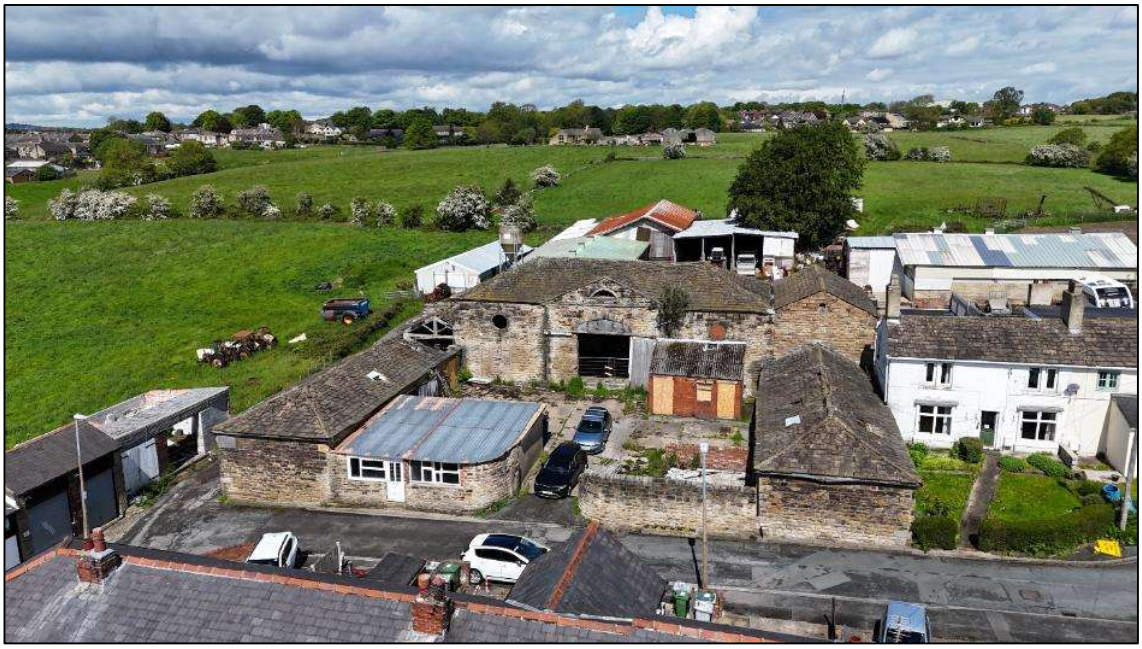
Birkhill Farm, Birkenshaw

Bat Survey Report

12th October 2026



Prepared by:

Middleton Bell Ecology, School House, Green Moor, Sheffield, S35 7DQ

Document ref: MBE/BAT/2026/052/02				
Purpose and Description	Originated	Checked	Reviewed	Date
For Planning	G Slack MCIEEM	P Middleton MCIEEM(rtd)	G Slack MCIEEM	12/10/2026

Disclaimer

This report is issued to the client for the sole use and for the intended purpose as stated in the agreement between the client and Middleton Bell Ecology Limited (MBE) under which this work was completed, or else as set out within the report. This report may not be relied upon by any other party without the express written agreement of MBE. The use of this report by unauthorised third parties is at their own risk and MBE accepts no duty of care to any such party.

MBE has exercised due care in preparing this report, it has not, unless specifically stated, independently verified information provided by others. No other warranty, express or implied, is made in relation to the content of this report and MBE assumes no liability for any loss resulting from errors, omissions or misrepresentation made by others.

Any recommendations, opinion or finding stated in this report is based on circumstances and facts as they existed at the time that MBE performed the work. Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a legal professional should be secured.

Contents

1. Summary 3
2. Introduction 4
3. Habitat Assessment 4
4. Methodology 6
5. Results 9
6. Assessment 22
7. Conclusions 24
8. References 24
Appendix 1. Legislation and Policy Guidance 25
Appendix 2. Toolbox Talk for Birkhill Farm 26
Appendix 3. Roofing and Cladding Membranes 29
Appendix 4. Bat Records 31

1. Summary

1.1.1 A bat survey of the buildings at Birkhill Farm, Birkenshaw, was commissioned by Kevin Anderson of the Diocese of Leeds to inform proposals to demolish some of the more derelict parts of the farm complex.

1.1.2 The site comprised a large two-storey stone barn, a smaller two-storey stone barn, two single-storey cattle barns, a former shop, and a brick-built lean-to arranged around a central yard. The buildings were surrounded by a mixture of other farm buildings, residential properties, gardens, pasture, and arable farmland. A small stream and a belt of woodland were present approximately 120 m to the east. The surrounding area was considered to provide above-average suitability for foraging and commuting bats.

1.1.3 The inspection identified numerous potential bat roost features including gaps within the masonry, gaps beneath ridge tiles and between stone slates, gaps around lintels and roof timbers, openings beneath lead flashing, gaps behind boarded windows, and openings between roof coverings and wall tops. Bats could also access the interiors of the buildings, where additional opportunities were present around the roof timbers and wall tops. No bats or signs of bats were recorded during the inspection.

1.1.4 The large barn, the smaller two-storey barn, and the eastern cattle barn were assessed as having moderate bat roost suitability. The western cattle barn and lean-to had low bat roost suitability, while the former shop had negligible bat roost suitability.

1.1.5 All the buildings were considered suitable for use by nesting birds.

1.1.6 Two dusk emergence surveys were completed in July and August 2026. No bats were confirmed emerging from any of the buildings and no bat roosts were identified. Bat activity around the site was very low and was limited to common pipistrelle and noctule. A common pipistrelle briefly foraged inside the large barn during the second survey, but this was not associated with a roost.

