Bat Assessment

Initial Bat Survey & Roost Characterisation Surveys

Of

Stable block at 5 The Colony Sibford Gower OX15 5RY

for

Carrie Tucker

(Revision A – 20th September 2018)

2017-03(08)

Ryton Organic Gardens | Wolston Lane | Ryton-on-Dunsmore | Warwickshire | CV8 3LG | 02476 217726
Email: enquiries@ecolocation.org.uk Website: www.ecolocation.org.uk

Report Author: Anna Swift, BSc (Hons) MSc MCIEEM
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Original Report Checked by: Casey Griffin BSc (Hons) ACIEEM
Original Quality Check Date: 17th August 2017

Summary

- An initial walkover survey for bats was carried out at 5 The Colony, Sibford Gower on 5th May 2017 by a licensed bat surveyor.
- This revision A report has been revised following the submission of an amended scheme for the alteration and reuse of an existing building to a dwelling. Ecolocation have had regard to the proposed details as shown on drawings 5391.02 and 5391.03. Mitigation proposed responds to the details of this revised scheme.
- The proposed development included the conversion of the existing stable building to a single dwelling with a separate detached garden store.
- Foraging opportunities for bats nearby were considered above average. An assessment of the surrounding landscape showed that the majority of the land within the 2km search radius comprised of agricultural fields, however, more importantly there were small pockets of woodlands and waterbodies, which were well connected to the Site via a linked system of hedgerows and streams. Data search records also confirmed two bat roosts within 1km of the Site, one for a pipistrelle species and the other for lesser horseshoe bats.
- There were permanent bat access points into the building via open doorways, gaps at the eaves and via the air vent in the roof void. Roosting opportunities for bats were present at ceiling joists, against purlins, on top of the walls and between the wall and the ceiling joist. Additionally, a pile of bat droppings and butterfly wings were recorded in the ground floor of the stable building as well as scattered bat droppings in the roof void. Consequently, roost characterisation surveys were recommended to determine the type of roost, number of bats and access points.
- Three roost characterisation surveys were undertaken of the building and revealed a day roost of four common pipistrelle and a day roost of one brown long-eared bat within the building. A lesser horseshoe bat was also recorded investigating the open-fronted section of the building and whilst this bat was not considered to be roosting in the building at the time of survey, its occasional use of the building for feeding could not be ruled out.
- As bat roosts have been identified, the proposed conversion of the building will result in destruction of the roosts and a Natural England derogation licence is therefore necessary for such works to proceed legally. This can only be applied for once planning permission has been granted and any bat-related conditions have been discharged. It must also rely on bat survey data from the most recent May-August period.
- Appropriate bat mitigation has been recommended in Section 6 in order to demonstrate how the favourable conservation status of bats at the Site can be maintained post-development with the use of integrated bat boxes and access to the garden store.
- Incidental evidence of active bird nesting by blackbird was recorded during the May 2017 initial inspection. Therefore, it is also recommended that, immediately prior to demolition, there should be a check of the building for nesting birds, to ensure none are present when works commence. In addition to this, replacement nesting opportunities for blackbird should be provided in the proposed scheme and suggestions are made in Section 6 of the report.

Contents

1. Introduction

Instruction

Ecolocation were appointed by Framptons Planning on behalf of Ms Carrie Tucker to undertake an initial bat assessment and subsequent roost characterisation surveys of a stable building at 5 The Colony, Sibford Gower (hereafter referred to as the 'Site') which would be subject to conversion to a single dwelling.

Site Location

The Site (Grid Ref SP 34835 37380) was located within the settlement of Sibford Gower some 7 miles west of Banbury. The area surrounding the Site was predominantly farmland with some patches of woodland, along with residential buildings that ran alongside the main road. There were also several hedgerows within the area as well as a system of streams, the closest of which was 110m to the south of the Site. The building in question was a former stable building situated away from the road and was adjacent to an open field on the western side, but also had trees and shrubs along the eastern side.

Figure 1 – Site Boundary

Proposed Plans

At the time of the Revision A report writing, the following plans were used in the production of this report:

- Dwg No. 5391.01 Existing and Proposed Site Plans;

- Dwg No. 5391.02 Proposed Plans Section A-A

- Dwg No. 5391.03 Proposed Elevations

- Dwg No. 5391.04 Stores Plans and Elevations

All drawings were produced by Nicholas D Price in August 2018.

Survey Purpose

The purpose of the survey and report was to:

- Identify presence/absence of bat roosts at the Site
- If bat roosts are present, determine species, access and egress points, roost type and size
- Assess the impact of the proposed works on bats
- If bat roosts are present, provide details of a bat mitigation strategy to maintain the favourable conservation status of the bat species in question
- Determine the need for a bat mitigation licence from Natural England
- Determine the need for any further bat surveys to inform a mitigation scheme or a bat mitigation licence

Relevant Legislation & Planning Policy

A number of UK and European legislation and policies deal with the conservation of biodiversity. This section briefly outlines the legal and policy protection afforded to bats and their habitats.

Bats and their roost sites are protected under UK and European legislation including the Wildlife and Countryside Act 1981 (as amended), Countryside Rights of Way Act 2000, the Conservation of Habitats and Species Regulations 2010 and the Habitats Directive. The legislation makes it an offence for any person to:

- Deliberately capture, injure or kill a bat.
- Intentionally or recklessly disturb bats, where that disturbance may affect the ability of those bats to survive, breed, rear or nurture their young, or is likely to significantly affect the local distribution or abundance of any bat species, whether in a roost or not.
- Damage or destroy a place of shelter (roost) of a bat, be that a resting or breeding place.
- Possess a bat, whole or in part, alive or dead.
- Intentionally or recklessly obstruct access to a roost
- Sell or offer for sale or exchange whole or parts of bats, alive or dead.

