



**envirotech**

Ecological Consultants  
Environmental and Rural Chartered Surveyors

## BAT, BARN OWL & NESTING BIRD SURVEY AT

Barn at Higher House,  
Higher Farm,  
Paythorne



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## ***Professional responsibility***

This report has been commissioned and the actions of the surveyor have been made in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management. ([www.cieem.org.uk](http://www.cieem.org.uk)) and the Royal Institution of Chartered Surveyors ([www.rics.org.uk](http://www.rics.org.uk))

## ***Accuracy of report***

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, bats, nesting birds and barn owls are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and or in their interaction with bat species, nesting birds and or barn owls. If bats, nesting birds or barn owls are found during a work programme and continuing the work programme could result in their disturbance, injury or death either directly or indirectly an offence may be committed.

These species may only be disturbed, injured or killed under licence.

If in doubt, stop work and seek further professional advice.

## ***Quality and Environmental Assurance***

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Signed



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# **1. EXECUTIVE SUMMARY**

It is understood that the modern agricultural barn at Higher House, Higher Farm will be converted to residential accommodation.

A daytime inspection was undertaken on the 8<sup>th</sup> February 2017. This involved a close inspection of the building for signs of use by bats, barn owls and birds both internally and externally.

A desk study and data search were also undertaken to ensure the reasonable probable use of the site by bats, barn owls and nesting birds could be determined.

The habitat around the site offers moderate potential for foraging being well connected with fragmented woodland via a series of hedgerows and tree lines.

The building has negligible potential for use by bats and low potential for use by barn owls. Nesting birds are likely to make use of the building between April and September.

No indications of use of the site by bats or barn owls were found during the survey. Evidence of old bird nests suggested use of the building by a moderate number of nesting small passerine birds.

On the basis of the survey work carried out, under guidance provided in respect of the Conservation of Habitats and Species Regulations (2010), and considering the plans for the site, it is considered that a European Protected Species Mitigation (EPSM) Licence for bats will not be required prior to works being carried out.

A mitigation strategy has been prepared and should be followed in order to ensure that the welfare of the local bat and bird population is maintained during, and following the works.

## 2. INTRODUCTION

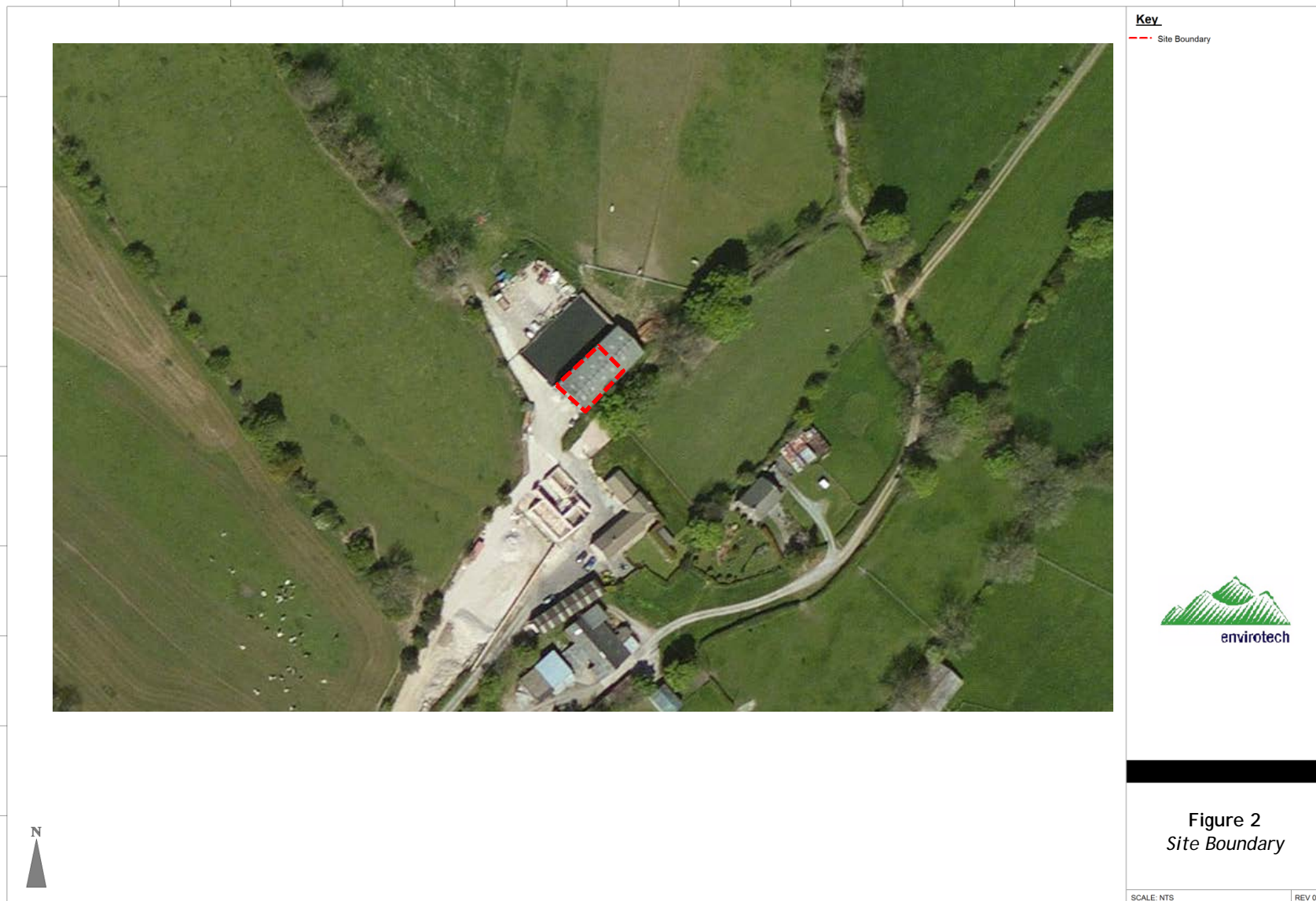
### 2.1 Site Description

The site lies in a rural location within the small village of Paythorne, Lancashire. The surveyed building is a modern agricultural building constructed of corrugate metal sheeting.

There is fragmented woodland and the River Ribble in the local area and the site is well connected with woodland via hedgerows and tree lines at SD 82907 52207, Figure 1 and 2.



Figure 1 Ordnance Survey map of site location, circled red.



## **2.2 Proposed Works**

It is proposed that the South-west extent of the building converted to form a residential dwelling. There will be significant internal and external alteration to the areas of the building affected.

The timing of work is unknown.

## **2.3 Aims of Study**

To ensure that the proposed development does not affect any bat species, barn owls or nesting birds which are listed under the Conservation (Natural Habitats, &c) Regulations (2010) and or the Wildlife and Countryside Act (1981) (as amended) the survey will:-

- ⇒ Identify past and/or current use of the site by bat species, barn owls and nesting birds.
- ⇒ Assess the likely impact of the proposed development on these species.
- ⇒ Provide an outline mitigation/compensation scheme (if required) for bat species, barn owls and nesting birds affected by the development.



