envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

BAT SURVEY AT

Rimington Leisure Park, Clitheroe

Green at Heart BEN GOLD

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Registered in England and Wales. Company Registration Number 5028111

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 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. If bats 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.

Bats may only be disturbed, injured or killed under licence.

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

Quality and Environmental Assurance

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech has been awarded the gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

Signed

Andrew Gardner BSc (Hons), MSc, MCIEEM, MRICS, CEnv, Dip NDEA
Director

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1. EXECUTIVE SUMMARY

It is understood that the storage building will be demolished and the bar building extended at Rimington Leisure Park in Clitheroe, however, the exact plans for the bar building are currently unknown.

A daytime inspection was undertaken on the 16th September 2019. This involved a close inspection of the buildings for signs of use by bats both internally and externally.

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

The habitat around the site offers a low potential for foraging, having fragmented woodland and tree lined watercourses. There is good connectivity between the site and other high quality foraging areas.

The buildings have low potential for use by bats.

One emergence survey was undertaken in accordance with Collins, J (ed) (2016).

During the emergence survey, two noctule bats were recorded flying over the site and two common pipistrelle bats foraging on site. No bats emerged from the buildings subject to survey.

On the basis of the survey work carried out, under guidance provided in respect of the Conservation of Habitats and Species Regulations (2017), 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 population is maintained during, and following the works.

2. INTRODUCTION

2.1 Site Description

The site lies in a rural location on the outskirts of Rimington. The surveyed buildings comprise a rendered bar building under a concrete tiled roof and a rendered storage building under a corrugated fibre cement roof.

There is fragmented woodland and watercourses in the local area. The site is located at SD825 469, Figure 1 and 2.