The ODPM Circular 06/05 makes the presence of a protected species a material consideration within the planning process. It states that it is essential for the presence of protected species and the extent they may be affected by proposed development be established through appropriate surveys before the planning permission is granted and encourages the use of planning conditions to secure the long-term protection of the species.

The National Planning Policy Framework (NPPF) section 11 sets out applications to conserve and enhance the natural environment. Paragraphs 109 and 118 of the NPPF state that net gains to biodiversity should be sought and encouraged and that net losses in biodiversity must be avoided.

Cherwell District Council's Local Plan Part 1 (July 2015) contains policy ESD 10 which relates to the protection and Enhancement of Biodiversity and the Natural Environment. This policy states that proposals considered for development must be assessed in regard to protecting, managing, enhancing and extending existing resources and also in regard to creating new resources; in order to protect and enhance biodiversity.

2. Methodology

Desk Study

Prior to the site visit a desk-top data gathering exercise was undertaken. The MAGIC website was accessed to search for statutory designated sites within a 1km radius of the Site. The Thames Valley Environmental Records Centre was contacted for information on bat species records within a 2km radius of the Site.

Initial Bat Survey

The Site was visited by suitably experienced and licensed surveyor Anna Swift (Technical Director, MCIEEM, level 2 bat survey licence: 2016-01296) on Friday 5th May 2017. Weather conditions at the time of survey were recorded.

The daytime inspection was carried out in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition (BCT, 2016). The survey comprised two parts: an evaluation of suitability for roosting and a search for evidence of bats. The inspection was aided by a one million candlepower torch. Extendable ladders, binoculars and a 'Seesnake' rigid endoscope were available for detailed inspections of accessible areas.

Bat evidence:

The interior and exterior of the building was systematically searched for evidence of bats including:

- Live or dead bats
- Droppings
- Staining from bat urine
- Feeding remains, such as moth wings
- An absence of cobwebs on suitable flight lines or access points

Evaluation of roosting suitability:

This comprised a detailed external and internal assessment of the building to determine the suitability for bats and the likely species, type of roost and numbers of bats the building could support. A number of factors were considered including:

- Surrounding habitats – connectivity for flight lines to the building and areas for foraging
- Internal light levels and temperature
- Weather-proof properties
- Building construction
- Potential access into the building (e.g. into a roof void, cavity in brickwork, between tiles and lining)
- Roosting features in roof void (e.g. roof timbers, ridge, wall plate)

Following a systematic survey of the building and consideration of possible factors each building was assessed as having negligible, low, moderate or high suitability for roosting bats, in accordance with the BCT guidelines.

Nocturnal Roost Characterisation Surveys

Three nocturnal roost characterisation surveys were carried out in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition (BCT, 2016). These comprised two dusk emergence and one dawn re-entry survey. On the first two surveys, surveyors were positioned to give full coverage of the building and potential access points to observe bat activity in the area and identify any bats emerging from or re-entering a roost. On the third survey visit, a surveyor was positioned to focus solely on the open section on the northern elevation of the building. The timings of each survey and weather conditions at the start and end of the survey were recorded on each occasion. Dusk surveys were started 15mins before sunset and continued until 1.5-2hrs after sunset. Dawn surveys were started 1.5-2hours before sunrise and continued until 15mins after sunrise.

First Dusk Emergence Survey

The first dusk emergence survey was undertaken on 22nd May 2017 by the following surveyors, led by Anna Swift:

Map ID	Personnel	Survey Experience	Equipment used
AS	Anna Swift MCIEEM	Licensed surveyor with over	Pettersson 240x

		13yrs experience.	
ALA	Agni-Louiza Arampoglou ACIEEM	Experienced surveyor with over 7yrs experience.	Pettersson 230

Locations of surveyors are shown with the results of the survey in Figure 3.

Dawn Entry Survey

The pre-dawn re-entry survey was undertaken on 9th June 2017 by the following surveyors, led by Catherine Coton.

Map ID	Personnel	Survey Experience	Equipment used
CC	Catherine Coton GradCIEEM	Experienced surveyor with over 4yrs experience.	Pettersson 240x
LT	Leah Tardivel	Experienced surveyor with over 5yrs experience.	BatBox Duet

A Sony night vision camera was placed in the open-fronted section of the building focusing on the gap in the brickwork adjacent to the doorway. At 02:40hrs this was set to record in night vision mode for the length of the survey.

Locations of surveyors are shown with the results of the survey in Figure 4.

Second Dusk Emergence Survey

The second dusk emergence survey was undertaken on 26th June 2017 by Anna Swift:

Map ID	Personnel	Survey Experience	Equipment used
AS	Anna Swift MCIEEM	Licensed surveyor with over 13yrs experience.	Pettersson 240x

The location of the surveyor is shown with the results of the survey in Figure 5. In addition, an Anabat Express was strapped to a tree immediately adjacent to the north-east corner of the building where the brown long-eared was recorded on the dawn survey and where the silent bats and lesser horseshoe were observed on the first dusk survey. A Sony night-vision camera was also placed inside the open section of the north-east corner of the building and was focused on the area where the brown long-eared was observed on the dawn and where numerous discarded yellow underwing wings were previously noted. The camera was set to record from 21:29hrs until 22:45hrs. The results of the Anabat and the camera were used to consolidate the results of the surveyor.

Survey Limitations

There were no limitations at the time of the survey.

3. Results & Evaluation

Designated Sites

The Site had no statutory or non-statutory designation for nature conservation within or directly adjacent to its boundary.

Site Description

The Site comprised a former stable building set in a pasture field that was grazed at the time of the survey by a small number of sheep. Former dog kennels were present adjacent to the subject building and were set on a concrete pad within the same field.