1.1.7 No further bat survey was considered necessary.

1.1.8 Contractors should receive an ecological toolbox talk before demolition begins and should follow the recommended precautionary working methods. The demolition should commence outside the core bat hibernation season, from December to February, and if possible outside the nesting bird season, from March to September inclusive. If the nesting bird season cannot be avoided demolition should be preceded by a check by a suitably qualified ecologist.

1.1.9 Bat and bird boxes were not recommended because the current proposals were limited to demolition. However, integrated bat and bird boxes should be included at a rate of one of each per building if new buildings are constructed in the future. If the retained large barn or smaller two-storey barn is reroofed, a roofing membrane considered safer for bats should be used.

1.1.10 The findings and recommendations of this report are considered valid for 24 months. Middleton Bell Ecology should be contacted if the works are delayed beyond this period or if the proposals change substantially, so that the need for an updated survey can be assessed.

2. Introduction

2.1.1 A bat inspection of a barn at Birkhill Farm was commissioned by Kevin Anderson of the Diocese of Leeds on 7th May 2026. The survey was undertaken to inform plans to demolish some of the more derelict parts of the farm complex as shown in Figure 1.

Figure 1. Survey area and planned areas of demolition



2.1.2 The legislative context to the survey and assessment reported here is included in Appendix 1.

3. Habitat Assessment

3.1.1 The site was located to the east of Birkenshaw, West Yorkshire. The buildings comprised a large stone barn at the northwest with smaller stone barns forming an incomplete quadrangle around a central yard.

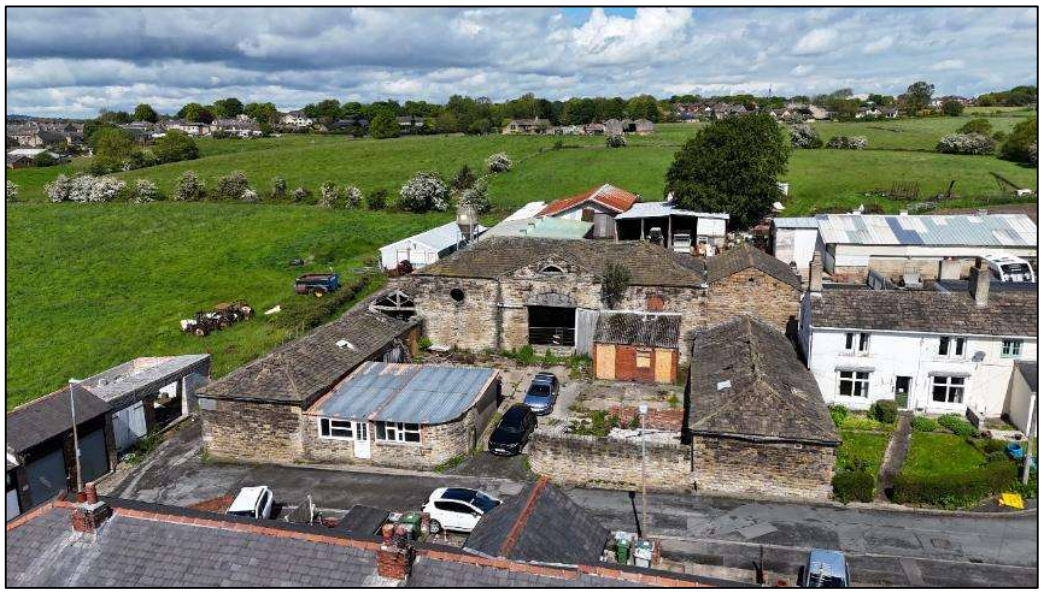
3.1.2 The survey area was bounded to the north by additional farm buildings; dwellings were present to the south and immediate east of the site and mixed arable and pasture was present to the west. The farmland extended beyond the north of the other farm buildings and around the eastern edge of the nearby dwellings. A linear woodland and small stream were present approximately 120 m to the east of the site (Figure 2 and Plate 1). The land sloped down from the site to the southwest.

Figure 2. The survey area



3.1.3 Although the site was located in a slightly exposed position, the area was considered to have above average suitability for roosting, foraging and commuting bats.

Plate 1. The site and the surrounding area viewed from the north



3.1.4 Table 1 summarises the habitats present within, and adjacent to the site.

Table 1. Location and habitat table

Name and address: Birkhill Farm, Birkhill Crescent, Birkenshaw, BD11 2LJ			
OS Grid Ref. SE2091728321		Elevation: 177 m	
Local Planning Authority: Kirklees Council			
Features on site and adjacent to site			
Feature	On site	Adjacent	Comments
River bordered by trees			A small stream c. 120 m east.
Standing water			None.

Name and address: Birkhill Farm, Birkhill Crescent, Birkenshaw, BD11 2LJ			
OS Grid Ref. SE2091728321		Elevation: 177 m	
Local Planning Authority: Kirklees Council			
Features on site and adjacent to site			
Feature	On site	Adjacent	Comments
Bridges tunnels and culverts			None.
Trees			Woodland along the nearby stream c. 120 m to the east
Woodland			
Grassland	✔	✔	Lawns within adjacent gardens, pasture to the west.

3.2 Aims

3.2.1 The survey was conducted to help determine the:

- Presence/absence of roosting bats within the buildings.
- Potential roosting areas and roost access/egress points.
- Level of bat roost suitability associated with the buildings.
- Current or historic use of the buildings by nesting birds.
- Further survey work or mitigation requirements.