### 3. METHODOLOGY

#### 3.1 Bats

##### 3.1.1 Rationale of Survey

The methods used comply with those described in Hundt (2012) and Collins, J (ed) (2016). The following extracts from Collins, J (ed) (2016) are used to determine the appropriate level of survey in accordance with the guidelines.

**Key point 1:** Guidelines should be interpreted using professional expertise.

*“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement.*

*Equally, it would be inappropriate for someone with no knowledge or experience to read these guidelines and expect to be able to design, carry out, interpret the results of and report on professional surveys as a result, simply following the guidelines without the ability to apply any professional judgement.”* Section 1.1.3

**Key point 2:** Guidelines are descriptive rather than prescriptive and must be adapted on a case by case basis.

*“The guidelines should be interpreted and adapted on a case-by case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”* Section 1.1.3

**Key point 3:** Surveys should be undertaken where it is reasonably likely bats are present and may be affected by the proposal. Where bats are not likely to be present and or will not be affected by the proposal, survey could but need not be undertaken.

*“It is reasonable to request surveys where proposed activities are likely to negatively impact bats and their habitats. However, surveys should always be tailored to the predicted, specific impacts of the proposed activities (see Section 2.2.2). Excessive, speculative surveys are expensive and cause reputational damage to the ecological profession.”* Section 2.1

**Key point 4:** Surveys should be proportionate to predicated impacts.

*“When planning surveys it is important to take a proportionate approach. The type of survey (or suite of surveys) undertaken and the amount of effort expended should be proportionate to the predicted impacts of the proposed activities on bats. Clause 4.1.2 of BS42020 (BSI, 2013) states that ‘professionals should take a proportionate approach to ensure that the provision of information with the (planning) application is appropriate to the environmental risk associated with the development and its location”* Section 2.2.5



### 3.1.2 Desk Study

*“The aim of a desk study for bats is to collate and review existing information about a site and its surroundings to inform the design of subsequent bat surveys.”* Section 4.2.1

*“As a minimum, it is recommended that background data searches should be carried out upto 2km from the proposed development boundary.”* Section 4.2.2

**Key point 5:** A records search was undertaken of the Envirotech dataset. No additional data searches were considered necessary at this site as the bat species likely to be found in the local area could be adequately determined from the records searched.

*“The desk study records provide contextual information for the survey design stage as well as the evaluation of the survey results. They should be interpreted to identify:*

- If proposed activities are likely to impact on a SAC or the qualifying feature of a SAC (this may trigger the need for a HRA);*
- If the proposed activities are likely to impact on other designated sites and thus require consultation with relevant bodies;*
- Any species (or genera) confirmed/thought to be present;*
- Any bat roosts that will be impacted (on or off-site);*
- If it is likely that the CSZs of bats from roosts off-site will be impacted (see Section 3.7);*
- If there are any rare species in the area that may require species-specific survey methodologies.”* Section 4.2.3

**Key point 6:** Likely bat roosting and feeding sites on and adjacent to the site were identified from aerial photography and the use of Google Street View for ground level analysis. This allows us to identify habitat connectivity and potential foraging areas at a landscape level. We are also able to relate the results of the records search against habitat types and the species of bat which could and or are recorded in the local area. Identification of bat species which may occur locally allows for additional field based surveys to be correctly targeted.

### 3.1.3 Field Survey

**Key Point 7:** To ground truth the desktop data (Key point 5) a field assessment of habitat at and adjacent to the site was made. This allows us to cross check our interpretation of aerial photography with actual habitat on the ground. There is occasionally significant change between landscape detailed on aerial photographs and habitat on the ground. Buildings, hedgerows and roads may be built or removed. For example occasionally woodland is felled or has been replanted.

*“A preliminary ecological appraisal for bats is a walkover of the proposed development site to observe, assess and record any habitats suitable for bats to roost, commute and forage both on site and in the surrounding area (it is important that connectivity within the landscape is also considered at this stage). The aim is to determine the suitability of a site for bats, to assess whether further bat surveys will be needed and how those surveys should safely be carried out.”* Section 4.3.1

**Key point 8:** A thorough inspection of the walls and eaves was undertaken using a torch and short focus binoculars to locate potential bat roosts. Gaps and cracks in the walls or under the eaves and soffits may provide access to the building by bats. Where possible all gaps and

cracks judged to be of a suitable size for bats to take entry to the building were inspected either from the ground or the top of a ladder. Where appropriate an endoscope was used to fully inspect these gaps internally.

**Key Point 9:** A thorough inspection of the roof was undertaken using a torch and short focus binoculars to locate potential bat roosts. Gaps under the roof coverings, ridge lines and flashing may provide suitable roost sites for bats. All gaps and cracks judged to be of a suitable size for bats to take entry to the building were inspected either from the ground or the top of a ladder. Using short focus high quality binoculars and a torch to illuminate any gaps underneath the roof coverings it is often possible to see residual evidence of bats such as droppings, scratch, grease and urine staining, lichen build-up from increase nutrient levels or bats themselves.

**Key Point 10:** A thorough inspection of the interior and exterior of the building to look for signs of bats such as grease or scratch marks, bat droppings and feeding detritus was made. Windows and or other items in and around the site were inspected for urine staining.

**Key Point 11:** A thorough search for detritus associated with bat feeding perches and roosts was undertaken. These roosts are usually in roof voids, under eaves and open buildings.

**Key Point 12:** Internal voids and rooms were assessed where it was considered bats may be able to take access. Indications of use such as grease and scratch marks, urine staining, droppings, desiccated young bats, dead bats in water tanks and cobweb free areas under the roof and roof supports were all assessed.

*"The time needed for a preliminary roost assessment will vary according to the complexity of the structure and the number of ecologists deployed. Large structures with multiple roof spaces, multiple human access points and/or abundant voids and crevices will clearly take some time to understand and search thoroughly. Also, structures may contain several different bat roosts of different species each with their own access point and used at different times of the year. This all adds time to the survey."* Section 5.2.7

**Key Point 13:** It is the considered opinion of the surveyor who undertook this survey that the time taken to undertake the survey was sufficient given the complexity of the building, methods used, time of year and species of bat which may be present.

*"If the structure has been classified as having low suitability for bats (see Table 4.1), an ecologist should make a professional judgement on how to proceed based on all of the evidence available."*

*If sufficient areas (including voids, cracks and crevices) of a structure have been inspected and no evidence found (and is unlikely to have been removed by weather or cleaning or be hidden) then further surveys may not be appropriate."*

*Information (photographs and detailed descriptions) should be presented in the survey report to justify this conclusion and the likelihood of bats being present at other times of the year estimated. If there is a reasonable likelihood that bat roosts could be present, and particularly if there are areas that are inaccessible for survey, then further surveys may be needed and these should be proportionate to the circumstances (see Section 2.2.5)."*

*If no suitable habitat for bats is found, then further surveys are not necessary. In this scenario, it is necessary to document how this decision has been reached; photographs and detailed descriptions should be made available as evidence of a robust survey and assessment.* " Section 5.2.9

#### 3.1.4 Timing

A table showing the timing of the survey in relation to the bat year is shown on Figure 3.

