# Preliminary Bat Roost Assessment and Bird Survey for,
# Mr. and Mrs. M. Burgess.
# Building at,
# Lodge Farm,
# Market Bosworth Road,
# DADLINGTON,
# CV13 6DH.

**Map Ref SP 3973 9884**
**7th July 2025.**

**S. Christopher Smith MRICS MSc CEnv.**
**The Hayloft,**
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**CV9 3DR**

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**Natural England Bat Mitigation Class License**
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**Contents.**



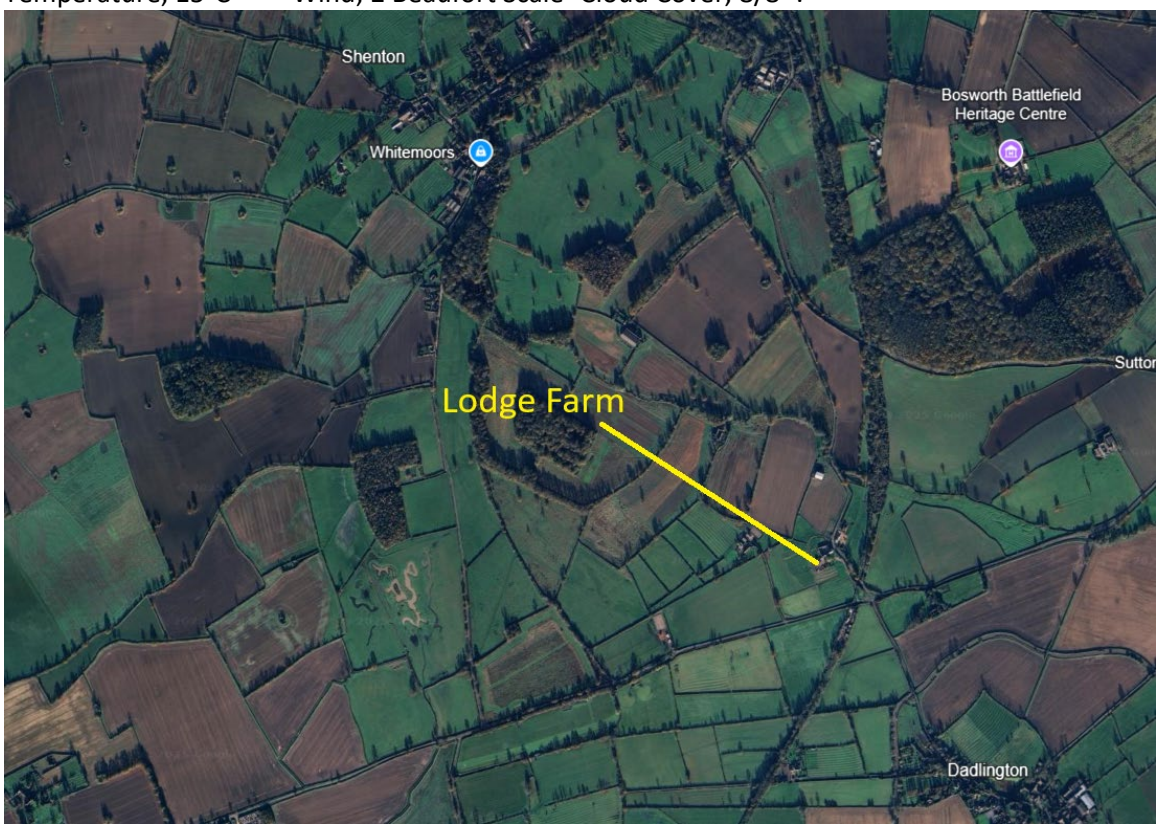
**Summary.**


- **There is no evidence of bats using the buildings as a place of shelter.**
- **There was no evidence of birds nesting in the building.**
- **There is a roosting opportunity between the rear of the timber cladding and the breathable roofing membrane beneath. This provides a moderate place of shelter for small numbers of crevice dwelling bats.**
- **1 dawn surveys has been undertaken to determine if bats are using these crevices as a place of shelter. Two Common pipistrelle bats were observed returning to roosts in the building under the timber cladding. An emergence survey has been undertaken and 2 Common pipistrelle bats were seen to emerge. A license from Natural England will be required to undertake the development should planning permission be granted. The number of bats is small and the Bat Mitigation Class license can be used.**
- **The demolition of the building, if approved by the Local Authority must not occur if birds are nesting in the building until the young have fledged.**
- **A new bat roosting opportunity can be created by installing an integrated bat box into the gable elevation of the new dwelling, to meet the requirements of the National Planning Policy Framework (2023).**
- **A method of working must be put in place with contractors to ensure that in the event of bats being found they will not be injured.**

**Introduction.**

An inspection and building survey for bats and birds was requested by Macdonald Planning Consultancy on behalf of Mr. and Mrs. M. Burgess. The survey was to be undertaken in relation to the submission of a planning application to Hinckley and Bosworth Borough Council to demolish the existing barn and replace with a new dwelling. The property was visited on the 20th March 2024 and the surveyor spent 0.75 hour on site.

Temperature; 15°C Wind; 2 Beaufort Scale Cloud Cover; 8/8th.




**Legislation concerning bats.**

The Wildlife and Countryside Act 1981 (WCA) protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Countryside and Rights of Way Act 2000 (CRoW) which applies only in England and Wales, and by the Nature Conservation (Scotland) Act 2004 which applies in Scotland.

The Conservation and Habitats Regulations 2010 (better known as the Habitats Regulations) implements the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora. All bats are listed as 'European protected species of animals'

Under Regulation 41 of the Conservation of Habitats and Species Regulations 2010 it is illegal to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species (EPS),

- Deliberately disturb wild animals of an EPS (affecting ability to survive, breed or rear young) – disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young,
- Deliberately disturb wild animals of an EPS (impairing ability to migrate or hibernate) – disturbance of animals includes in particular any disturbance which is likely to impair their ability in the case of hibernating or migratory species to hibernate or migrate,
- Deliberately disturb wild animals of an EPS (affecting local distribution and abundance) – disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong,
- Deliberately disturb wild animals of an EPS (whilst occupying a structure of place used for shelter or protection) – intentionally or recklessly disturb any wild animal while it is occupying a structure or place which it uses for shelter or protection,
- Damage or destroy a breeding site or resting place of a wild animal an EPS.

Under the Wildlife and Countryside Act 1981 (as amended) it is illegal to:

- Recklessly or intentionally kill, injures or take any wild animals included in Schedule 5.
- Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included in Schedule 5 uses for shelter or protection,
- Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.

**https://www.theguardian.com/business/2020/11/housebuilder-fined-600000-destroying-bat-roost-south-london-bellway**

**Legislation concerning birds.**

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended). Under this legislation it is an offence to:

- kill, injure or take any wild bird
- take, damage or destroy the nest of any wild bird while it is in use or being built
- take or destroy the egg of any wild bird

Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

**Methodology for bats.**

The building surveys have been undertaken in accordance with Bat Surveys for Professional Ecologists- Good Practice Guidelines, 2023, the Bat Conservation Trust. Surveys of the buildings were undertaken during the daytime to look for evidence of bats using the buildings, or likely roosting sites. The evidence of bats using a building as a place of shelter can include bat droppings, grease marks, urine stains or actual bats. This evidence is then considered when

planning evening emergence counts and activity surveys, using bat detectors. These surveys provide evidence of where bats are roosting and activity across the site by foraging or commuting bats.

The Bat Surveys for Professional Ecologists- Good Practice Guidelines, 2023, specify that emergence surveys are undertaken dependent upon the roost potential of the buildings on the survey site, as set out below;

| **Roost potential.** | **Number of surveys.** |
|---|---|
| **High.** | 3 |
| **Low to moderate.** | 2 |
| **Low.** | 1 |

The surveys are started at sunset, with bats emerging from roosts at different times, dependent upon the species, and continued for two hours. Emergence surveys can only be undertaken from the beginning of April to the end of September when bats are active. The optimum period of undertaking surveys is the beginning of May to the end of August. Their emergence is dependent upon the weather, the bats only leaving their roost on warm nights when there will be sufficient insect prey around to make flight worthwhile. While bats will emerge in light rain and moderate winds, the surveys would not be undertaken when there is heavy rain and/or strong winds as this would not provide reliable data upon which to base the conclusions of the surveys. Mild weather in April and September will produce bat activity, particularly providing information on forage areas, commuting routes and pre-maternity group roosting.