4. Methodology

4.1 Data Consultation

4.1.1 A desk study was undertaken with West Yorkshire Ecological Records Centre and West Yorkshire Bat Group to request bat records for locations within 2 km of the site.

4.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was undertaken to identify historic European Protected Species (EPS) licences obtained for locations within 2 km of the site.

4.2 Field Survey

Internal and External Visual Inspection

4.2.1 An inspection of the buildings was undertaken on 18th May 2026 by Greg Slack (MCIEEM; Class licence WML-A34-Level 4, 2017-28068-CLS-CLS).

4.2.2 The following activities were carried out during the initial inspection survey:

- An examination of all parts of the buildings to record structural features and condition, and features that may be suitable for use by roosting bats. Particular attention was paid to any holes, crevices or gaps in walls, lintels, windows, and windowsills, gaps/holes in cladding and soffits and to the possibility of finding droppings stuck to walls, floors or other surfaces, or insect remains below features.
- Any signs indicative of a bat roost presence including live or dead bats, droppings, feeding remains, scratch marks and staining were recorded.
- An assessment of the bat roost suitability of the buildings (negligible, low, moderate, high or confirmed roost).

4.2.3 The following equipment was used, or on hand, during the inspection:

- a high-powered torch;
- binoculars;
- ladders;
- an endoscope;
- a camera; and
- an ultralight drone.

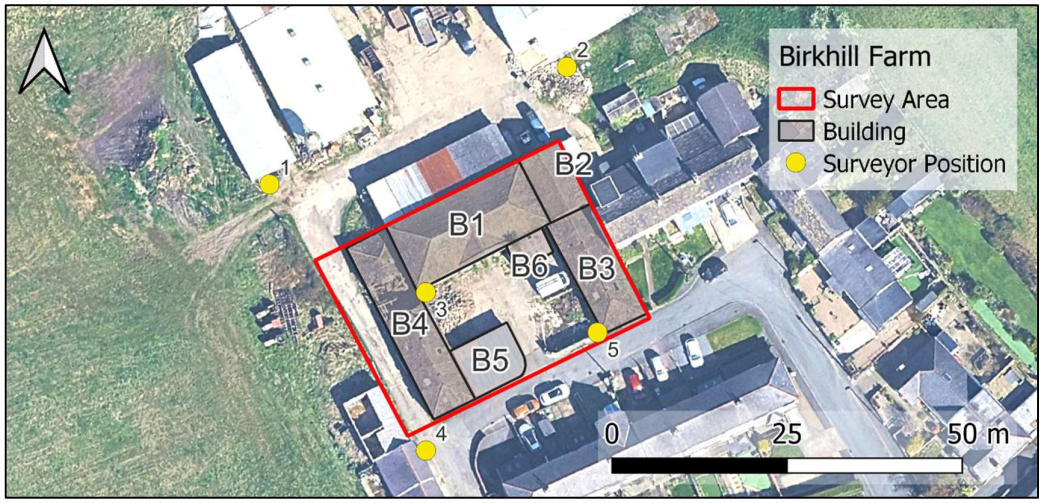
Nocturnal Survey

4.2.4 The nocturnal bat surveys were completed on 14th July and the 5th August 2026. The surveys were completed in compliance with relevant Bat Survey Guidelines (Collins, 2023; and BCT, 2026).

4.2.5 Five surveyor positions were covered during each survey. The surveyor positions are shown on Figure 3. The following personnel conducted the nocturnal survey and were equipped with Wildlife Acoustics EM Touch bat detectors and tablet recorders:

- Greg Slack;
- John Pearse; and
- Oliver Pearse.

Figure 3. Surveyor Positions



4.2.6 The night vision equipment used during the survey is shown in Table 2, along with the surveyor's initials.

Table 2. Night vision equipment used during the surveys

Surveyor Position	14th July 2026	5th August
1	OP – Nightfox Whisker	OP – Nightfox Whisker
2	JP – Canon XA10	JP – Canon XA10
3	Unsupervised – Guide TK612	Unsupervised – Pixfra Arc A613
4	Unsupervised – Pixfra Arc A613	CD – Canon XA10 and Nightfox Whisker
5	GS – Pixfra Arc A613	GS – Pixfra Arc A613

4.2.7 The surveys continued from 15 minutes before sunset until 1.5 hours after sunset.

4.2.8 The ‘night vision aid’ footage was reviewed live on a screen when light levels dropped to a level that the surveyors were unable to see bats in flight. In addition, the recorded footage was checked as required to confirm the observations made by the surveyors.

