

Bat Emergence Survey Report

LOCATION: Irongate Farm, Hall's Green, Weston, Hitchin, SG4 7DR

CLIENT: Weston Park Farms

AUTHORS: Eleanor Sheehan (Level 2 Bat Class Licence: 2024-11948-CL18-BAT)
Jason Walker (Level 2 Bat Class Licence: 2024-11947-CL18-BAT)

REPORT DATE: 07/08/2025



Email: info@battreesurveys.co.uk
Website: www.battreesurveys.co.uk

Contents

1. Introduction	1
1.1. Background.....	1
1.2. Survey objectives.....	1
2. Legal protection of bats	1
3. Methodology.....	2
3.1. Limitations and constraints.....	4
4. Results	
4.1. Survey conditions	4
4.2. Repeat internal inspection.....	4
4.3. Emergence survey results	7
4.3.1. 3 rd June 2025.....	7
4.3.2. 24 th June 2025	9
4.3.3. 15 th July 2025.....	10
5. Impact assessment and mitigation recommendations	
5.1. Interpretation of findings.....	13
5.2. Impact assessment.....	14
5.3. Mitigation and enhancement.....	14
5.3.1. Conservation significance	14
5.3.2. Licencing.....	15
5.3.3. Mitigation measures	15
5.3.4. Retaining opportunities for bats.....	16
6. Conclusions	17
7. References	19
8. Appendix 1 – Legislation and policy.....	20
9. Appendix 2 – Guidance on artificial light	22
10. Appendix 3 – Night Vision Aids (NVA) darkest points.....	24
11. Appendix 4 – DNA analysis results.....	27

Disclaimer

This report has been prepared by Bat Tree Surveys for the exclusive use of the client in accordance with the terms of the contract and scope of work agreed upon. The information, assessments, and recommendations presented herein are based on data collected and conditions observed at the time of the study and are intended solely for the purposes described in this document.

No warranty, express or implied, is given as to the accuracy, completeness, or fitness for a particular purpose of the information contained in this report. Bat Tree Surveys accepts no liability for any loss or damage arising from the use of this report or its contents by any third party without prior written consent.

This report may contain interpretations or predictions based on ecological data, which are subject to inherent uncertainties and external influences. Environmental conditions can change over time, and the author bears no responsibility for changes that may occur after the date of the fieldwork or publication of this report.

This document must not be reproduced, disclosed, or distributed to any third party without the express written permission of the author.

1. Introduction

1.1. Background

A planning application (ref 25/01141/FP) has been submitted to North Herts District Council for the change of use of existing barn from storage and distribution (Use Class B8) to use as a community events and learning centre for agriculture, cookery and related rural-based activities. An existing lean to between the historic barn (B2) and the concrete barn (B1) will be demolished to enable the construction of a single storey extension to the concrete barn. Plans also include installation of solar panels to roof of converted barn and plant to the roof of the proposed extension including six cycle spaces.

Listed Building Consent has been applied for to include renovation works to the historic timber barn, including cleaning and treatment of timbers, structural repairs to strengthen historic timbers, and replacement of decayed weatherboarding with matching substitution. A number of conservation roof lights are also planned to be installed along the roof of the barn.

Cherryfield Ecology undertook a Preliminary Ecological Appraisal on the existing site and buildings in March 2025¹. One barn was confirmed as being used by roosting bats (B2) based on the findings of bat droppings; another barn was considered to possess moderate potential to support roosting bats. The remaining two buildings were considered to hold negligible potential.

In accordance with current best practice guidelines², a minimum of three emergence surveys were recommended on B1 & B2 (due to B1 being internally connected to B2) and a minimum of two emergence surveys on B5 to establish the presence of roosting bats, determine the likely impacts of the development on bats and the conservation importance of the site for the species.

