12. Unlined roof (roof void).

- 5.2.9** The half-hipped gables were boarded with asbestos and partially sealed with spray foam insulation (**Photograph 13**). There was no floor insulation and daylight was visible at the eaves (**Photograph 14**).



Photograph 13. Asbestos and spray foam at half-hipped gable (roof void).



Photograph 14. No floor insulation (roof void).

- 5.2.10** The garage interior was open to the roof, which was of 'cut and pitch' construction with crossbeams and timber sarking (**Photograph 15**).



Photograph 15. Garage interior.

- 5.2.11** No evidence of bat presence was identified during the internal inspection. There were minimal crevice opportunities in which bat droppings could be hidden from view.

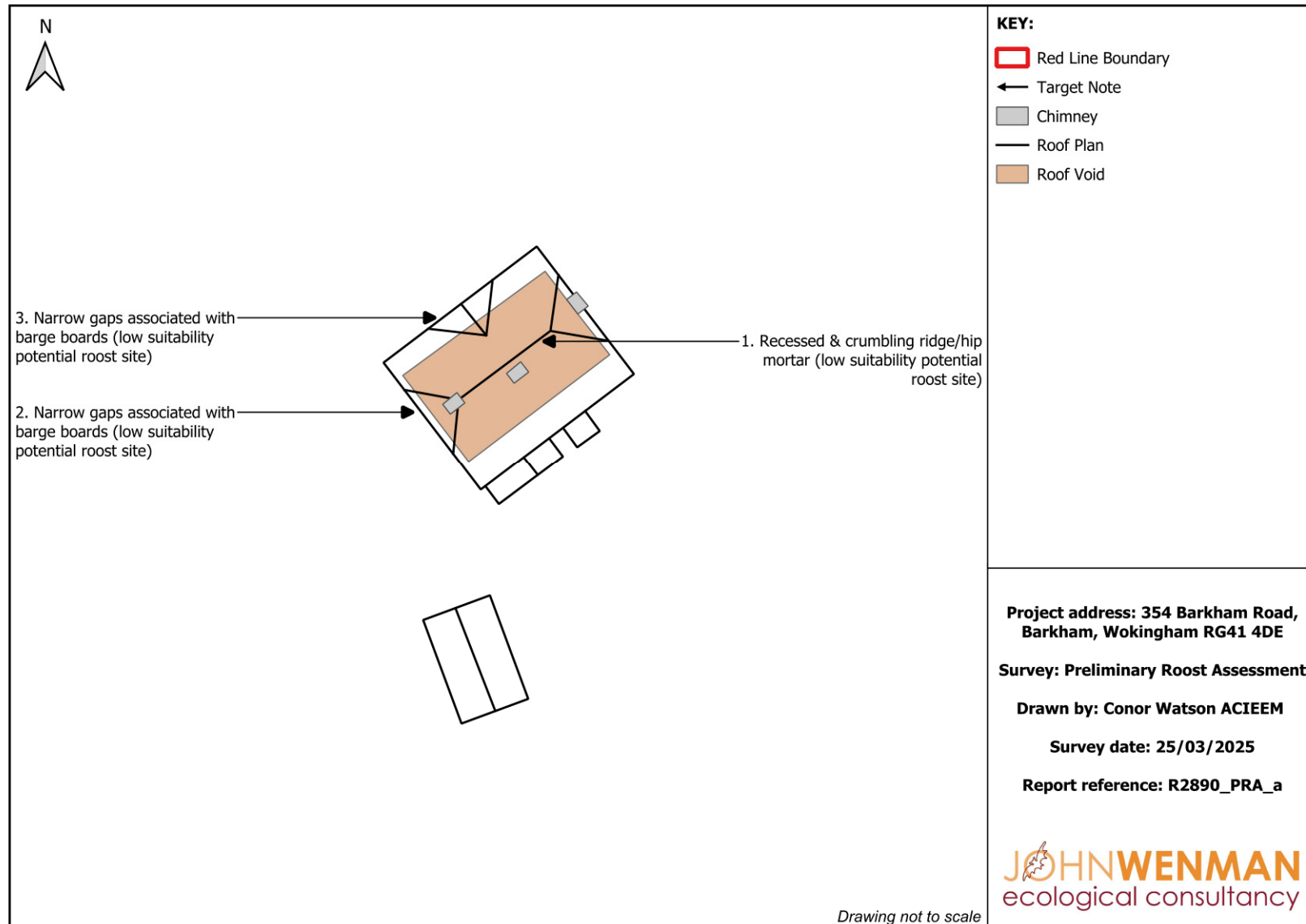


Figure 1. Building Inspection Plan.