This site was assessed at the following period in the bat year. Some roost types can be clearly identified when not in use or can be inferred from habitat type/residual evidence.

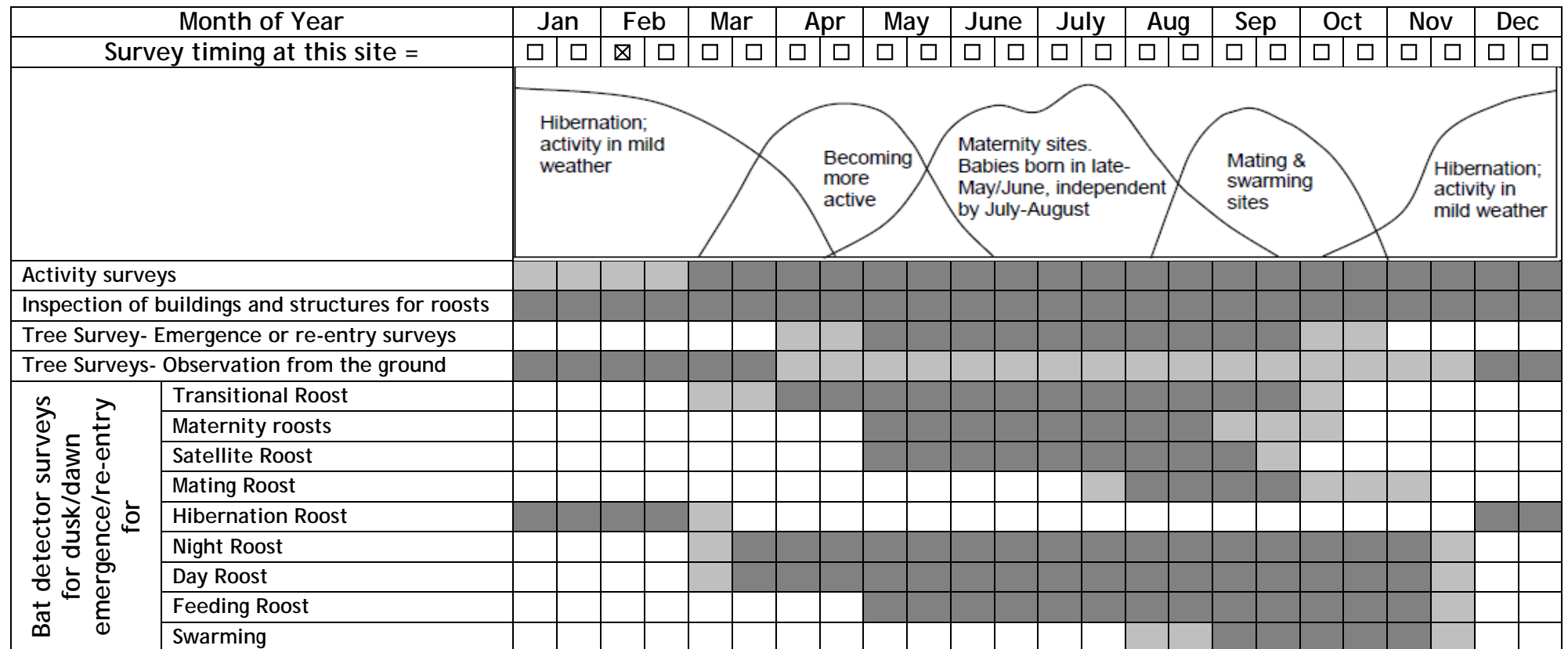


Figure 3 Survey timing in the bat year from Mitchell-Jones (2004).

Date of visit		8 <sup>th</sup> February 2017	Notes
Weather conditions	Cloud	50%	1
	Wind	Nil	1
	Rain	Nil	1
	Temperature	5°C	1
Surveyors		EW	

*Table 1 Survey dates and times.*

1. Weather conditions were considered acceptable for a survey at the site given the potential for use of the site and species which may be present. Bats are usually active with temperatures above 7 degrees Celsius.

#### Surveyors

1. (EW) Miss Emma Wainwright BSc (Hons)  
Unlicensed surveyor with three years bat scoping and emergence survey experience  
Accredited Agent on Natural England Bat Class Licence (Level 2)

## **3.2 Barn Owls**

### **3.2.1 Rationale**

Shawyer (2011) states

“Surveys are a sampling activity where discrete information is gathered from a specific site or wider area.

They usually represent a single case study but can involve repeat visits to a site. A survey is distinguishable from monitoring which usually takes place at regular intervals, often yearly, the main aim of which is to investigate the progress of a research or conservation objective and may involve the study of population dynamics in the species concerned.

The purpose of this survey is, in accordance with Shawyer (2011) to determine the:

- i. Distribution, abundance and breeding status of barn owls in the area of interest;
- ii. Extent to which barn owls are likely to be affected by a proposed development, and where the presence of this bird has been confirmed;
- iii. To enable an appropriate mitigation strategy to be designed and implemented.

In particular the survey is necessary for the purposes of:

- i. Ensuring legal compliance;
- ii. Determining a planning application;
- iii. Avoiding the enforced cessation of development work should an active breeding site be discovered that would be directly or indirectly damaged or disturbed through continuance of the work.

### **3.2.2 Desk Study**

**Key Point 14:** A desk study was conducted within 2km of the site. The purpose of this initial study was to assess the probability of barn owl occurrence on the site and to provide an estimate of its population size and relative abundance at the local, regional and national levels. This enables the significance of any adverse effect from a proposed development to be determined not only on the site itself but within the wider area and provides important guidance for any future mitigation strategy.

**Key Point 15:** Where the initial desk study has revealed a reasonable likelihood that barn owls may be present in the general area of interest (and in many rural areas of Britain this will be a high probability) or where a barn owl recovery programme is suspected or has been identified there, a field survey must then be undertaken.

### **3.2.3 Field Survey**

Field surveys are essential to determine the full status of the species in the study area, the potential effect of the development and the mitigation, compensation or enhancement measures to be applied. They should aim to locate and confirm the distribution, abundance

and breeding status of barn owls as well as the relative importance of the habitats they utilise within the survey area.

Cavities, mostly those located in the main trunk or crown of mature hollow trees, provide almost one third of natural breeding sites in the UK Shawyer (2011). Fissures in rock faces, including quarries, make up a small proportion of other breeding sites, particularly in northern Britain.

#### 3.2.3.1 *Defining and recording a Potential Nest Site (PNS)*

**Key Point 16:** Trees and built structures were observed at close quarters to establish if they possess any holes, cavities or chambers and where these were identified, using appropriate techniques, they were checked to determine if they were of a suitable size and structure to provide a suitable barn owl nest site. Only those sites which possess a hole of at least 80 mm diameter (about tennis ball size) or vertical slot of this width backed by a sufficiently large and dark chamber with a floor area greater than 250 mm x 250 mm, were recorded, as a Potential Nest Sites (PNS).