1.2. Survey objectives

The aim of the survey was to identify potential constraints and opportunities relating to roosting bats associated with the planned development of the site. The objectives were to:

- Determine presence or likely absence of bat roosts within the buildings
- If present, determine the species, size, and nature of the roost
- If necessary, recommend further surveys, mitigation, compensation, or enhancement measures and licencing requirements to inform the planning application for the proposed development at the site
- Determine the impact of the proposed development on local bat populations within the area

2. Legal protection of bats

All UK bat species and their roosts are legally protected under European and UK legislation (Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act (1981). Provisions of these regulations include making it an offence to

Deliberately kill, injure or take (capture) bats;

Deliberately disturb bats in a way that would

- (i) be likely to impair their ability to survive, breed, or rear or nurture their young, or to hibernate or migrate

¹Cherryfield Ecology (2025) Preliminary Ecological Appraisal, Irongate Farm, Hall's Green, Weston, Hitchin, SG4 7DR

²Collins, J. (ed.) (2024) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). Bat Conservation Trust, London

- (ii) significantly affect the local distribution or abundance of the species to which they belong
- Damage or destroy a breeding or resting place used by bats
- Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence at the time).

In accordance with the Habitats Regulations Natural England must apply the three derogation tests as part of the process of considering a licence application. These tests are

- The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety
- There must be no satisfactory alternative
- The favourable conservation status of the species concerned must be maintained.

The results of this survey will assist in determining the need for a mitigation strategy to comply with UK law and wildlife legislation. Further details of legislation and legal protection of all British bat species are provided in Appendix 1.

3. Methodology

Three emergence surveys were undertaken by six experienced surveyors on 3rd June, 24th June, and 15th July 2025 in accordance with methodology outlined by best practice guidelines². Surveyors were positioned on all elevations of the buildings to enable observation of all roosting features and access points identified in the initial scoping survey. Surveys were carried out 15 minutes before sunset until 90 minutes after.

All surveyors were equipped with an Echometer Touch 2, a Nightfox Whisker infrared camera, and additional Nightfox XB5 infrared torches. Surveyors recorded any bat activity or emergences/ re-entries at identified potential roosting entry/exit points. Species were identified by call frequencies using the full spectrum bat detectors. Recordings of bat calls were made to allow for subsequent computer analysis and identification of bat species using bat analysis software Kaleidoscope, where necessary. Footage from infrared cameras was analysed after each survey against recorded bat registrations to identify potential missed emergences.

A map of surveyor and NVA positions during the surveys is shown in Figure 1 & 2 below. Stills of the darkest point of the surveys taken from each infrared camera are shown in Appendix 2.

²Collins, J. (ed.) (2024) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). Bat Conservation Trust, London



Figure 1: Surveyor and NVA positions during first two surveys (3rd and 24th June 2025)



Figure 2: Surveyor and NVA locations for last survey (15th July 2025)

3.1. Limitations and constraints

Each survey was undertaken during the period of peak bat activity and in good weather conditions. Moderate precipitation at the start of the third survey could present a partial constraint, however, surveyors were positioned inside the barn where bats could still be viewed emerging. The results are considered to be a good representation of bat roosting activity at the site at the time of the surveys.

Visibility of the north rear of B5 was restricted by objects and a large tree blocking view of the elevation. However, the timber cladding on this elevation was perceived to have less potential than the rest of the building and no evidence of bat roosts was seen along this edge.

It should be noted that surveys such as this provide a snapshot of bat roosting activity at the time of survey visits. Bat roosting patterns vary depending on weather conditions, breeding cycle, and levels of disturbance.

4. Results

4.1. Survey conditions

Dates, times, and weather conditions for each survey are presented in Table 1.

Table 1: Survey timings and conditions

Date	Survey start/end time	Weather conditions (start)	Weather conditions (end)
3 rd June 2025	Sunset: 21:12 Start time: 20:57 End time: 22:42	Temperature: 14°C Humidity: 57% 80% cloud cover Gentle breeze (Beaufort Scale 3) Dry	Temperature: 12°C Humidity: 66% 50% cloud cover Gentle breeze (Beaufort Scale 3) Dry
24 th June 2025	Sunset: 21:20 Start time: 21:05 End time: 22:50	Temperature: 21°C Humidity: 62% 0% cloud cover Moderate breeze (Beaufort Scale 4) Dry	Temperature: 13°C Humidity: 78% 90% cloud cover Gentle breeze (Beaufort Scale 3) Dry
15 th July 2025	Sunset: 21:16 Start time: 21:01 End time: 22:44	Temperature: 18°C Humidity: 73% 100% cloud cover Light air (Beaufort Scale 2) Mild precipitation	Temperature: 16°C Humidity: 78% 100% cloud cover Light air (Beaufort Scale 2) Dry

4.2. Repeat internal inspection

Prior to commencing the first survey (3rd June), a site walkover was undertaken to assess the buildings and determine surveyor positions.