4.3 Survey Limitations

4.3.1 No significant limitations were encountered.

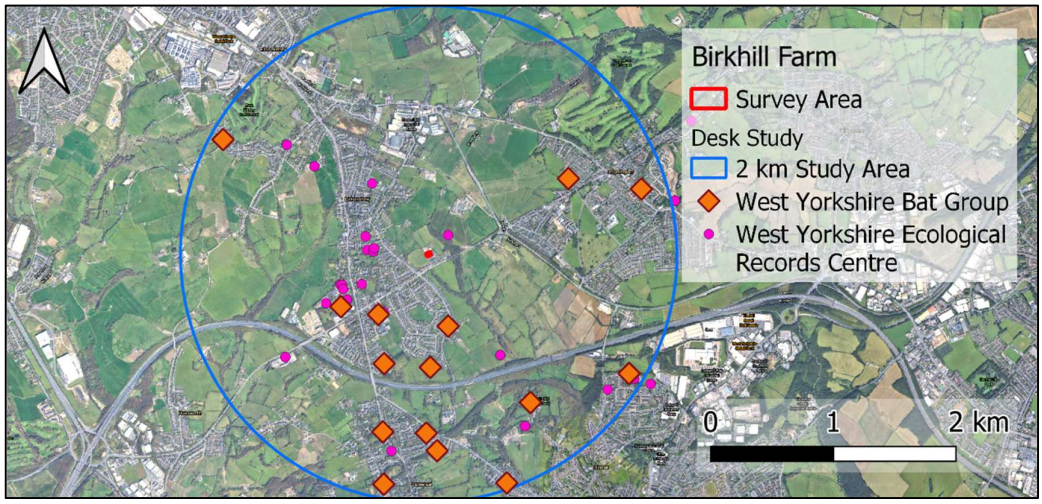
5. Results

5.1 Data Consultation

5.1.1 West Yorkshire Ecological Records Centre provided 66 bat records for the surrounding 2 km with West Yorkshire Bat Group providing 16. The species included in the records comprised: common pipistrelle *Pipistrellus pipistrellus*; soprano pipistrelle *Pipistrellus pygmaeus*; Daubenton's bat *Myotis daubentonii;* Brandt's bat *Myotis brandtii;* noctule *Nyctalus noctula;* and Leisler's bat *Nyctalus leisleri*.

5.1.2 The distribution of records is shown in Figure 4 below. The closest record was a common pipistrelle located c. 200 m northeast of the site. The record dated from 2012.

Figure 4. Distribution of bat records provided for the area around the site



5.1.3 Six bat EPS mitigation licences had been issued within 2 km of the site. The details of the licences are given in Table 3 below.

Table 3. Bat EPS mitigation licences within 2 km

Species listed on the licence	Licence start date	Licence end date	What does the licence cover?	Approximate distance (m)	Direction
Common pipistrelle	02/06/2017	31/01/2018	Destruction of a resting place.	710	Southwest
Common pipistrelle	22/02/2017	22/02/2017	Destruction of a resting place.	710	Southwest
Common pipistrelle	04/12/2012	31/03/2013	Destruction of a resting place.	950	South-southwest
Common pipistrelle	12/02/2015	30/09/2020	Destruction of a resting place.	1530	Southwest
Common pipistrelle	02/03/2015	30/09/2020	Destruction of a resting place.	1530	Southwest
Common pipistrelle and soprano pipistrelle	14/09/2010	31/08/2012	Destruction of a breeding site and resting place.	1710	Southeast

5.2 Field Survey

Internal and External Visual Inspection

Building description – Building 1 Large Stone Barn

5.2.1 Building One was a two-storey stone barn with a dual-pitched roof which included a minor gable at the centre of the façade (Plate 2). The roof was supported by queen post trusses, purlins, and rafters, and was covered with stone slates (Plate 3). No roof membrane was present below the slates.

5.2.2 Large vehicle doors and round windows were present on the front elevation. Coping stones were present along the gable, with lead flashing within the valleys. Stone quoins and dressed stone detailing were present around the doors and windows.

Plate 2. Building 1 viewed from the south



Plate 3. The interior of Building 1



Building description – Building 2 Small Two-Storey Stone Barn

5.2.3 Building Two was a two-storey stone barn with a dual-pitched roof (Plate 4). The roof was covered with stone slates and supported by King post trusses, purlins, and rafters (Plate 5). No roof membrane was present.

5.2.4 Timber gutters were supported by stone projections below the eaves. The windows were glazed and set within timber frames, and the doors were also timber framed.

Plate 4. Building 2 viewed from the northeast



Plate 5. The interior of Building 2



Building description – Building 3 Eastern Cattle Barn

5.2.5 Building Three was a single-storey cattle barn located to the south of Building 2 in the southeast corner of the farm complex. The building was constructed from stone with a dual-pitched roof, hipped at the southern end (Plate 6). The roof was supported by king post trusses, purlins, and rafters (Plate 7). Glazing was present within the roof pitch, and no roofing membrane was present.

5.2.6 Infilled stone arches were present on the west elevation. Former glazed windows had been blocked up. Timber fascias and plastic guttering were present.

Plate 6. Building 3 viewed from the west



Plate 7. The interior of Building 3



Building description – Building 4 Western Cattle Barn

5.2.7 Building Four was a single-storey stone barn with a dual-pitched roof hipped at both ends (Plate 8 and 9). The roof was supported by king post trusses, purlins, and rafters (Plate 10). Glazed skylights were present within the roof slopes. Infilled arches were present and had been blocked with stone, although no glazed windows were present. The roof had partially collapsed within the centre of the structure. Timber fascias and plastic guttering were present.