#### 3.2.3.2 *Defining and Recording an Active Roost Site (ARS)*

**Key Point 17:** These are defined as a place at which breeding does not occur, but where the bird is seen or heard regularly or its current or recent presence (last 12 months) can be recognised by signs of thick, chalky-white, streaky droppings (commonly referred to as 'splashing', 'whitewash', 'mutes' or 'liming') which is usually accompanied by regurgitated pellets and moulted feathers. Pellets and feathers are diagnostic and provide evidence that the roost site is that of a barn owl rather than another bird of prey such as a kestrel (*Falco tinnunculus*), little owl (*Athene noctua*) or tawny owl (*Strix aluco*) which also excrete, projectile chalky-white droppings but whose feathers and pellets differ in appearance.

**Key Point 18:** Any ARS were recorded as being occasionally-used or regularly-used, depending on the amount of pellets, droppings and feathers that are revealed at the site. ARS were also recorded as a winter, spring, autumn or summer roost. This can usually be determined by the age of pellets and the presence or absence of moulted wing and tail feathers at the site.

#### 3.2.3.3 *Defining and Recording a Temporary Rest Site (TRS)*

**Key Point 19:** Small spots of thick, chalky cream-coloured droppings that can often be seen underneath a tree, in a building or on a fence post and which are sometimes accompanied by an occasional pellet or body feather, can indicate a temporary night-time stopping-off place of a barn owl. Although this level of observation is not an essential requirement of a barn owl survey, when these signs are identified they are best described and recorded as a Temporary Rest Site (TRS) rather than an ARS.

#### 3.2.3.4 *Confirming an Occupied Breeding Site (OBS)*

**Key Point 20:** To confirm the presence of an Occupied Breeding Site (OBS), e.g. one where breeding was taking place or where it had done so in the recent past a detailed inspection of the PNS and ARS previously identified is carried out. This is accomplished by checking for the presence of adult barn owls, their moulted feathers, pellets, eggs, egg shells, chicks or down.



### **3.3 Nesting Birds**

#### **3.3.1 Rationale**

The purpose of the survey is to determine the:

- i. Distribution, abundance and breeding status of birds in the area of interest;
- ii. Extent to which birds are likely to be affected by the proposed work, and where the presence of nesting birds has been confirmed;
- iii. To enable an appropriate mitigation strategy to be designed and implemented.

In particular the survey is necessary for the purposes of:

- i. Ensuring legal compliance;
- ii. Determining a planning application;
- iii. Avoiding the enforced cessation of development work should an active breeding site be discovered that would be directly damaged or disturbed through continuance of the work.

#### **3.3.2 Desk Study**

**Key Point 21:** A desk study was conducted for the area within 2km of the site. The purpose of this initial study was to assess the probability of nesting birds' occurrence on the site and to provide an estimate the population and relative abundance at the local, regional and national levels. This enables the significance of any adverse effect from a proposed development to be determined not only on the site itself but within the wider area and provides important guidance for any future mitigation strategy.

**Key Point 22:** Where the initial desk study has revealed a reasonable likelihood that nesting birds may be present in the general area of interest (and in many rural areas of Britain this will be a high probability) a field survey must then be undertaken.

#### **3.3.3 Field Survey**

Field surveys are essential to determine the full status of the species of nesting birds in the study area, the potential effect of the development and the mitigation, compensation or enhancement measures to be applied. They should aim to locate and confirm the distribution, abundance and breeding status of birds as well as the relative importance of the habitats they utilise within the survey area.

**Key Point 23:** Cavities, mostly those located in the main trunk or crown of mature hollow trees, gaps, cracks and the eaves and internal spaces of buildings, shrubs, scrub and hedges on and adjacent to the development area may all provide suitable nest sites. These were all inspected for indications of past or current nesting and roosting by birds. The species of bird and its relative abundance on site was also assessed where possible based upon droppings, nest shape, size and location, egg remains, feathers and birds seen on site which from their behaviour indicate nesting may occur.

## 4. DEFINITIONS

Definitions used in this report are detailed here, in reference to Hundt (2012) and Collins ed. (2016).

### Building

A structure with walls and a roof, for example a residential property, block of flats, office block, warehouse, garden house, folly, barn, stable, lime kiln, tower, church, former military pill box, school, hospital or village hall. Some buildings have cellars (underground sites) beneath them.

### Built structure

A structure that was made by humans but cannot be described as a building or as an underground site, for example a bridge, wall, monument, statue, free-standing chimney, or derelict building consisting only of walls.

### Underground site

A human-made or natural structure that is entirely or partially underground, for example a cave, cellar, subterranean, mine, duct, tunnel, military bunker, well, or ice house.

### Roost (breeding site / resting place)

The implementation of the EU Habitats Directive provides general definitions for breeding sites and resting places. For bats the two often overlap, which is why in many cases they are both referred to as roosts. Any interpretation of the terms 'breeding sites', 'resting places' and 'roosts' must take into account the prevailing conditions.

Natural England licensing guidelines (Natural England, 2011) discusses the age of roosts and mitigation requirements as well as the period of time bat roosts are protected when not used. The following is reproduced from this document.

"Q. The development site ceased to be inhabited last year and it is prone to vandalism. I found evidence of a maternity roost but all current signs suggest that the site is now abandoned by bats. What should I mitigate for?

Wildlife Advisers do not use a tightly defined period within which bat need to have used a structure beyond which it is no longer regarded as a bat roost. A structure can be regarded as a bat roost even if not knowingly occupied by bats for a year or two."

The Method Statements mitigation should reflect compensation for a roost at its highest status within recent years. For example, meagre mitigation for an occasionally used, summer, non-maternity roost that had declined from a maternity roost as a result of human induced change to the roosts conditions e.g. vandalism, may not be acceptable to the Wildlife Adviser.

A demolished structure, irrespective of its previous bat occupancy, clearly, ceases to be a bat roost. An intact structure without bat occupancy perhaps after a few years, and more assuredly after five years, also ceases to be a bat roost". [Emphasis added]

Natural England's guidelines are derived from the European Commission's Article 12 guidance on the definition of resting places for European Protected species.

European Commission (2007), section (54) and (59) state

“(54) It thus follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are not being used, but where there is a reasonably high probability that the species concerned will return to these sites and places. If for example a certain cave is used every year by a number of bats for hibernation (because the species has the habit of returning to the same winter roost every year), the functionality of this cave as a hibernating site should be protected in summer as well so that the bats can re-use it in winter. On the other hand, if a certain cave is used only occasionally for breeding or resting purposes, it is very likely that the site does not qualify as a breeding site or resting place.”

(59) Resting places: a definition

Resting places are defined here as the areas essential to sustain an animal or group of animals when they are not active. For species that have a sessile stage, a resting place is defined as the site of attachment. Resting places will include structures created by animals to function as resting places. Resting places that are used regularly, either within or between years, must be protected even when not occupied.”

It is clear that for a site to be classified as a roost when not occupied there must have been past habitual and the probability of future use within at least a two year period as defined as “within or between years”.