Building B1

Building B1 is a concrete framed breezeblock and brick-built structure with upper corrugated metal gable ends and corrugated exposed metal sheet roofing. Along the front of the structure is some lower-level timber weatherboarding and open doors through which bats could fly in and out. On the block wall backing onto the walls of B2 there is an area of plasterboard affixed to the upper half of the wall with batons. Adjacent is a stretch of tongue and groove timber fixed to the wall with expandable foam.

On the wall ledge below the plasterboard and timber, two areas of accumulated bat droppings were discovered, suggesting bats had been roosting between the block wall and plasterboard and between the block wall and timber/foam (Figures 3 and 4). DNA analysis of droppings collected from these areas confirmed roosts belonging to Common pipistrelle *Pipistrellus pipistrellus* (see Appendix 4). Scattered bat droppings were also found on the floor of B1.

Building B2

Building B2 is an L-shaped historic timber-framed barn within the curtilage of the Grade II listed farmhouse. Brick walls support a steeped tiled and slate gable roof with sarking board lining. The external walls are clad with weatherboarding and internally lined with plastic sheeting, insulation, and chipboard in some areas, providing potential roosting features. The four bays along each length of the barn are divided by tie beams with bracing beams and timber studs above connected to collar beams. Suitable roosting crevices are present within cavities produced by the tie beam mortice and tenon joints. There are also stud joints with gaps around the wall interior. There are open doors enabling bats to fly in and out and gaps within the roof and weatherboarding providing further access in and out of the structure.

Feeding remains (moth wings) were found on the floor at the southern end of B2 suggesting that Brown long-eared bats *Plecotus auritus* were feeding in the barn as well as roosting. All accessible voids and areas where droppings were accumulated were inspected via endoscope. No live bats were found, but droppings were discovered in one mortice and tenon joint on a bracing beam.

The infill structure between the timber barn and B1 was framed with timber studwork and boarded internally. This connecting structure is unsuitable for roosting bats but may be used by commuting bats due to being internally connected to the timber barn and providing access to outside.

Scattered bat droppings from the floor of B1 and B2 were confirmed by DNA analysis to belong to Common pipistrelle, Brown long-eared bat, and Barbastelle *Barbastella barbastellus*. The numbers of droppings throughout the barns suggest occasional use by an individual or small number of bats. Feeding remains suggest Brown long-eared bats were also feeding in the barn as well as roosting.

Building B5

Building B5 is a single storey timber outbuilding with brick plinth and timber boarding above, supporting a sloping mono-pitched corrugated sheet roof. Internally the walls are packed with wool insulation and plastic sheet lining.

A number of bat droppings were found beneath and behind the cladding on the eastern elevation of B5 (Figure 2). Inspection by endoscope revealed further droppings between plastic sheeting and wool insulation. A third survey was recommended (rather than the previous two advised) to characterise the roost.