Plate 8. Building 4 viewed from the east



Plate 9. Building 4 viewed from the northwest

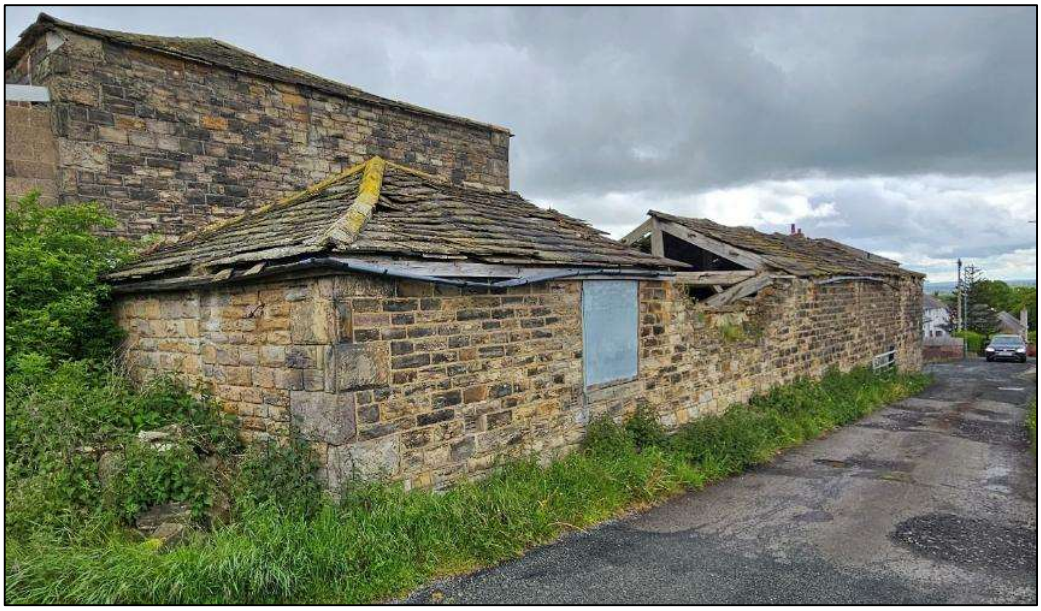


Plate 10. The interior of Building 4



Building description – Building 5 Shop

5.2.8 Building Five was a single-storey shop constructed from stone, which had been rendered on the rear elevation (Plate 11). The mono-pitched roof was covered with profiled metal sheeting. A bargeboard was present on the eastern elevation, and the windows were framed with uPVC.

Plate 11. Building 5 viewed from the east



Plate 12. The interior of Building 5



Building description – Building 6 Lean to

5.2.9 Building Six was a single-storey brick-built extension to the stone barn (Plate 13). It had a single-pitched roof covered with fibre-cement boards and supported by timber rafters. The windows comprised a mixture of uPVC and timber frames.

Plate 13. Building 6 viewed from the south



Plate 14. The interior of Building 6



External Inspection – All Buildings

5.2.10 The potential bat roost features present comprised missing mortar (gaps in the masonry, verge and ridge pointing), gaps between slates, gaps between lintels, between joists and the masonry, and beneath lead flashing. The potential roost features are shown in Table 4, and their locations shown on Figure 5.

Table 4. Potential Roost Features (PRF) Recorded

Building	PRF	Example Photo	Description
1,2,3,4, and 6	A		Missing mortar / gaps in masonry.
1	B		Gap between door frame or jams and masonry.

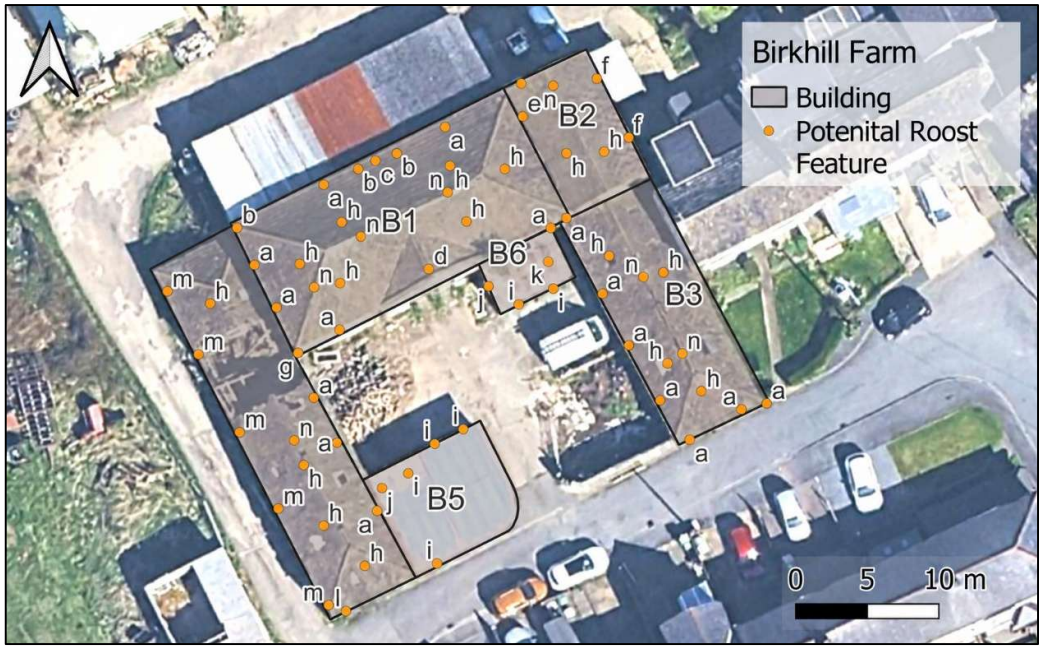
Building	PRF	Example Photo	Description
1	C		Gap between masonry and cladding.
1	D		Wooden structure below minor gable.
2	E		Gap between joist and masonry.
2	F		Lintel gap.

Building	PRF	Example Photo	Description
1	G		Gap below leadwork.
1,2,3, and 4	H		Gaps between stone slates.
5 and 6	I		Gap between roof covering and wall top.
5 and 6	J		Gap behind boarded up window.

Building	PRF	Example Photo	Description
6	K		Gap between fibre-cement boards
4	L		Gap between wooden board and masonry.
4	M		Vents in the wall.
1 and 3	N		Gaps below ridge tiles.

5.2.11 In addition to the specific potential roost features shown, bats could access the interior of all buildings and additional roosting opportunities were present on top of roof timbers, and on the wall top.

