

Bat Survey Report

Brindlewood Barn, Daking's Lane, Felsham,
Suffolk



MS Rachel Dunn, Brindlewood, Daking's Lane, Felsham, Suffolk

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Report prepared by Dr J. Huckle for Huckle Ecology Ltd

Executive Summary

- In May 2023, Huckle Ecology was commissioned by Ms Rachel Dunn to undertake a bat activity survey of Brindlewood Barn, Daking's Lane, Felsham, Old Newton, Suffolk. The surveys were undertaken to inform a planning application for the conversion of the barn (within the same building footprint) and associated access and parking infrastructure.
- The surveys were recommended in a Preliminary Ecological Appraisal Report that was prepared in February 2023. The PEA report concluded that the barn was considered to have 'moderate bat roost suitability' and that two surveys should be carried out between May and September.
- Prior to the first bat activity survey, on 16th May 2023, an updated Preliminary Roost Assessment was undertaken which confirmed the Moderate potential suitability of the barn to support bat roosting habitat; in accordance with recommended BCT survey guidelines (Collins, 2016). However, the presence of a bat noted to be roosting under a barge board at the west end of the barn confirmed that a bat roost was present, and consequently it was recommended that a minimum of three bat activity surveys be undertaken during the bat activity season (May – September).
- This report presents the results of bat surveys undertaken between May and July 2023, and which included three bat activity emergence surveys undertaken on 16th of May, 5th of June and 29th of June 2023.
- The bat activity surveys confirmed the presence of roosting bats with two roosting locations associated with the barge boards on the east and west gable walls respectively. All bats that echolocated on emergence from the roosting locations were identified as Common pipistrelle, and the roosting locations identified on each of the east and west gable ends of the barns were considered to represent two Common pipistrelle day roosts.
- A European Protected Species mitigation licence (EPSL) application will be submitted to Natural England to undertake any disturbance to, damage of or destruction of bat roosts in Brindlewood Barn, which has been identified as having roosting bats present. Due to the low numbers of bats present within the Barn, and the species identified as roosting there, it is considered that the proposed development could proceed under a Bat Low Impact Class Licence (BLICL) from Natural England.
- During the bat activity surveys, bat activity was recorded by bat surveyors assisted by night vision aids (Infrared video cameras and thermal cameras) from three locations to the north west, south east and south southwest of the building.
- Mitigation and compensation measures set out by best practice guidance (Bat Mitigation Guidelines, 2004) for bats are included within the proposals. The recommendations will ensure that the conservation status of the species present will not change and will also enhance the value of the site to bats as a result of the proposed development.
- Appropriate mitigation measures have been specified including recommendations for lighting specifications and for the use of Type 1F Bitumen Felt as a roof lining.

1 Introduction

1.1 Terms of Reference

- 1.1.1 In May 2023, Huckle Ecology was commissioned by Ms Rachel Dunn to undertake a Bat Survey of Brindlewood Barn, Daking's Lane, Felsham Suffolk. Brindlewood Barn is a former agricultural building, located to the west of Daking's Lane, and within the curtilage of Brindlewood, a single storey residential property that lies adjacent and to the north of the barn.
- 1.1.2 Brindlewood Barn comprises a barn and former stables associated with a small concrete yard and the access drive to the existing dwelling. .
- 1.1.3 The bat survey was commissioned to inform a planning application to Mid Suffolk Council for the conversion of the barn (within the same building footprint) and associated access and parking infrastructure.
- 1.1.4 A Preliminary Ecological Appraisal Report was prepared in February 2023 (Abrehart Ecology, February 2023) which recommended that further bat surveys should be carried out. The PEA report concluded that the barn was considered to have 'moderate bat roost suitability' and that two surveys should be carried out between May and September.
- 1.1.5 Specifically, the PEA report stated that the barn and stables contained possible evidence of bats including:
- Possible bat droppings were found on stored materials and there was a small accumulation of butterfly wings found within a smaller internal 'room'. Several of these droppings were collected and sent away for DNA analysis; however, they were revealed to be from pygmy shrew.
 - Ingress points into the barn were noted around stable door frames and through damaged ventilation bricks. The open fronted stables were accessible for bats, particularly brown long-eared bats which could utilise the exposed rough beams.
- 1.1.6 The PEA report noted that the surrounding habitats were "... suitable for both foraging and commuting bats, as ponds and mature trees are likely to support assemblages of invertebrates (prey species) and hedgerows/other linear features connect to woodland blocks in the wider landscape". A data search returned records of at least species of bat within 2km of the Site, including bat detector recordings, roosts, and breeding colonies.
- 1.1.7 This report details the findings of bat activity surveys undertaken in May to July 2023 and an updated mitigation strategy updating the proposed mitigation outlined in the previous PEA report (Abrehart Ecology, February 2023).

1.2 Site Description

- 1.2.1 Brindlewood Barn is located to the west of Daking's Lane and to the south of the existing dwelling at Brindlewood. The barn is surrounded by existing access and former farm yard (gravel and concrete hard standing). As well as areas of mown, modified gardens (including planted areas and ponds) within the residential landholding of Brindlewood. To the south is a residential property with a moat, and to the east of Daking's Lane is Grange Farm, which includes a number of large barns. Beyond the immediate

residential properties, the wider landscape comprises agricultural, arable land with small blocks of deciduous woodland.