Figure 3: Bat droppings below plasterboard fixed to wall in B1



Figure 4: Bat droppings below timber fixed to wall in B1

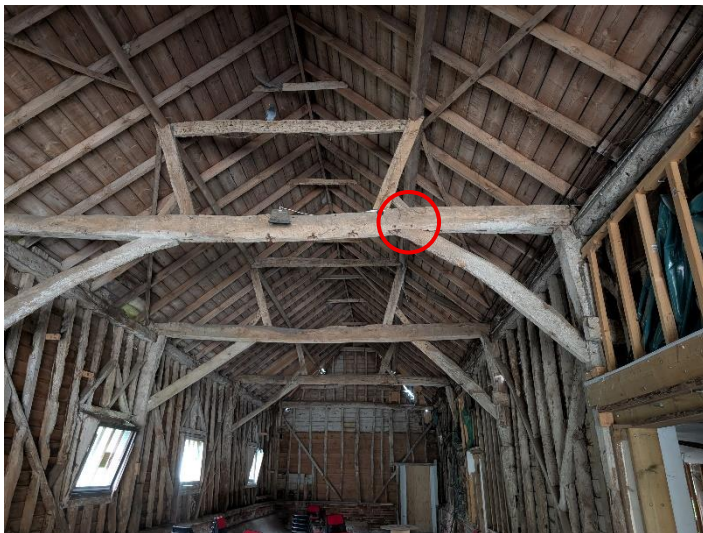


Figure 4: Mortise and tenon joint where droppings were found



Figure 6: Bat droppings within tenon and mortise joint in B2



Figure 7: Moth wings on the floor of B2



Figure 8: Bat droppings below lifted timber weatherboarding (B5)

4.3. Emergence survey results

4.3.1. 3rd June 2025

Building B1

No bats were seen emerging from the southwest elevation of B1. The first registration was of a Common pipistrelle commuting west to east over the barns. A common pipistrelle was observed flying into B1 through the southwest doors at 21:46. Unidentified bats could be seen flying within the barn between 21:51 and 22:05. Common pipistrelles were recorded intermittently with occasional passes around and between B1 and B2s external walls. The last registration was of a common pipistrelle heard at 22:31.

Building B2

The first observation within B2 was of a Common pipistrelle flying inside the barn at 21:18, confirmed by the NVA camera positioned within the barn. Two common pipistrelles were seen emerging from behind plastic sheeting on the far east wall of B1 at 21:27 and 21:28. These individuals were observed and heard flying between B2 and B1 through the internal door, frequently foraging at the ridge of B2. Calls ceased to be heard by 21:35 suggesting it had exited the building. Frequent passes of Common pipistrelles were seen and heard by surveyors on both north and east elevations, with constant activity and foraging observed on the southeast of B2 from 21:50 to 22:15. At 22:06 two Common pipistrelles were interacting between B5 and B2 with frequent social calls and foraging. A Brown long-eared bat was seen and heard at 21:43 and 21:51 flying from southeast to northwest. The early registration (30 minutes past sunset) for this species suggests it had emerged from a roosting site inside the barn.

Building B5

Two Common pipistrelles emerged from behind weatherboarding on the east elevation of B5 at 21:37 and 21:38. A high level of activity, mainly foraging, was recorded outside B5, attributed mainly to two Common pipistrelles.



Figure 9: Location of re-entry of Common pipistrelle on 3rd June 2025 (B1)



Figure 10: Location of emergence of 2x common pipistrelle on 3rd June 2025 (B2)



Figure 11: Location of emergence of 2x Common pipistrelle on 3rd June 2025 (B5)

4.3.2. 24th June 2025

Building B1

No bats were seen emerging from the southwest elevation of B1. The first registration was of 2x Common pipistrelles passing from northeast to southwest over B1 and B2, further passes over the site were seen at 22:03, 22:25, and 22:39. A Brown long-eared bat could be seen flying within the barn from 22:00 to 22:03.

Building B2

Intermittent passes by common pipistrelles were heard beyond the site from 22:04 to 22:21. A Barbastelle (*Barbastella barbastellus*) was seen and heard commuting north to east at 22:15. A common pipistrelle was seen and heard foraging within B2, with another foraging outside the barn at the same time. A Common pipistrelle entered the barn through the far northwest door at 22:33. Emergences of Common pipistrelles from the same access point was seen at 22:34 and 22:39, flying north from the site in both instances. No bats were observed emerging from any roosts within the barn itself. Numerous instances of foraging were recorded around mature trees on the southeast elevation of B2 adjacent to the road.

Building B5

Two Common pipistrelles emerged from behind weatherboarding on the east elevation of B5 at 21:50 and 21:56, the same location as on the 3rd June 2025. Occasional passes and foraging was heard and observed outside building B5.



Figure 12: Location of emergence and re-entry of 3x common pipistrelle 24th June 2025 (B2)

4.3.3. 15th July 2025

For the final survey, all surveyors and cameras were positioned within B1 and B2 to identify roosting locations within the barns. One surveyor maintained observation on B5.

