

Newark and Sherwood District Council (Planning Department)

Jamie Pegram

Castle House

Great North Road

Newark

Notts

NG24 1BY

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Our reference: Pear Tree Farm, Rolleston – Preliminary Bat Roost Assessment Report

Dear Mr Pegram,

### **PEAR TREE FARM, ROLLESTON – PRELIMINARY BAT ROOST ASSESSMENT REPORT**

This letter report presents the methods, results and conclusions of a preliminary bat roost assessment carried out at Pear Tree Farm, Staythorpe Road, Rolleston (SK 74343 52596). We understand that a planning application will be submitted to the local planning authority for the construction of an extension to the North-East of the existing main building on site. The proposals require the new extension to be tied into the existing property roof, which is an existing converted farm building.

#### **Methods**

A preliminary bat roost assessment of all the area of the building to be impacted was carried out on 1 December 2023 and 5 February 2024 by Graham Osborn, and Thomas Wright. The survey was lead by Thomas Wright, assisted by Graham Osborn. Thomas holds a level-2 Natural England licence to survey for bats (ref: (2020-44504-CLS-CLS).), is a full member of CIEEM and is highly experienced in surveys of this type. Graham is a Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) and has over 15 years industry experience. The survey methodology closely followed chapter 5 of the newly published Bat Conservation Trusts: Bat surveys for professional Ecologists: Good practice guidelines (2023).

The exterior of the buildings were searched for signs of bats such as droppings and for potential bat access points and roost features. The internals were also inspected for evidence of bats including bats in-situ, droppings, scratches, staining, urine marking, corpses and feeding remains i.e., insect wings. Following the PRA, the criteria shown in Table 1 were used to categorise the buildings potential to support roosting bats.

The building was assessed according to the following factors that influence the likelihood of bats roosting:

Surrounding habitat: whether there are potential flight-lines and foraging areas for bats nearby.

Construction detail: the type and construction of architectural features such as attics, soffit boxes, lead flashing and hanging tiles that could be used by roosting bats.

Building condition: whether disrepair has opened potential bat-access points (especially around roofs).

Potential bat-access points: whether there is flight and crawl access.

Potential roosting locations: description of all bat-accessible voids, cracks and crevices.

The surrounding environment was also assessed in relation to general suitability for bats, and features such as trees and vegetation, the presence of security lighting and potential sources of disturbance were considered.

A 500,000 candle power torch and binoculars were used to carry out the inspection. A description of the building was recorded and digital photographs were taken as a record.

The criteria shown in *Table 1* were used to categorise the building features according to their potential for roosting bats.

**Table 1. Categorisation of roosting habitats in structures<sup>1</sup>**

Category	Description
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels)
Negligible potential <sup>2</sup>	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasions.

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<sup>1</sup> Collins, J (ed) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4<sup>th</sup> edn) The Bat Conservation Trust, London

<sup>2</sup> Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost but it is unlikely that they actually would.

Category	Description
Low potential	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions <sup>3</sup> 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 and not a classic cool/stable hibernation site, but could be used by individual hibernating bats <sup>4</sup> )
Moderate potential	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions <sup>3</sup> and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High potential	A structure with one or more potential roost sites that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions <sup>3</sup> and surrounding habitat. These structures have the potential to support high conservation status roosts e.g. maternity or classic cool/stable hibernation site.

## Results

The only relevant part of the property with respect to the works being undertaken is the North-Easterly frontage of the main building. There are no plans to extend the development beyond this area, and so all other parts of the property have been excluded from the survey. As they are deemed a sufficient distance away from the proposed work site that no disturbance effect would result on Bats were there to be a roost present in any other part of the structure.

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<sup>3</sup> For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

<sup>4</sup> Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.* 2016 and Jansen *et al.* 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation numbers of this species has been detected at Seaton Delaval Hall, Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during autumn and winter in prominent buildings in the landscape, urban or otherwise.

## **Building Description**

The building is a converted barn into a residential dwelling, the conversion occurring in the 1980s. Prior to this, the property was agricultural buildings constructed in the 1800s. The building is a single storey brick built detached house. All walls are single skinned brick with no voids or cavity present that could be used by bats.

The building has a pitched and hipped roof with clay pan tiles covering the roof which are mostly in good condition with all tiles laid flat, neatly abutted to one another (Plates 1 - 3 ) which would prevent any access by bats through the roof covering. All of the ridge tiles were in good condition with all pointing intact preventing any access to the underside of the ridge. There were no missing, broken, raised or slipped tiles on any part of the main roof of the house, however some of the end mortar capping was dislodged in the base tiles above the guttering (Plates 6 – 9).

The majority of the roof interior is inaccessible roof space. However a small area of loft space is accessible by an internal loft hatch. This loft space is an open void, which shows the underneath of the roofing tiles lined with felt which was in good condition, with no rips or tears evident. The loft is used as storage space and was assessed as part of this report (Plates 10 - 18). The felt was not loose enough for an endoscope inspection of the voids between the tile and felt (Plate 17).

The attic space was fully searched and no evidence of bats were found. The void within the roof space were examined and found to be extensively covered with spider's webs, including at the apex of the attic space, indicating that nothing had been flying internally in recent months. A large proportion of the loft void was covered with flooring with stored materials. The flooring in the attic has never been swept. The floor was examined and no droppings or feeding remains were found. All crevices within the roof were examined and no evidence of bats was found. There was no staining on any of the timbers. The eaves of the roof had been blocked using loose fill insulation material (Plate 14) preventing any access through the eaves.