Figure 5. Potential roost feature locations



Internal Inspection – All Buildings

5.2.12 No bats or signs of bats were identified within the buildings on site. All of the buildings were considered suitable to be used by nesting birds. No sign of other protected or notable species was found.

Nocturnal Surveys

14th July 2026 – dusk emergence survey

5.2.13 The temperature at the beginning of monitoring was 20°C, with six oktas cloud cover and a light air (Beaufort Scale 1). By the end of the survey the temperature had fallen to 16°C, the wind had ceased (Beaufort Scale 0) and cloud cover had increased to eight oktas. No rain was recorded throughout. Sunset was at 21:30.

5.2.14 No bats were recorded emerging from the buildings during the survey. The first bat recorded was a common pipistrelle commuting onto the site from the south at 22:14 (44 minutes after sunset). Common pipistrelle were recorded onsite occasionally thereafter although only one bat was recorded at any one time. A noctule recorded at 22:46 was the only other bat species identified during the survey.

5th August 2026 – dusk emergence survey

5.2.15 The temperature at the beginning of monitoring was 15°C, with seven oktas cloud cover and a gentle breeze (Beaufort Scale 3). By the end of the survey the temperature had fallen slightly to 14°C, the wind remained at Beaufort Scale 3 and the cloud cover had reduced to five oktas. No rain was recorded throughout. Sunset was at 20:56.

5.2.16 No bats were confirmed emerging from any of the buildings during the survey and the level of bat activity recorded was very low.

5.2.17 The first bat activity comprised a common pipistrelle recorded commuting at 21:17 (21 minutes after sunset). Subsequent activity consisted of occasional passes by common pipistrelle, including a brief spell of foraging (approximately four minutes) within the large barn (B1) at 22:03.

6. Assessment

6.1 Summary and Evaluation of Findings

6.1.1 Three of the buildings (B1, B2, and B3) were considered to have moderate bat roost suitability with two (B4 and B6) classed as low suitability and the former shop (B5) having negligible suitability to support roosting bats. The suitability of each building is shown in Table 5 below.

Table 5. Bat Roost Suitability

Building	Suitability to be used by roosting bats
1 – Large Barn	Moderate
2 – Small Two-storey Barn	Moderate
3 – Cattle Barn East	Moderate
4 – Cattle Barn West	Low
5 - Shop	Negligible
6 – Lean-to	Low

6.1.2 No bat roosts were identified during the two nocturnal surveys and the level of bat activity around the site was low and limited to common pipistrelle and noctule.

6.1.3 The buildings likely to be subject to demolition are limited to Buildings 3 and 4 (Cattle Barn East and West), Building 5 (The Shop), and Building 6 (The Lean-to). Indirect impacts are anticipated for all buildings.

6.2 Recommendations

Further Survey and Licensing

6.2.1 No further survey is considered necessary.

Toolbox Talk

6.2.2 Although no bats were recorded roosting in the buildings during the surveys, the occasional occurrence of a bat in such buildings at other times of year is possible. Before works begin, contractors should receive a toolbox talk identifying:

- The legal protection afforded to bats and nesting birds,
- The features that should be dismantled cautiously, and methods of doing so, and
- The procedure to follow if a bat, or active bird nest, is encountered unexpectedly.

6.2.3 A suitable toolbox talk is included as Appendix 2.

Timing

6.2.4 Although the buildings do not have high suitability for use by hibernating bats as they lack underground areas likely to remain at a stable cool temperature with high humidity, some species such as common pipistrelle can make use of above ground buildings and structures. The presence of a single, or low numbers of hibernating bats in the farm complex cannot be completely ruled out. As a precaution it is recommended that the start of demolition avoids the core bat hibernation season (December to February inclusive).

6.2.5 It is also recommended that the proposed demolition work is undertaken outside the nesting bird season (March to September inclusive) or preceded by a check of the area by a suitably qualified ecologist.

6.2.6 In the event an active nest is identified during the work it must be retained until the young have fledged. Further advice on a suitable stand-off distance / buffer should be sought from Middleton Bell Ecology based on the tasks required in the vicinity and the nesting species.

Bat and Bird Boxes

6.2.7 As the project is limited to demolition of Building 3 to Building 6 with no new construction planned at present, there is no requirement to install new bat and bird boxes. However, if new buildings are planned at a later date, integrated bat and bird boxes should be included at a rate of one of each per building.

Roofing Membranes

6.2.8 Many breathable roofing and cladding membranes are not safe for bats if they come into contact with them. No reroofing is planned at present but if this is considered for the retained buildings (B1 – the large barn and B2 the small two-storey barn) in the future it is recommended that one of the products identified as safer for use in areas with roosting bats is used. Further information on the issue of bats and roofing membranes is included in Appendix 3.

Lighting

6.2.9 No new exterior lighting is proposed.

7. Conclusions

7.1.1 The buildings at Birkhill Farm had between negligible and moderate bat roost suitability. However, no bats or evidence of bat occupation were recorded during the daytime inspection, and no bats were confirmed emerging during either of the two dusk surveys. Bat activity around the site was very low, and no bat roosts were identified.

7.1.2 No further bat survey was considered necessary. Subject to contractors receiving an ecological toolbox talk and following the recommended precautionary working methods, the proposed demolition of the eastern and western cattle barns, former shop, and lean-to was considered unlikely to affect roosting bats.

7.1.3 As a precaution, demolition should commence outside the core bat hibernation season (December to February inclusive). The proposed demolition should also be undertaken outside the nesting bird season (March to September inclusive), or should be preceded by an appropriate nesting bird check. If an active nest is found, it must be retained and protected until the young have fledged.