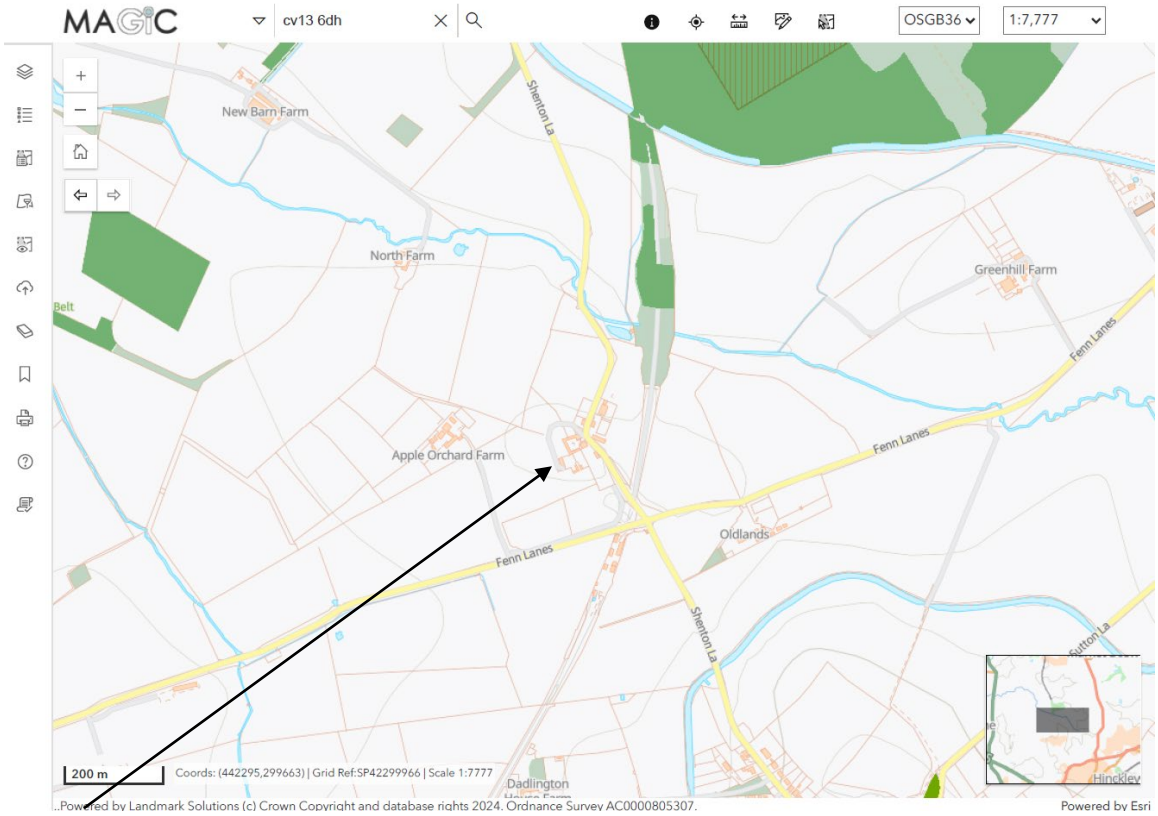
Any trees on site are surveyed following the methodology set out in the Bat Tree Habitat Key, Henry L Andrews et al 2022, which produces a key for identifying Potential Roost Features in trees and their likleyhood of being used by bats. Trees on any site being surveyed will have Potential Roost Features identified from ground level surveys and highlighted in the report.

**Bat records and habitats.**
A search of public records has revealed the presence of the following bats within 3km of the site;

Eptesicus serotinus.
Myotis daubentonii.
Myotis mystacinus.
Myotis Nattereri
Nyctalus Leisleri.
Nyctalus noctula.
Pipistrellus pipistrellus.
Pipistyrellus pygmeaus.
Plecotus auritus.

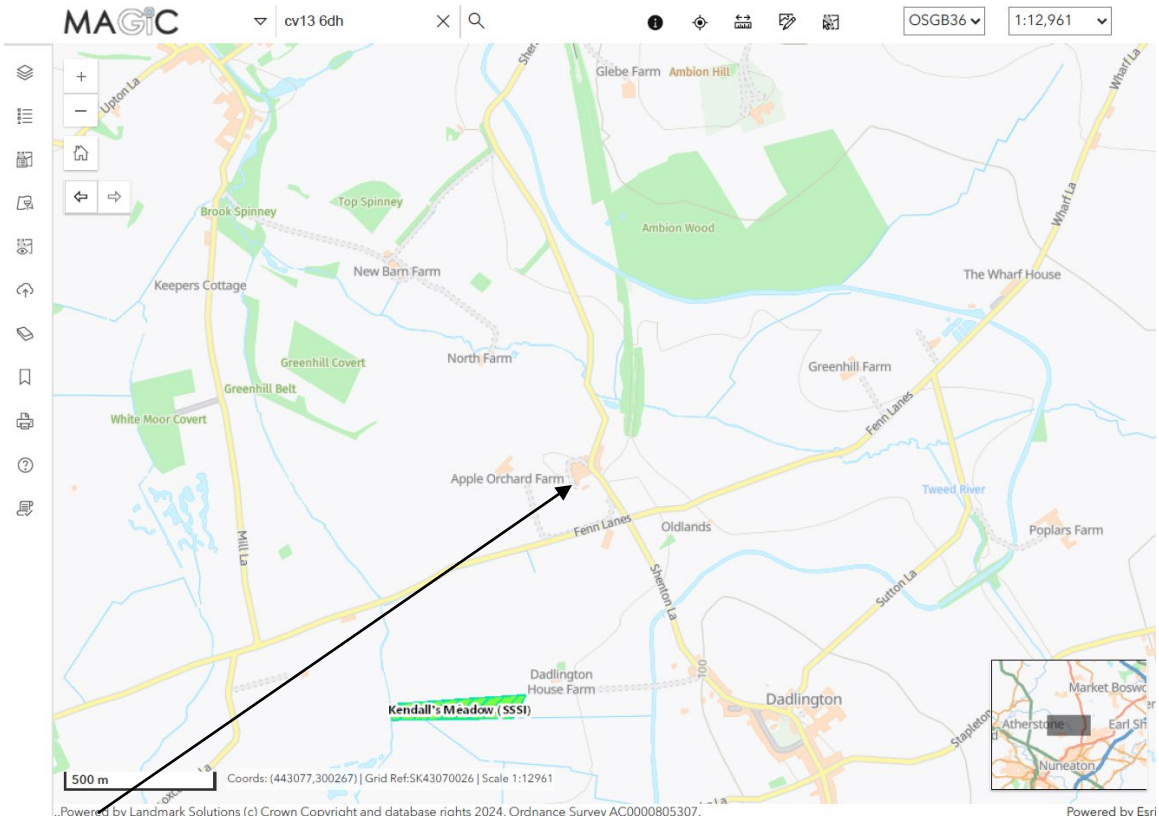
A search of the DEFRA MAGIC Dataset shows that there are no habitats adjacent to the site which of a special nature conservation status or significance. There is an area of Deciduous Woodland on the Priority Habitat Inventory to the north and northwest of the site. There is agricultural land surrounding the site. The areas of deciduous woodland on the Priority Habitat Inventory in the landscape will provide forage opportunities for bats and there is moderate

connectivity between the woodlands, the hedgerows being a mixture of hedgerows with some mature trees and some being post and wire fences. The forage opportunities around the site are poor.




**Lodge Farm.**

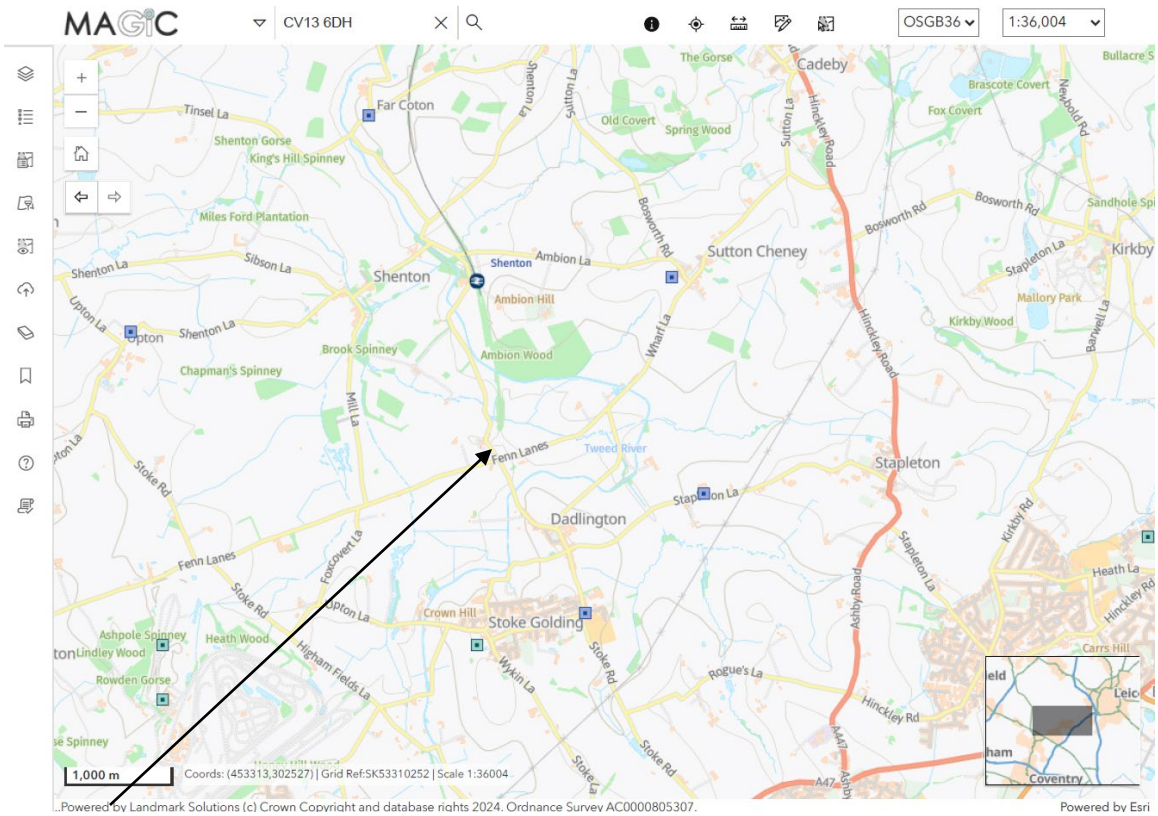
A search of the DEFRA MAGIC Dataset shows that the site does not fall into the buffer zones around the Deciduous Woodland to the north and northwest of the site. To the south of the site is the Kendall's Meadow Site of Special Scientific Interest. This will not be affected by the proposed demolition and re-building. There are no other biodiversity enhancement areas adjacent to the site.