The landscape surrounding the property is ideally suited to bats, and extensive habitat for foraging and commuting by bats is present surrounding the property in neighbouring fields and associated hedgelines.

The results of the survey are summarised in *Table 2*.

**Table 2. Results of the preliminary bat roost assessment**

Plate Number	Description	Potential Bat Access Points	Potential Bat Roosting Features	Suitability for Roosting Bats
1	<p>Main house (bungalow) – external view</p> <p>Single storey building with a pitched roof covered in clay tiles.</p> <p>Walls are constructed of solid brick.</p>	Access points included missing mortar on the base tiles.	Potential roosting locations included the internal space of the roof void and underneath ridge tiles.	Low
2	Roof Tile Condition #1			Negligible
3	Roof Tile Condition #2			Negligible
4	Ridge Tile defect	Mortar missing between tiles	Potential feature was assessed and no considered deep enough and only superficial to be considered accessible to bats	Low
5	General mortar condition			Negligible
6	Gap between mortar and tile at base of roof		Potential roosting features include the internal space of the roof void. No visible evidence of bat use was experienced	Low
7	Gap between mortar and tile at base of roof		Potential roosting features include the internal space of the roof void. No visible evidence of bat use was experienced	Low
8	Wide view location of base tile with opening			Low

Plate Number	Description	Potential Bat Access Points	Potential Bat Roosting Features	Suitability for Roosting Bats
9	Hip ridge tiles with missing mortar		Potential roosting features include the internal space of the roof void. No visible evidence of bat use was experienced	Low
10	Rodent droppings in attic space – assessed as non-bat using “fingertip” test	Access from ventilation hole	No suitable features were within the attic space (plates 11, 16, & 18)	None
11	Window and light levels within attic		Attic space assessed as unsuitable due to light levels being too great	None
12	Cobwebs and light within attic space		Attic space assessed as unsuitable due to light levels being too great	None
13	Hole in attic	Access from within roof void – accessed through previously identified defective pointing/mortar		None – cobwebs covering hole, no evidence of bats, or disturbance
14	Loose fitting insulation in eaves of attic space and additional hole			None

Plate Number	Description	Potential Bat Access Points	Potential Bat Roosting Features	Suitability for Roosting Bats
15	Hole in attic	Access from within roof void – accessed through previously identified defective pointing/mortar		Low–no evidence of bats using the holes, however it demonstrates suitable habitat within the roof void which could be accessed from external points highlighted in plates 6 & 7
16	Cobwebs within roof space	No evidence of disturbance or bat movement		None
17	Felt lining condition		No evidence of gaps within felt lining suitable for roosting	Low
18	Cobwebs within roof space	No evidence of disturbance or bat movement		None

### Evidence of bats

All potential roosting locations were searched for evidence of bats but no evidence of bat usage was recorded.

### Building Potential

The building is regarded as having '**Low**' potential for roosting bats (See Table 1). I.e., one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions<sup>5</sup> and / or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats. However, a

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<sup>5</sup> For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

thorough examination of the building both externally and internally revealed no evidence of use by bats. The building is generally in good condition. The structure is occupied, and therefore subject to regular thermal variation from a central heating system. This means that the building does not currently offer conditions that are regularly associated with Bat hibernation and thus the structure is considered to hold 'Negligible' hibernation potential.

### **Ground Level Tree Assessment**

A ground level tree assessment was undertaken of all trees on the site for potential roosting features (PRF). None of the trees that border the access road or located to the rear of the building had any suitable PRF's present. All trees within the development area are of '**Negligible**' potential for use by bats.

### **Conclusion and Evaluation**

It is understood that the buildings will be extended as part of the proposals, but no part of the existing building will be altered, other than tying the new roof into the existing structure wall which was not near any potential roost site. The building was deemed to have low potential for roosting bats, and negligible hibernation potential for bats.

The roof void of building 1 was open to the rafters and had suboptimal suitability for roosting bats due to the presence of a window (which illuminated the entire void during the day). However, there were access points into the void at the eaves. There were also a number of cobwebs extending the full height of the void indicating that bats (or birds) had not entered recently.

A potential roosting feature (PRF) exists between the roof tiles and felt underlay lining which may be suitable for opportunistic crevice roosting bats. This crevice would be accessible via missing mortar in the end tiles along the north facing pitch (Plates 6 & 7). The tiles along the ridge of the main house were tight, with no gaps that would allow bats access.

As the building has low potential for roosting bats, a single presence/absence surveys will be required to ascertain whether bats are present prior to works commencing. This should comprise a single dusk emergence survey, in mid-May, to coincide with the bat active season.

Dusk emergence surveys should be carried out between May and September (when bats are active). As the building has low potential for roosting bats, a single visit would be required using two surveyors to cover all aspects of the building to be impacted by the proposals. During dusk emergence surveys, surveyors watch and listen for bats leaving the building at dusk. These surveys aim to provide information required to determine how the buildings are used by bats, including the type of roost, confirmation of species, the number of bats using the roost and the location of roost entrance/ exit points.

If a bat roost is identified during the dusk emergence surveys, further surveys to categorise the roost will be required and a subsequent Protected Species mitigation licence will be obtained to legally commence the building work.



If you have any questions regarding this report please do not hesitate to contact me [REDACTED]

Yours faithfully,

Graham Osborn BSc(Hons), LL.M, MCIEEM

Reviewed by

Thomas Wright