1.2.2 The Site Location is presented in Figure 1 below.

1.3 Proposed Development

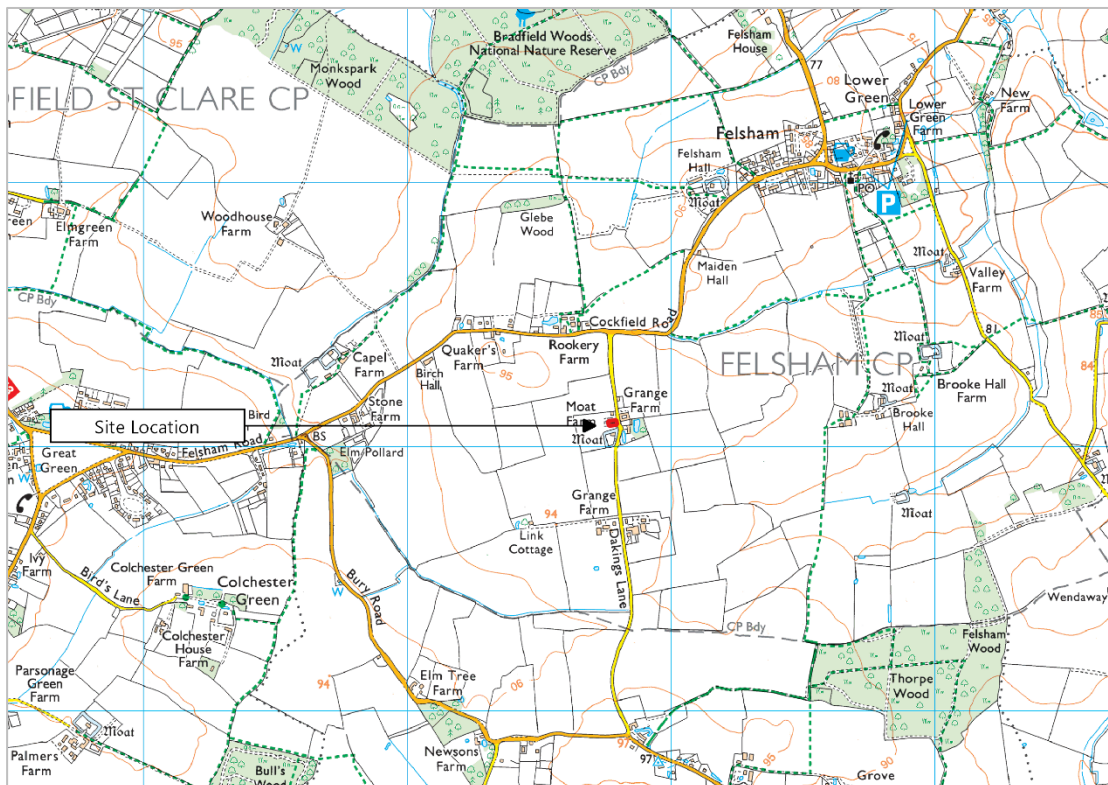
1.3.1 The proposed development is for the conversion of Brindlewood Barn into a residential dwelling; the conversion would utilise the same footprint as the existing barn and would not require additional groundworks or significant excavations. However, the conversion would involve upgrading and rebuilding of existing walls and re-roofing of the barn, activities which would have the potential to destroy or modify potential bat roosts if they were present.

1.4 Aim of this Report

1.4.1 This report presents the results of bat surveys undertaken at Brindlewood Barn between May and July 2023.

1.4.2 The scope of the surveys undertaken was determined from the information presented in the PEA Report (Abrehart Ecology, February 2023) and an updated habitat suitability assessment for bats undertaken prior to the first bat activity survey undertaken in May 2023 (as reported below). Other than bats, the only protected species likely to be an ecological constraint are breeding birds, using the building structure for breeding.

1.4.3 .Figure 1 Location Plan Showing location of Brindlewood Barn



2 Preliminary Roost Assessment - Update

2.1 Methodology

- 2.1.1 Prior to the first bat activity survey, an updated PRA was undertaken to confirm that the Site conditions were consistent with those reported in the PEA report (Abrehart Ecology, February 2023), and to confirm the scope of further surveys that would be required to accompany the planning application, in line with best practice guidance on bat surveys (Collins, 2016).
- 2.1.2 The May 2023 building inspection survey was undertaken by Dr Jon Huckle, an experienced professional ecologist with over 25 years of postgraduate experience and over 20 years operating as an ecological consultant. He has undertaken numerous bat surveys, including building inspections, bat activity transects, emergence and return roost surveys and has managed ecological input to numerous ecology chapters of Environmental Statements. He has provided evidence as an expert witness on bat ecology at several planning inquiries.
- 2.1.3 The preliminary roost assessment comprised a detailed inspection of the exterior and interior of the buildings to look for features that bats could use for entry/exit and to search for signs of bats, in accordance with methodological guidance produced by the Bat Conservation Trust (Collins, 2016). The objective of the survey was to determine the actual or potential presence of bats and to identify potential emergence points to focus on during emergence surveys.
- 2.1.4 For each building or tree, the preliminary roost assessment assigns a category to each structure according to its potential for supporting bat roosts using the criteria detailed in the BCT survey guidelines (Collins, 2016) and summarised in Table 1 below.

