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Ecological Consultants
Environmental and Rural Chartered Surveyors

BAT SURVEY AT

Reading Room, Beckermet, CA21 2XS

Green at Heart BEN GOLD

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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.

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

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, MRICS, Dip NDEA
Director

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Contents

1. EXECUTIVE SUMMARY

It is understood that the Reading Room, Beckermet, Copeland, will be altered to supplement its existing use as a village hall.

A daytime inspection was undertaken on the 11th July 2022. This involved a close inspection of the building 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 moderate potential for foraging, being surrounded by scattered woodland, forested becks and well-defined agricultural hedgerows. There is poor to moderate connectivity between the site and higher quality foraging areas.

The building has low potential for use by bats.

No indications of use of the site by bats were found during the survey.

Whilst the roof void could not be fully inspected owing to health and safety reasons, it consisted of a small crawl space attic of low roosting potential to void-dwelling bats (which need sufficient flight space within their roost site). Whilst the roof void may possess some potential for crevice-dwelling bats, the sealed nature of the felt and metal shingle roof suggests this is unlikely.

A vacant bird's nest is present behind a broken soffit board in the south-east of the site. The site should be rechecked for nesting birds if work is to commence in the period March-September inclusive.

On the basis of the survey work carried out, under guidance provided in respect of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, and considering the plans for the site, it is considered that a Protected Species Mitigation (PSML) Licence for bats will not be required prior to works being carried out.

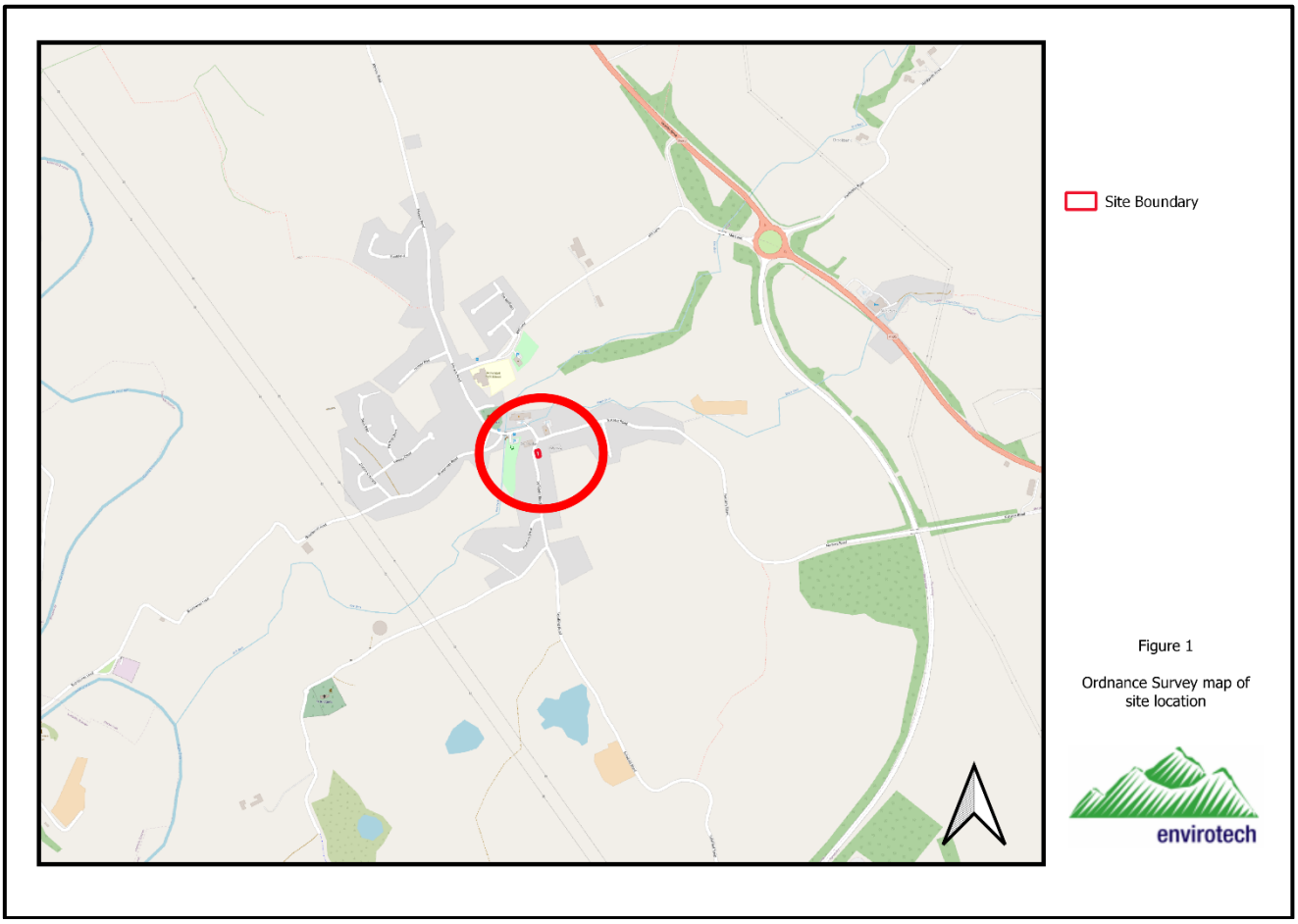
A mitigation strategy has been prepared and should be followed in order to ensure that the welfare of the local bat population is maintained during, and following the works.