Bat Records

There were 11 records of bats within 2km of the Site; these included a lesser horseshoe bat roost located 730m from the Site (*Rhinolophus hipposideros*) of 10+ individuals recorded on the 13th March 2013. The only other roost recorded within 2km of the Site was a pipistrelle roost which was 416m to the north-east. The other recordings were bat passes in flight, which included common pipistrelle (*Pipistrellus pipistrellus*), Daubenton's (*Myotis daubentonii*) and serotine (*Eptesicus serotinus*).

Habitat Connectivity

The Site was located in a small rural village to the rear of a small number of cottages. Figure 2 below, demonstrates that the surrounding area was comprised of hedgerows, agricultural fields, small pockets of woodland and several streams. These habitats were considered to provide good foraging opportunities for bats, the waterbodies being a good foraging resource for species such as Daubenton's bat (*Myotis daubentonii*) and soprano pipistrelle (*Pipistrellus pygmaeus*). Furthermore, the woodland pockets may have offered suitable roosting and foraging opportunities for a range of bats whilst the hedgerows would provide both commuting routes between foraging grounds and bat roosts. To the north-east of the Site there were also residential areas which could be a deterrent to roosting and foraging lesser horseshoe and *Myotis* species bats due to light pollution.

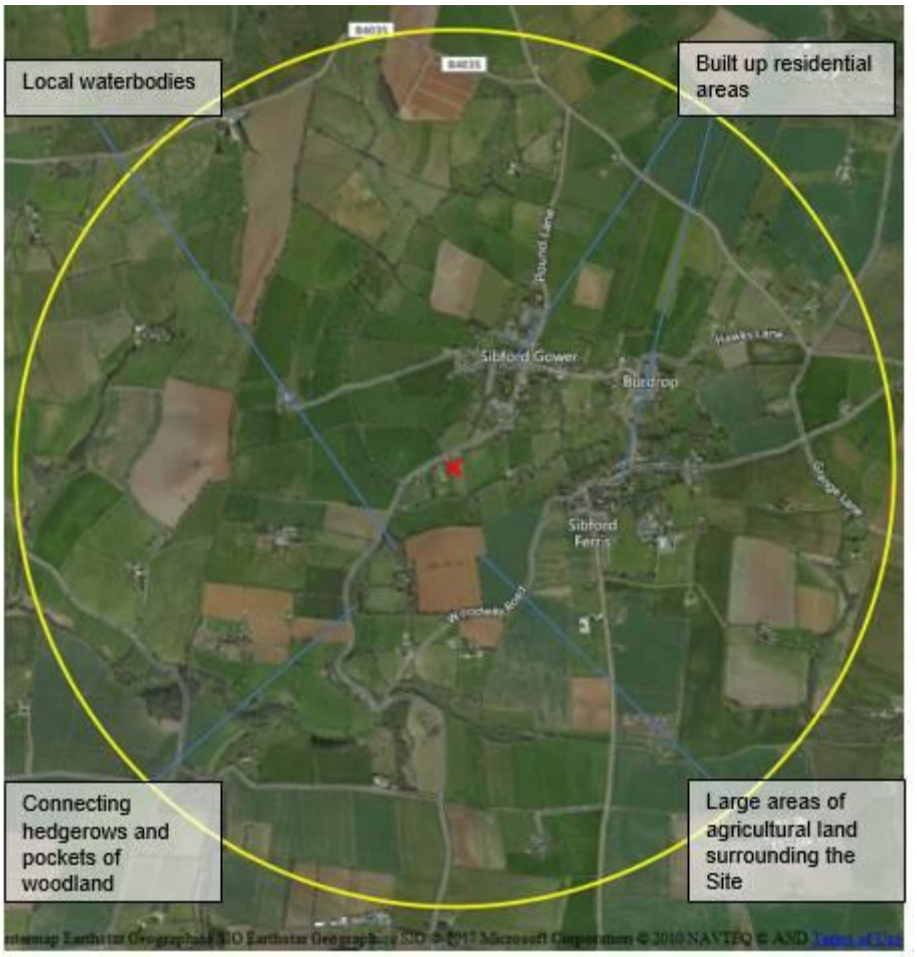

Figure 2 – Habitat Connectivity within 2km radius of Site

Weather conditions

The weather conditions during the Site visit on 5th May 2017 were as follows:

Parameter	Recorded Figure
Temperature	12ºC
Cloud cover	20%
Precipitation	None
Wind speed (Beaufort Scale)	1 – light air

Building 1

The former stable building occupied a broadly rectangular footprint and was constructed in blockwork with a gabled roof covered with asbestos cement sheeting. The underside of the roof did not benefit from any lining and no insulation was present at ceiling level. A separate roof void was present above the stable cells and was accessed via a permanent opening in the ceiling. No ridgeboard was present at the apex of this roof, although timber purlins were present throughout, and there was light spill from numerous places. Timber ceiling joists were exposed on their underside at ground floor level and timber king posts and purlins were visible in the roof void.

The ground floor of the barn was separated into cells via blockwork diving walls but with flighted access possible throughout. The floor was finished with concrete and searching for evidence of bats was straightforward.

West elevation

South elevation also showing adjacent kennels

Roof void *Ground floor showing flighted access and concrete floor*

Bats could access the building via a permanently open doorway on the west elevation, via gaps at the eaves and via gaps at the roof apex. A small section of the stable building at the north-east corner was open-fronted and access was possible into the main stable building via a gap where the ceiling joist entered the blockwork wall. An active blackbird nest was recorded in this section during the initial inspection.

Open-sided access with black bird nest *Access at ridge*

Internally, the gable ends and where the purlins met the blockwork were all well sealed, providing little roosting opportunities for bats on top of the gable walls, albeit gaps were present around these purlins on the external side of the gable walls. If there were gaps in the top of the breeze blocks, this could provide roosting opportunities for small numbers of crevice-dwelling bats

There was no ridgeboard against which bats could perch, although two timbers did run along the length of the roof and would have provided a suitable surface for perching bats. Other roosting opportunities were present between the last ceiling joist and the blockwork wall where there was a gap of around 20mm and potentially on top of the eaves, although this would likely be a little light and draughty.