Table 1 Guidelines for assessing the potential suitability of proposed development sites for bats, taken from Collins 2016.

Suitability	Description of roosting habitats	Description of commuting and foraging habitat
Negligible	Negligible habitat features onsite likely to be used by roosting bats.	Negligible habitat features on- site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation.) A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.

Suitability	Description of roosting habitats	Description of commuting and foraging habitat
	status, which is established after presence is confirmed).	
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Site is close to and connected to known roosts.

Bird Survey

- 2.1.5 During the building inspections, signs of any old or active bird nests were recorded.

Survey Limitations

- 2.1.6 The PRA was undertaken at the end in May 2023 in good weather conditions. This is an optimal time of year to detect recent signs of bat activity, and there were no limitations in the ability to check external features of the building; all external features were checked as far as was reasonably possible, but it is recognised that there were some areas where bats could roost that could not be checked thoroughly, or it was just not safe to access.

2.2 Results of Preliminary Roost Assessment

- 2.2.1 The external and internal inspection of the barn concluded that the building was generally consistent with that described in the PEA report. It was noted that some internal materials had been removed and internal partitions had been taken out of the building.
- 2.2.2 The interior was generally clean, light and airy and the structure of the building was unchanged from the described in the PEA report. A search of the floor, walls and internal contents did not reveal any signs of bats such as bats themselves, their droppings or urine staining. There were also no signs of feeding such as insect wings accumulated on the floor underneath feeding perches.
- 2.2.3 It was noted however, that there were numerous potential access points around door and window frames and along the edges of the roof sheets, which could be used by bats to gain access.
- 2.2.4 Externally, it the building was noted to be in generally good condition, and consistent with that described in the PEA report.
- 2.2.5 It was noted that at each end of the barn, cement board barge boards were present and these were loose in several places creating a narrow crevice between the board and the adjacent brick wall. A single bat was recorded roosting behind one of these boards at the west end of the barn, furthest from the road.

Evidence of Bird Nesting

- 2.2.6 Active birds nests were recorded within the open stables located on the south side of the barn, with pigeon and barn swallow recorded.

2.3 Conclusion of Preliminary Roost Assessment

- 2.3.1 The May 2023 PRA corroborated the findings of the February 2023 survey and reported in the PEA report (Abrehart Ecology, February 2023). It was concluded that the barn included several key Potential Roost Features consistent with a building with **Moderate** potential suitability for bat roosting habitat and had "...one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat".
- 2.3.2 However, the presence of a bat roosting under a barge board on the west gable elevation confirmed that the building supported a bat roost and therefore a minimum of three bat activity habitats should be undertaken to provide sufficient information to characterise the nature of a bat roost (in terms of the species present, the numbers of bats, and the type of roost present).

Photo 1 West elevation facing garden – a bat was recorded roosting under the barge board directly above the garden bench



Photo 2 South west corner showing open stable block opening on to concrete yard.



Photo 3 South east elevation east gable and barn to east of stable block



Photo 4 North west corner showing gravel drive and north elevation along the side of barn.



Photo 5 Interior view of west gable wall



Photo 6 Interior view of each end of barn



Photo 7 Internal partition separating east and west sections of barn



Photo 8 Internal view of connection between barn and stable block



3 Bat Activity Surveys

3.1 Bat Activity Survey Methodology

3.1.1 Between May and June 2023, three bat activity surveys were undertaken, consistent with the level of survey effort recommended to provide confidence in a negative result for a building or structure evaluated as providing **High** potential suitability for roosting habitat (Collins, 2016).

3.1.2 Observations were made from outside, from three vantage point locations:

- VP1 – North west of the building viewing the whole of the north and west elevations;
- VP2 – South west of the building, viewing the south and west elevations with a view of the open stable blocks; and;
- VP3 – North east of the building, viewing the east gable and the north east elevation of the main bar to the east of the stable blocks.

3.1.3 These positions were selected to provide as much coverage of the roof and building features most likely to support bat roosts or where bats may access the building.

3.1.4 The dusk surveys commenced fifteen minutes before sunset until ninety minutes after sunset, by which time any bats present were expected to have emerged (Collins, 2016).

3.1.5 All emergence surveys were undertaken by Jon Huckle, assisted by a team of experienced surveyors including Terry Stopher and John Worthington-Hill.

3.1.6 Bat activity was surveyed using full spectrum handheld bat detectors: an Elekon Batlogger M2, an Anabat Scout detector and an EMTouch Pro attached to a tablet or smartphone. Time-expanded (x10) recordings were later analysed using computer software (e.g. Sonobat or BatExplorer).

3.1.7 Night Vision Aids (NVAs) were used alongside each surveyor comprising:

- two Sony video camcorders with Infra-red functionality;
- one Nightfox Red and one Nightfox Whisker Infrared recorder
- Infrared illuminators used to provide additional infrared lighting, covering areas where bats were considered most likely to emerge; and
- Guide IR 19 Pro Thermal Camera.

3.1.8 The bat surveys were conducted during the bat activity season (May to September) using the correct methodology as per The Bat Conservation Trust Bat Survey - Good Practice Guidelines (Collins, 2016).

Survey Limitations

3.1.9 The bat emergence surveys were undertaken in optimal weather conditions for bat activity surveys, in dry weather and at appropriate temperatures. The vantage points were selected to provide coverage of the building elevations that could be easily viewed and accessed.