## 6 DISCUSSION

### 6.1 Assessment of Roost Suitability/Status

- 6.1.1** The property is set adjacent to countryside characterised by agricultural fields and pasture with hedgerows/tree-lines, occasional woodland parcels and the Barkham Brook (approx. 740m southwest). The hedgerows/tree-lines provide flight paths to the high-quality foraging areas, i.e. nearby woodland and riparian habitats, for bats roosting locally. Furthermore, the search of bat mitigation licences identified at least one breeding site and two species roosting locally: common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*).
- 6.1.2** The roof void in the bungalow was of sub-optimal size and heavily cobwebbed throughout so is unlikely to have supported the internal flight typically exhibited by void-dwelling bat species, such as the common and widespread brown long-eared bat (*Plecotus auritus*). Moreover, in the absence of any evidence (i.e. bat droppings) inside the roof void and the garage interior, it is considered highly unlikely that any void-dwelling bat species are presently roosting on site.
- 6.1.3** Externally, the roof of the bungalow had a few potential roost sites which were considered to provide conditions suitable only for opportunistic/transitional use by small crevice-dwelling bat species, such as the locally recorded common pipistrelle (*P. pipistrellus*) and soprano pipistrelle (*P. pygmaeus*). These potential roost sites were confined to crumbling ridge and hip mortar (**Photograph 4; Target note 1**) and narrow gaps associated with timber barge boards on the half-hipped gables and front gable (**Photographs 7 & 8; Target notes 2 & 3**). Furthermore, the unlined roof offered minimal crevices in which evidence of roosting bats would be hidden from view.
- 6.1.4** Due to the nature and scale of the potential roost sites, the bungalow is considered to have the potential to support opportunistic/transitional use by individual small crevice-dwelling bats and as such, has been classified as low suitability (see **Appendix 1** for potential suitability categories). The dilapidated garage possessed no potential roost sites and has therefore been classified as negligible suitability.
- 6.1.1** Common pipistrelle (*P. pipistrellus*) and soprano pipistrelle (*P. pygmaeus*) are small crevice-dwelling species and are the most abundant and widespread bats in Great Britain. These species occur in almost any habitat type and are well adapted to the built environments; they are the species most regularly reported roosting in houses and churches (Mathews *et al.* 2018). Brandt's / whiskered bat (*Myotis brandtii* / *mystacinus*) are small *Myotis* species that are widespread and will roost in the same buildings as the

much more abundant pipistrelle species (Mathews *et al.* 2018). Roosts supporting these species hold site to county level conservation importance subject to the roost type (see **Appendix 3** for definitions of roost types), i.e. non-breeding roosts supporting individual bat or small groups through to maternity roosts supporting large numbers of female bats (Reason & Wray 2023).

## **6.2 Impact Assessment and Recommended Actions**

### *Overview*

- 6.2.1** The development proposals involve extending the existing bungalow. The impacts of the proposals, during construction phase and post development, have been assessed in accordance with the mitigation hierarchy as follows:

### *Construction Phase*

- 6.2.2** The extension will involve the removal of the existing roof, including the potential roost sites, and as a result could potentially lead to the destruction of a bat roost. In the absence of mitigation measures, the construction activities could potentially cause disturbance, injury and/or death of any bats if a roost is present and occupied at the time.

### *Post Development*

- 6.2.3** The extension to the existing bungalow could potentially result in the permanent destruction of a bat roost. The loss (i.e. permanent destruction) of a bat roost has potential to significantly affect the local distribution or abundance of a bat species, subject to the species' conservation status and type of roost (see **Appendix 2** for definitions of roost types).

### *Recommended Actions*

- 6.2.4** The development proposals will impact the potential roost sites and do not have the scope to be altered to avoid potential adverse effects on bats. Therefore, further survey is recommended to determine the presence or likely absence of a bat roost in the bungalow (see **Appendix 3** for further survey rationale). The recommended survey approach and indicative mitigation proposals are detailed in **Section 7** below.

## 7 RECOMMENDATIONS

### 7.1 Further Survey

**7.1.1** One dusk emergence survey visit should be undertaken in April (in suitable weather conditions) to determine the presence or likely absence of a bat roost; minor deviation from the standard approach in the good practice guidelines (Collins 2023) has been recommended because the May to August survey window is not deemed optimal in this case, as the potential roost sites are considered more likely to be used in an occasional/transitional capacity. Additional survey visits between May and August (i.e. optimal survey season) and spaced a minimum of three weeks apart may be required if bat presence is confirmed. In cases where bat presence is confirmed, these survey visits form part of the roost characterisation necessary to inform an impact assessment and mitigation strategy; the roost characterisation may involve other methods, such as DNA analysis of bat droppings.