The first registration was the emergence of a Common pipistrelle from the internal ridge on the southern end of B2 at 21:23. The bat continued to fly around and between B1 and B2 for approximately 10 minutes before exiting through open doors in B1 (see Figure 9). At 21:42 a second Common pipistrelle was seen emerging from a void at the southeast end of the timber barn. This individual also repeatedly flew around both barns before appearing to exit through one of the access doors.

A Common pipistrelle entered the barn through the northern doors of B2 (see Figure 12) at 21:44 and was observed foraging, frequently flying between B1 and B2. Up to two bats could be seen at once foraging and interacting in both barns.

A Barbastelle was observed emerging from insulation covering the eastern end of B2 at 21:51. It briefly flew the length of the timber barn before exiting through the external doors of B2.

A Brown long-eared bat was seen foraging at the top of the timber barn and commuting between B1 and B2 between 22:03 and 22:41. At 22:04 a Brown long-eared bat was observed pausing to hang on a timber rafter in B2.

No bats were observed emerging from B5 during the survey.



Figure 13: Location of emergence of 1x common pipistrelle 15th July 2025 (B2)



Figure 14: Location of 1x Common pipistrelle emergence on 15th July 2025



Figure 15: Location of Barbastelle emergence on 15th July 2025

Figure 16 below summarises the identified roosts within the barns during the site walkover and emergence surveys.



Figure 16: Location of identified roosts and numbers of individuals emerged, combined for the three surveys

5. Impact assessment and mitigation recommendations

5.1. Interpretation of findings

Building B1

The results of the repeat internal survey work identified two roosting locations of Common pipistrelle based on accumulations of droppings. Scattered droppings of Common pipistrelle and Brown long-eared bat suggest bats flying within the barn, likely prior to emerging from the buildings.

The results of the emergence surveys did not record any bats emerging from roosts within B1 but confirmed bats frequently flying within the barn, often using it to forage. Bats were also observed exiting the building via the doors on the southwest elevation. The site walkover and emergence surveys suggest roosts within B1 are likely day roosts used by Common pipistrelles, confirmed by DNA analysis. It is considered unlikely that Brown long-eared bats are roosting within B1.

Building B2

The results of the repeat internal survey work identified one roosting location within a tenon and mortise joint. Scattered droppings and moth wings suggested frequent flying and foraging by Common pipistrelles and Brown long-eared bats within the barn.

The emergence survey revealed two Common pipistrelles roosting on the far east wall of B2, either behind polythene sheeting or behind chipboard affixed to walls. An emergence of a Common pipistrelle was observed from the ridge on the southern end of the barn and from a void within the wall or timber joint in the same area along the eastern wall. A Barbastelle was seen emerging from an insulated wall on the far west wall. The dusk surveys also showed the barns are used by foraging Common pipistrelle and Brown long-eared bats.

There is potential for bats to switch between multiple roosting locations within B2. Bats may not roost within a single location long enough to confirm their presence in the form of droppings or urine staining. The site walkover and emergence surveys suggest roosts within B2 are likely day roosts used by Common pipistrelles, Brown long-eared bats, and Barbastelle, confirmed by DNA analysis. B2 is a multi-species roost site but does not currently support a maternity site.

No bats were observed emerging from identified external potential roosting features, such as lifted roof tiles or weatherboarding, on B1 or B2. These features may be used as entry/exit points for bats utilising the barns for roosting or feeding.

Hibernation sites were not identified but the barn B2 is considered to have a high likelihood of being used in the winter months by Common pipistrelle and Brown long-eared bats.

Building B5

The results of the repeat internal survey work identified an accumulation of droppings within the weatherboarding on the east elevation.

The emergence survey revealed two Common pipistrelles emerging from the weatherboarding on two of the emergence surveys. The quantity of droppings and results of the emergence surveys suggests the barn is used as a day roost by Common pipistrelles. This roost will be retained but will be disturbed by the works in the vicinity of the building. If

the building is subject to development in the future, a licence will need to be applied for to permit destruction of the roost.