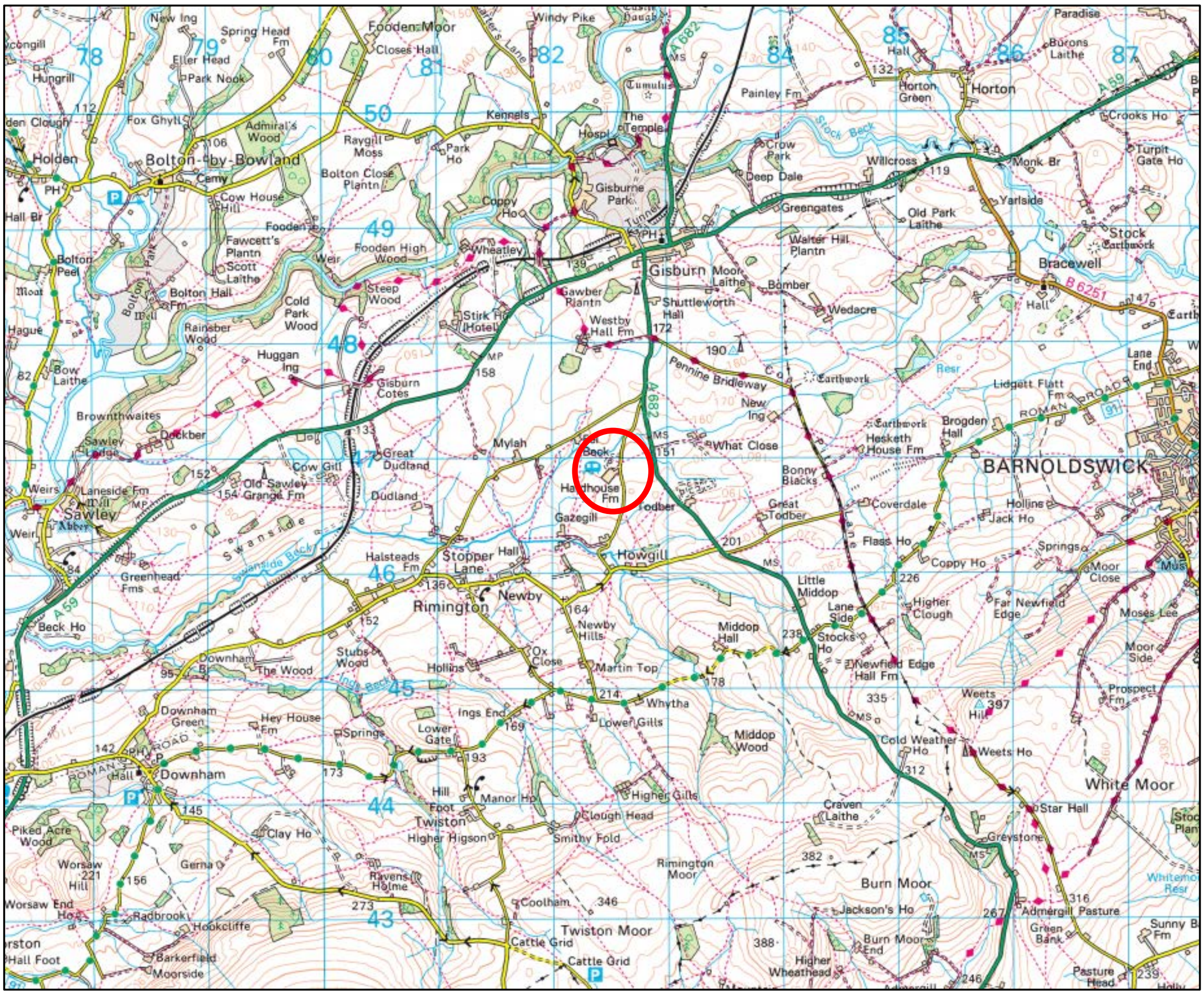

Figure 1 *Ordnance Survey map of site location, circled red.*

Key

Site Boundary

envirotech

Figure 2
Site Boundary

SCALE: NTS REV 01

2.2 Proposed Works

It is proposed that the storage building will be demolished and the bar building extended, however, the exact plans for the bar building are currently unknown. There will be significant internal and external alteration to the areas of the buildings 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 (2017) 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 o 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 buildings by bats. Where possible all gaps and

cracks judged to be of a suitable size for bats to take entry to the buildings 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 buildings 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 buildings 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 surveyors who undertook this survey that the time taken to undertake the survey was sufficient given the complexity of the buildings, methods used, time of year and species of bat which may be present. The times in Collins, J. (ed) (2016) should be considered in light of Key Point 1 (Professional judgement), Key point 2 (interpretation on a case by case basis) and Key Point 3 (survey should cover areas where it is reasonably likely bats are present and may be affected by the proposal).

> *"Where the possibility that bats are present cannot be eliminated or evidence of bats is found during a preliminary roost assessment, then further surveys (such as winter hibernation (Section 5.3), presence/absence (Section 7.1) and/or roost characterisation (Section 7.2) surveys) are likely to be necessary if impacts on the roosting habitat (or the bats using it) are predicted. The ecologist should consider the further surveys needed (if any), their logistics (resources, emergence survey locations, timings), and any potential health and safety hazards reported.*
>
> *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

Key Point 14: Having undertaken a detailed inspection of the site, an additional presence/absence survey was required:

A roost has been identified, but more information is needed in order to assess its importance and the potential significance of any impacts on it. Information may be needed on the number of bats within the colony, the access points, the species, and flight paths to and from the roost	☐
A comprehensive internal inspection survey is not possible because of restricted access, but given the sites location, bat species likely to be found in the local area, and potential roost sites, the structure or tree has a reasonable likelihood of supporting bats	☐
A comprehensive preliminary roost assessment is not possible because it is a sub-optimal time of year, or there is a risk that evidence of bat use may have been removed by weather, human activities or the presence of livestock	☐
A preliminary roost assessment has not ruled out the reasonable likelihood of a roost being present, but no definitive evidence of the presence of bats has been recorded.	☒
A preliminary roost assessment has ruled out the reasonable likelihood of a roost being present, but the surveyor was on site at a time of day when additional survey information could be gained to provide additional contextual information about the site and the opportunity to do so can be taken.	☐

Table 1 *Need for additional survey following preliminary ecological appraisal for bats.*

Key Point 15: Potential roost locations were identified during the initial survey and were all adequately covered during the emergence survey. There was either direct visual coverage, with appropriate overlap between surveyors, coverage by infrared video camera or areas with limited visual coverage were noted and surveyors were positioned such that any bats emerging from these areas could be distinguished from bats which had commuted into the site.