3.2 Bat Activity Survey Results

Activity Survey 1 – Dusk Emergence Survey – 16h of May 2023

3.2.1 Weather conditions were optimal for bat activity surveys, although cool towards the end of the survey:

- Air temperature – 12°C (start) – 9°C (end)
- Wind – Beaufort scale 0 (calm)
- Precipitation – none
- Cloud – none – clear sky (0/8 oktas)

3.2.2 The survey commenced at 20.40 with sunset scheduled for 20.46.

3.2.3 Observations were made from outside, from positions to the northwest, southwest and southeast of the building providing good visual coverage of the entire roof and elevations of the building.

Summary of Survey on 16.05.2023

3.2.4 Following a review of the bat calls recorded during the survey and the infrared video coverage from each vantage point, it was confirmed that one Common pipistrelle *Pipistrellus pipistrellus* was observed to emerge at 21.20 from the west gable wall; the bat was observed emerging from the junction of the main barn and the adjoining stable roof and is presumed to have been the bat noted roosting under the barge board prior to the survey (Roost A).

3.2.5 At the west end of the barn, VP1, bats were recorded continuously foraging in the back garden, mostly comprising of a single bat being observed and heard flying around the garden and barn, but with occasionally two bats recorded at the same time. Bats were recorded regularly from 21.17, and then almost continuously from 21.27 until 21.49, after which occasional calls were recorded until the survey ended at 22.15.

3.2.6 At the eastern end of the barn, adjacent to Daking's Lane, the first bat recorded was at 21.15 of a bat flying north along the hedge line between the barn and the road. Thereafter, bats were recorded regularly up to 21.36, with occasional passes from 21.52 to 21.55 and one pass at 22.10 until the survey ended at 22.15.

3.2.7 In summary, all bat activity was identified as Common pipistrelle, which was the only species recorded, with **one Common pipistrelle** bat observed emerging from a barge board on the west gable wall of the barn.

Activity Survey 2 – Dusk Emergence Survey – 5th of June 2023

3.2.8 Weather conditions were optimal for bat activity surveys, although a moderate to fresh breeze was present throughout the survey:

- Air temperature – 12°C (start) - 10°C (end)
- Wind – Beaufort scale 4 (moderate breeze) occasionally gusting to 5 (fresh breeze)
- Precipitation – none
- Overcast with complete cloud cover (8/8 oktas)

3.2.9 The survey commenced at 21.00 with sunset scheduled for 21:12.

3.2.10 Observations were made from outside, from positions to the northwest, southwest and southeast of the building providing good visual coverage of the entire roof and elevations of the building.

Summary of Survey on 05.06.2023

3.2.11 Following a review of the bat calls recorded during the survey and the infrared and thermal video coverage from each vantage point, it was confirmed that two pipistrelle bats emerged from the west gable end wall, with one bat confirmed as Common pipistrelle *Pipistrellus pipistrellus* and the first bat also likely to be Common pipistrelle but did not echolocate. A third Common pipistrelle was recorded emerging from the apex of the east gable wall.

3.2.12 At the west end of the barn, VP1, bats were recorded flying more or less continuously between 21.38 and 21.58, with at least 2x Common pipistrelle bats present and 1x soprano pipistrelle recorded occasionally. At least two bats were observed exhibiting 'chasing behaviour' relatively low to the ground and adjacent to the gable wall – this behaviour may be territorial or social in character and social calls were regularly recorded. After a period of no activity, further bat passes were recorded towards the end of the survey, with a single bat returning and flying adjacent to the west end of the barn, although no re-entry to a bat roost was recorded prior to the survey ending at 22.45.

3.2.13 At the eastern end of the barn, adjacent to Daking's Lane, the first bat recorded was at 21.29 and was heard but not seen. A single Common pipistrelle was observed emerging from a roost at the apex of the east gable wall (Roost C - confirmed from review of video). Thereafter, bat activity was sporadic, with regular activity recorded from 21.36 to 21.52, and then occasionally between 22.06 and 22.31 before the survey ended at 22.45.

3.2.14 In summary, the majority of bat activity was identified as Common pipistrelle, with occasional soprano pipistrelle activity recorded at the west end of the barn. A total of **three pipistrelle bats** were observed emerging from the barn: a Pipistrelle bat (at 21.30) and a Common pipistrelle (at 21.38) from the West Gable wall, and a single Common pipistrelle (at 21.32) from the apex of the east gable wall.

Activity Survey 3 – Dusk Emergence Survey – 29th of June 2023

3.2.15 Weather conditions were optimal for bat activity surveys:

- Air temperature – 17°C (start) - 14°C (end)
- Wind – Beaufort scale 1 (light air)
- Precipitation – none
- Light high scattered cloud (1/8 oktas)

3.2.16 The survey commenced at 21.10 with sunset scheduled for 21.21.

3.2.17 Observations were made from outside, from positions to the northwest, southwest and southeast of the building providing good visual coverage of the entire roof and elevations of the building.

Summary of Survey on 29.06.2023

3.2.18 In summary, two Common pipistrelle bats were observed emerging from the barn, one Common pipistrelle from beneath a barge board at each end of the barn. The Common pipistrelle emerged from a barge board on the south east edge of the barn roof (Roost D) at 21.54, with a second Common pipistrelle emerging from the west end of the barn at 22.02.