**Lodge Farm.**

A search of the DEFRA MAGIC Dataset shows that there have been a number of European Protected Species licenses granted locally. None of the sites is adjacent to the property being surveyed.

| **Species.** | **Destruction of or damage to a breeding site for bats.** | **Destruction of or damage to a resting place for bats.** |
|---|---|---|
| Common pipistrelle bats. | No | Yes |
| Brown long eared bats. | No | Yes |
| Brown long eared bats | No | Yes |
| Common pipistrelle, Brown long eared bats. | No | Yes |
| Common pipistrelle, Brown long eared bats. | No | Yes |




**Lodge Farm.**

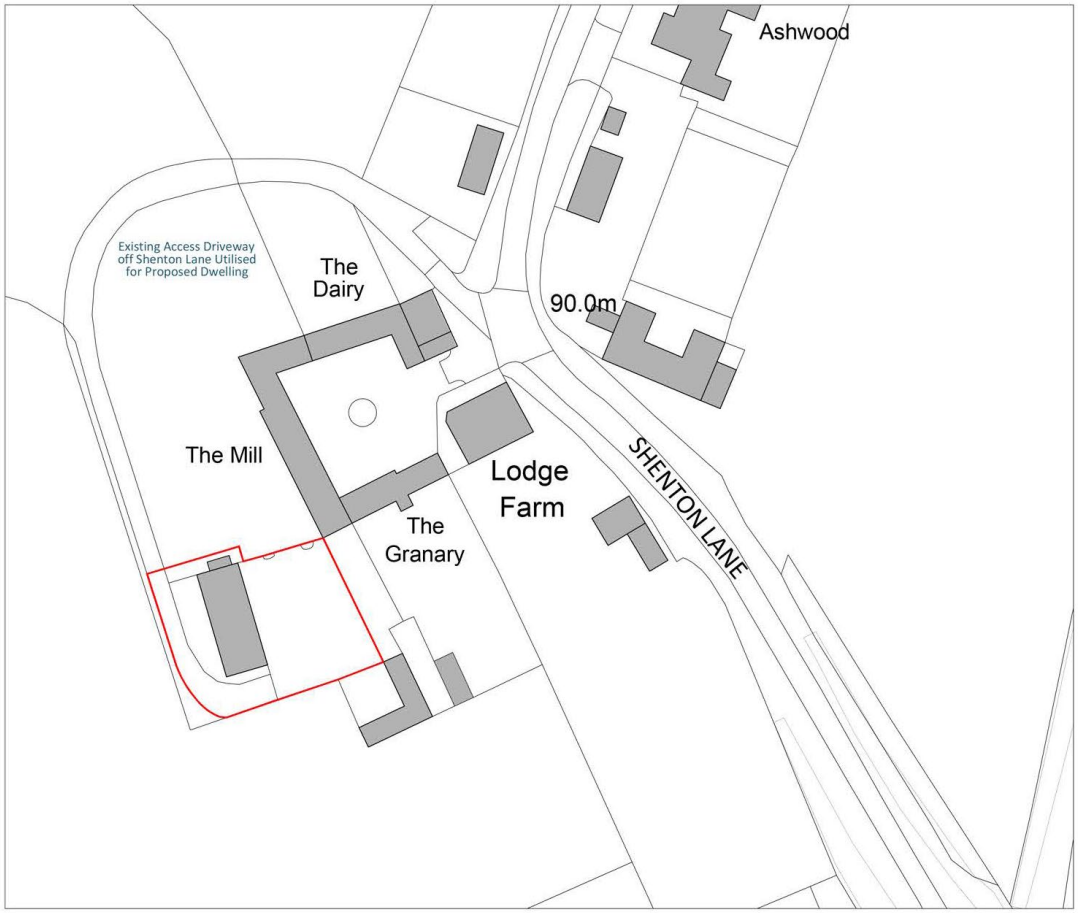
**Constraints.**

The building survey was undertaken in the early spring when evidence of bats internally can still be seen but external evidence may be unavailable after heavy rain. The surveyor does not believe that the weather masked any evidence or access points for bats. There were no constraints to the surveyor for access in the building survey for bats.

**Building Survey.**

The buildings to be surveyed consisted of a single storey steel portal framed building with a pitched roof covered with fibre cement sheets.



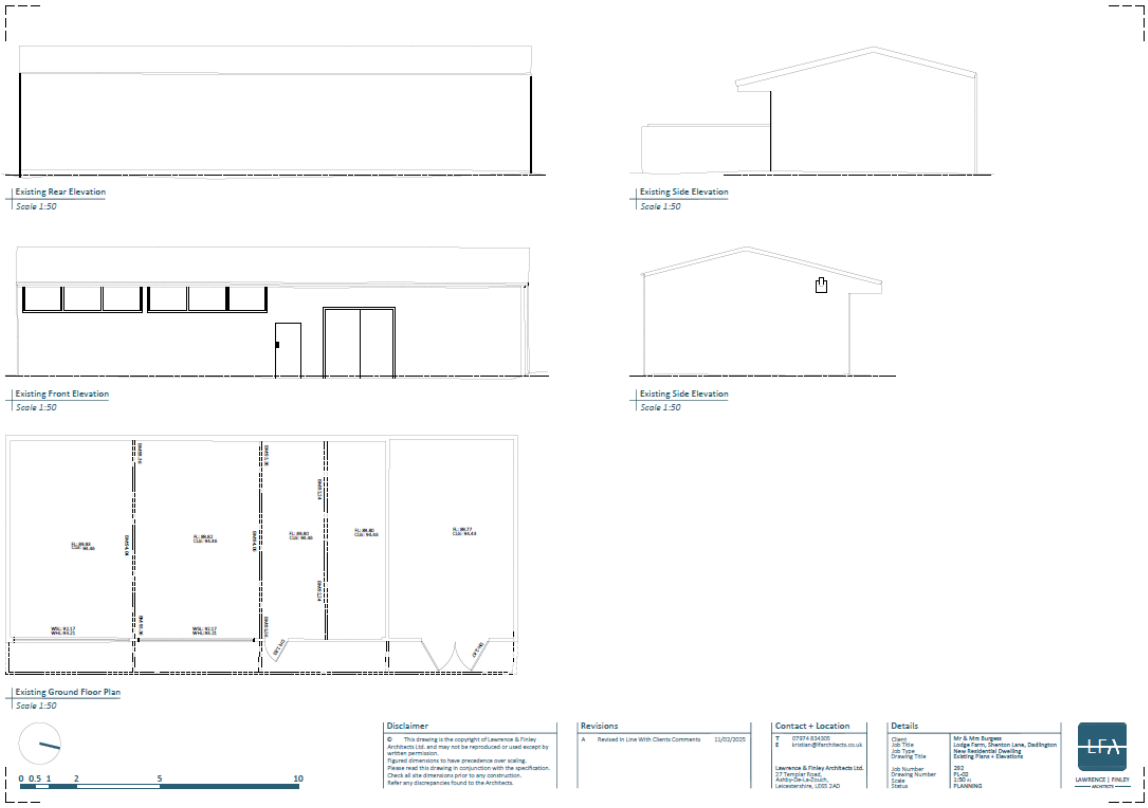



Block Plan
*Scale 1:500*

The results of the building survey are presented as the likelihood of bats using an area/feature;

| | |
|---|---|
| **None.** | Bats are unlikely to use the feature/area in any way. |
| **Low.** | Bats may use the feature/area but it is not thought to be likely. |
| **Moderate.** | The feature/area provides an area that may be used by bats and no direct evidence of occupation was found. |
| **High.** | The feature/area provides an area or feature that may provide very good potential to be used by bats but no direct evidence of occupation was found |
| **Definite.** | Clear evidence of the use of a feature/area as a place of shelter, such as droppings. |

**These are based on the Bat Survey Guidelines (2023) recommended scale of assessment for potential bat roosting.**




The building is a steel portal frame with fibre cement roof sheets. The building has one area that has the walls lined with plasterboard and insulated with fibre glass. There is one bay that has no liner and insulation. There is no access to the section of the building where there is insulation and plasterboard liner due to expanding foam at the eaves. There is access in one bay to the gap between the rear of the fibre cement roof sheet and the timber sheeting rail. This provides an exceptionally poor place of shelter for crevice dwelling bats and the likelihood of bats using the space can be managed by contractors following the method of working set out below.