Key Point 16: Bat commuting routes and activity in and around the site were observed and noted. The surveyors were either in visual and verbal contact or used 2-way radios to communicate bat activity over the site to each other. This reduced the potential for double counting or miss-recording bats which have flown into rather than emerged from the site or vice versa.

Key Point 17: A passive pre-emergence scan was made around potential roost sites with a bat detector set at 17 KHz. This would detect pre-emergence social chatter from bats. The surveyors were also listening for audible chatter during the inspection.

Key Point 18: An active scan was made with a bat detector post emergence. The surveyors adjusts the frequency of the bat detector in response to bat sightings to confirm species. Some bat detectors have auto-tuning capability, see Table 2.

Bat Detector	Capabilities	Used
Bat Box III	Heterodyne, manual tuning.	☐
Bat Box Duet	Heterodyne and frequency division, manual tuning.	☐
Echo Meter EM3(+)	Heterodyne, frequency division or time expansion. Recording capability, auto tuning.	☐
Echo Meter Touch 2 Pro	Heterodyne, frequency division or time expansion. Recording capability, auto tuning.	☒
Anabat	Zero Crossing, recording capability.	☐

Table 2 *Bat detectors used and capabilities.*

3.1.4 Timing

"Recorded bat activity is dependent on the prevailing conditions at the time of the survey, which vary temporally (through the night, between nights, through the seasons and between years) and spatially (dependent on latitude and longitude).

Bat activity is also determined by what the bats are doing at different times of the year; in general:

- *April surveys may detect transitional roosts.*
- *May to August surveys may detect maternity colonies and males/non-breeding females in summer roosts.*
- *August is particularly good for maximum counts of both adults and juveniles and can be useful to observe roost re-entry because the young bats are inexperienced at flying and are often easy to observe as they try to enter the roost.*
- *August to October surveys may detect mating bats. September and October surveys may detect transitional roosts used after bats have dispersed from maternity colonies but before they go into hibernacula (although October may be less suitable for surveys in more northerly latitudes).*

It is important to stress that prevailing conditions and local trends in bat activity (for example, when were the young born in the year in question?) should be considered and recorded to provide context to survey results. Section 7.1.7

Key Point 19: Bats use of sites varies throughout the year. The "most active season" for bats is April – September. For assessing maternity colonies the optimum time period is May to August. Surveys should however be chosen to maximize the likelihood of detecting bat activity which may be between April and October for summer roosts and December and February for winter hibernation. There is overlap between the two periods which should be addressed by survey where appropriate.

The timing of the survey should therefore account for the functionality and potential of the site to be used by bats for different purposes. Some sites may be unsuitable for maternity roosting but have a high potential for transition or day roosts. Some sites may have the potential to perform several functions.

Mitchell-Jones (2004) indicate that:

> *"The presence of a significant bat roost (invariably a maternity roost) can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others".*

Bats use different types of roost at different times of the year. The following roost types/ times shown on Figure 3 are taken from Mitchell-Jones (2004) and were considered in the assessment of this site. Times of the year given in Figure 3 should however be considered in light of factors such as fluctuations in temperatures between years, altitude, weather conditions, species and latitude which all affect the movement of bats between roost sites.

> *"An experienced surveyor should carry out surveys at a time that gives them the highest chance of establishing whether or not bats are present and how they are using the habitat including roosts). Actual timings will depend on a number of factors including the surveyor's knowledge and experience of the site and surrounding habitats, existing data records, possible bat species present, geographical location, weather conditions in that particular year and, of course, the aims and objectives of the survey."* Section 2.4

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.