European Commission (2007) summaries the requirement for the protection of resting sites thus

“Breeding sites and resting places are to be strictly protected, because they are crucial to the life cycle of animals and are vital parts of a species’ entire habitat. Article 12(1)(d) should therefore be understood as aiming to safeguard the continued ecological functionality of such sites and places, ensuring that they continue to provide all the elements needed by a specific animal to rest or to breed successfully. The protection applies all year round if these sites are used on a regular basis.”  
[Emphasis added]

## **Summary**

### ***“Breeding site”***

Breeding is defined here as mating and giving birth to young. A breeding site is the area needed to mate and to give birth in, and includes the vicinity of the roost or parturition site, where offspring are dependent on such sites. For some species, breeding sites include structures needed for territorial definition and defence. Breeding sites that are used regularly, either within or between years, must be protected even when not occupied. Breeding sites include areas required for:

1. Courtship
2. Mating
3. Parturition, including areas around the parturition site when it is occupied by young dependent on that site.

### ***Resting place***

Resting places are defined here as the areas essential to sustain bats when they are not active. Resting places that are used regularly, either within or between years, must be protected even when not occupied. Resting places essential for survival include structures and habitat features required for:

1. Thermoregulatory behaviour
2. Resting, sleeping or recuperation
3. Hiding, protection or refuge
4. Hibernation

## 5. RESULTS

### 5.1 Desk Study

Previous surveys undertaken by Envirotech have identified use of buildings to the South of the site by roosting brown long-eared bats. A search of the Envirotech dataset also returned one record of soprano pipistrelle within 2km of the site.

Records are shown on Figure 4.

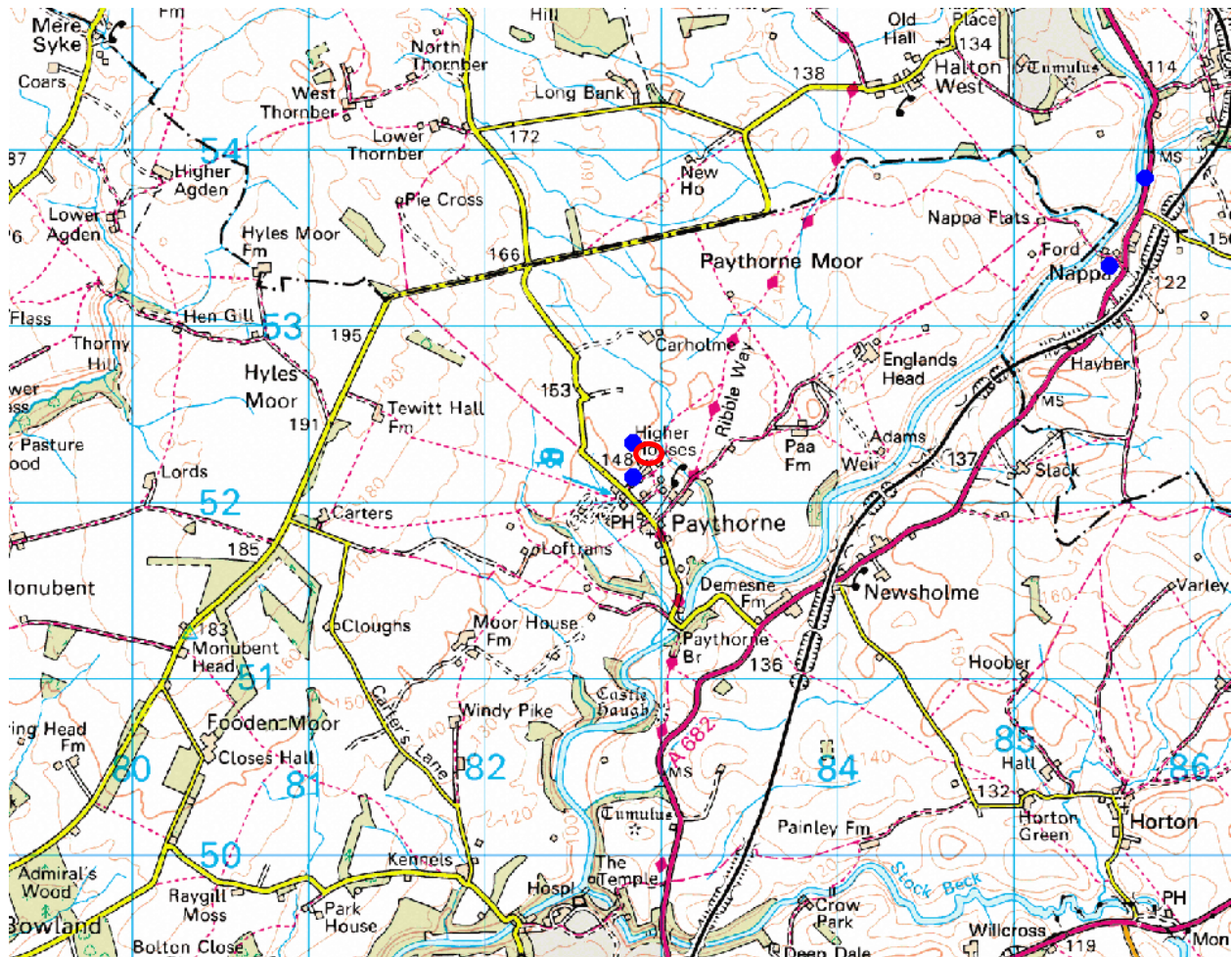
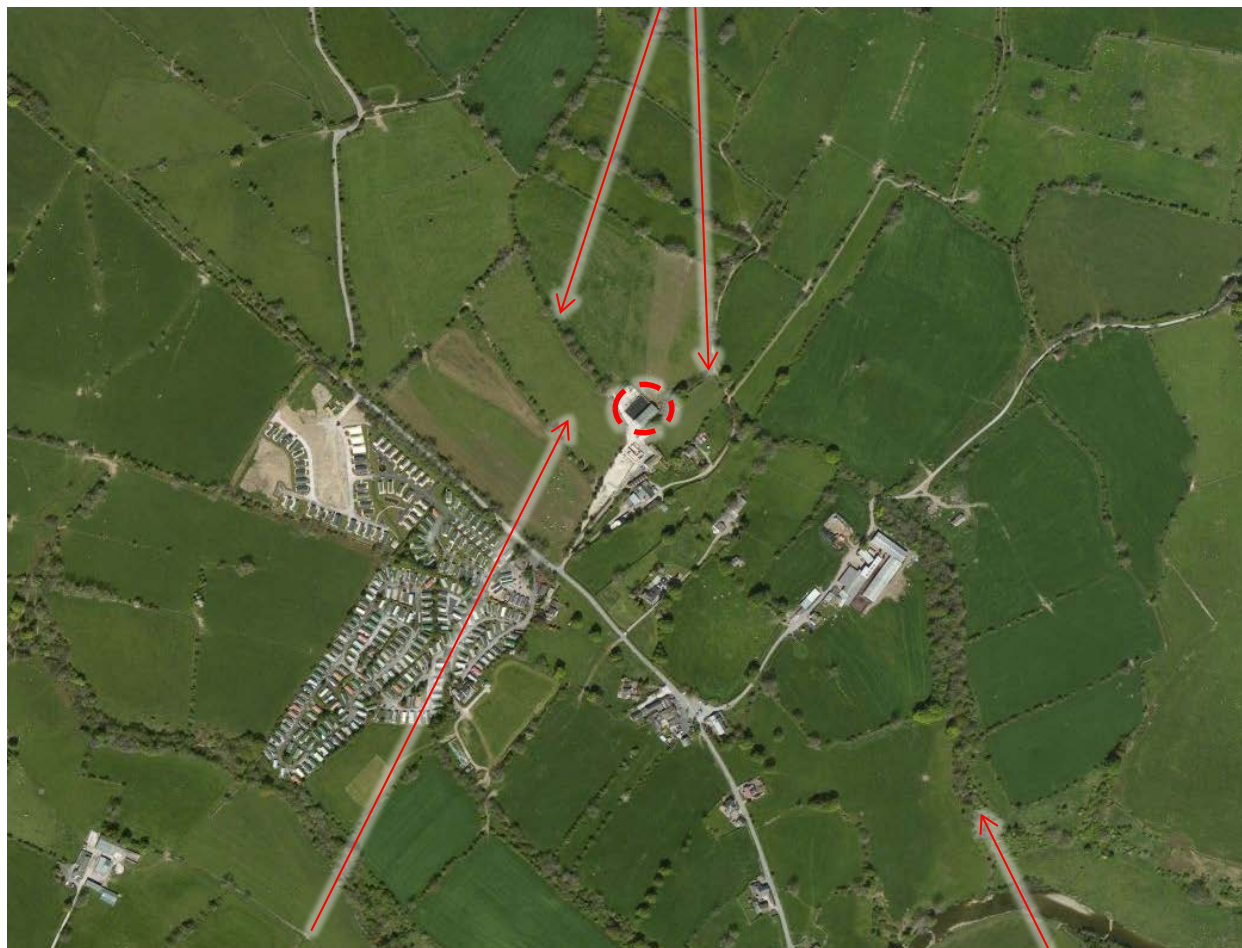