2. INTRODUCTION

2.1 Site Description

The site lies near the centre of Beckermet- a rural village in the district of Copeland, West Cumbria. The surveyed building consists of a single storey village hall under a felt shingle roof.

Whilst there is riparian woodland to the north-east, the site sits in an exposed position near the junction between Nursery Road and Sellafield Road, central grid reference NY 01990 06630 (Figures 1 and 2).



Site Boundary

Figure 2

Site boundary

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2.2 Proposed Works

It is proposed that the building be re-roofed with slate. The small flat section of roof to the rear of the building will also be re-roofed with a modern membrane (e.g., single ply). There will be significant internal alteration to the building too, though this will not impact the roof.

The timing of work is unknown.

2.3 Aims of Study

To ensure that the proposed development does not affect any bat species which are listed under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 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.
- ⇒ Assess the likely impact of the proposed development on these species.
- ⇒ Provide an outline mitigation/compensation scheme (if required) for bat species 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 building 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 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

Key Point 14: The suitability of a sites potential for roosting is categorised by BCT Collins, J (ed) (2016) as Negligible, Low, Moderate and High and then suggests a level of survey effort required to be confident in the absence of bats. We consider this range to be too course, there being a transition between each level of suitability which is not reflected in the guidelines. We have a modified schedule of suitability using a risk level between 0 and 7. See Key points 1, 2, 3, 4 and 13 which justify this approach.

Suitability Collins (2016)	Description Roosting habitats	Risk Level	Survey level
	Modified from Collins (2016)		
Negligible	No features on site which could be used by roosting bats.	0	No additional survey required
	Negligible habitat features on site likely to be used by roosting bats.	1	
	Features on site could only be used by bats occasionally, habitual use in or between years is unlikely	2	Surveyor to make judgement as to if additional surveys likely to provide useful information about the site. RAM's and provision of new roosting provision to be recommended
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically but no evidence of use found, could provide roost sites which are used in or between years.	3	
	One or more potential roost sites. Potential for habitual use in or between years. Unlikely to contribute to long term favourable conservation status of the species.	4	Single survey (dusk or dawn) at appropriate time of year May to August. Roosts are often transitional, surveys early and late in season may be appropriate (April and September)
	Potential for habitual use in or between years, roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). May be used for transitional or day roost sites by common bat species. Function likely to support favorable conservation status of bats locally.	5	Single survey (dusk or dawn) between May and August. Roosts are often transitional, surveys early and late in season may be appropriate. Consider additional survey in transitional period April and September
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	6	Two surveys (dusk or dawn) between May and August. Consider additional survey in transitional period April and September
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	7	Three surveys (at least one dawn) between May and August. Consider additional survey in transitional period April and September

Table 1 *Risk and need for additional survey following preliminary appraisal for bats.*

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.