**7.1.2** Once roost characterisation is complete, an impact assessment with reference to the mitigation hierarchy will be made. In cases where the adverse effects caused by the development proposals are unavoidable, an application for a European Protected Species (EPS) mitigation licence or the registration of the site under the Bat Mitigation Class Licence (BMCL) would be required to permit the work to proceed lawfully. An EPS mitigation licence or BMCL can be issued by Natural England if the three licensing tests (detailed in **Paragraph 3.3.1**) have been satisfied by the proposals.

**7.1.3** To satisfy one of the licensing tests, it would be necessary to demonstrate that the 'favourable conservation status' of the bat species using the property is maintained during the construction phase and post development. A mitigation strategy setting out avoidance, mitigation, compensation and enhancement measures would be required to achieve this (see **Section 7.2** below).

### 7.2 Indicative Mitigation Strategy

**7.2.1** If further surveys and the impact assessment demonstrate that an EPS mitigation licence or BMCL (if applicable) is required to permit lawful development, the commencement of construction activities impacting the bat roosts would be timed to avoid the periods when bats are most susceptible to disturbance, i.e. winter hibernation period if there is a reasonable likelihood of hibernating bats (mid-November to mid-March) and peak breeding season (May to August) if a maternity colony is present.

**7.2.2** Alternative roost sites would be made available to bats before and throughout the

construction phase by installing at least one woodcrete bat box (suitable for the type of roost/species present) on a suitable mature tree or a pole mount. The bat box should be positioned at least 3 metres from the ground, away from artificial lighting and sheltered from strong wind while being exposed to sunshine (usually south, south east or south west facing).

- 7.2.3** Before the commencement of construction activities impacting the bat roost (i.e. the licensable works), a licensed ecologist or 'Registered Consultant' under the BMCL would provide a toolbox talk to all contractors working on site detailing how bats use buildings, legal protection, working methods (i.e. soft demolition/strip by hand), actual and potential roost sites, actions to be taken if a bat is found and personal safety procedures.
- 7.2.4** A soft demolition/strip approach to the works affecting the bat roosts would be adopted, i.e. careful removal of roof tiles by gloved hands and handheld tools under the direct supervision of a licensed ecologist or 'Registered Consultant'. If a bat is found during the course of the works, the licensed ecologist or 'Registered Consultant' would capture the bat and transfer it directly to a woodcrete bat box installed in advance.
- 7.2.5** Replacement bat access points and roost sites may need to be created and/or reinstated into the replacement dwelling as part of an EPS mitigation licence or BMCL site registration. This compensation should aim for like-for-like roost sites with access points corresponding as closely as possible to the previous locations.
- 7.2.6** Where access is provided for bats, a bituminous roofing felt that does not contain polypropylene/polyethylene filaments (e.g. bitumen felt type 1F) or a non-bitumen coated 'breathable' membrane that has passed the snagging propensity test (e.g. TLX 'Bat Safe') should be used; other non-bitumen coated membranes are harmful to bats and must be avoided.

## 8 REFERENCES

CIEEM (2019). *Advice Note on the Lifespan of Ecological Reports and Surveys*. CIEEM, Winchester.

Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4<sup>th</sup> edition)*. The Bat Conservation Trust, London.

Mathews F., Kubasiewicz L.M., Gurnell J., Harrower C.A., McDonald R.A., Shore R.F. (2018). *A Review of the Population and Conservation Status of British Mammals*. A report by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough.

Mitchell-Jones, A. J. & McLeish, A. P. (2004). *Bat Workers' Manual (3<sup>d</sup> edition)*. JNCC, Peterborough.

Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. CIEEM, Ampfield.

## APPENDIX 1 – POTENTIAL SUITABILITY CATEGORIES FOR ROOSTING BATS

The categories detailed in **Table 2** below are derived from the '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (4<sup>th</sup> edition)*' (Collins 2023) and provide guidance for assessing the potential suitability of buildings (and other structures) for roosting bats. These categories are applied using professional judgement and irrespective of whether the presence of a bat roost has been confirmed during a survey, as additional bat roosts could be present which have not yet been discovered.