The walls of the building have a breathable roofing membrane with timber cladding. In one area on the western elevation and three areas on the southern gable the timber has warped and allows access to the rear of the timber cladding. These gaps provide a possible place of shelter for crevice dwelling bats. The likelihood of bats using this potential place of shelter is moderate and two emergence surveys are required to determine if bats are using them as a place of shelter.

These gaps were checked with an endoscope and there was no evidence of use by bats.


21/03/2025


21/03/2025


21/03/2025


21/03/2025


21/03/2025



At the northern gable there is a fibre cement verge flashing that provides no places of shelter for bats as there is no crevice for bats at the rear


On the southern elevation there is a pressed steel verge flashing which has gaps under the pressed metal where it covers the timber cladding. This provides a poor place of shelter for individual crevice dwelling bats but the likelihood of use is exceptionally small due to the rapid heating and cooling of the pressed metal.



**Bat roosting opportunities for individual bats; Moderate.**

**Birds.**

There are no bird nesting opportunities in the lined area of the building but there are nesting opportunities on the steel frame of the unlined bay.



If birds begin to nest in any of the areas being developed between the beginning of March and the end of August in any year then work must stop until the young have fledged.

**Emergence surveys.**

In order to provide data upon bat movements on site, to determine whether bats are roosting in buildings and to allow the identification of bats emerging from buildings, two evening emergence surveys and one dawn survey were undertaken. The number of surveys undertaken on each building was determined with reference to the Bat Survey Guidelines for properties with low, moderate and high roost potential.

The aim of each survey was to look at different areas of the buildings to determine if bats were emerging from a roost and to assess bat activity across the site. The surveys were undertaken using heterodyne and frequency division bat detectors from which it is possible to identify bats by their different ultrasound call. Separate bat passes are recorded where the echolocation ends for more than 5 seconds. Where a bat was seen it was recorded on a plan of the site to provide information upon movements across the site. As bats close in on their prey their echolocation calls get closer together sounding like a buzz. These feeding buzzes are recording as they confirm the presence of prey and bats feeding in the area.

The surveys were undertaken using Batbox XD Baton time expansion bat detector with an Edirol R09 recording device and an Elekon Batscanner and Magenta 5 heterodyne bat detectors.

An infra red camera was used to record footage of potential access points. The footage was manually reviewed after each survey, to provide additional information regarding any suspected bat emergences from each feature of interest. Additionally, it also allowed any evidence of unseen/unheard bat emergences/returns to be captured, particularly in incidences where they were not observed by the surveyors and/or recorded by their hand-held detectors.

2nd May 2025.

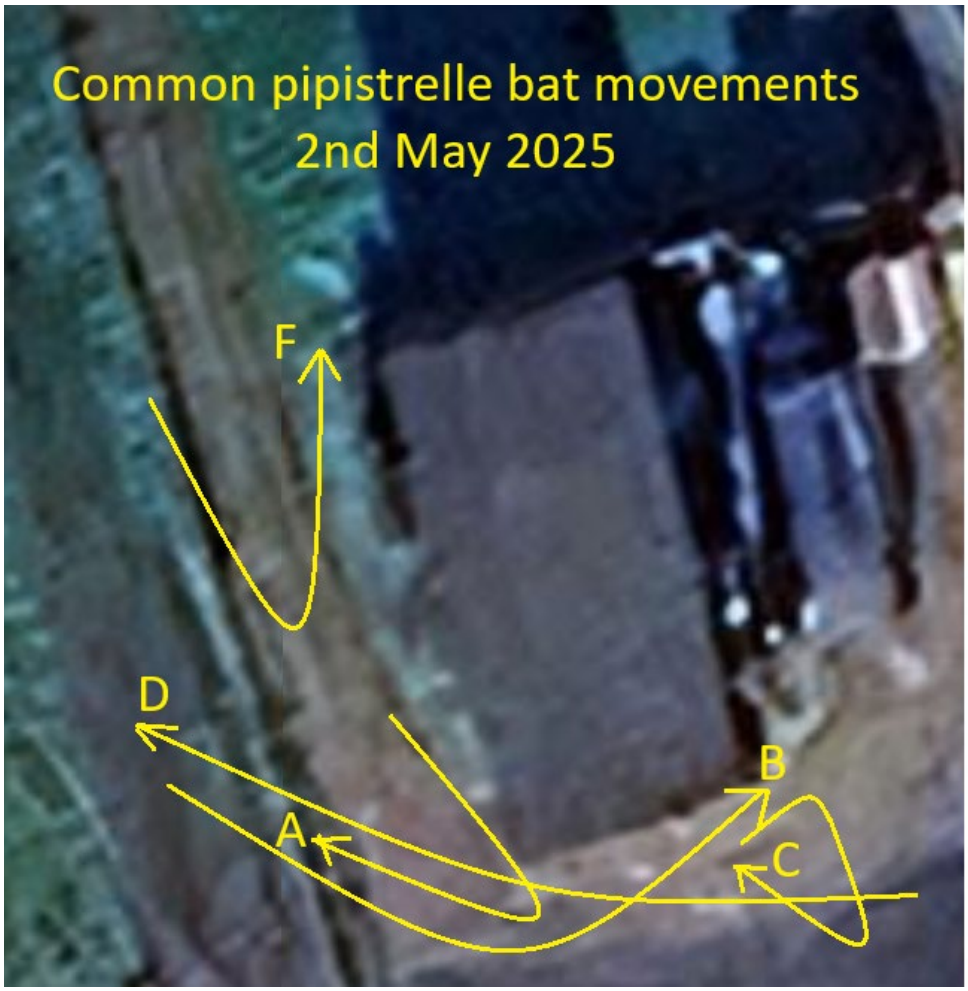
| | |
|---|---|
| Sunrise. | 05.34 |
| Air Temperature. | 11°C at the start of 10°C at the end of the survey . |
| Wind. | Beaufort Scale 1-2. |
| Cloud cover. | 3/8th. |

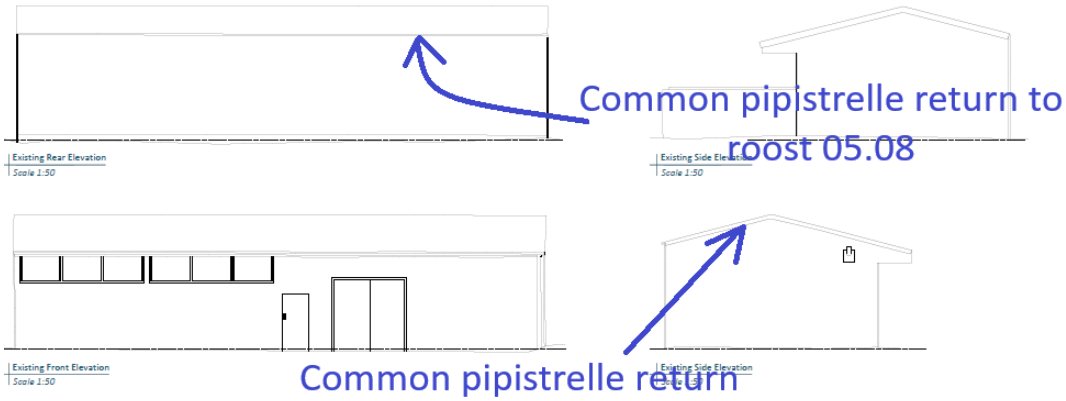
Survey started 03.36 and ended at 05.48.