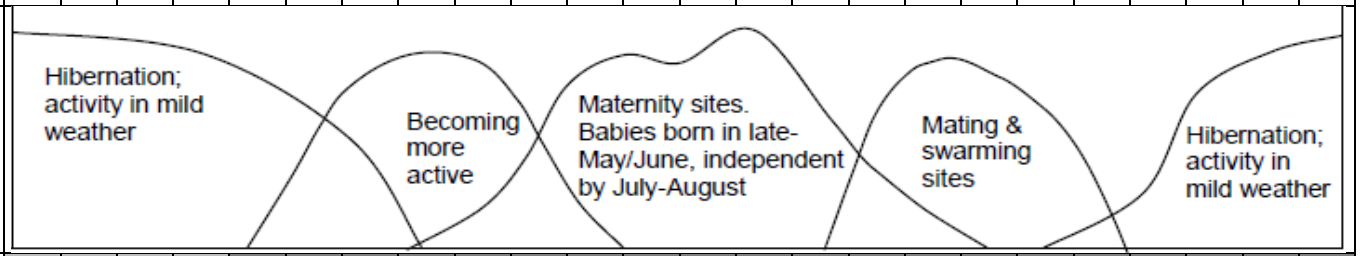
Month of Year		Jan		Feb		Mar		Apr		May		June		July		Aug		Sep		Oct		Nov		Dec	
Survey timing at this site =		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
																									
Activity surveys																									
Inspection of buildings and structures for roosts																									
Tree 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).*

Date of visit		11th July 2022	Notes
Weather conditions	Cloud	Nil	1
	Wind	Nil	1
	Rain	Nil	1
	Temperature	17°C	1
Surveyors		BF	

Table 2 *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. (BF) Mr Bradley Foster MEnv (Hons)
   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 (2021), section (54) and (59) state

> The 2021 guidance states of this offence: *"The protection applies all year round if these sites are used on a regular basis" (pg 32). It goes on to state: "Thus, it follows from Article 12(1)(d) that such breeding sites and resting places also need to be protected when they are used only occasionally or are even abandoned 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 reuse it in winter"* (pg 33).
>
> The guidance also states that breeding sites and resting places "that are used regularly either within or between years, must be protected even when not occupied" (pg 33 and pg 35).

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, such as roosts, burrows or hides. Resting places that are used regularly, either within or between years, must be protected even when not occupied.
>
> Resting places essential for survival may include one or more structures and habitat features required for:
>
> 1. thermoregulatory behaviour, e.g. Lacerta agilis (sand lizard);
> 2. resting, sleeping or recuperation, e.g. Nyctalus leisleri (Leisler's bat) roosts;
> 3. hiding, protection or refuge, e.g. Macrothele calpeiana burrows; and
> 4. hibernation, e.g. bat dormitories, and Muscardinus avellanarius (common dormouse) hides.

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 (2021) summaries the requirement for the protection of resting sites thus

> "Breeding sites and resting places must be strictly protected because they are crucial to the life cycle of animals and are vital elements 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 the 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}

As the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 derives and is guided by legislation and guidelines issued by the European Commission, this definition is still valid within the transition period.

Summary

"Breeding site"

Breeding is defined here as mating, giving birth to young (including egg laying) or production of offspring where reproduction is asexual. A breeding site is defined here as the areas needed to mate and to give birth in, and covers also the vicinity of the nest or parturition site, where offspring are dependent on such sites. For some species, a breeding site will also include associated structures needed for territorial definition and defence. For species that reproduce asexually, a breeding site is defined as the area needed to produce offspring. Breeding sites that are used regularly, either within or between years, must be protected even when not occupied.

The breeding site may thus include areas required for:

1. courtship;
2. mating;
3. nest construction or selection of egg laying or parturition site;
4. places used for the purpose of parturition or egg laying or production of offspring where reproduction is asexual;
5. places of egg development and egg hatching;
6. nest or parturition sites when occupied by young dependent on that site; and
7. wider habitats that make reproduction successful, including feeding grounds.

Resting place

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, such as roosts, burrows or hides. Resting places that are used regularly, either within or between years, must be protected even when not occupied.