Month of Year		Jan		Feb		Mar		Apr		May		June		July		Aug		Sep		Oct		Nov		Dec	
Survey timing at this site =		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐
		Hibernation; activity in mild weather						Becoming more active		Maternity sites. Babies born in late-May/June, independent by July-August								Mating & swarming sites				Hibernation; activity in mild weather			
Activity surveys																									
Inspection of buildings and structures for roosts																									
Tree Survey- Emergence or re-entry surveys																									
Tree Surveys- Observation from the ground																									
Bat detector surveys for dusk/dawn emergence/re-entry for	Transitional Roost																								
	Maternity roosts																								
	Satellite Roost																								
	Mating Roost																								
	Hibernation Roost																								
	Night Roost																								
	Day Roost																								
	Feeding Roost																								
	Swarming																								

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

Key Point 20: An assessment of the species of bat likely to be found at the survey site has been made (Key Point 5, 6, 7 and 8). An assessment of the weather and time of year before and during the survey was also made. The duration and timing of survey was considered proportionate to the species of bats likely to be found, potential roost types, weather and cover around potential roost entrances.

Key Point 21: Sunset is a very poor indicator of bat emergence times as lux levels associated with it are highly variable and are dependent upon atmospheric conditions. A combination of sunlight, high pressure, dry air dust particles and cloud cover can create a prolonged sunset. Delayed emergence can occur during very high pressure systems, which intensify and prolong sunsets. This can delay or bring forward emergence considerably and can skew conclusions as to how far bats have travelled from their roost if sunset is used as the time base from which activity is then monitored. Variations in local conditions also do not allow for comparisons to be made between emergence at different sites on the same day. The time of year also affects the time it takes to go dark with light levels falling and rising more quickly in spring and autumn than in summer when the arc of the sun is higher in the sky.

There is a variable correlation between sunset and lux levels hence we consider they should be used independently of each other. Lux levels provide a far greater degree of certainty in respect of identifying likely bat emergence time and commuting distances, time after sunset is a poor substitute for analysing bat activity information

Emergence of *Pipsitrelle* spp. usually commences at 200lux (from maternity roosts when bats have a high energy requirement) and 40lux from non-breeding and transitional roosts. Noctule are also an early emerging species at around 200lux. Emergence for whiskered/Brandts occurs between 40 and 4 Lux with brown long-eared and Daubenton's using emerging when light levels fall below 4 Lux.

During the activity survey lux levels were monitored by taking an average light reading, facing away from any potential roost sites at an angle of 45 degrees.

The activity survey continued until such a time as bat flight heights, emergence points and activity could no longer be reasonably determined. At this point the no additional useful information about the site could be gained.

Date of visit		16th September 2019		Notes
Site inspection		1.5hr		
Weather conditions	Cloud	60%		1
	Wind	Nil		1
	Rain	Nil		1
	Temperature	13°C		1
Emergence survey	Start/ Light Level	19:00	250 lux	
	End/ Light Level	20:35	0.2Lux	
Surveyors		FW, SC		

Table 3 *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. (FW) Miss Flora Whitehead BSc (Hons)
   Natural England Bat Class Licence Agent (Level 1)

2. (SC) Ms Sian Comlay BSc (Hons), Grad CIEEM
   Natural England Bat Class Licence Agent (Level 1)

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 <u>regular basis</u>." [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

A search of the Envirotech dataset returned no records of bat species for the site or within of the site.

Records are shown on Figure 4.