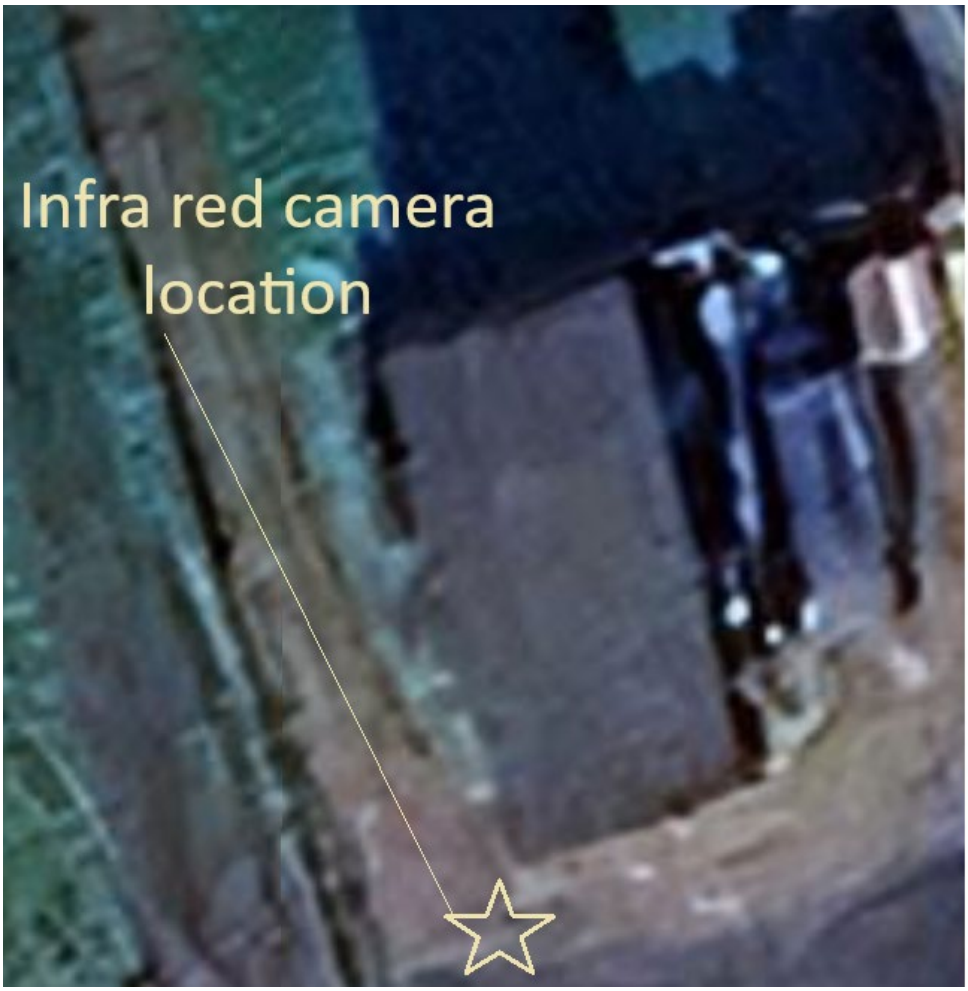
Surveyors; S. Christopher Smith (licensed bar surveyor).

| Time. | Direction. | Activity. | Species. | Notes. |
|---|---|---|---|---|
| 03.55 | Not seen | Commuting | Common pipistrelle | Faint |
| 04.15 | Not seen | Commuting | Common pipistrelle | |
| 04.52 | A | Foraging | Common pipistrelle | 2 passes |
| 04.54 | B | Commuting | Common pipistrelle | |
| 04.55 | A | Foraging | Common pipistrelle | |
| 04.57 | B | Foraging | Common pipistrelle | 2 passes |
| 04.57 | C | Foraging | Common pipistrelle | 5 passes |
| 04.58 | D | Foraging | Common pipistrelle | |
| 04.59 | E | Returned to | Common pipistrelle | |

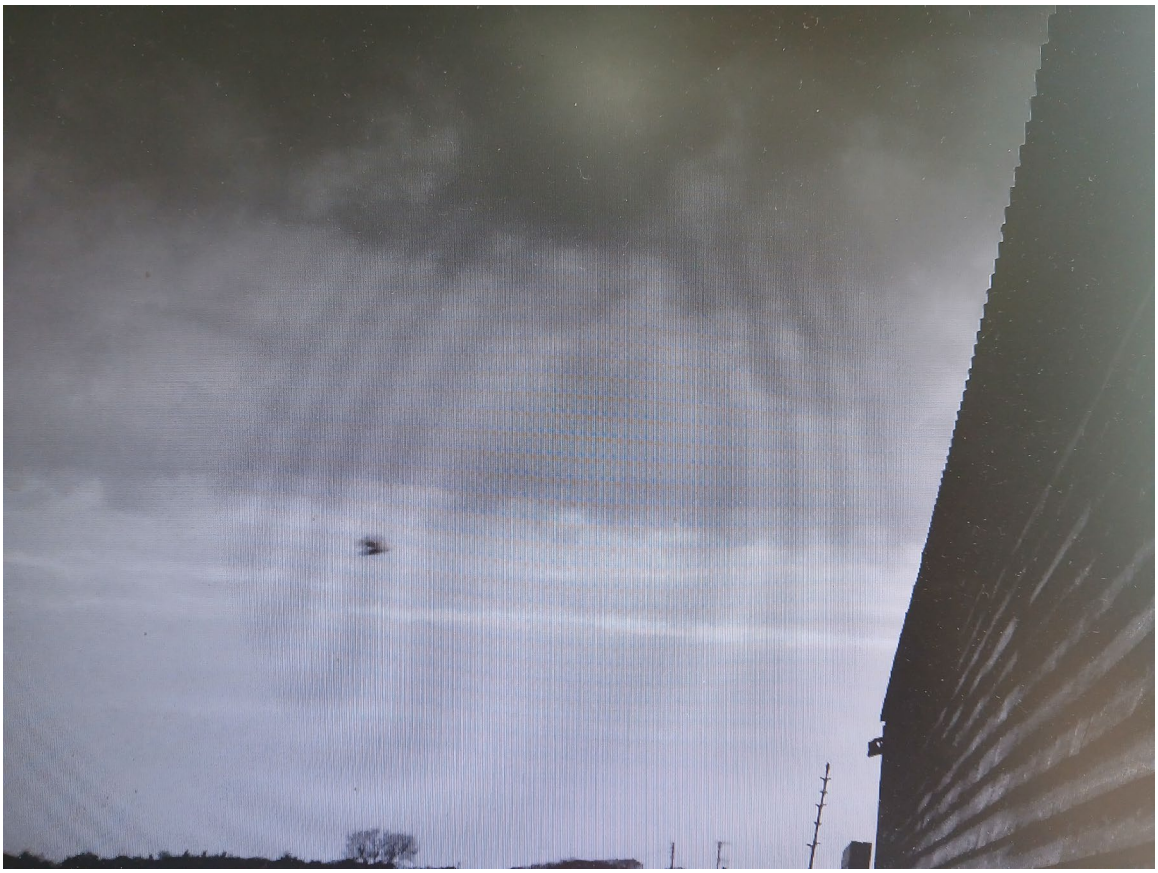
| | | | | |
|---|---|---|---|---|
| | | roost | | |
| 05.01 | F | Foraging | Common pipistrelle | 3 bats |
| 05.02 | D | Foraging | Common pipistrelle | 2 passes |
| 05.04 | F | Commuting | Common pipistrelle | 05.04 to 05.08 |
| 05.08 | F | Returned to roost | Common pipistrelle | |




Existing Rear Elevation
Scale 1:50
Existing Side Elevation
Scale 1:50
Common pipistrelle return to roost 05.08
Existing Front Elevation
Scale 1:50
Existing Side Elevation
Scale 1:50
Common pipistrelle return to roost 04.59


Infra red camera location


3 19 20:51:24



28th May 2025.

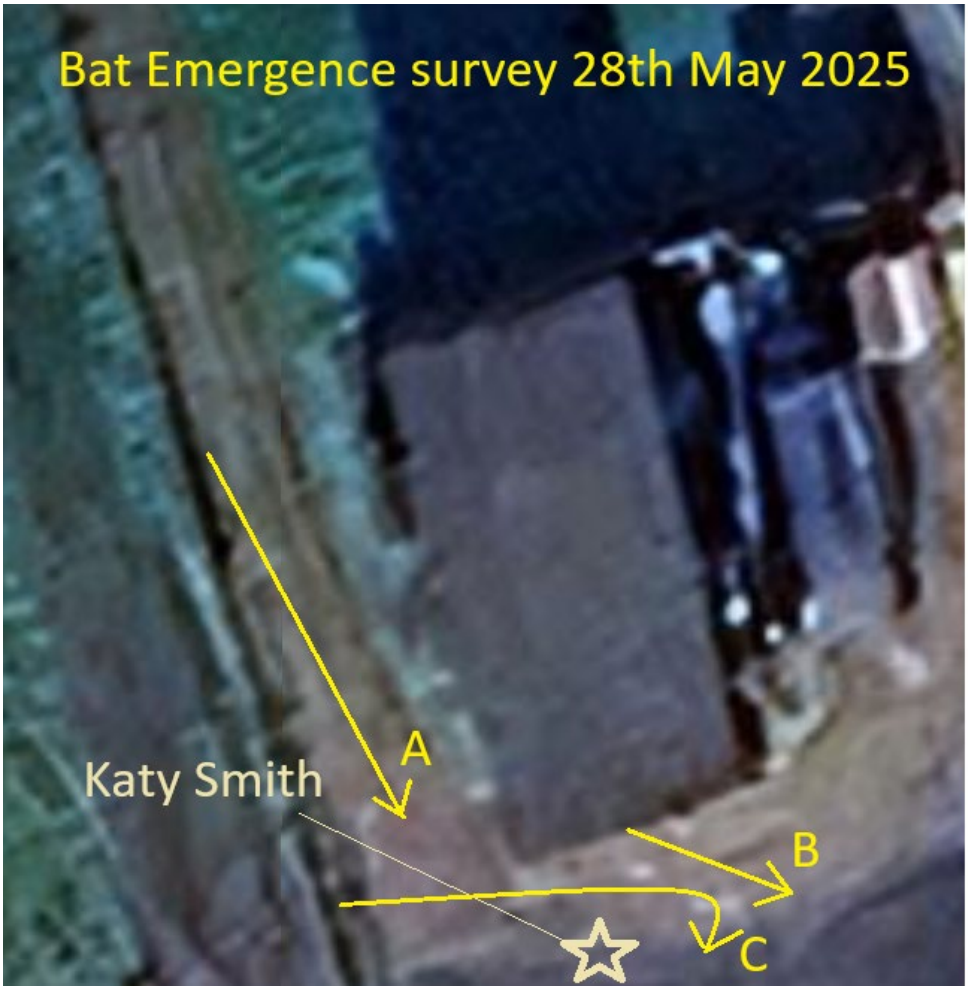
| | |
|---|---|
| Sunset. | 21.14 |
| Air Temperature. | 15°C at the start of 14°C at the end of the survey . |
| Wind. | Beaufort Scale 1-2. |
| Cloud cover. | 6/8th. |