- 3.2.19 At the west end of the barn, bat activity was relatively low with occasional passes of 1x Common pipistrelle bat recorded, but with a short period of foraging over the garden to the north west of the barn at 22.30.
- 3.2.20 At the east end of the barn, bat activity was more frequent, with a single Common pipistrelle emerging at 21.54 and then a period of more or less continuous foraging along the road between 22.04 and 22.13 and then again from 22.17 to 22.20.
- 3.2.21 In summary, all bat activity was identified as Common pipistrelle, which was the only species recorded, with **two Common pipistrelle** bats observed emerging: one from a barge board at the east end of the barn at 21.54 and a second bat emerging from a barge board at the west end at 22.02.

3.3 Conclusion of Bat Activity Surveys

- 3.3.1 In summary, bats were observed emerging from barge boards located at both the west and east end of the barn. All bats were Pipistrelle bats, and all probably Common pipistrelle, although as one bat did not echolocate, this cannot be fully verified. A single Common pipistrelle was recorded emerging on the first survey (from the West end), three bats emerged from Survey 2 and two Common pipistrelle bats emerged from survey 3.
- 3.3.2 The bat emergence locations are shown on Figure 2 and Figure 3 below.

Figure 2 Emergence locations from combined surveys – west elevation. Roost A (Survey 1 and 2), Roost B (Survey 2 and 3)



Figure 3 Emergence locations from combined surveys – east elevation. Roost C (Survey 2) and Roost D (Survey 3)



Foraging and Commuting Habitat

- 3.3.3 Foraging and commuting habitats for bats in the local area are numerous with mature trees and ponds located to the south and east of the Site associated with the moat/ponds and wooded habitats located to the east of Grange Farm. It was noted that there were several barns located to the east of Daking's Lane that would provide potential roosting habitat.
- 3.3.4 Bats were frequently observed foraging around the Barn and the garden to the south and west of the barn as well as along the hedgerow adjacent to Daking's Lane.

4 Discussion and Recommendations

4.1 Evaluation

Bats

- 4.1.1 The data search undertaken for the PEA report (Abrehart Ecology, February 2023) returned records of eight species of bat from within 2km of the Site: barbastelle (*Barbastella barbastellus*), *Myotis* sp., Natterer's (*Myotis nattereri*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), pipistrelle species, noctule (*Nyctalus noctula*), and brown long-eared (*Plecotus auritus*) bats.
- 4.1.2 During the initial building inspection in May 2023, the presence of potential roost features was consistent with the evaluation of the barn as being of Moderate potential suitability to provide bat roosting habitat as concluded in the PEA report. However, a single pipistrelle bat was recorded roosting behind a barge board on the west gable wall, confirming that the barn supported at least one bat roost.

- 4.1.3 Activity surveys on the 16th of May, 5th June and 29th of June 2023 confirmed the presence of roosting bats with two roosting locations identified on each of the west and east gable end walls; bats were recorded roosting under barge boards present along the edge of the roof on each wall. Although bats were recorded emerging from two points on each of the gable walls, it is considered that these sufficiently similar in terms of location, character and position to represent a single bat roost potentially connected beneath the barge boards. All bats that echolocated on emergence from the roosting locations were identified as Common pipistrelle.
- 4.1.4 The roosting locations identified on north elevation were considered to represent two Common pipistrelle day roosts. A day roost is defined as "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" (Collins, 2016).
- 4.1.5 Only one other bat species was recorded during the surveys, soprano pipistrelle, and it is possible that bats of this species may also use these roosts. No other bat species were recorded during the surveys.
- 4.1.6 A European Protected Species mitigation licence (EPSL) application will be submitted to Natural England to undertake any disturbance to, damage of or destruction of bat roosts at Brindlewood Barn, which has been identified as having roosting bats present.
- 4.1.7 Due to the low numbers of bats present within the Barn and the low number of roosts present it is considered that the proposed development could proceed under a Bat Low Impact Class Licence (BLICL) from Natural England. This licence permits the disturbance and capture of bats and/or damage/destruction of roost/s of no more than three low conservation significance roosts (i.e. feeding roosts, day, night and transitional / occasional roosts), affecting no more than three of the more common species of bats present in small numbers. As common pipistrelle and soprano pipistrelle are included in the list of common species of bats to which this Class Licence applies, it can be used in this case.

4.2 Potential Impacts

- 4.2.1 To be considered the same roost, the locations need to have the same functional and qualitative characteristics, be used by the same species for the same purpose (e.g., day roosting) and be within the same building / structure. If the physical characteristics are different (e.g., one roost is in external crevices in the wall and the other is in the roof void against internal timbers) then they should be considered different roosts – because they offer bats different roosting opportunities. If the physical characteristics are similar and provide the same functional characteristics, used by the same species for the same purpose (e.g., transitional roost) but with different individual roosting locations within the overall building / structure, that could be considered one transitional roost. If two species are using an area that provides the same characteristics, for the same function, it is still two roosts – as they are two species.
- 4.2.2 Without any mitigation, the renovation of the roof of Brindlewood Barn will result in the loss of legally protected bat roosts. It is likely to disturb common pipistrelles if they are present when work is carried out. Disturbance, damage, and destruction of roosts is most likely during the removal of the barge boards and roof sheets.
- 4.2.3 Without any mitigation, removal of the roof and barge boards on the east and west gables will lead to the loss of:
- a day roost of 2 common pipistrelles under barge boards in the west gable; and
 - a day roost of 1 common pipistrelle under barge boards and/or roof sheets in the east gable.
- 4.2.4 The CIEEM EclA guidelines (2018) note that 'various approaches can be adopted for defining local

importance, including assessment within a district, borough or parish context or within other locally defined areas.'