The roof void was noticeably warmer than the ground floor, although the open air vent in the roof in the centre of the roof as well as other gaps where the asbestos sheets met resulted in the void being fairly light and a little draughty. A far more sheltered area for roosting bats was against ceiling joists on the ground floor.

Open air vent in roof *Roosting opportunity between wall and ceiling*

Evidence of bats was found by way of scattered butterfly wings throughout the building, but predominantly on the ground floor. Two piles of ten fresh, medium-sized bat droppings were noted in two locations on the floor of the stables beneath a ceiling joist. It was not clear if this was from a roosting bat or from a bat that had rested to feed

on a butterfly and discard the wings. A further ten scattered bat droppings that appeared to be less fresh were noted scattered on the floor of the roof void. Additionally, some discarded yellow underwing moth wings were recorded in the corner of the open-fronted section to the north-east elevation.

The presence of butterfly wings can indicate feeding activity by bats such as brown long-eared, Natterer's or lesser horseshoe (the latter of which has a maternity roost within 750m of the Site) and the small numbers of bat droppings may potentially indicate a feeding perch or a roost of small numbers of bats, known as a day roost. The bat droppings were most characteristic of brown long-eared. The building offered potential for small numbers of bats, but appeared potentially a little too light and draughty to offer ideal conditions for large numbers of bats to form maternity roosts. The suitability of the building for roosting bats is therefore considered to be moderate.

Suitability for roosting bats: MODERATE

Bat Activity Surveys

Following the results of the initial bat survey, three bat activity surveys were carried out to encompass the building.

First Dusk Emergence Survey

The first dusk emergence survey was undertaken on 22nd May 2017, using two surveyors. Sunset was at 21:03hrs.

The weather conditions during the survey were as follows:

Parameter	Start	End
Time	20:45	22:55
Temperature	17ºC	14ºC
Cloud cover	90%	90%
Precipitation	None	None
Wind speed (Beaufort Scale)	2 – light breeze	2 – light breeze

Two indeterminate, silent bats were seen to emerge from the open-fronted section of the north-east part of the building at 21:23 and 21:30hrs. The second bat emerged and re-entered the section of the building several times before flying off, presumably light-sampling. A lesser horseshoe was also recorded flying in and out of this section of the building at the very end of the building before flying off. Additionally, the occasional brown long-eared bat pass was noted during the course of the survey and both this species and lesser horseshoe can easily be missed by a bat detector if the bat does not fly past very close to the surveyor or the detector is not tuned appropriately. No other lesser horseshoe passes were recorded during the survey. Lesser horseshoe are considered uncommon but widespread in the county, whilst brown long-eared bats are common and widespread, according to Oxfordshire Mammal Group.

Four bats were seen to emerge from gaps next to the purlins on the western gable end with one bat emerging from each of the purlin gaps. Three of these bats were confirmed as common pipistrelle at 21:19, 21:22 and 21:27hrs whilst the fourth bat (pipistrelle in size and flight) was observed emerging at 21:25hrs but was silent.

Bat activity levels were high for the duration of the survey with frequent foraging and common pipistrelle recorded all around the building with later occasional passes by a *Myotis* bat and a brown long-eared bat, all of which were observed flying past or over the building and were not considered to have emerged.

No bats were seen to enter or emerge from the open doorway of the building; as such, it is considered that perhaps the building is used as a feeding perch during the course of an evening (either by brown long-eared or lesser horseshoe bats) as an updated internal inspection of the building prior to the start of the dusk survey and again at the end, revealed no roosting or active bats.

KEY

- Night vision camera position
- Surveyor position
- Static detector position
- Common pipistrelle
- Myotis
- Lesser horseshoe
- Brown long-eared
- E Emergence Point
- Indeterminate bat (silent)

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Figure 3: Bat Activity Map – Dusk 22nd May 2017

Project: 2017-03(08) Sibford Gower

Date: MAY 2017

SCALE: Not to scale 2017

Dusk - Sibford Gower - 22/05/2017 (Responses)

Timestamp	Surveyor ID	Bat species	Activity	Comments/additional info	Map Reference	Identification method
22/05/2017 21:15:20	ALA	Indeterminate bat	Commute/pass	brief call		Bat detector
22/05/2017 21:19:02	AS	Common pipistrelle	Emerging	Next to purlin on gable	A	Bat detector, Visual observation
22/05/2017 21:20:11	ALA	Indeterminate bat	Commute/pass		A	Bat detector, Visual observation
22/05/2017 21:20:24	AS	Common pipistrelle	Commute/pass		B	Bat detector, Visual observation
22/05/2017 21:21:13	ALA	Indeterminate bat	Commute/pass	V brief, quick call		Bat detector
22/05/2017 21:22:42	ALA	Common pipistrelle	Commute/pass			Bat detector
22/05/2017 21:22:53	AS	Common pipistrelle	Emerging	Gable end by different purlin	C	Bat detector, Visual observation
22/05/2017 21:23:35	ALA	Indeterminate bat	Emerging	Silent	B	Visual observation
22/05/2017 21:25:23	AS	Indeterminate bat	Emerging	Silent, small from gable end by purlin	D	Visual observation
22/05/2017 21:26:38	AS	Common pipistrelle	Commute/pass		E	Bat detector, Visual observation
22/05/2017 21:27:00	AS	Common pipistrelle	Emerging	top right purlin	F	Bat detector, Visual observation
22/05/2017 21:27:06	ALA	Soprano pipistrelle	Commute/pass			Bat detector
22/05/2017 21:30:51	ALA	Indeterminate bat	Emerging	Silent	B	Visual observation
22/05/2017 21:31:13	AS	Common pipistrelle	Commute/pass		G	Bat detector, Visual observation
22/05/2017 21:31:29	ALA	Soprano pipistrelle	Commute/pass		D	Bat detector
22/05/2017 21:32:16	ALA	Soprano pipistrelle	Commute/pass		E	Bat detector, Visual observation
22/05/2017 21:38:06	ALA	Common pipistrelle	Commute/pass	continuous calls for last 5 mins		Bat detector
22/05/2017 21:40:18	ALA	Common pipistrelle	Commute/pass			Bat detector
22/05/2017 21:41:01	ALA	Common pipistrelle	Commute/pass		G	Bat detector, Visual observation
22/05/2017 21:48:27	ALA	Common pipistrelle	Commute/pass	cont. calls for 5 mins		Bat detector
22/05/2017 21:48:56	ALA	Common pipistrelle	Commute/pass	2 bats over roof	H	Bat detector, Visual observation