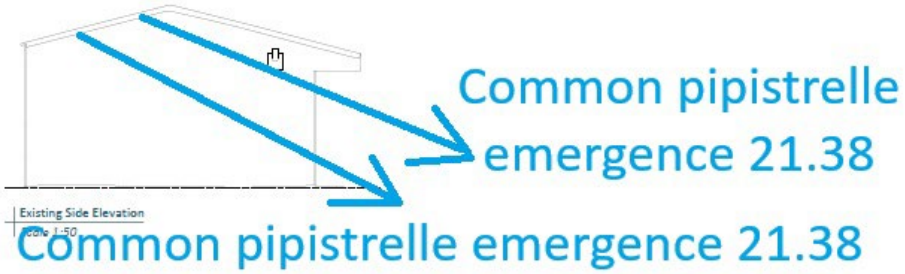
Survey started 20.56 and ended at 22.10.

Surveyors; S. Christopher Smith (licensed bar surveyor).

| Time. | Direction. | Activity. | Species. | Notes. |
|---|---|---|---|---|
| 21.30 | A | Foraging | Common pipistrelle | |
| 21.38 | B | Emerged | Common pipistrelle | |
| 21.38 | B | Emerged | Common pipistrelle | |
| 21.38 | A | Foraging | Common pipistrelle | |
| 21.39 | A and C | Foraging | Common pipistrelle | |
| 21.43 | A and C | Foraging | Common pipistrelle | |
| 21.47 | Not seen | Foraging | Common pipistrelle | |
| 21.48 | Not seen | Foraging | Common pipistrelle | |
| 21.52 | A and C | Foraging | Common pipistrelle | |
| 21.54 | A and C | Foraging | Common pipistrelle | |

| | | | | |
|---|---|---|---|---|
| 22.05 | Not seen | Commuting | Noctule | |
| 22.17 | A and C | Foraging | Common pipistrelle | |
| 22.20 | Not seen | Foraging | Common pipistrelle | |
| 22.30 | Not seen | Foraging | Common pipistrelle | |
| 22.32 | Not seen | Commuting | Noctule | |
| 22.32 | Not seen | Foraging | Common pipistrelle | |



17th June 2025.

| | |
|---|---|
| Sunset. | 21.32 |
| Air Temperature. | 21°C at the start of 18°C at the end of the survey . |
| Wind. | Beaufort Scale 0-1. |
| Cloud cover. | 2/8th. |

Survey started 21.16 and ended at 23.30.

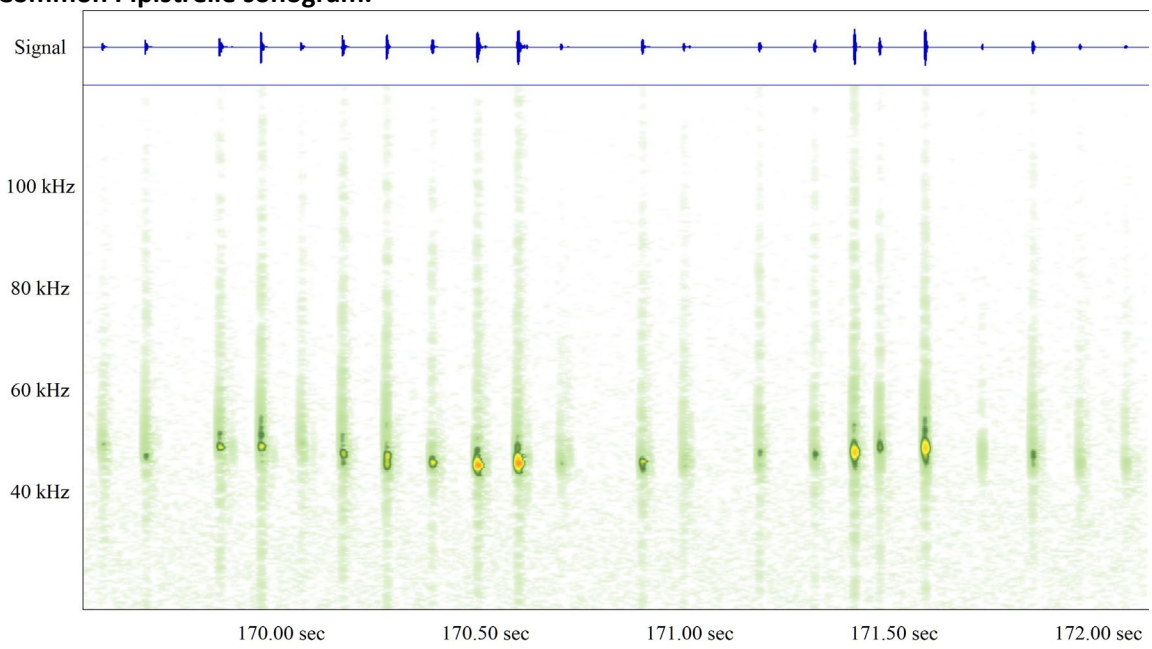
Surveyors; Katy Smith (experienced bar surveyor).

| Time. | Direction. | Activity. | Species. | Notes. |
|---|---|---|---|---|
| 22.16 | A | Foraging | Common pipistrelle | |
| 22.21 | B | Foraging | Common pipistrelle | |
| 22.23 | A and B | Foraging | Common pipistrelle | |
| 22.29 | A and B | Foraging | Common pipistrelle | |
| 22.43 | Not seen | Foraging | Soprano pipistrelle | |

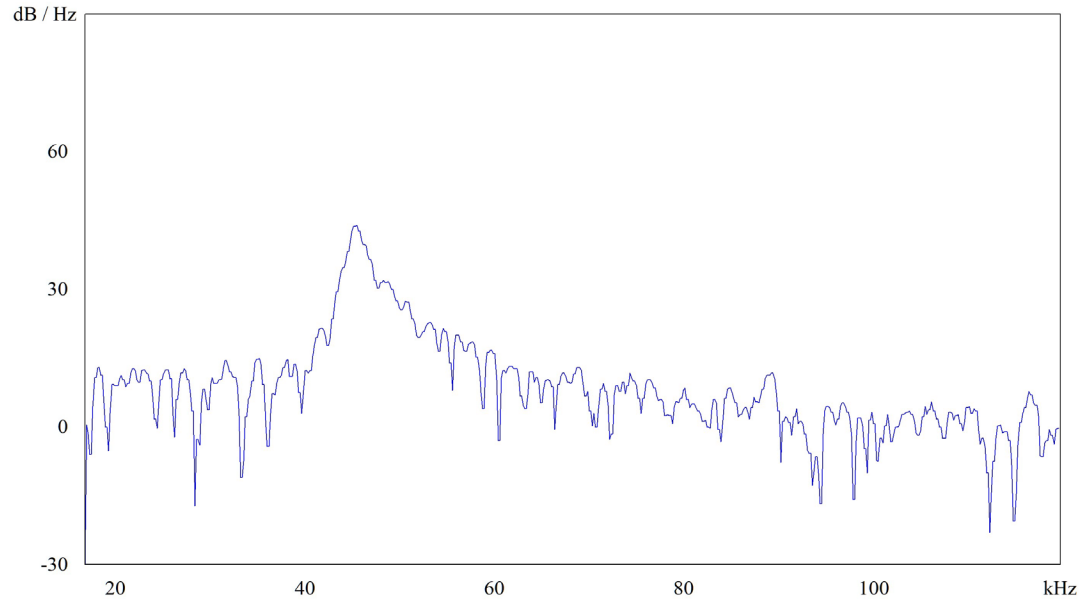
Analysis of the recordings from the bat detectors have confirmed the presence of Common Pipistrelle bats and Soprano pipistrelle bats.

The bats were commuting across the site with forage calls recorded. The sonogram shows the typical 'hockey stick' shape for all pipistrelle echolocation calls, an initial frequency modulated downwards sweeping call followed by the constant frequency peak frequency area. The peak frequency can be seen to be around 45kHz on the peak frequency graph, confirming that the bat was a Common Pipistrelle.

**Common Pipistrelle sonogram.**




**Detailed Common pipistrelle sonogram**



**Conclusion.**

There was no evidence of bats using the building as a place of shelter. There are moderate bat roosting opportunities for individual crevice dwelling bats under the warped timber cladding on the southern gable and the western elevation.