Figure 4 Bat records shown in blue, site location circled red.

The habitat at and adjacent to the site was assessed from satellite imagery this was then ground truthed, Figure 5.

Tree lines connect the site with fragmented woodland and provide commuting routes through the landscape.



Pasture fields are open and exposed. They are unlikely to be attractive to bats.

Fragmented woodland in proximity to the River Ribble is a high quality habitat for foraging and commuting bat species.

**Key**  
--- Site Boundary



**Figure 5**  
*Habitat*

SCALE: NTS

REV 01

From the pre-existing records, a review of aerial photography, a field assessment of the area adjacent to the site and the experience of the surveyor, bat species which may occur on or adjacent to the site and the rationale for this decision are detailed in Table 2. This assessment does not look at the roosting potential of the site. The assessment of bats which are indicated as potentially occurring on the site or local area is based on the initial largely desk based scoping survey. Additional site specific assessment is provided later in this report. This assessment does however allow for the scope of site survey to be refined.



BAT SPECIES	ROOST PREFERENCE*			NICHE*	SUITABLE HABITAT		RECORDED WITHIN 2KM
	Crevice	Void	Tree		Locally	On site	
Common pipistrelle <i>Pipistrellus pipistrellus</i>	✓	✗	✓	Generalist	☒	☒	<input type="checkbox"/>
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	✓	✗	✓	Riparian/Generalist	☒	☒	<input checked="" type="checkbox"/>
Nathusius pipistrelle <i>Pipistrellus nathusii</i>	✓	✗	✓	Enclosed woodland	☒	<input type="checkbox"/>	<input type="checkbox"/>
Brown long-eared <i>Plecotus auritus</i>	✗	✓	✓	Enclosed woodland	☒	☒	<input checked="" type="checkbox"/>
Whiskered <i>Myotis mystacinus</i>	✓	✓	✓	Linear vegetation	☒	☒	<input type="checkbox"/>
Brandt's <i>Myotis brandtii</i>	✓	✓	✓	Linear vegetation	☒	☒	<input type="checkbox"/>
Natterer's <i>Myotis nattereri</i>	✗	✓	✓	Enclosed riparian	☒	<input type="checkbox"/>	<input type="checkbox"/>
Daubenton's <i>Myotis daubentonii</i>	✓	✗	✓	Open aquatic	☒	<input type="checkbox"/>	<input type="checkbox"/>
Alcathoe's <i>Myotis alcathoe</i>	✗	✗	✓	Enclosed woodland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noctule <i>Nyctalus noctula</i>	✗	✗	✓	Above woodland/water	☒	<input type="checkbox"/>	<input type="checkbox"/>

Table 2 Bat species whose geographical range extends to the region in which the site is located. \*Typically but not exclusively.

### *Barn Owls*

There are no records of barn owls within 2km of the site on the Envirotech dataset. The habitat around the site appears to be suitable for hunting barn owls as there are areas of rough grassland which are suitable for voles and other small mammal prey.

### *Birds*

The surrounding habitat would offer suitable nesting and foraging areas for birds. Small passerine bird species are likely to forage and nest within the hedgerows which radiate from the site.

## **5.2 Field Survey**

### *5.2.1 Habitat Description*

The habitat on and adjacent to the site identified from satellite images was ground truthed. Details of the habitats found on and adjacent to the site are detailed in Figure 5.

It is judged that the most suitable commuting route for bats into and out of the site is track lined with hedgerows to the East. The surrounding habitat is considered to have moderate foraging potential.

The site is not considered to offer optimal foraging opportunities. There is limited vegetative diversity around the building which is exposed on its North-west elevation.

### *5.2.2 Bat Roost Survey*

#### *5.2.2.1 Building description*

The building is a modern concrete block and corrugate sheet agricultural building. Its walls are concrete block to c.3m and corrugate sheet thereafter. The concrete block work does not provide potential bat roost sites. Corrugate sheeting continues onto the roof where it also contains clear sheet as skylights. Corrugate sheeting is not considered to provide optimal conditions for use by roosting bats. Such materials are likely to fluctuate greatly in temperature dependent on weather conditions. Gaps created via the corrugate nature of the materials are large and draughty. There are no roof voids within the building. The internal space is light and draughty due to open doors at either end of the building. The building did not show any signs of use by bats.

## 5.2.4 *Barn Owls*

### 5.2.4.1 *Potential Nest Sites (PNS)*

No potential nest sites occur within the building.

### 5.2.4.2 *Active Roost Sites (ARS)*

There was no “white wash” or significant collections of fresh barn owl pellets on the floor or on surfaces inside the building which suggest that barn owls do not have an active roost site within the building.

### 5.2.4.3 *Temporary Roost Sites (TRS)*

There was no “white wash” or old barn owl pellets on the floors or on surfaces inside the building which suggest that barn owls do not have a temporary roost site within the building.

### 5.2.4.4 *Occupied Breeding Sites (OBS)*

There were no significant collections of barn owl pellets, chick down, chick leg bones, “white wash”, moulted feathers or other indications of an occupied breeding site in the building.

## 5.2.5 *Nesting birds*

A large amount of bird droppings, consistent with those of small passerines were present over objects stored in and the floors of the building. Despite surveys being undertaken outside the nesting bird season, a number of (c.5) house sparrows (*Passer domesticus*) were seen in the building at the time of the survey. Small passerines were also identified in the hedgerow adjacent to the site to the South-east.