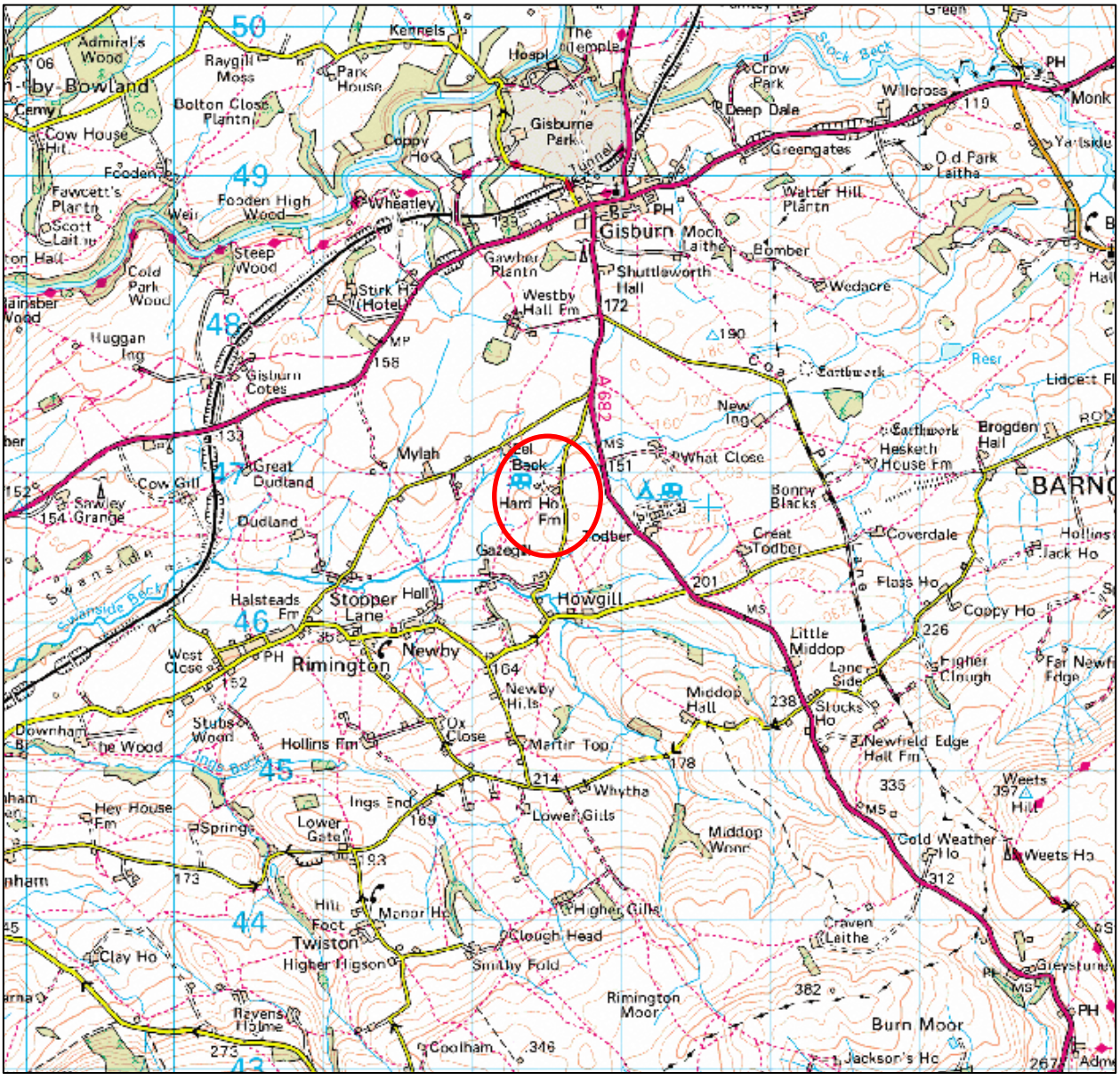

Figure 4 *Bat records shown in blue, site location circled red.*

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

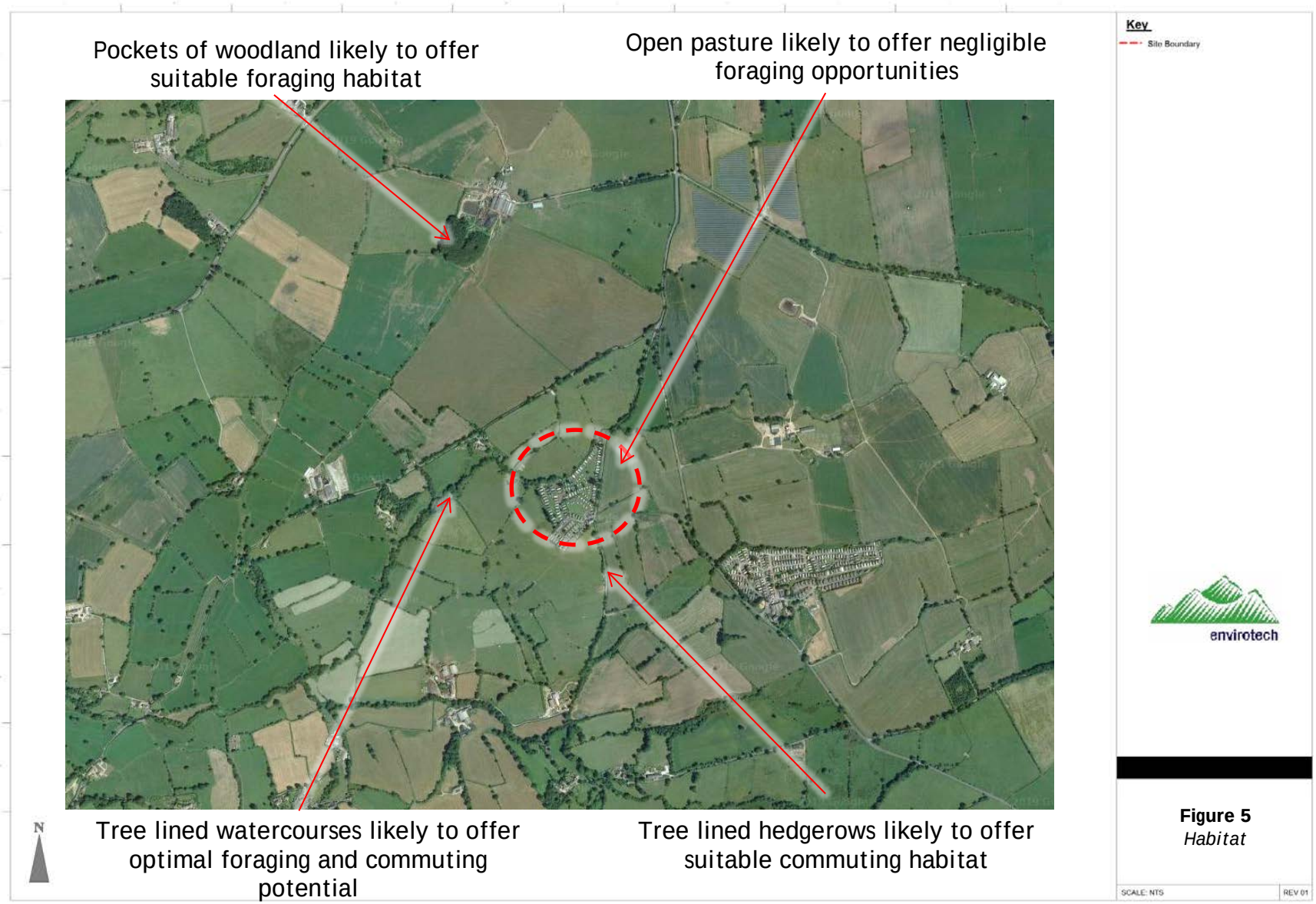

Figure 5
Habitat

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 4. 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 *Pipistrellus pipistrellus*	✓	×	✓	Generalist	☒	☒	☐
Soprano pipistrelle *Pipistrellus pygmaeus*	✓	×	✓	Riparian/Generalist	☒	☒	☐
Nathusius pipistrelle *Pipistrellus nathusii*	✓	×	✓	Enclosed woodland	☒	☐	☐
Brown long-eared *Plecotus auritus*	×	✓	✓	Enclosed woodland	☒	☐	☐
Whiskered *Myotis mystacinus*	✓	✓	✓	Linear vegetation	☒	☒	☐
Brandt's *Myotis brandtii*	✓	✓	✓	Linear vegetation	☒	☒	☐
Natterer's *Myotis nattereri*	×	✓	✓	Enclosed riparian	☒	☐	☐
Daubenton's *Myotis daubentonii*	✓	×	✓	Open aquatic	☐	☐	☐
Alcathoe's *Myotis alcathoe*	×	×	✓	Enclosed woodland	☐	☐	☐
Noctule *Nyctalus noctula*	×	×	✓	Above woodland/water	☒	☐	☐

Table 4 *Bat species whose geographical range extends to the region in which the site is located. *Typically but not exclusively.*

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 routes for bats into and out of the site is along the beck to the north or the road to the east. The surrounding habitat is considered to have low to moderate foraging potential.