Table 1: Summary of roosts and likely impacts

Structure reference	Species	Roost status	Roost location	Significance	Impact
B1	Common pipistrelle	Day roost	Between block wall and plasterboard	Low	Roost destroyed due to conversion
B1	Common pipistrelle	Day roost	Between block wall and timber/foam	Low	Roost destroyed due to conversion
B2	Common pipistrelle	Day roost (1x bat)	Ridge board	Low	Roost potentially destroyed, disturbance
B2	Common pipistrelle	Day roost (2x bats)	Wall crevices	Low	Roost destroyed due to conversion
B2	Common pipistrelle	Day roost (1x bat)	Stud work cavity	Low	Roost potentially destroyed, disturbance
B2	Barbastelle	Day roost (1x bat)	Wall/timber joint crevice	Moderate	Roost destroyed due to conversion
B5	Common pipistrelle	Day roost (2x bats)	Weatherboarding crevices	Low	Roost retained but disturbed

5.2. Impact assessment

It is considered the renovation and conversion of B1 will result in the loss of bat roosting sites of Common pipistrelle and potential foraging sites for both this species and Brown long-eared bats. Renovation works proposed for B2, including structural repairs to historic timbers, replacement of degrading weatherboarding, and construction of conservation roof lights will also destroy present bat roosts or exclude bats due to works disturbance.

Whilst B5 is not being directly impacted by the proposals, bats and their roosts could be disturbed by noise, light, and vibration. This level of disturbance could cause the bats to abandon their roost.

Were the proposals to proceed in the absence of mitigation there is potential for bats to be killed and / or injured during the process. These actions are offences under legislation which protects bats and their roosts, as such, a Natural England European Protected Species Licence (EPSL) is required to permit lawful development. The licence application will require detailed plans of the structures, results, impacts and mitigation including compensation and enhancement proposal plan. All planning consents must have been granted prior to any licence application including the clearance of any conditions related to wildlife. A detailed timetable of the works is also required.

5.3. Mitigation and enhancement

5.3.1. Conservation significance

Reference to Natural England's Bat Mitigation Guidelines informs appropriate mitigation measures depending on the species and roost characterisation.

Common pipistrelles are the UK's most common bat species. Five day roosts of an individual or small number of bats were recorded in B1 and B2, and one day roost of two individuals in B5. The conservation significance of individual bats of common species is low. Thus, the

damage or destruction of such roosts would likely have low impacts on the local bat population.

Barbastelles are one of the UK's rarest bats. As well as legislative protection afforded to other species, Barbastelles are listed under Annexes II and IV of the European Habitats Directive making it a European Protected Species. The conservation significance of this species is greater than that of common bat species.

5.3.2. Licencing

Due to the presence of a number of roosts, including one of a Barbastelle bat, the proposals must be carried out under a European Protected Species Licence from Natural England. The accompanying method statement would set out the means by which the requirements of the three derogation tests of the Habitats Regulations would be met. These include:

- Imperative reasons of overriding public interest – the development is in line with local and national planning policy. Consent must be granted by the Local Planning Authority
- No satisfactory alternative – there is no suitable alternative to the renovation of the existing building
- Maintain favourable conservation status – this would be achieved through mitigation and enhancement measures.

5.3.3. Mitigation measures

Below outlines mitigation measures that may be implemented by the bat licensed ecologist to ensure the safeguarding of bats roosting at the site during the development and maintain the Favourable Conservation Status (FCS) for each identified bat species. These measures are based on the above baseline data and may be subject to amendments by the named licenced ecologist.

- Timings – the start of the building works and any bat exclusion must be timed to avoid the winter months when bats may potentially be hibernating in B2. Works will only be undertaken in favourable weather conditions, not during heavy rain, high winds, or temperatures below 5°C
- Immediately prior to works, a minimum of two bat boxes will be installed on suitable retained trees within the site. Recommended box types include those both suitable for crevice dwelling bats (for example Schwegler 1FF for Common pipistrelles, Vincent Pro timber bat box for Barbastelle) as well as cavity dwelling bats (for example Schwegler 2FN for Brown long-eared bats). Boxes should be placed 3-4m high, facing between southeast and southwest, and away from excessive disturbance or external lighting. The bat box should be left in-situ as part of the enhancement measures.
- Any identified roosting features will be excluded using one-way excluding devices, where possible, prior to any renovation work beginning
- Any required removal of roosting features will be soft stripped where safe to do so, under supervision of a suitable qualified ecologist. This will be undertaken using hand tools. Care will be taken when handling old timbers, with attention paid to the potential presence of bats in hidden crevices