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

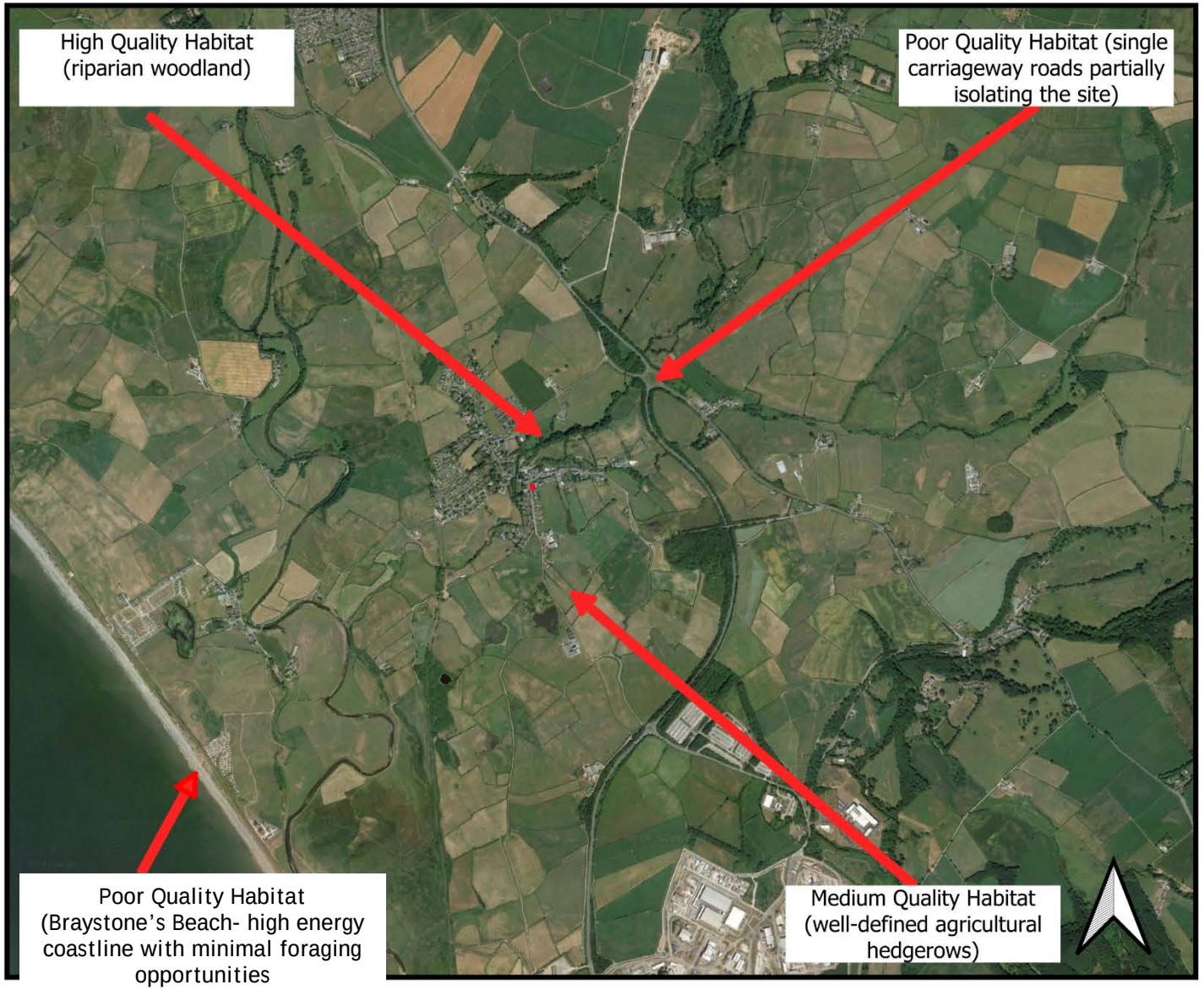
5. RESULTS

5.1 Desk Study

A search of the Envirotech dataset returned two records of two bat species within 2km of the site. These records are located 1km to the north-east, towards the village of Blackbeck. No records are present for the site itself.

Records are shown on Figure 4.

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



Site Boundary

Figure 5

Habitat Adjacent Site

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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 3. 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 3 *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 route for bats into and out of the site is along Kirk Beck approximately 75m west of the site, which is partially enclosed by woodland. The surrounding habitat is considered to have moderate foraging potential- consisting of scattered trees, fragmented woodland, well-defined agricultural hedgerow and a cluster of medium-sized freshwater ponds (located 800m to the south).

Being just 2.5km north-west of the Sellafield nuclear site, much of this habitat is split by a network of single carriageway roads and industrial infrastructure and therefore poorly connected.

Owing to the dominance of agricultural land within the local area, there are likely many animal manures associated with the surrounding area. There is a moderate level of vegetative diversity around the village hall- whilst the building is located near the junction of two streets, there is a combination of vegetated garden and scattered trees directly around the property.

5.2.2 Bat Roost Survey

5.2.2.1 Building 1- General description

A single-storey brick-built building under a jerkinhead roof. The roof consists of felt shingle. To the rear of the building is a small, flat roofed extension topped with lead flashing.

5.2.2.2 External walls/ Eaves

The walls of the building are made from clay brick and are in excellent condition. There are no gaps or cracks within the brickwork of any of the wall faces.