- 4.2.5 Day roosts of common pipistrelle that will be impacted during the development will result in a negative impact at a local level.

4.3 Mitigation and Compensation Measures

- 4.3.1 For Brindlewood Barn, which has been identified as having roosting bats present, works to undertake disturbance or modification to, or damage or destruction of bat roosts will be carried out under a European Protected Species Licence (EPSL) from Natural England. As noted above, due to the low numbers of bats recorded roosting, and that one species of the more common species was recorded roosting (Common pipistrelle), the most appropriate approach to undertaking the works would be by registering the site using the BLICL scheme.
- 4.3.2 The details of the mitigation measures required to avoid or reduce the risk of disturbing individual bats would be determined by the appointed bat consultant under the term the BLICL registration scheme or under a Natural England EPS licence should that be deemed necessary.
- 4.3.3 The emergence of a peak count of three common pipistrelle bats confirms that it supports a low conservation significance roost of this species. Mitigation for the loss of these roosts is recommended to provide a 'like for like' replacement of the above roost opportunities, to include the following measures:
- Provision of 3x 'raised ridge' bat access tiles along the ridge, creating potential roosting locations for bats to replace lost cavities;
 - Provision of 4x integrated cavity bat boxes to be installed at each gable wall, with two installed at each end of the barn. The integrated bat boxes can be built into any type of wall structure and are low maintenance as any droppings fall out of the box and thus no cleaning is required.
 - Provision of 2x no. bat box suitable for use by pipistrelle bats to be erected in trees adjacent to the Barn;
 - No increase in upward pointing artificial lighting around Brindlewood Barn, subject to no overriding constraints requiring lighting.

Use of Safe Roofing Membranes

- 4.3.4 It is recommended that the re-roofing works be undertaken using traditional type 1F bitumen felting to minimise the risk of bat mortality arising from bat becoming entangled within the fibres of Non-Bitumen Coated Roofing Membrane (NBCRM).
- 4.3.5 However, Natural England has recently revised its advice regarding the use of roofing membranes stating on the www.gov.uk website (November 2022) that when applying for a bat mitigation licence¹:

"You must include a certificate that proves the roofing membrane has passed a 'snagging propensity test' if you're using a non-bitumen coated roofing membrane.

¹ [Bats: apply for a mitigation licence \(A13\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/bats-apply-for-a-mitigation-licence-a13)

A snagging propensity test checks that the membrane can stand the repeated snagging actions of roosting bats. To pass, a membrane must show no change in the average number of loops per cm² as rotations are increased from 0 to 1000.

You do not need a certificate for bitumen 1F felt that has a non-woven, short fibre construction.”

- 4.3.6 Guidance provided by the Bat Conservation Trust on the issue of Non-Bitumen Coated Roofing Membranes (NBCRMs) ([Non-Bitumen Coated Roofing Membranes \(formerly BRMs\) - Buildings, planning and development - Bat Conservation Trust \(bats.org.uk\)](#)) states that:

“...Currently the steering group is only aware of one product that has passed the snagging propensity test completed by an independent laboratory. This is TLX ‘Bat Safe’. For technical questions covering any of the below areas in relation to TLX ‘Bat Safe’ please contact TLX Insulation on 01204 674 730 or email sales@tlxinsulation.co.uk

TLX can provide free technical support from their head office in Bolton on:

- *How TLX Batsafe should be installed*
- *Building regulations advise and how they apply*
- *Condensation risk calculations*
- *Access to CAD drawings*
- *Energy payback calculations*

Advice can also be sought from building control or the relevant manufacturer of any membrane that has passed the snagging propensity test.”

- 4.3.7 Timings of works are recommended to avoid the bat maternity season (May – August) in locations where these types of roosts have been found. However, for day roosts, the timings of works are not so restrictive unless they are in proximity to maternity roosts. It is good practice to avoid undertaking works during the hibernation season (roughly December to February inclusive), as at this time of year bats are generally hibernating or in torpor, and there is a high risk of mortality if they are disturbed. Therefore, works will be timed in order to take advantage of milder weather conditions after several nights where temperatures are no lower than 8 degrees Celsius. The ideal times of year to undertake building works is either Spring or Autumn, where bats will be moving between hibernation and mating areas or vice versa.
- 4.3.8 No works to amend the lighting are proposed but it is recommended that all temporary and permanent lighting will be in-line with lighting guidelines (Bats and Lighting in the UK, Bat Conservation Trust 2018). This lighting should be of low level, be on downward deflectors and ideally be on PIR sensors. Using LED directional lighting can also be a way of minimizing the light spill affecting the adjacent habitat. No up-lighting should be used. This will ensure that any roosting, commuting and foraging resources that the bats are likely to be using is maintained. This includes any lighting near buildings and trees where mitigation and compensations features have been installed.