- Suitable roosting features will be checked by a suitable qualified and licenced ecologist before they are removed, any bats found should be moved to the pre-installed bat box
- At the start works, a toolbox talk will be delivered to all contractors by the named ecologist overseeing the works. This will include: the legal protection of bats, areas of high risk of disturbing bats, safe working procedures to minimise harm to roosting bats, including which parts must be supervised, and what to do if a bat is found and an ecologist is not on site.

5.3.4. Retaining opportunities for bats

To compensate for the loss of five (known) non-breeding Common pipistrelle roosts and one non-breeding Barbastelle roost, four to five permanent bat boxes or incorporated roosting features should be installed at the site, inclusive of the ones installed prior to works. For crevice dwelling Pipistrelles, these could include the likes of a Schwegler 1FF or Kent bat box or Schwegler 1FR bat tubes included in the south facing walls of the converted barn behind proposed cladding. A replacement for the loss of a Barbastelle roost should include a bespoke timber box following the design of Vincent Pro Bat box that was originally designed for the species. Roosting opportunities for Brown long-eared bats should still be accounted for due to the likelihood of this species also using the barn as a transient roost. Provisions for void dwelling bats can include a Schwegler 2FN bat box (see Figure 17). Where the proposals allow, an area of the historic timber barn should be retained for bat roosting. For example, an area of loft space sectioned off from the rest of the structure with access in and out for bats and retention of roosting features within the void.

Care will be taken regarding the use of Artificial Light At Night (ALAN). ALAN can negatively impact bats, invertebrates, and other nocturnal animals. Foraging bats were encountered frequently during the dusk emergence surveys, behaviour which can be disturbed by excessive lighting. If exterior lighting is to be installed at the site, the following measures will be taken (see Appendix 4 for more detail):

- No lighting to be directed at bat boxes, hedgerows, trees, vegetation, or the sky
- Use of hoods or directional lighting to avoid excess light spillage
- Security lighting to be set on motion sensors and on short timers
- Red spectrum should be considered instead of white lighting due to bats sensitivity to white light
- LED luminaires to be used where possible due to the quick cut off, lower intensity, better colour rendition, and dimming capabilities

Landscaping proposals for the scheme should incorporate native plant species which support foraging bats, such as honeysuckle *Lonicera spp.* and jasmine *Jasminum spp.*



Figure 17: Schwegler 2FN bat box (left), Vincent pro bat box (middle), Schwegler 2FR bat tube (right)

6. Conclusions

Bat Tree Surveys were instructed by Michael Collins Architects on behalf of John Cherry in June 2025 to carry out bat emergence surveys on three barns at Irongate Farm, Hall's Green, Weston. One barn (B1) is proposed for conversion into a building for educational use including agriculture, cookery and rural-based activities. The historic timber barn (B2) is proposed for internal renovation works with the associated lean to proposed for demolition and rebuilding. The smaller separate barn (B5) is not currently proposed for any works.

Surveys were undertaken by Bat Tree Surveys in June and July 2025. The results of the surveys identified roosts of Common pipistrelle in B1, B2 and B5, and a single Barbastelle roost in B2. Both B1 and B2 were used by foraging Common pipistrelle and Brown long-eared bats. In B2, a roost of an unidentified species was located in a tenon and mortise joint, as well as historic roosts behind polythene sheeting

Two Common pipistrelles were observed emerging from the wall of B2 on 3rd June 2025. A single Common pipistrelle was observed emerging from the internal ridge of B2 and from a void in the wall of B2 on 15th July 2025. A single Barbastelle was observed emerging from an insulation covered wall in B2 on the same date. Two common pipistrelles were seen emerging from timber cladding on B5 on the 3rd June and 24th June 2025. All discovered roosts are considered to be day roosts. At least one roost of a Brown long-eared bat is likely within the building.