Dusk - Sibford Gower - 22/05/2017 (Responses)

Timestamp	Surveyor ID	Bat species	Activity	Comments/additional info	Map Reference	Identification method
22/05/2017 21:54:23	AS	BLE	Commute/pass			Bat detector
22/05/2017 21:55:38	AS	Myotis sp.	Commute/pass		H	Bat detector, Visual observation
22/05/2017 21:56:33	ALA	Common pipistrelle	Commute/pass	cont. calls for last 5 mins		Bat detector
22/05/2017 22:02:51	AS	Myotis sp.	Foraging, Commute/pass		H	Bat detector, Visual observation
22/05/2017 22:04:05	AS	Common pipistrelle	Commute/pass		I	Bat detector, Visual observation
22/05/2017 22:04:19	ALA	Common pipistrelle	Commute/pass	cont calls for 5 mins		Bat detector
22/05/2017 22:06:20	ALA	Common pipistrelle	Commute/pass		I	Bat detector, Visual observation
22/05/2017 22:07:17	AS	Common pipistrelle	Commute/pass			Bat detector, Visual observation
22/05/2017 22:08:32	AS	Myotis sp.	Commute/pass		J	Bat detector, Visual observation
22/05/2017 22:09:38	ALA	BLE	Commute/pass			Bat detector
22/05/2017 22:16:12	ALA	Common pipistrelle	Commute/pass	cont. for last 5 mins		Bat detector
22/05/2017 22:18:44	ALA	Myotis	Commute/pass			Bat detector
22/05/2017 22:19:46	AS	BLE	Commute/pass		K	Bat detector, Visual observation
22/05/2017 22:23:31	ALA	Common pipistrelle	Foraging			Bat detector
22/05/2017 22:26:06	AS	Myotis sp.	Commute/pass	reverse J on map		Bat detector, Visual observation
22/05/2017 22:31:40	ALA	Common pipistrelle	Commute/pass			Bat detector
22/05/2017 22:47:04	ALA	Lesser horseshoe	Commute/pass	In and out of the open fronted section of building		Bat detector, Visual observation

First dusk survey results summary: day roost of 2 indeterminate bats (probably lesser horseshoe or brown long-eared) and a day roost of 4 common pipistrelle recorded.

Please refer to the insert overleaf for the results summary.

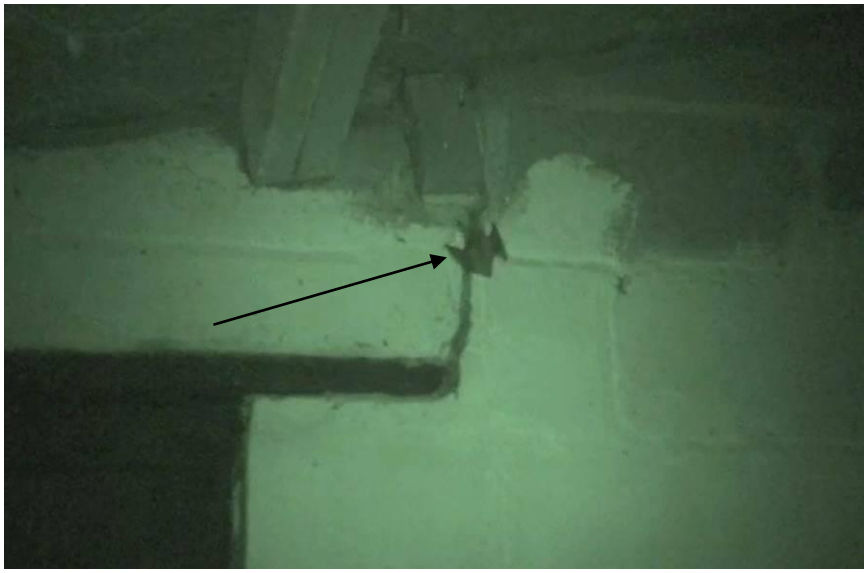
Dawn Re-Entry Survey

The dawn re-entry survey was undertaken on 9th June 2017, using two surveyors and a camera. Sunrise was at 04:47hrs.

The weather conditions during the survey were as follows:

Parameter	Start	End
Time	02:40	05:05
Temperature	12.0ºC	12.4ºC
Cloud cover	5%	60%
Precipitation	None	None
Wind speed (Beaufort Scale)	1 – light air	2 – light breeze

During the dawn re-entry survey on 9th June, a good amount of bat activity was recorded, with five species identified. There were numerous passes by common pipistrelle and brown long-eared bats foraging and commuting along the boundary vegetation. A single common pipistrelle entered a roost in a purlin on the western gable end at approximately 45 minutes before sunrise. At the same time, a brown long-eared bat entered the barn on the open-sided extension at the north-eastern corner. This bat was also detected by the night-vision camera and revealed the bat to land on the wall and crawl into a crack in the wall to roost.