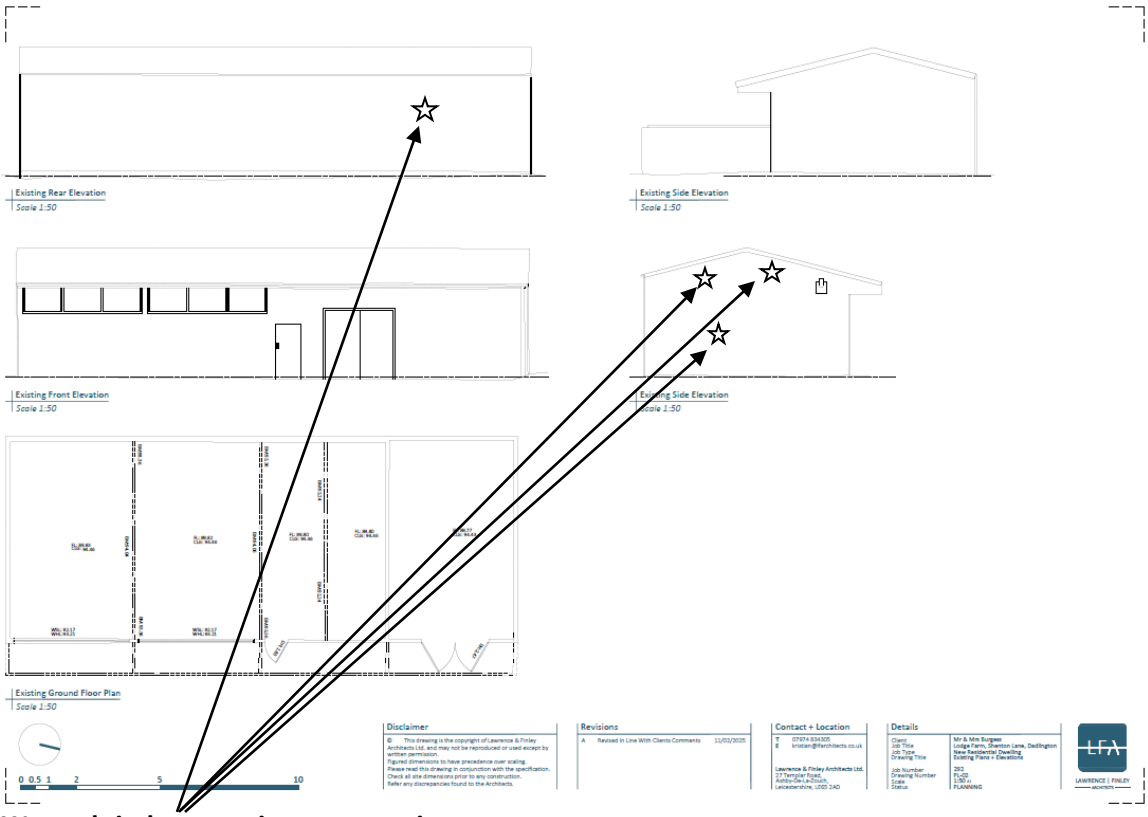
A dawn return survey was undertaken on the 2nd May 2025 and two Common pipistrelle bats returned to roosts in the building, one under the pressed metal flashing on the southern gable of the building, and one under the warped/raised timber cladding on the western elevation.

An emergence survey has revealed two Common pipistrelle bats emerging from behind the pressed metal verge flashing at 21.38 on the 28th May 2025. No bats emerged during the survey on the 17th June 2025.

The building is being used by individual Common pipistrelle bats as a Day roost.

The proposal is to demolish the existing barn and replace it with a new dwelling.

A license from Natural England will be required to undertake the development should planning permission be granted. The number of bats, at present, is small and the Bat Mitigation class license can be used.




**Warped timber roosting opportunity.**

There are bird nesting opportunities only in the unlined bay on the northern gable. If birds begin nesting in this area between the beginning of March and the end of August in any year then work must stop until the young have fledged.


**Impacts on bats.**

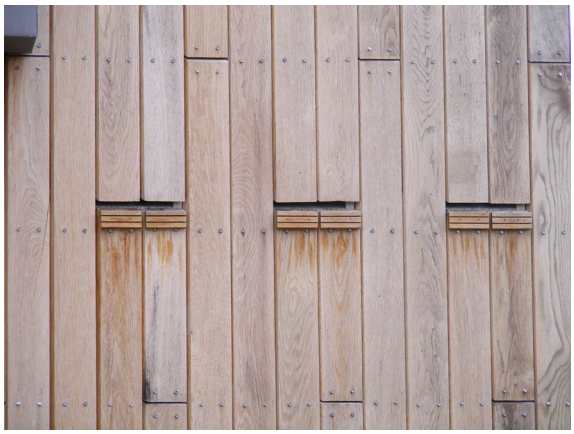
The demolition of the property will have a negative impact on bats due to the loss of the bat roosting under the verge flashing and at the eaves. A license from Natural England will be required to undertake the demolition should planning permission be granted. The method of working below must be followed to ensure that the potential for disturbing or harming bats, however small, is minimized and avoided.

**Mitigation for bats.**

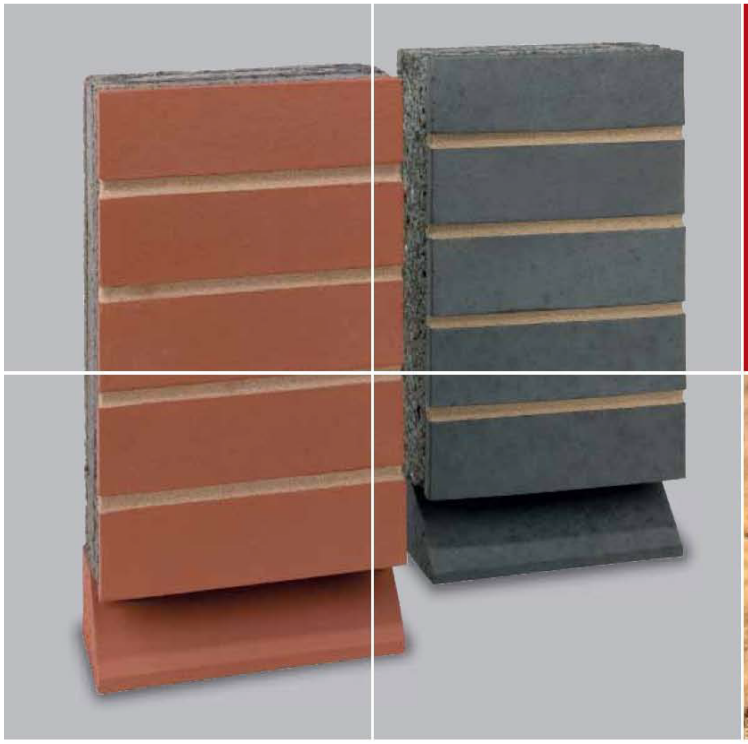
Records show that there are populations of crevice dwelling bats locally. Common pipistrelle bats have been recorded roosting in the building. New roosting opportunities for these species of bats can be created when the new dwelling is built if planning permission is granted, to meet the requirements of the National Planning Policy Framework (2023).

An integrated bat box can be installed at the gable apex of northern and southern elevation of the replacement dwelling, should planning permission be granted. These are constructed from brick or concrete blocks and are built into the outer leaf of brickwork. They can have facing bricks, can be rendered or built behind the timber cladding with a suitable access slot for bats. They provide no access to the cavity wall.

They are made by a number of companies including Wienerberger, Ibstock Brick, Habibat and Schwegler.



Wienerberger
Building Value



# Bat Boxes. To protect and conserve.

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ECOLOGICAL CONSULTANTS

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THE wildlife TRUSTS

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Cheshire
Derbyshire
Devon
Durham
Lancashire, Greater Manchester & North Merseyside
Staffordshire
Surrey
Sussex

Wienerberger has worked closely with EcoSurv Ltd to create a brand new range of eco-friendly bat boxes. Compared to existing bat boxes on the market, the Wienerberger bat box is larger and features an innovative arrowhead structure which helps maintain the bats body temperature in order for them to flourish.

The bat box is designed to encourage the most popular bats found in the UK, such as Pipistrelles, Natterer's, Whiskered and Brandt's bats. Other bat box options are available for other breeds via special order.