*Table 2. Categories for potential suitability of buildings (and other structures) for roosting bats.*

| Potential Suitability | Category Justification                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None                  | A building (or structure) that has no features likely to be used by any roosting bats at any time of the year (i.e. a complete absence of cracks, crevices or voids that could provide suitable shelter).                                                                                                                                                                                                                                                      |
| Negligible            | A building (or structure) that has no obvious features likely to be used by roosting bats, but in this case a small element of uncertainty remains as bats will occasionally use small and apparently unsuitable features. This category may also be used where a bat could potentially roost due to one attribute, but it is considered unlikely due to another attribute (e.g. a feature that is subject to constant illumination from artificial lighting). |
| Low                   | A building (or structure) that has one or more potential roost sites suitable for opportunistic use by individual bats at any time of the year. However, these potential roost sites for bats do not provide sufficient space, shelter, protection, conditions and/or surrounding suitable habitat to be used regularly or by large numbers (i.e. unlikely to be suitable for a maternity colony and not a classic hibernation site).                          |
| Moderate              | A building (or structure) that has one or more potential roost sites suitable for regular use by individual bats, or small non-breeding groups, due to sufficient space, shelter, protection, conditions and surrounding habitat. However, these potential roost sites for bats are unlikely to support a roost of high conservation status with regards to the type of roost only (i.e. maternity colonies and classic hibernation sites).                    |
| High                  | A building (or structure) that has one or more potential roost sites suitable for use by large numbers of bats more regularly and for longer periods of time due to sufficient space, shelter, protection, conditions and surrounding habitat. These potential roost sites for bats are capable of supporting high conservation status roosts (i.e. maternity colonies and classic hibernation sites).                                                         |

## APPENDIX 2 – DEFINITION OF BAT ROOST TYPES

The potential suitability of a building in conjunction with any evidence of bat presence is used to provide an initial assessment of likely roost type and importance. The types of roost considered are based on the following Natural England definitions:

- Day roost – a summer resting place used by individual bats, or small non-breeding groups, during the day;
- Night roost – a resting place used by individual bats on occasion, or by a whole colony regularly, during the night;
- Feeding perch – a resting place used by individual bats, or a few individuals, primarily for short periods of feeding during the night;
- Transitional roost – a place used by a few individual bats, or occasionally small groups, for a short period of time upon waking from hibernation or in the period prior to hibernation;
- Maternity roost – a place used by small to large groups of female bats to give birth and raise their young to independence;
- Hibernation roost – a place used by individual bats, or in groups, during winter where there is a constant cool temperature and high humidity; and
- Satellite roost – a place used by a few individuals to small groups of breeding female bats found in close proximity to the main nursery colony throughout the breeding season.

The importance of a bat roost is underpinned by the conservation status of the suspected species (i.e. the distribution/rarity of a species in a specific geographic location) and the type of roost (i.e. not all roosts have the same level of importance in supporting the local bat population). Further roost characterisation surveys may be required to fully determine the importance of a confirmed roost to allow for a robust impact assessment.

### APPENDIX 3 – FURTHER SURVEY RATIONALE

In cases where no evidence of use by bats is found during a building inspection but the possibility of their presence cannot be ruled out, further presence/likely absence survey is likely to be required if the development proposals will impact potential roost sites. Emergence surveys are carried out to establish the presence or likely absence of roosting bats in buildings (and other structures) and these are designed in accordance with the ‘*Bat Surveys for Professional Ecologists: Good Practice Guidelines (4<sup>th</sup> edition)*’ (Collins 2023) detailed in **Table 3** below.

*Table 3. Recommended further survey for establishing presence/likely absence of roosting bats in buildings (and other structures).*

| Potential Suitability | Further Survey                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None                  | No further surveys are required.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Negligible            | No further surveys are required.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Low                   | A minimum of one dusk emergence survey visit should be undertaken in the period of May to August.<br>However, if all areas (including cracks, crevices and voids) can be thoroughly inspected and no evidence of use by bats is found, then emergence surveys may not be required. In cases where a complete inspection cannot be carried out, professional judgement and proportionality should be applied when assessing the impacts of the development proposals. |
| Moderate              | A minimum of two dusk emergence survey visits should be undertaken in the period of May to September, with at least one of the surveys between May and August; the survey visits should be spaced at least three weeks apart.                                                                                                                                                                                                                                        |
| High                  | A minimum of three separate dusk emergence survey visits should be undertaken in the period of May to September (inclusive), with at least two of the surveys between May and August; the survey visits should be spaced at least three weeks apart.                                                                                                                                                                                                                 |

In cases where the PRA and/or further survey establishes the presence of roosting bats in a building (or structure), this will likely trigger the need for roost characterisation to collect sufficient information to inform the impact assessment and mitigation strategy. The roost characterisation comprises information collected during the PRA, emergence surveys and by other methods, such as DNA analysis of bat droppings, and ultimately aims to determine the bat species roosting; the number of bats the roosts support; the roost access points; the locations of the roosts and the types of roost present. This information is crucial when applying for planning permission and/or a European Protected Species mitigation licence.