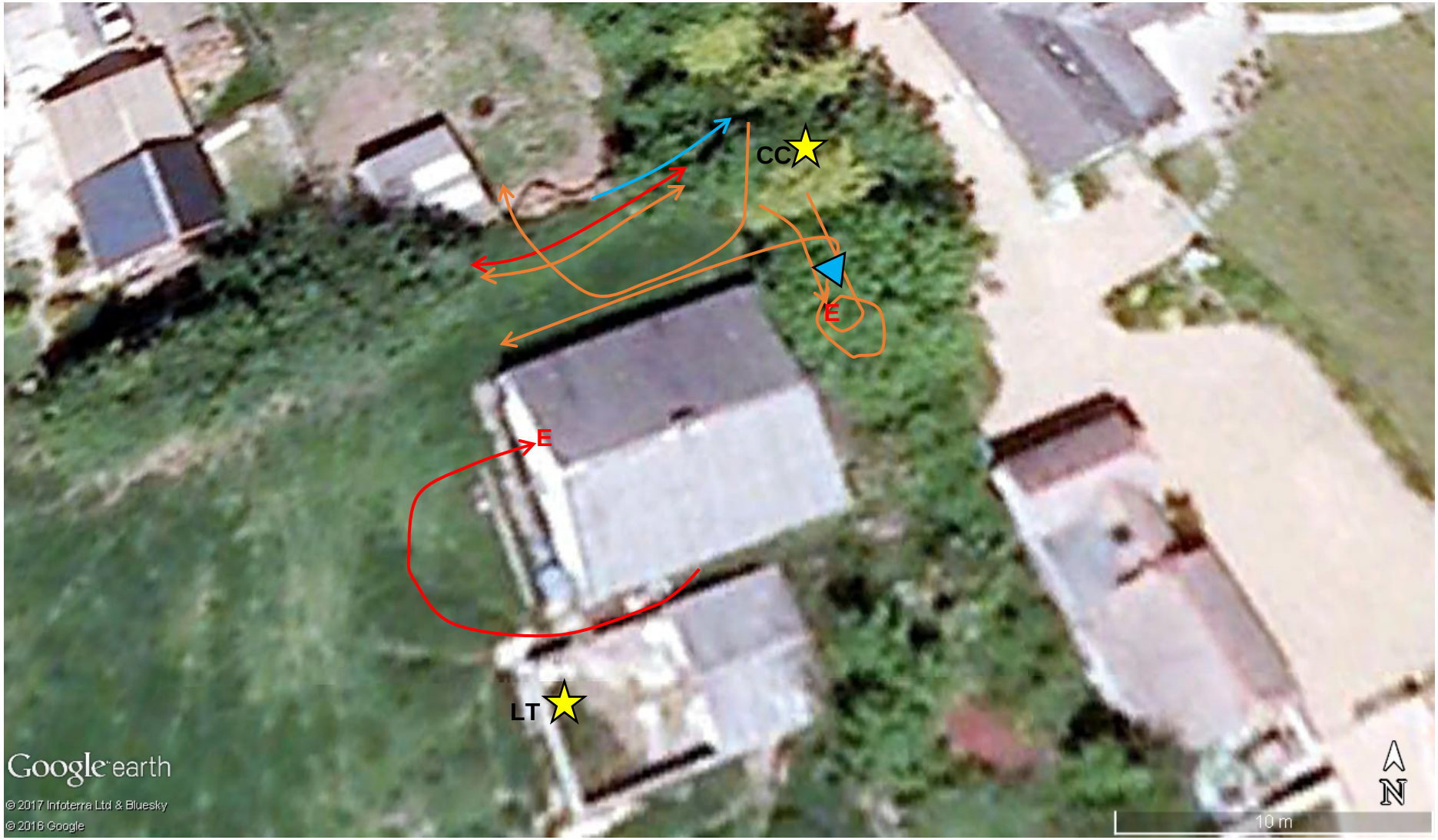


BLE landing on wall before sunrise and entering building through the crack in the wall

No lesser horseshoe bats were recorded during the dawn survey.

Dawn results summary: day roost of 1 brown long-eared and a day roost of 1 common pipistrelle recorded.

Please refer to the following inserts for the results.



KEY

- Surveyor position
- Night vision camera position
- Common pipistrelle
- Soprano pipistrelle
- Brown long-eared

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Figure 4: Bat Activity Map – Dawn 9th June 2017

Project: Project: 2017-03(08) Framptons The Colony, Sibford, Gower

Date: June 2017

SCALE: Not to scale 2017

Dawn - Sibford Gower - 09/06/2017 (Responses)

Timestamp	Surveyor ID	Bat species	Activity	Comments/additional info	Map Reference	Identification method
02:51	CC	BLE	Commute/pass		A	Bat detector, Visual observation
02:56	CC	BLE, Common pipistrelle	Commute/pass	BLE seen flying round barn then off to north	B	Bat detector, Visual observation
03:00	CC	Indeterminate bat	Commute/pass	not heard, flew round over barn then off to north	C	Bat detector, Visual observation
03:02	CC	BLE	Commute/pass	flew round me then off to north	B	Bat detector, Visual observation
03:05	CC	Indeterminate pipistrelle	Commute/pass	in & out of open end of barn, then flew off towards field	D	Bat detector, Visual observation
03:06	CC	Indeterminate pipistrelle	Foraging, Commute/pass	along hedge, fast & loud	E	Bat detector, Visual observation
03:11	CC	Common pipistrelle	Commute/pass			Bat detector
03:15	LT	Indeterminate pipistrelle	Commute/pass			Bat detector
03:17	CC	Soprano pipistrelle	Commute/pass		F	Bat detector, Visual observation
03:19	CC	BLE	Commute/pass	in & out of open end of barn a few times, then flew off towards field	D	Bat detector, Visual observation
03:27	CC	Indeterminate pipistrelle	Commute/pass	brief pass heard		Bat detector
03:35	CC	Possible myotis sp.	Commute/pass	through tree corridor, past barn, to field. Could have been cpip in clutter.	E backwards	Bat detector, Visual observation
03:37	CC	Noctule	Commute/pass	faint pass heard		Bat detector
03:41	CC	BLE	Commute/pass	along trees, towards field	E backwards	Bat detector, Visual observation
03:48	CC	Common pipistrelle	Commute/pass	distant pass		Bat detector
03:52	CC	Common pipistrelle	Commute/pass			Bat detector
03:53	CC	Common pipistrelle	Commute/pass			Bat detector
03:55	CC	Common pipistrelle	Commute/pass			Bat detector
03:59	CC	Common pipistrelle	Commute/pass	round trees	G	Bat detector, Visual observation
04:02	CC	Common pipistrelle	Commute/pass	couple of passes		Bat detector