The soffit and fascia boards consist of overhanging uPVC panelling. Whilst the majority of the material is in excellent condition, some of the soffit boards appear loose and/or broken, such as in the south-east corner of the site- which has previously been occupied by nesting birds. This soffit board was inspected with a torchlight and found to be blocked 10 inches in with nesting material. No evidence of use by bats was present.

The bargeboards around the porch entrance and flat roof to the rear of the building are in good order- remaining flush with the external walls and covered with overlapping cobwebs.

5.2.2.3 Roof

The roof of the building is made from felt shingle and is lined. Both pitches of the property are in good condition, with no raised, slipped or missing felt tiles evident. Moss and other bryophytes have colonised some areas of the western facing pitch, such as along the junction between individual shingle tiles. A large amount of historic repair work has been conducted on the rear pitch, with much of the felt shingle having been replaced with flat sheet metal shingle. The hips of the roof

consist of clay tiles which remain fully overlapping and lined with mortar along their base. To the rear of the property is a small flat-roofed extension covered with intact lead flashing. The full extent of both roof types could be seen using close focus binoculars and a 1,000,000-candle power torch. No indications of use by bats could be found in these areas of the building's roof.

5.2.2.4 Internal walls

The internal walls of the house are unavailable to roosting bats as they form part of the village hall.

5.2.2.5 Roof Voids/ Roof structure

The building has a vaulted ceiling finished with wood panelling. Resultingly, the only void space present is a shallow, triangular-shaped crawl space directly beneath the ridgeline. Owing to the height and hinged design of the loft hatch, only the void space directly above the hatch could be momentarily seen whilst on the ladders. For health and safety purposes the loft could not be fully inspected, nor could it be photographed whilst on the ladder. Owing to the small dimensions of the crawl space and good condition of the roof, we deduce that the roof void space likely possesses a low potential for use by roosting bats.

5.2.2.6 Summary

To summarise, the building is of moderate size, containing external walls and a roof of good condition. The eaves consist of large, overhanging soffit and fascia boards made from uPVC. Whilst the majority of the eave space is well-sealed, there are places in which the soffit material appears loose and/or broken. This is most apparent in the south-eastern corner of the building- which a bird has previously nested in. Whilst the roof void could not be fully inspected, we infer that the void space is of low risk to bats. No evidence of bats was found at the site. Overall, we consider this building to have a low potential for use by bats, our categorisation would be 3. Further details of our categorisation can be found in Table 1.

6. CONSTRAINTS

Owing to health and safety reasons the crawl space directly beneath the ridgeline could not be accessed, owing to the height and hinged design of the loft hatch. Resultingly, the roof void could not be properly inspected. However, we determine that the bat potential of the void space is likely to be low given its small dimensions (suboptimal for void-dwelling bats) and well-sealed nature of the roof.

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 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 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. 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 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 primary commuting and feeding area at the site was judged to be the woodland some distance from the site to the West. 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 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 or foraging routes at the site, as these will remain unimpacted by the proposed works.

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 building 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 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. Remove all roof coverings by hand only.

7. Create at least 8 gaps along the eaves lines of the building which allow access to the wall tops under the eaves during any re-roofing which is undertaken. A plan for this type of roost is shown on Figure 6. 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 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 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.**