The site is not considered to offer optimal foraging opportunities. There are few animal manures associated with the surrounding land. There is limited vegetative diversity around the buildings which are in an exposed location.

5.2.2 Bat Roost Survey

5.2.2.1 General description

There are two buildings on site which required surveying, these comprise a rendered bar building with a concrete tiled roof and a rendered storage building under a corrugated fibre cement roof.

5.2.3 Building 1

5.2.3.1 External walls/ Eaves

The walls of the building are constructed from rendered brick and are in excellent condition. There are no structural gaps or cracks present.

There are uPVC no soffit boxes present along the eastern and western elevations. There were in excellent condition. A low number of small gaps were present between the rendered wall and the soffit box, however, the majority of these gaps were cobwebbed. The verges on the gable ends were generally in good condition, there was one crack in the mortar on the north western gable, however, this did not appear to extend in or form a cavity suitable for use by roosting bats. There were no indications of roosting by bats in these areas.

The windows and doors are all tightly fitted within no gaps present suitable for use by roosting bats.

5.2.3.2 Roof

The roof of the building is constructed from concrete tiles and is lined. The tiles were generally tightly fitted with no gaps noted suitable for use by roosting bats. No gaps were identified along the ridgeline.

5.2.3.3 Internal walls

The internal walls of the building are unavailable to roosting bats as they form part of the bar.

5.2.3.4 Roof Voids/ Roof structure

The roof void was found to be very cluttered with trusses and air-conditioning pipes. The timber beams in the roof were found to be in excellent condition with no rot, splits or gaps suitable for roosting or hibernating bats. There was a good covering of cobwebs under the apex of the roof. Insulation was present and the roof lining was in a good condition. No indications of use by bats could be found.

5.2.3.5 Summary

To summarise the building is of moderate size and the external walls are in excellent condition. Small gaps are present between the rendered wall and soffit box. The tiles and ridgeline are all tightly fitted with no gaps present suitable for use by roosting bats. The timber beams within the roof void are in excellent condition. There were cobwebs along the apex of the roof. No indication of use by roosting bats could be found. This building is considered to have low potential to support roosting bats.

5.2.4 Building 2

5.2.4.1 External walls/ Eaves

The walls of the building are constructed from rendered breezeblock and are in excellent condition. There are no structural gaps or cracks present.

There are no soffit boxes present, however, wooden eaves boards were present on the south eastern and north western elevations and Metal verge covers on the north eastern and south western gable ends. Small gaps were noted between the wooden eaves boards and the walls, in particular where the render had come away from the wall. These gaps were generally covered with dense cobwebs indicating no signs of current use. There were no indications of roosting by bats in these areas.

The windows and doors are all tightly fitted within no gaps present suitable for use by roosting bats.

5.2.4.2 Roof

The roof of the building is constructed from corrugated fibre cement sheets. No gaps were noted along the ridge line of the roof. Small gaps were noted between the corrugations and the eaves boards, however, the gutter was present in front of these gaps preventing easy access into the roof space. This roofing material and roof structure is also considered suboptimal for use by roosting bats.

5.2.4.3 Internal walls

The internal walls of the building are unavailable to roosting bats as they form part of the storage area.

5.2.4.4 Roof Voids/ Roof structure

No roof void was present within the building, however, the roof was lined with wooden boards in places. No indication of use by bats could be found.

5.2.4.5 Summary

To summarise the building is of moderate size and the external walls are in excellent condition. Small gaps are present between the wooden eaves boards and walls, however, these gaps were generally covered in dense cobwebs. No indication of roosting by bats was noted in these areas. The roof is constructed from fibre cement, however, this is considered to provide a suboptimal roosting material for bats. No roof void was present, however, the roof was lined with wooden boards in places. This building is considered to have low potential to support roosting bats.

5.2.5 Activity Survey

During the activity survey two notcule bats were recorded commuting high over the site. One common pipistrelle was recorded flying on to the site from the south and foraging around the trees to the south of the bar before leaving to the south again. A further common pipistrelle bat was identified flying on the site from the south east and foraging to the south of the storage building before leaving site to the west. No other bat activity was recorded on site.