Birds

- 4.3.9 As breeding birds are statutorily protected, to avoid impacts on breeding birds and committing an offence, removal of any structures should be undertaken outside of the breeding bird season (March – July inclusive). Should this not be possible then all areas identified for clearance must be checked for nests by an ecologist prior to clearance. If any nests are identified, then this area should be clearly delineated, and no works allowed until after chicks have fledged and the nest has been abandoned.

5 References

Abrehart Ecology. (February 2023). *Preliminary Ecological Appraisal of Brindlewood Barn, Felsham, Suffolk*.

Bat Conservation Trust. (May 2022). *Interim Guidance Notes: Use of Night Vision Aids for bat emergence surveys and further comment on dawn surveys*. BCT.

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

MHCLG. (2019). *National Planning Policy Framework*. London, UK.: Ministry of Housing, Communities and Local Government.

Appendices

Appendix 1 – Summary of Legislation - Bats

This section provides a brief guide to legislation and planning policy, and it is recommended that the full text of policy and legislation is consulted for the correct legal wording.

All bat species benefit from statutory protection provided by the 'Habitats Regulations' and the Wildlife and Countryside Act, which have been enshrined within national and local planning policy throughout England and Wales.

All bat species are included in Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). Under Regulation 43 it is an offence to:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb bats including:
 - impairing their ability to survive, breed or rear young;
 - impairing their ability to hibernate or migrate;
- Significantly affect the local distribution or abundance of that species
- Damage or destroy a breeding site or resting place of a bat;
- Possess, control, transport, sell or exchange any live or dead bat, or any part or thing derived from a bat.

Bats are listed on Schedule 5 of the Wildlife & Countryside Act 1981, as amended, and as such are protected under Section 9 of the Act, which applies to all stages in their life cycle and makes it an offence to:

- intentionally kill, injure or take bats. [Section 9(1)]
- to possess or control a bat, live or dead or any part or thing derived from them. [Section 9(2)]
- to intentionally or recklessly damage, destroy, or obstruct access to any structure or place which bats use for shelter or protection. It is also an offence to intentionally disturb them while occupying a structure or place which it uses for that purpose. [Section 9(4)]
- to sell, offer or expose for sale, or possess or transport for the purpose of sale, any live or dead bat or any part or thing derived from them. [It is also an offence to publish or cause to be published any advertisement likely to be understood as conveying that bats, or parts or derived things of them are bought, sold or are intended to be]. [Section 9(5)]

Prosecution could result in imprisonment, fines of £5,000 per animal affected and confiscation of vehicles and equipment used.

This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the approach to be used. The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations

of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

Paragraph 98 of 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'.

Section 9 of the National Planning Policy Framework 2019 (NPPF) (MHCLG, 2019) states that 'the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible.'

Exemptions can be granted from the protection afforded to bats under the Habitat Regulations, by means of an EPS (European Protected Species) Habitats Regulations licence obtained from Natural England.

An 'EPS Habitats Regulations Licence' could be required for:

- Demolition of a building known to be used by bats prior to development of a site
- Conversion of barns or other buildings to be used by bats
- Removal of trees known be used by bats as well as tree pruning
- Significant alterations to roof voids known to be used by bats
- Road building or widening
- Bridge strengthening

There are three tests, which must be satisfied before a licence can be issued to permit otherwise prohibited acts;

- Regulation 55(2)(e), for the purpose 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; or
- Regulation 55(9)(a) and there is no satisfactory alternative; and
- Regulation 55(9)(b) that the action authorised will not be detrimental to the maintenance of the species concerned at favourable conservation status in their natural range.

A European Protected Species Licence is required before the commencement of any development that might impact on bats and their roosts.

Appendix 2 - Results of Bat Activity Surveys

Bat Emergence Survey 1 – 16.05.2023

Table 2 Results of Activity Survey 1 - Emergence Survey on 16.05.2023 (Sunset at 20.46hrs)

Time	Species	Observation
Vantage Point 1 (TS) – NW corner of barn, viewing W gable wall and N elevation of barn		
1x Common pipistrelle emerged from barge board of west gable wall		
105 bat passes of Common pipistrelle		
20.40		Survey start
21.17	Common pipistrelle	1x pass; first bat recorded – flying to west of VP over garden
21.21	Common pipistrelle	1x Emergence from barge board on west gable wall (Roost A)
21.25	Common pipistrelle	2x passes – foraging around garden and barn
21.27-30	Common pipistrelle	7x passes - foraging around garden and barn
21.30-21.40	Common pipistrelle	40 passes – continuous activity recorded of 1-2 bats flying around garden and barn
21.40-21.50	Common pipistrelle	51x passes - continuous activity recorded of 1-2 bats flying around garden and barn
21.54	Common pipistrelle	1x pass after pause in activity
22.02	Common pipistrelle	1x pass
22.10	Common pipistrelle	1x pass
22.15		Survey end
-		
Vantage Point 2 (JH)- SE of Building viewing east end of barn and south elevation - no emergence		
62x passes of Common pipistrelle		
20.40		Survey start
21.15	Common pipistrelle	1x pass – bat flew from north along hedgeline
21.16	Common pipistrelle	3x passes – 1-2 bats observed foraging over moat to south and grass along hedgerow
21.17	Common pipistrelle	5x passes
21.18	Common pipistrelle	4x passes
21.20-21.30	Common pipistrelle	32x passes – x2 Common pipistrelle bats foraging along hedge and over moat
21.30-21.36	Common pipistrelle	13x passes – up to 21.36
21.52	Common pipistrelle	1x pass
21.54	Common pipistrelle	1x pass
21.55	Common pipistrelle	1x pass
22.10	Common pipistrelle	1x pass
-		Survey ended at 22.15