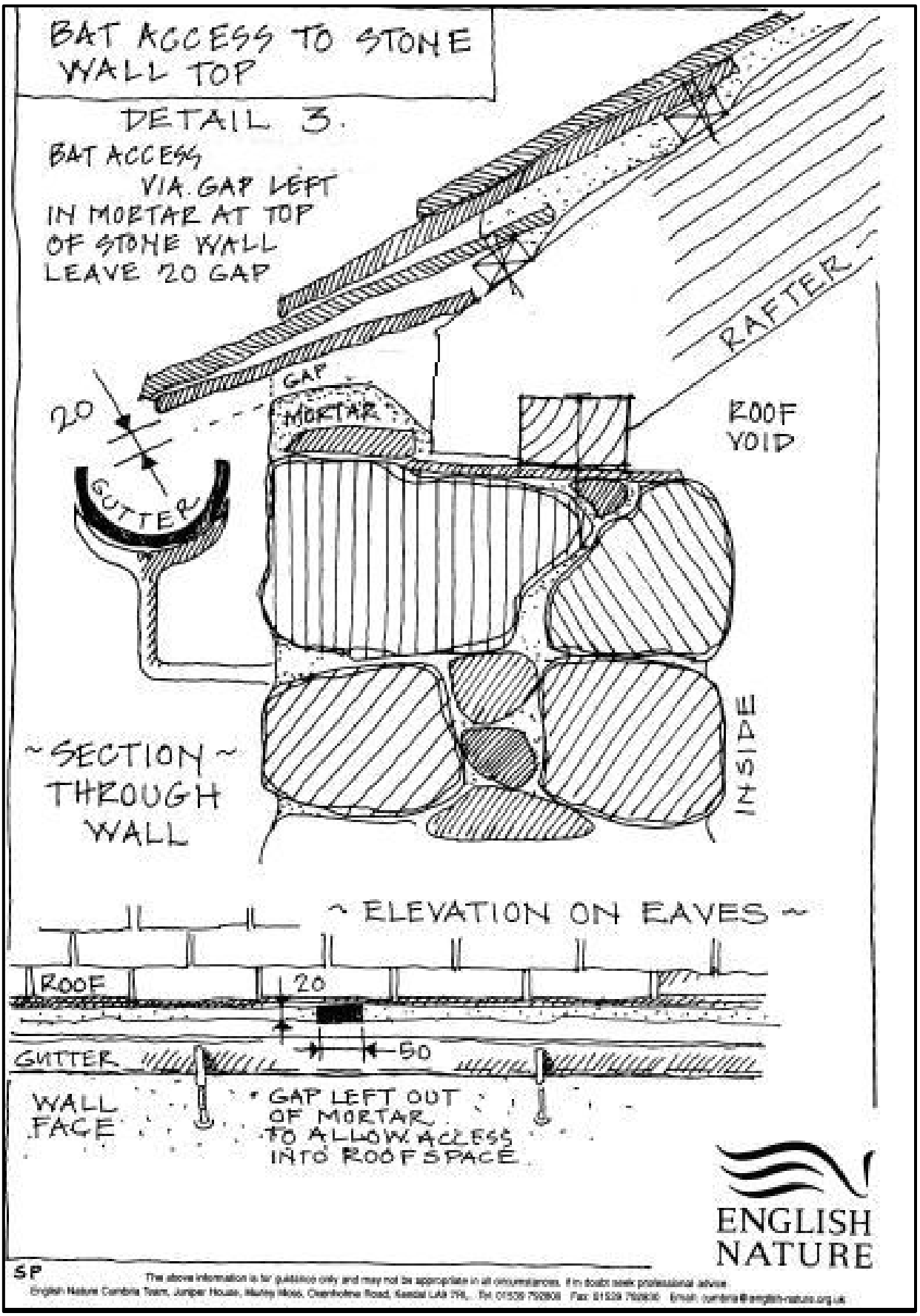

Figure 6 *New roost site creation.*

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 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 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.

10. MITIGATION SUMMARY

The site survey found no evidence of bats roosting onsite, 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 the creation of gaps within the mortar beneath the eaves and precautionary mitigation, a significant disturbance and/or the loss of roost sites is unlikely to occur.

Whilst the roof void could not be fully inspected, it consisted of a small crawl space attic of low roosting potential to void-dwelling bats (which need sufficient flight space within their roost site). Whilst the roof void may possess some potential for crevice-dwelling bats, the sealed nature of the felt and metal shingle roof suggests this is unlikely.

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

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 of Habitats and Species (Amendment) (EU Exit) Regulations 2019. We do not consider there to be a need for a Natural England licence at this time.

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APPENDIX 1 PHOTOGRAPHS

Photograph	Notes
	The front of the building (looking north-east from Sellafield Road).
	Beneath the large jerkinhead roof are large, overhanging soffit and fascia boards. The location of the broken soffit board.
	A vacant bird's nest was found approximately 10 inches into the soffit void. The internal space was blocked entirely with nesting material. No evidence of bats was present.

	The hips of the roof remain overlapping and well-sealed with mortar.
	The soffit and fascia boards are mostly well-sealed. There are no gaps along the wall tops.
	The bargeboards site flush with the clay brick walls and are covered with overlapping cobwebs.

Multiple sheet metal shingle repairs have been conducted on the rear roof pitch.

The small flat-roofed extension is topped with lead flashing.

The ceiling has been vaulted and finished with wood panelling.

The roof void space could not be fully inspected owing to height of the hatch.

	A second loft hatch is present in the hall's main room. This hatch could not be accessed for the same reasons as above.