Dawn - Sibford Gower - 09/06/2017 (Responses)

Timestamp	Surveyor ID	Bat species	Activity	Comments/additional info	Map Reference	Identification method
04:04	CC	BLE	Entry	circled in & out of open fronted bit, then flew in and disappeared		Bat detector, Visual observation
04:05	LT	Common pipistrelle	Entry	at purlin	A	Bat detector, Visual observation
04:06	CC	Common pipistrelle	Commute/pass			Bat detector
04:07	CC	Common pipistrelle	Commute/pass			Bat detector
04:07	CC	BLE	Commute/pass	very faint		Bat detector
04:09	CC	Common pipistrelle	Foraging, Commute/pass	along side of barn towards field		Bat detector, Visual observation

Second Dusk Emergence Survey

The second dusk emergence survey was undertaken on 26th June 2017 and was focused solely on the open section of the building at the north-east corner in order to determine whether brown long-eared or lesser horseshoe bats were using this area and in what manner. Sunset was at 21:29hrs.

The weather conditions during the survey were as follows:

Parameter	Start	End
Time	20:15	23:00
Temperature	17ºC	16ºC
Cloud cover	100%	100%
Precipitation	None	None
Wind speed (Beaufort Scale)	1 – light air	1 – light air

A single common pipistrelle was seen to emerge from the western gable at 21:49hrs, although as the surveyor was not focused on this area of the building, it is possible that some other emerging bats may have been missed in this area.

At 22:03hrs, some 34 minutes after sunset, a brown long-eared bat was observed emerging from the open section of the building. This was confirmed by the Anabat and by the night vision camera.

No other bats were seen to emerge from this section of the building, although there were numerous passes close to the building and surrounding vegetation by Myotis bats from 22:01-22:15hrs. Analysis of the Anabat recordings indicate these were Natterer's, a bat considered common and widespread in Oxfordshire.

At 22:23hrs a brown long-eared bat was observed flying next to the open section of the building a couple of times before flying off. This was not detected by the night vision camera, as such the bat was not hanging up to feed.

Other bat activity during the survey related to occasional passes by common pipistrelle but with no records of passes by lesser horseshoe bats from either the surveyor, Anabat or the night vision camera.

Second dusk results summary: day roost of 1 brown long-eared bat and a day roost of 1 common pipistrelle recorded.

Please refer to the insert overleaf for the results summary

KEY

- Night vision camera position
- Surveyor position
- Static detector position
- Common pipistrelle
- Myotis
- Brown long-eared
- E Emergence Point

ecolocation

Figure 5: Bat Activity Map – Dusk 26th June 2017

Project: 2017-03(08) Sibford Gower

Date: June 2017

SCALE: Not to scale 2017

Timestamp	Surveyor ID	Bat species	Activity	Comments/additional info	Map Reference	Identification method
26/06/2017 21:46:33	AS	Common pipistrelle	Commute/pass			Bat detector
26/06/2017 21:49:09	AS	Common pipistrelle	Emerging	W gable end. Confirmed by Anabat.	A	Bat detector, Visual observation
26/06/2017 21:50:33	AS	Common pipistrelle	Commute/pass		B	Bat detector, Visual observation
26/06/2017 21:56:44	AS	Common pipistrelle	Commute/pass			Bat detector
26/06/2017 21:58:07	AS	BLE	Commute/pass	Not detected by Anabat		Bat detector
26/06/2017 22:01:39	AS	Myotis sp.	Commute/pass	Small bat. Confirmed by Anabat.	B	Bat detector, Visual observation
26/06/2017 22:02:04	AS	Indeterminate bat	Commute/pass	Silent. Anabat indicates Myotis.	C	Visual observation
26/06/2017 22:03:07	AS	BLE	Emerging	From open side of barn. Confirmed by Anabat and camera	D	Bat detector, Visual observation
26/06/2017 22:08:57	AS	Common pipistrelle	Foraging			Bat detector
26/06/2017 22:11:16	AS	Myotis sp.	Commute/pass	Reverse B. Confirmed by Anabat.		Bat detector, Visual observation
26/06/2017 22:15:44	AS	Myotis sp.	Commute/pass	Circling in vegetation above my head		Bat detector, Visual observation
26/06/2017 22:19:04	AS	BLE	Commute/pass	Over roof. Confirmed by Anabat	E	Bat detector, Visual observation
26/06/2017 22:23:36	AS	BLE	Commute/pass	Past open-fronted section of barn a couple of times. Not detected by camera and not detected by Anabat.	F	Bat detector, Visual observation
26/06/2017 22:45:44	AS	Common pipistrelle	Commute/pass			Bat detector

4. Discussion & Conclusions

A detailed bat and nesting bird assessment was undertaken at the former stable building at 5 The Colony, Sibford Gower. It was understood that the building would be converted to a single residential dwelling.

The initial bat survey revealed evidence of two small piles of 10 medium-sized bat droppings on the ground floor of the building considered most likely to have been deposited by a brown long-eared bat. In addition, a pile of discarded yellow underwing moth wings were recorded in the open-fronted section of the building and is considered likely to represent a feeding perch of a brown long-eared bat as this is the location where a single brown long-eared bat was recorded entering a crack in the wall to roost.