Evidence of past use of the site by nesting birds was present in the form of nesting material in gaps between corrugate sheeting. Such material was present above the main doorway to the building in the North-west.

Overall it was considered that the building offers significant nesting potential for birds and new nesting provisions should be incorporated around the site post development.

## **6. CONSTRAINTS**

### **6.1 *Bats***

We judge that the site survey is sufficient to address the risk to bats at the site based on the species present in the local area, construction of the buildings and nature of the proposed work. The level of survey effort accords with the recommendations of Collins ed. (2016). The reasonable probable use of the site by bats has been determined.

### **6.2 *Barn Owls***

No constraints.

### **6.3 *Nesting Birds***

Surveys were undertaken outside the nesting season but this is not considered to be a significant constraint as old nest sites were still identifiable and site conditions are not likely to have changed since the previous breeding season.

## **7. INTERPRETATION**

### **7.1 *Presence / absence***

There was no past or current evidence of bats roosting found at the site during the survey.

We consider that the building is unlikely to be used by significant numbers of bats for roosting. It is highly unlikely the building is essential for species survival. Precautionary mitigation would be appropriate.

### **7.2 *Population size class assessment***

From a review of adjacent habitat the maximum number of bats that are likely to use an area within 250m of the site is of the magnitude 10 - 99 (medium).

Barn owls are currently considered to be absent.

There was no indication of current use of the site by nesting birds. Evidence present of past use by nesting birds suggested use by a moderate number of small passerines.

### **7.3 *Site status assessment***

Whilst the site itself is unlikely to be used as a roost by a significant number of bats, there is use of the adjacent landscape. Bats are likely to rely on a number of roost sites in building and trees in the local area. It is therefore likely that the site has a low significance for bats. We consider the Continued Ecological Functionality of the site is unlikely to be affected as a result of the proposal.

We are of the opinion that the building is not currently used by barn owls and will have a low significance for this species.

The building is likely to be used by a number of nesting small passerine birds. Mitigation will ensure that the functionality of the site for nesting birds is maintained.

## 8. POTENTIAL IMPACTS

### 8.1 *Bat Roosts*

#### 8.1.1 *Pre and mid-activity impacts*

A worst case scenario will be considered in addressing potential impacts at the site without mitigation.

##### 8.1.1.1 *Maternity Roosts*

No signs of past maternity or gathering roosts were found at the site during the survey. The potential for a maternity or gathering roost in the building is judged to be very low due to the absence of highly suitable roost sites. Evidence of past use of the site by large numbers of bats such as would occur in a maternity or gathering roost, such as staining on the roof or walls, was absent. Evidence of intensive/ regular use such as occurs in such roosts can usually be found at any time of year. **We judge there is no risk to a maternity colony or gathering roost at this site from the proposed work.**

##### 8.1.1.2 *Satellite Roosts*

We do not consider that satellite roosts will be affected by the proposal. There was no indication of elevated use of the site such as would occur if this roost type were present. **We judge there is no risk to a satellite roost at this site from the proposed work.**

##### 8.1.1.3 *Transitional and day roost sites*

**We judge there is a VERY low risk of disturbing bats in or loss of transitional or day roost sites.** We judge that on balance it is unlikely this sites potential for use for these purposes will be degraded by the proposed work. There are likely to be numerous other more suitable sites in other buildings and trees in the wider area. The building is unlikely to offer significant roosting potential.

##### 8.1.1.4 *Night Roosts*

We do not consider the site is sufficiently close to or linked with high quality foraging habitat such that bats may use it for night roosting.

##### 8.1.1.5 *Feeding roosts*

We do not consider the site is sufficiently close to or linked with high quality foraging habitat such that bats may use it for feeding roosts.

##### 8.1.1.6 *Lek sites*

In our experience lek sites are commonly found in proximity to the main feeding and commuting routes. The primarily commuting and feeding area at the site was judged to be the track to the East. There were no potential lek sites identified in the building facing this commuting route which are also close enough to it to be used by male bats for leks. It is therefore unlikely there will be use of the building by bats for lekking.

#### *8.1.1.7 Hibernation*

There are no areas of rotten wood in the building or damp walls which also offer crevices which could be suitable for hibernating *Pipistrelle* spp. bats.

There are no areas of the building which are sufficiently damp, cool and darkened which would be ideal for hibernating *Myotis* spp. bats. There is very little evidence and limited potential for hibernation at the site; it is therefore unlikely there will be loss of hibernation sites.

#### *8.1.1.8 Swarming*

There is unlikely to be any loss of a swarming site. Swarming sites are generally found at or near hibernation sites. We judge that the site is unlikely to be used by *Myotis* spp. bats and brown long-eared bats which have been known to swarm as there are no hibernation sites for these species in the building.

#### *8.1.1.9 Summary*

Without mitigation, there is considered to be only a VERY low potential for the alteration or loss of occasional, unconfirmed roost sites for bats at the site and this is unlikely to have a significant impact on their local distribution.

### *8.1.2 Long term impacts*

There is on balance a low risk of long term negative impacts on the favourable conservation status of bats in the local area as a result of the proposed work.

#### *8.1.3 Post activity interference impacts*

There is unlikely to be disturbance to roosting bats during the post construction phase of the project. There is already significant disturbance at the site from existing use of the site and surrounds.

#### *8.1.4 Other impacts*

It is our opinion that there will be no significant other negative impacts relating to the proposed work which may affect bat species.

#### *8.1.5 Bat Foraging and Commuting Habitat*

There is unlikely to be a disruption to any commuting routes at the site. The site does not lie on or near to a high quality commuting route.

There is unlikely to be a disturbance to feeding bats during and after the construction phase of the project. It is judged that the foraging areas near the site will be unaffected by the proposed work.



## **8.2    *Barn Owls***

There is a low potential for use of the site by barn owls. There are no potential nest sites within the building and there is no indication of any type of past use.

## **8.3    *Nesting birds***

Old passerine bird nest sites were found at the site. There is the potential for a disturbance to nesting birds during the construction phase. The loss of potential nesting sites should be compensated for.

## 9. RECOMMENDATIONS AND MITIGATION

### 9.1 *Further Survey*

We consider that the risk to bats in the building will remain low and no additional survey work is required prior to the determination of the planning application.

The site should be rechecked for nesting birds if work is to commence in the period March-September inclusive.

### 9.2 *Mitigation Measures*

#### 9.2.1 *Bats*

Natural England requires that mitigation addresses the impacts picked up by the site assessment, as follows:-

- Quantitative characteristics: There should be no net loss of roost sites, and in fact where significant impacts are predicted there will be an expectation that compensation will provide an enhanced resource compared with that to be lost. The reasoning behind this concept is that the acceptability of newly created roosts by bats is not predictable.
- Qualitative characteristics: the plans should aim to replace like with like. As an extreme example, it would be unacceptable to replace maternity roosts with hibernation sites.
- Functional characteristics: compensation should aim to ensure that the affected bat population can function as before. This may require attention to the environment around the roost.