7.1.4 The recommendations included in this report are considered valid for 24 months. If the project is delayed until after this time, Middleton Bell Ecology should be contacted to assess the need for an update survey.

8. References

Bat Conservation Trust (2026) Bat Emergence Surveys using Night Vision Aids – A Technical Guide for Professional Ecologists. The Bat Conservation Trust, London.

Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines. The Bat Conservation Trust.

Appendix 1. Legislation and Policy Guidance

Bats

Bats receive protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981 (as amended).

It is an offence to:

- Deliberately capture (or take), injure or kill a bat.
- Intentionally or recklessly disturb bats whilst they are occupying a structure or place used for shelter or protection or obstruct access to any such place.
- Damage or destroy the breeding or resting place (roost) of a bat.
- Possess a bat (live or dead), or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.
- Sell (or offer for sale) or exchange bats (dead or alive), or parts of parts.

The Convention on Biological Diversity, signed in Rio de Janeiro, Brazil in 1992, requires member states to develop national strategies and to undertake a range of actions aimed at maintaining or restoring biodiversity. The UK Biodiversity Strategy was produced in response to the Convention.

In England & Wales, the Natural Environment and Rural Communities (NERC) Act, 2006 places a duty on public bodies, including local authorities and statutory bodies, in exercising their functions, "to have due regard, as far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". It notes that "conserving biodiversity includes restoring or enhancing a population or habitat". Barbastelle *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum*, lesser horseshoe bat *Rhinolophus hipposideros*, noctule *Nyctalus noctula* and soprano pipistrelle *Pipistrellus pygmaeus* are included as priority species in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Local Biodiversity Action Plans may also cover a greater or lesser range of bat species.

Where it is proposed to carry out works which will have an adverse impact on roosting bats a European Protected Species (EPS) license must first be obtained from Natural England. This requirement applies even if no bats are expected to be present when the work is carried out.

Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:

- Intentionally kill, injure or take any wild bird.
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

National Planning Policy Framework

The National Planning Policy Framework for England was revised in 2024. This document states that plans should 'promote the conservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity'.

Appendix 2. Toolbox Talk for Birkhill Farm

The buildings have been assessed as having suitability to support roosting bats and although no bats were found during the surveys undertaken, it is possible that they may be present at the time of demolition.

The buildings are also assessed as having potential to be used by nesting birds.



A common pipistrelle approximately 3.5 – 4.5 cm in length

Without a bat licence, it is illegal to deliberately capture, injure or kill a bat. Bats are protected from disturbance, and their roosts are also protected[1]. Bird nests are protected while active.

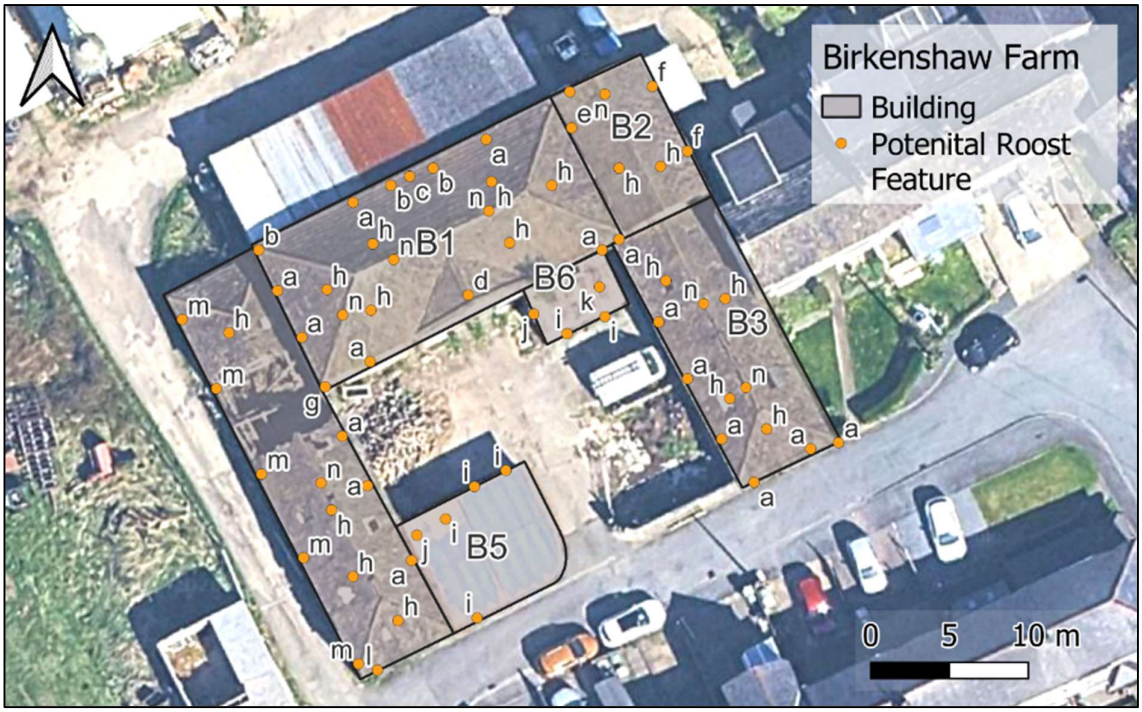
UK bats are very small; the bodies of the smallest bats can fit inside a match box. Several UK species rest in gaps and crevices no wider than 1 cm.

The purpose of the work is to demolish B3 – B6. If bats are present, they must be protected.

Key potential bat roost features should be removed by hand with their underside checked once lifted as bats are quite often found clinging to the underside of materials. A lot of places where bats may be found were present as shown below but key locations were below roof slates and ridge tiles, and wall tops.