Bat Emergence Survey 2 – 05.06.2023

Table 3 Results of Activity Survey 2 - Emergence Survey on 05.06.2023 (Sunset at 21.12 hrs)

Time	Species	Observation
Vantage Point 1 (JH) – NW corner of barn, viewing W gable wall and N elevation of barn		
2x bats emerged from barge board of west gable wall, 1x Pipistrelle bat (no echolocation) at 21.30 and 1 Common pipistrelle at 21.38		
127 bat passes of Common pipistrelle and soprano pipistrelle recorded		
21.00		Survey start
21.02	-	Little Owl perched briefly on the roof ridge
21.30.50	Pipistrelle	1 x bat Emerged from barge board on north west edge of gable roof (Roost B) with no echolocation. Pipistrelle bat, dropped out of barge board and flew off in south direction. Confirmed from IR video.
21.38	Common pipistrelle	1 x bat emerged from barge board in same location as on Survey 1 (Roost A) – identified as Common pipistrelle from echolocation calls
21.39 – 21.56	Common pipistrelle Soprano pipistrelle	At least 2x Common pipistrelle and 1x soprano pipistrelle recorded flying low to ground in front of west gable wall. Bats observed in chasing activity as well as foraging low to ground to avoid strong winds at higher altitude. Total of 115 bat passes recorded, with 2-3 bats often recorded simultaneously.
21.58	Common pipistrelle	1x Common pipistrelle
22.35-22.36	Common pipistrelle	9x passes of single bat flying around west gable of barn
22.39-45	Common pipistrelle	
22.30		Survey end at 22.45
-		
Vantage Point 2 (TS)- SE of Building viewing east end of barn and south elevation		
1x Common pipistrelle emerged at 21.32 from apex of gable at east end of barn (Roost C)		
27x passes of Common pipistrelle		
20.59		Survey start
21.29	Common pipistrelle	1 st bat recorded – heard but not seen. Did not emerge.
21.30	Common pipistrelle	1x Common pipistrelle Emerged from apex of gable end wall (Roost C)
21.32	Common pipistrelle	1x pass – flew around from north side of barn
21.36	Common pipistrelle	2x passes – foraging along hedge between barn and road
21.39	Common pipistrelle	1x pass – heard but not seen
21.40-45	Common pipistrelle	5x passes – 1x bat flying low along hedge line
21.45-50	Common pipistrelle	1x pass
21.50-21.52	Common pipistrelle	8x passes up to 21.52
22.06-22.08	Common pipistrelle	3x passes
22.11-22.16	Common pipistrelle	3x passes
22.31	Common pipistrelle	1x pass
-		Survey ended at 22.40

Bat Emergence Survey 3 – 29.06.2023

Table 4 Results of Activity Survey 1 - Emergence Survey on 29.06.2023 (Sunset at 21.21 hrs)

Time	Species	Observation
Vantage Point 1 (JH) – SW corner of barn, viewing W gable wall and S elevation of barn, with additional Infrared camera viewing north elevation		
1x Common pipistrelle bat emerged from barge board of west gable wall (Roost B)		
16 bat passes of Common pipistrelle		
21.10		Survey start
22.02	Common pipistrelle	1x Common pipistrelle Emerged from barge board on NW edge of west end of barn (Roost B)
22.13	Common pipistrelle	1x bat flew around barn from south and around barn and along drive between barn and house
22.20	Common pipistrelle	1x pass flew from N to S and off towards moat
22.24	Common pipistrelle	1x pass, flew from N, around barn and then W towards pond
22.25	Common pipistrelle	1x pass, flat commuting call of bat passing high
22.30-22.31	Common pipistrelle	6x passes of 1x bat foraging over garden near NW corner of barn
22.36-37	Common pipistrelle	2x passes, of 1x bat. Heard but not seen foraging, prob over pond to W of barn
22.41-50	Common pipistrelle	3x passes, of 1x bat flying on circuit and appearing every few minutes
22.55		Survey end
-		
Vantage Point 2 (MH)- SE of Building viewing east end of barn and south elevation		
1x Common pipistrelle emerged at 21.54 from barge board close to apex of gable at east end of barn (Roost C)		
56x passes of Common pipistrelle		
21.10		Survey start
21.54	Common pipistrelle	1x bat Emerged from barge board approx 1m below apex of gable end wall
21.56	Common pipistrelle	1x pass. Bat flew left to right in front of VP and off towards road
22.04 – 22.13	Common pipistrelle	More or less continuous foraging of 1x bat along hedge and road
22.15	Common pipistrelle	2x passes – 1x bat foraging along road
22.17-22.20	Common pipistrelle	8x passes – foraging along road and then flew through field away from barn
22.24-22.25	Common pipistrelle	2x passes heard but not seen
22.34	Common pipistrelle	1x pass, flew from road and then off to south
22.38	Common pipistrelle	1x pass
22.44	Common pipistrelle	2x passes – flat commuting call
22.51-52	Common pipistrelle	4x passes – commuting call of bat flying high
		Survey ended at 22.55