Natural England also recommends that precautions are taken to avoid the deliberate killing or injury of bats during development work at the site.

The site survey found no evidence of habitual use of the buildings by roosting bats in or between years, although there is a possibility of a very low level of opportunistic use at some times of the year. The survey effort was sufficient to allow for an assessment of this to be made.

#### 9.2.1.1 *Bat Roosts*

As a precautionary approach the following guidelines will be adhered to.

1. All contractors on the site will be made aware of the possible presence of bats prior to the commencement of work.
2. Contractors will be provided with the contact details of an appropriately qualified individual who can provide advice in relation to bats at any time during work. In the event that bats are found during work, unless the action has already been cleared by a suitably qualified individual, **all work will cease** and an appropriately qualified individual will be contacted for further advice.
3. Contractors will be observant during demolition work for bats which may use the building if new areas of the roof are exposed and left open overnight. Bats are

opportunistic and may make use of gaps opened up during work overnight.

4. If it is necessary to remove a bat to avoid it being harmed, gloves should be worn. It should be carefully caught in a cardboard box and kept in the dark in a quiet place until it can be released at dusk near to where it was found, or moved to an undisturbed part of the building, with outside access, and placed in a location safe from predators.
5. **If bats or bat roosts are found during work, all work should cease.** The site will need to be re-assessed in regard to its use by bats. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of roost site.
6. There is no need to restrict the timing of work. Use of the structure by bats is equally likely to occur at any time of the year but will be at low levels.

Following English Nature (Natural England) guidance Mitchell-Jones (2004), if these guidelines are followed we would consider that on balance, a disturbance to bat species which could be contrary to the 2010 Habitat Regulations and Wildlife and Countryside Act (1981) (as amended) is unlikely. **If bats are found prior to or during work a licence application may be required.**

#### *9.2.1.2 Mitigation for Foraging and Commuting Habitat*

No specific mitigation for foraging and commuting habitat is necessary. The habitat surrounding the site does not change significantly.

#### *9.2.1.3 Requirement for Habitats Regulations (EPS) Licence*

At this stage, we judge that a Natural England licence will not be required to cover work on the building. No bats were confirmed as breeding or roosting at the site, the loss of potential roost sites will be avoided and no significant disturbance to bats will occur, so long as the recommendations of this report are followed.

If bats are likely to be significantly disturbed or bat roosts or breeding sites are found as a result of work, all work must cease and the site will need to be re-assessed by a suitably qualified person with regard to its use by bats. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of a roost or breeding site.

#### *9.2.2 Barn Owl Roost / Nest sites*

If barn owls are seen nesting at the site, all work should cease. The site will need to be re-assessed in regard to its use by barn owls. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance of nesting barn owls or their killing or injury. The probability of barn owls using this site for nesting is very low.

#### *9.2.3 Bird Roost / Nest sites*

Work should not commence while any swallow or other bird nests are still in use. Birds usually finish nesting by early September. A check of the site for active nest sites should be made prior to work commencing if this is in the period March -September. A delay in the start of

work may be required if active nest sites are located.

Bird boxes should be erected around the site and include house sparrow nest boxes. It is recommended that a minimum of four boxes including at least two suitable for use by house sparrows are erected in trees along the track to the East and or along the eaves lines of the building post development. Suitable nest boxes can be purchased relatively inexpensively from the Nest Box Company. A suitable house sparrow nest box is shown in Figure 6.



*Figure 6 Suitable house sparrow nest box from The Nest Box Company*

## 10. MITIGATION SUMMARY

The site survey found no evidence of bats roosting although there is a possibility of opportunistic use by low numbers of bats at some times of the year. The level of use is not considered likely to be significant and with precautionary mitigation, a significant disturbance and or the loss of roost sites is unlikely to occur.

Work will not be commenced or undertaken in such a way as active nest sites are disturbed. New nesting provisions will be incorporate around the site post development.

There is no evidence of past use of the building by barn owls for roosting or nesting.

On the basis of survey information, specialist knowledge of bat species and the mitigation that has been proposed, it is considered that on balance the proposed activity is reasonably unlikely to result in an offence under regulation 39 of the Conservation (Natural Habitats, &c.) Regulations (2010). We do not consider there to be a need for a Natural England licence at this time.

## 11. REFERENCES

Information from the following sources has been used in preparing the survey report.

Altringham J, (2003). *British bats*. London: HarperCollins

Altringham J, (1996). *Bats and Behaviour*. Oxford University Press

Collins, J (ed) (2016). *Bat Surveys for Professional Ecologists- Good practice guidelines* (3<sup>rd</sup> Edition)

English Nature (2004). *Supplementary guidance note: surveying for bats following the publication of English Nature's national bat mitigation guidelines (January 2004)*. English Nature, Northumbria Team

Entwistle, A. C. *et al.* (2001). *Habitat Management for Bats*. JNCC

Greenaway, F. and A.M. Hutson (1990) *A Field Guide to British Bats*. London: Bruce Coleman Books.

Hundt, L (2012) *Bat Surveys: Good Practice Guidelines, 2nd edition*. Bat Conservation Trust

Loller, A and Schmiot-French, B (2002). *Captive care and medical reference for rehabilitation of insectivorous bats*. Bat World

Mitchell-Jones, A (2004) *Bat mitigation guidelines*. English Nature

Mitchell-Jones, A. J. & McLeish, A. P. (1999). *The Bat Workers' Manual*. JNCC

Neuweiller, G (2000). *The Biology of Bats*. Oxford University Press

R. E. Stebbings (1998). *The conservation of European Bats*. Christopher Helm

Russ, J. (1999). *The Bats of Britain and Ireland, Echolocation, Sound Analysis and Species Identification*. Alana Books

Swift, S. (1998). *Long-eared bats*. Cambridge University Press

Shawyer, C. R. (2011). *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting*. IEEM



## APPENDIX 1 PHOTOGRAPHS

Photograph	Notes
 <p>A photograph showing the north-west elevation of a barn. The upper part of the building is clad in weathered corrugate sheeting. The lower part, visible behind a low concrete block wall in the foreground, is made of concrete blocks. A large barn door is visible on the right side of the building. Red arrows point from the text 'Corrugate sheeting' and 'Concrete block' to the respective parts of the building.</p>	<p>North-west elevation</p> <p>Corrugate sheeting</p> <p>Concrete block</p>
 <p>A photograph showing the south-west elevation of the barn. The building features large, light-colored barn doors that are partially open. A small trailer is parked in front of the barn. A red arrow points from the text 'Large barn doors' to the doors.</p>	<p>South-west elevation</p> <p>Large barn doors</p>
 <p>A photograph showing the south-east elevation of the barn. The building is partially obscured by trees and a hedgerow. A red arrow points from the text 'Gaps over wall tops' to the roofline, and another red arrow points from the text 'Hedgerow lined track' to the track in the foreground.</p>	<p>South-east elevation</p> <p>Gaps over wall tops</p> <p>Hedgerow lined track</p>





Internal

Roof lights increase the internal light levels.



Nesting material collected within corrugate sheeting above the large barn doors.



Bird dropping are frequent over surfaces in the building.