[1] Disturbing or destroying a bat roost can lead to unlimited fines, up to six months in prison and seizing of items used to commit the offence, e.g. vehicles, plant or machinery.

Figure A2.1. Potential bat roost feature locations



Contractors must remain vigilant for bats or signs of bats. If bats or bat droppings are found, or if an active bird's nest is found then all works should cease with further direction from an ecologist required. **It's not anticipated any bats will be present or require handling but if bats are found only an ecologist should handle the bats[2]**.

Bat droppings look like mouse droppings, but crumble to dust, unlike mouse droppings. They may be present between roofing materials, in crevices in walls and on the wall tops.

Staff that have received: *Toolbox Talk – Birkhill Farm*

Signature	Name	Organisation	Date

[2] Bats in the UK have on rare occasions been shown carry rabies and are easily injured.

Work that can proceed – Birkhill Farm

Area inspected	Date	Work that can be done in that area (include timeframe)	Ecologist signature

Appendix 3. Roofing and Cladding Membranes

Standard roof membranes can cause the death of significant numbers of bats. Traditional bitumen coated roofing felt is recommended where roosting bats are expected to be present.

The problem

Standard non-bitumen coated membranes (including almost all breathable membranes) used below roof slates and tiles present a significant problem for bats. Over time, strands are pulled away from the surface of these materials as bats crawl over them. These fuzzy strands are very strong and can tangle and trap bats, sometimes causing the death of bats over multiple years[3].

One example we have encountered comprised a pipistrelle roost which formed in a building extension constructed in 2009. Over the course of just 13 years the roofing felt degraded to the extent that it trapped and killed more than 10 bats. Fortunately, the problem in this roost was identified and remedial work was undertaken to replace the roofing membrane in 2022.

Plate A3.1. Four dead pipistrelles tangled in breathable roofing membrane



Although a new roof might be considered to lack potential bat access points, that is often not the case. Roofs covered with stone slates almost always have gaps large enough to be accessed by bats, this is often also the case where imitation stone slates are used. On older buildings the uneven roof timbers and/or building design also often results in gaps on wall tops and between slates. Even on new builds it is often possible for bats to access potential roosts via features such as dry verge capping. Some bats can access a space no wider than a biro pen, therefore it is not surprising that they can find their way into most buildings.

Safe roofing membranes (and membranes behind cladding)

From a bat perspective, the best membrane option for areas where roosts are expected comprises traditional hessian-backed Type 1F bituminous felt. This product has been widely and safely used as a secondary weather barrier since approximately the 1950s/1960s. Wooden sarking has also been used for many decades and if appropriately treated, is safe for

[3] Wearing S. Essah E., Gunnel K. & Bonser R. (2013) Double jeopardy: the potential for problems when bats interact with breathable roofing membranes in the United Kingdom. Architecture and Environment

use in bat roosts. Wooden sarking also has the benefit of providing additional insulation and is usually breathable.

At the time of writing (and to our knowledge) two products have passed the 'snagging propensity' test; consequently, these products are approved by Natural England for use in bat roosts. This test attempts to replicate the wear and tear which results from bats crawling over the membrane. The approved products are: TLX BatSafe[4,5] and SIGA Majcoat 350. Although they have passed this test, it is unclear how these membranes will degrade in the medium and long term, particularly in larger bat roosts. Therefore, we do not recommend that they are used for roosts with multiple bats, and particularly for large (maternity roosts). A third product, SIGA Majcoat 200 SOB Diffusion, passed the test for its upper surface only. This product should not be used in known bat roosts or locations where bat mitigation is to be installed. Although none of these products are considered to be as safe as traditional Type 1F bituminous felt, they may provide an option for roofs where future bat use cannot be ruled out, and a breathable solution is required.

Additional considerations

In recent years a fairly substantial proportion of the lofts we have surveyed which had existing breathable felt, were found to have been damaged by wasps (Plate A3.2). The wasps appear to have chewed holes in the felt and formed nests. This doesn't appear to be a problem associated with traditional bitumen coated roofing felt. Any holes within roofing felt are likely to significantly reduce its functionality as a secondary weather barrier. Where bats or birds come into contact with breathable roofing membranes, they can also damage it causing it to leak, they can also significantly reduce the breathability of the felt in that location.

Plate A3.2. Damage to a breathable roofing membrane adjacent to a wasp nest



Traditional bituminous Type 1F roofing felt is a non-breathable product and therefore ventilation is required. Sufficient ventilation can usually be achieved, even in buildings with vaulted ceilings, however, some consideration during the design stage is required. Products to increase the ventilation within roofs where bituminous Type 1F felt has already been installed are also available.

[4] https://www.gov.uk/government/publications/bats-apply-for-a-mitigation-licence#full-publication-update-history:~:text=Use%20of%20safe%20roofing%20membranes

[5] TLX BatSafe requires all joints and cut edges to be taped in order to prevent the fraying of bare edges.

Appendix 4. Bat Records

In accordance with best practice and the requirements of bat licensing, bat records collected during surveys are supplied to the relevant biological record centres and bat groups. The records to be supplied in accordance with this survey are shown below.

Date	Species	Site Address	OS Grid Reference	Notes
05/08/2026	Common pipistrelle	Birkhill Farm, Birkhill Crescent, Birkenshaw, BD11 2LJ	SE2091728321	In flight.
14/07/2026	Noctule	Birkhill Farm, Birkhill Crescent, Birkenshaw, BD11 2LJ	SE2091728321	In flight.