Due to the identification of multiple day roosts within B1 and B2, one of which belongs to a Barbastelle bat, the proposed development must be undertaken under a European Protected Species Licence granted by Natural England. The measures set out in this report will ensure necessary legal protections are in place and the favourable conservation status of the species concerned is maintained.

Recommendations for enhancing the site for roosting and foraging bats have been made to support local bat populations and biodiversity in line with National Planning Policy. Recommendations include the installation of bat boxes

7. References

Bat Conservation Trust (2024). *Guidance Note 08/2023: Bats and Artificial Lighting at Night*. Institute of Lighting Professionals, Rugby.

Miles, J., Ferguson, J., Smith, N. and Fox, H. (2018) *Bats and artificial lighting in the UK*. Bats and the Built Environment Series. Bat Conservation Trust and Institution of Lighting Professionals.

BSI Standards Limited (2013). BS42020:2013 Biodiversity: Code of practice for planning and development

Collins, J. (ed.) (2024) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). Bat Conservation Trust, London.

ODPM (Office of The Deputy Prime Minister) (2005) *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System*.

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

8. Appendix 1 – Legislation and policy

Bats and their roosts receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb bats;
- Damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, or obstruct access to, any structure or place which a protected species uses for shelter or protection
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species while it is occupying a structure or place which it uses for shelter or protection.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present. The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

9. Appendix 2 – Guidance on artificial light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. Lighting design should be flexible and be able to fully consider the presence of protected species.

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results:

- Dark buffers, illuminance limits and zonation
- Sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill
- Consideration of the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consideration should be given to the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cat eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times
- Screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding
- Glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features
- Creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths,
- Dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- Lighting spectra: peak wavelength >550nm
- Colour temperature: <2700K (warm)
- Reduction in light intensity
- Minimal UV emitted
- Upward light ratio of 0% and good optical control.

10. Appendix 3 – Night vision aids (NVA) darkest points



Figure 1: Stills from the darkest point of each NVA camera on 3rd June 2025



Figure 2: Stills from the darkest point of each NVA camera on 14th June 2025



Figure 3: Stills from the darkest point of each NVA camera on 15th July 2025

11. Appendix 4 – DNA analysis results



Sample ID: EG-2380-3

Sample information:

Sample type: Faecal

Species group: Bats

Suspected species: Pip and BLE

Site Location: SG4 7AL

Comments:

Laboratory information:

DNA Extraction Code: EG-2025-1507

Identification method: qPCR

Analysis Procedure Notes:

Laboratory Comments:

None

Species Identified:

Species 1: Pipistrellus pipistrellus (Common pipistrelle bat)

qPCR Ct Value: 20

Species 2: Plecotus auritus (Brown long-eared bat)

qPCR Ct Value: 25

Species 3: Barbastella barbastellus (Barbastelle bat)

qPCR Ct Value: 24

Ecotype Genetics Limited.

Registered in England. Company No: 11328606. VAT: 295 2037 94

Registered office: Parkers Cornelius House, 178-180 Church Road, Hove, East Sussex, BN3 2DJ

e: orders@ecotypegenetics.co.uk t: 01273704505 w: ecotypegenetics.co.uk

Figure 1: DNA results from scattered droppings in B1 and B2



Results

Sample ID: EG-2409-1

Sample information:

Sample type: Faecal

Species group: Bats

Suspected species:

Site Location: SG4 7DR Building 1

Comments:

Laboratory information:

DNA Extraction Code: EG-2025-1593

Identification method: qPCR

Analysis Procedure Notes:

All UK bat species tested for - only a single species detected in this sample.

Laboratory Comments:

None

Species Identified:

Species 1: Pipistrellus pipistrellus (Common pipistrelle bat)

qPCR Ct Value: 20

Ecotype Genetics Limited.

Registered in England. **Company No:** 11328606. **VAT:** 295 2037 94

Registered office: Parkers Cornelius House, 178-180 Church Road, Hove, East Sussex, BN3 2DJ

e: orders@ecotypegenetics.co.uk **t:** 01273704505 **w:** ecotypegenetics.co.uk

Figure 2: DNA results from identified roosts in B1