The survey was terminated when light levels reached 0.2 Lux and seeing bats became difficult. Possible use of the site by late emerging species was discounted as possible during the daytime inspection.

Bat activity is plotted on Figure 6.

Figure 6
Bat Activity

6. CONSTRAINTS

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.

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 buildings are unlikely to be used by significant numbers of bats for roosting. It is highly unlikely the buildings are 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).

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 buildings 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.

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 buildings 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. We consider the local environs are unlikely to support linked maternity roosts. 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 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 buildings are 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 beck some distance from the site to the West. There were no potential lek sites identified in the buildings 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 buildings by bats for lekking.

8.1.1.7 Hibernation

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

There are no areas of the buildings 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 buildings.

8.1.1.9 Summary

Without mitigation, there is considered to be only a 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.

9. RECOMMENDATIONS AND MITIGATION

9.1 Further Survey

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

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 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 buildings 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. Remove all roof coverings by hand only.

7. Installation of at least three bat boxes on mature trees around the site peripheries, an image of a suitable bat box (Schwegler 2f bat box) is provided within Figure 7 below. These potential roost sites will be a significant improvement on existing site conditions.

8. 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 2017 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.**

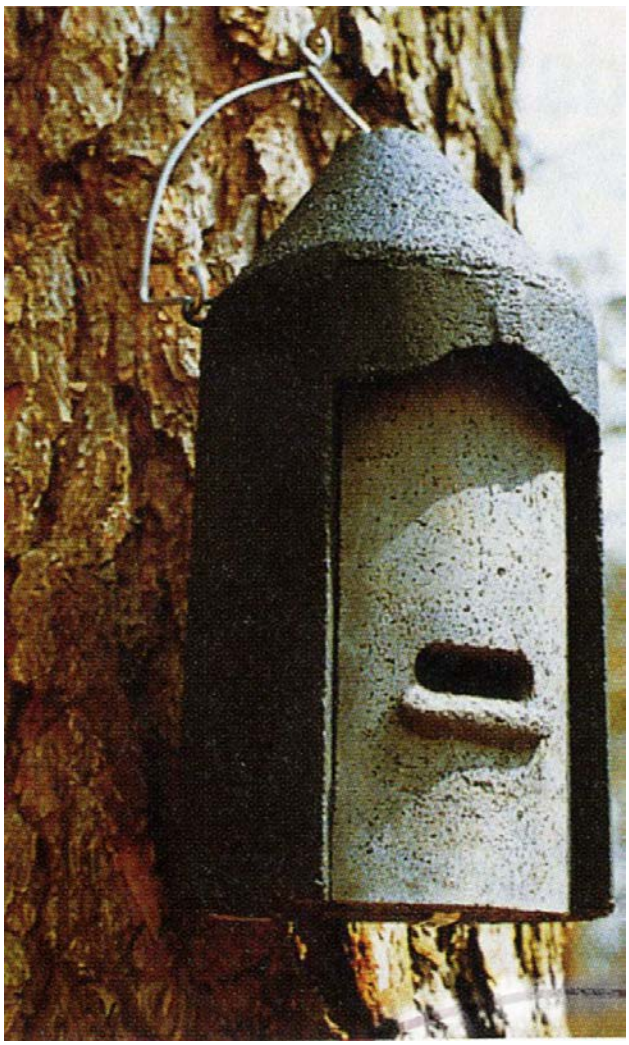

Figure 7 *New roost site creation.*

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 buildings. 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.

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 a significant disturbance and/or the loss of roost sites is unlikely to occur. Installation of bat boxes on the site peripheries will provide a significant improvement on the current conditions.

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 (2017). 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.

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APPENDIX 1 PHOTOGRAPHS

Photograph	Notes
Building 1	
	Rendered walls in excellent condition
	Roof tiles and ridgeline tightly fitted
	Roof void cluttered

Building 2	
	Rendered walls in excellent condition Corrugated fibre cement roof
	Cobwebbed gaps between eaves board and wall
	Some areas of the roof lined with wooden boards