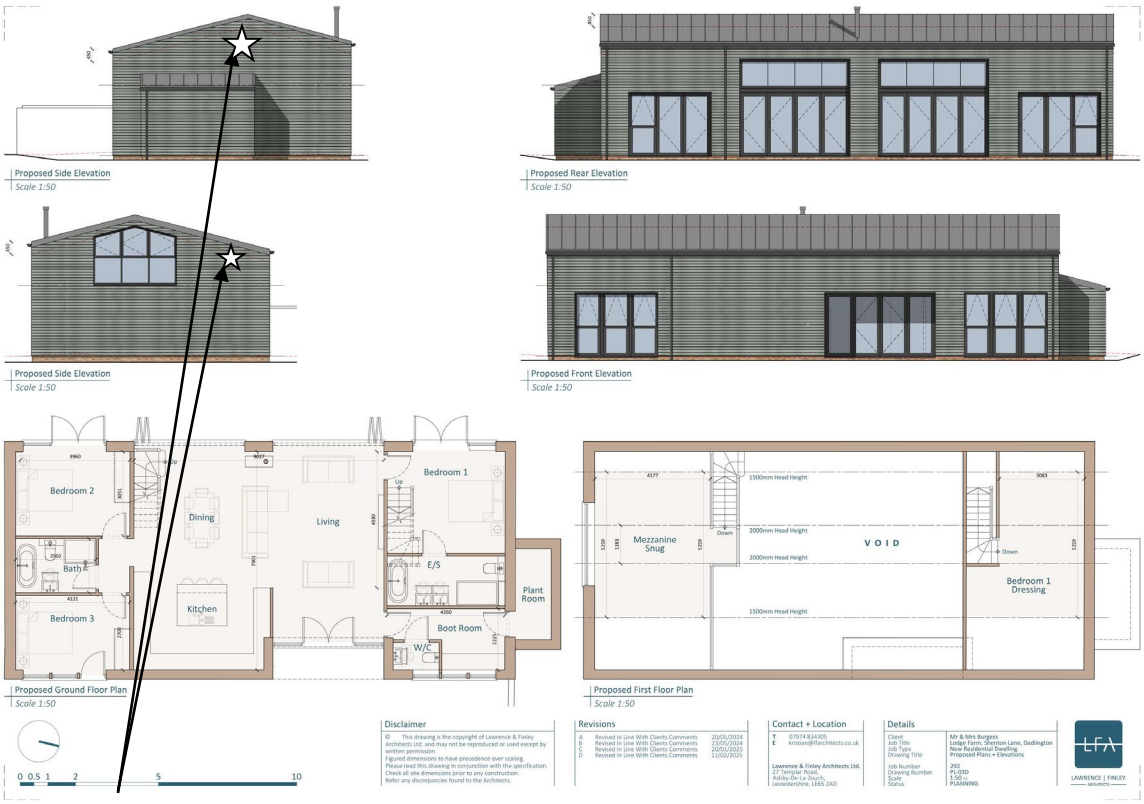
Bats are an important part of our natural landscape. The latest legislation to protect bat species and their habitats has now brought the UK in line with the rest of Europe and made bat conservation mandatory on any new building project where bats may exist.

Our bat boxes also help towards gaining additional ecological points to meet the requirements of the Code for Sustainable Homes.

Our bat boxes are currently available in Staffordshire Smooth Red and Smooth Blue but can also be manufactured to any colour in our range.

**Further detailed information on Wienerberger bat boxes and bat conservation is available at www.brick.co.uk/batbox or contact Design Services on 0161 491 8200**

A location away from doors and windows has been chosen so that droppings falling from the bat box will not cause a nuisance for the occupiers.




**Integrated bat box.**

There should be no direct illumination of the new bat roosting opportunity. Lighting around the site will be by low wattage down lights at low level to provide security and safety lighting for the dwelling and service area. This lighting will be set no higher than the head height of the ground floor windows and will minimise the possible disturbance to bats in this area. Any security lighting will use PIR's to ensure they turn off automatically once the movement has ceased.

The method of working has been set out so that it can printed and handed to contractors on site.

**Method of working.**

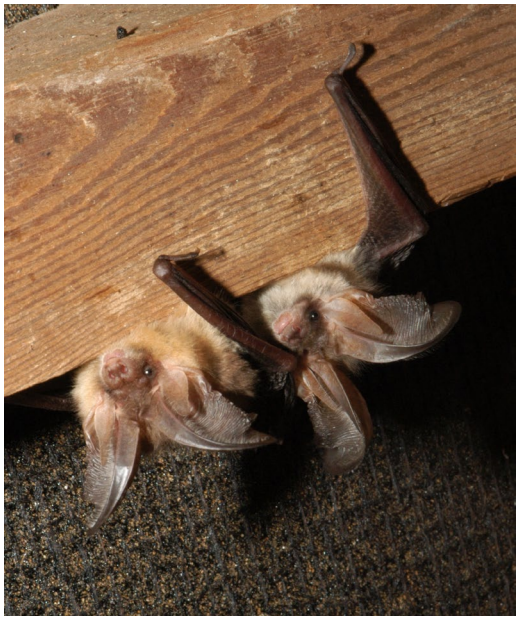
There is no evidence of bats using the buildings as a place of shelter but it is possible that individual bats may use the possible roosting sites uncovered during the demolition at different times of year. Because of this possibility a method of working should be put in place when there are contractors on site. This would cover work to the roof or demolition where there was access for bats.

The common species of bats that are likely to roost in buildings of this nature and are evidenced from the regional records, are crevice dwelling bats, such as the Common Pipistrelle. These bats are small and can use accesses as little as 50mm x 20mm. when found in buildings they appear no bigger than a thumb and have dark brown fur.

It is common to find bat droppings in places used by bats. These are small and often confused with mouse droppings. It is possible to distinguish between them as mouse droppings are hard whereas bat droppings, being only insect remains, crumble when rubbed between the fingers.

The other species of bat that may possibly be found on site is the Brown Long Eared bat. These are a medium sized bat, larger than a Pipistrelle with very long ears that meet in the centre of

the head. These bats may be found in crevices in the brickwork, behind ridge boards or in splits in the larger roof timbers.



- When tiles are removed they should be lifted away from the roof and not slid or twisted to avoid injuring any bats roosting beneath the tiles.
- Ridge tiles should be lifted without sliding so as to avoid injuring any bats roosting beneath them.
- If a bat is found under a roof tile or ridge tile, the tile should be carefully replaced and work in that area stopped until such time as a licensed bat worker can attend the site and contact Natural England to discuss how the work can proceed.
- The bat can then be removed to a place of safety until such time that it can be released at night.
- The demolition of any part of the building where bats could potentially roost should be by hand. This includes the removal of roof tiles, ridge tiles, soffits, gutter fascia boards and hanging tiles. If a bat is found the work should be stopped immediately and a bat worker called to come and deal with the bat. The bat should not be handled except by a licensed bat worker. Any bats found will be taken into care for release on site later dependent upon the time and weather.
- Bats discovered during the winter period will be taken into care, feed and kept healthy until they can be released on site in the Spring.
- Bats will not be released on site until evening temperatures are consistently above 6$^{o}$C, at least three nights, the wind is light, and there is no rain.
- Bats taken into care over the winter will be released to the new roost opportunities in Spring if they are available using the same release criteria as above.

**Legislation concerning bats.**

**The Wildlife and Countryside Act 1981 (WCA) protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Countryside and Rights of Way**

**Act 2000 (CRoW) which applies only in England and Wales, and by the Nature Conservation (Scotland) Act 2004 which applies in Scotland.**

The Conservation of Habitats and Species Regulations 2010 (better known as the Habitats Regulations) implements the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora. All bats are listed as 'European protected species of animals'.

It is an offence for any person to:

- Deliberately capture, injure or kill a bat.
- Intentionally or recklessly disturb bats, where that disturbance may significantly affect the ability of those bats to survive, breed, rear or nurture their young, or is likely to significantly affect the local distribution or abundance of any bat species, whether in a roost or not.
- Damage or destroy a place of shelter (roost) of a bat, be that a resting or breeding place.
- Possess a bat, whole or in part, alive or dead.
- Intentionally or recklessly obstruct access to a roost.
- Sell or offer for sale or exchange whole or parts of bats, alive or dead.

The fine for committing an offence is £5,000 per bat.

If a bat is found on site, work should stop in the area where the bat was found and the contractor should call the Bat Consultant; S. Christopher Smith 07967636115.

## Breathable Roofing Membranes-Info Sheet

**What are they?**

- Traditional roofing felt was bitumen based
- Modern membranes are made from very fine and long plastic fibres that are spun into thin sheets. They be single ply or have various layers to provide a more complex membrane.
- They are known as Breathable roofing membranes or Vapour permeable underlay's (BRMs/VPUs)

**Why are they used?**

- Modern houses are designed to be more energy efficient, meaning they tend to be warmer.
- Along with human activities this means increased levels of water vapour in the air
- When this passes up into the cold roof space, it forms condensation, which can lead to problems
- In the past gaps would have been left near the ridge and eaves to allow ventilation, but increased insulation often means this isn't possible. A breathable membrane aids this as it allows water vapour to pass out of the loft into the external air

**Who Makes them?**

- When most people talk about BRMs, they will call it Tyvek as this is the most famous brand name
- There are over 70 products in the UK alone, made by 20+ companies – never assume the product is Tyvek unless there is proof.

**Potential Problems**

- There have been reports of bats becoming entangled in fibres pulled from the membranes
- Possibility of Temperature and humidity change
- Alot of membranes are white or brightly coloured

**Advice**

- At present we cannot recommend specific brands that are considered safe for use in bat roosts, as such it is recommended that bitumen felt be used where possible
- It is not against the law not to install a BRM
- If the planner insists on a BRM, suggest a dark coloured and reinforced membrane

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**Appendix 1.**

**Roost Types as designated by Natural England and the Bat Surveys for Professional Ecologists, Good Practice Guidelines.**

A. Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.
B. Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.
C. Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.
D. Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
E. Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites
F. Mating sites: sites where mating takes place from later summer and can continue through winter.
G. Maternity roost: where female bats give birth and raise their young to independence.
H. Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity.
I. Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.
J. Other – Explain what the roost type is if not one of the above (it is recognised that roost types are interchangeable and not always easy to classify according to the nuances of certain species).