The dusk and dawn roost characterisation surveys of the building revealed a day roost of four common pipistrelle roosting next to purlins in the external western elevation, with a single day roost of a brown long-eared bat roosting in a crack in the wall on the northern elevation. The droppings inside the building are most likely to be from the single brown long-eared bat accessing the inside of the building from its roost and occasionally perching to feed.

A single lesser horseshoe bat was recorded flying in and out of the open-fronted section of the building during the first dusk survey only but was not recorded on the other dusk and dawn surveys. The bat was not seen to hang up and perch at any point, although, this could not be ruled out on other occasions. There is a known lesser horseshoe roost around 730m from the Site and it is considered most likely that this bat was investigating new possible roosting opportunities. It should be noted that the open-fronted section of the building was too exposed to light, draught and disturbance for a lesser horseshoe to roost there during the day and such bats cannot roost in crevices, unlike the brown long-eared bat.

As the proposed conversion of the building will adversely impact the existing bat roosts (due to roof removal and filling of any crevices, thereby destroying the roosts), suitable bat mitigation is described in Section 6 to ensure that the proposed scheme can allow for permanent replacement bat roosts whilst ensuring no detrimental impact to the favourable conservation status of bats at the Site. A licence from Natural England will be necessary for any disturbing works to the building.

The NPPF encourages enhancements at the Site and as there is a known lesser horseshoe roost within 750m and a lesser horseshoe bat was recorded investigating the open-fronted section of the building, discussions were held with the planning agent and the client to agree a suitable design that would re-create an area that could be used by a lesser horseshoe bat for covered feeding or occasional perching. Access to the garden store was agreed as this will be close to boundary vegetation and the existing open-fronted section of the building; it could be used by a roosting brown long-eared bat and as an occasional covered area for a single lesser horseshoe bat.

During the initial bat survey in May 2017, an active blackbird nest was recorded in the open-fronted section of the building, but no other active bird nests were noted during the course of surveys over the next few months. It is therefore recommended that an updated inspection is undertaken of the building within two days prior to the commencement of disturbing works to make sure no birds are nesting in the building. If a nesting bird is discovered at this stage, works must not commence until the chicks have dispersed. Replacement nesting opportunities for blackbird should be incorporated into the converted building, as recommended in Section 5, below.

5. Recommendations

The National Planning Policy Framework (NPPF) section 11 sets out applications to conserve and enhance the natural environment. Paragraphs 174 to 177 of the NPPF state that net gains to biodiversity should be sought and encouraged and that net losses in biodiversity must be avoided. In order to ensure no net loss of biodiversity in accordance with NPPF & Circular 06/2005, recommendations are made below:

Bats

Derogation Licence or Method Statement

Under The Conservation of Habitats and Species Regulations 2010 it is an *absolute offence* to damage or destroy a bat roost. The Regulations fully protect bats and their breeding sites or resting places, making it an offence to:

- Deliberately capture (take), injure or kill bats;
- Deliberately disturb bats;
- Damage or destroy a bat breeding site or resting place.

In addition, the Wildlife & Countryside Act 1981 (as amended) (WCA) makes it an offence to:

Intentionally or recklessly:

- disturb any bat whilst it is occupying a structure or place which it uses for shelter or protection;
- obstruct access to any structure or place which any bat uses for shelter or protection.

The proposals were assessed against these criteria and it was concluded that the works to convert the building would likely involve destruction of the roosts of common pipistrelle and brown long-eared and would, therefore, be **licensable.**

- A **licence application** in respect of bats must be made to Natural England in order to ensure that the works are conducted in a legal manner. The derogation licence must detail appropriate timing of works and replacement roosts in the proposed development. Further details are provided in Section 6.
    - Please note: A licence application can only be made once planning permission has been granted and any relevant planning conditions have been discharged. Natural England generally take 30 working days to respond to a licence application and should a re-application or further information need to be made then this would incur the potential for up to a further 30 working days delay before a decision is issued. Additionally, a bat licence application can only be based on survey data from the most recent active bat period (i.e. the most recent May-August) period and it is well worth bearing this in mind when timetabling any development works.

Birds

- Evidence of an active blackbird nest was recorded during the surveys. The building should therefore be **surveyed for nesting birds** within two days prior to commencement of disturbing works by a competent person. Birds typically nest between March-September inclusive. If evidence of nesting birds is found at this time, no works should be undertaken that may cause disturbance until after all the chicks have dispersed.

6. Mitigation and Compensation

Bats

Certain mitigation will be needed in respect of the loss of day roosts of common pipistrelle and brown long-eared bat as a result of the proposed works.

The following mitigation is based on a licence application being made to Natural England immediately, but if disturbing works are delayed past April 2019, it is advised that updated bat activity surveys of the Site be undertaken May-early August in order to inform a licence application.

On the basis of the current information, mitigation for day roosts of common pipistrelle and brown long-eared bat should include:

Temporary roosting opportunities

As permanent replacement roosting opportunities within the converted building cannot be provided before the existing roosts are lost or disturbed, the day roosts of common pipistrelle and brown long-eared may be temporarily lost from the Site if works are undertaken during the summer months. For this reason, 2 x Schwegler 2F (general purpose) bat boxes - one each for common pipistrelle and brown long-eared - will be erected on retained mature trees at the Site in order to ensure there are continued roosting opportunities for these bats during the course of the development. The retention of such boxes after the development has been completed will also provide biodiversity enhancements at the Site.

Permanent replacement roosting opportunities

Permanent replacement roosts for the four common pipistrelle roosting adjacent to external purlins on the western elevation should include the provision of two integrated bat boxes (2x Build-In WoodStone bat boxes) under the eaves, close to the purlins, on the western elevation of the converted building. These are indicated on the annotated drawing overleaf (Proposed dwelling mitigation).

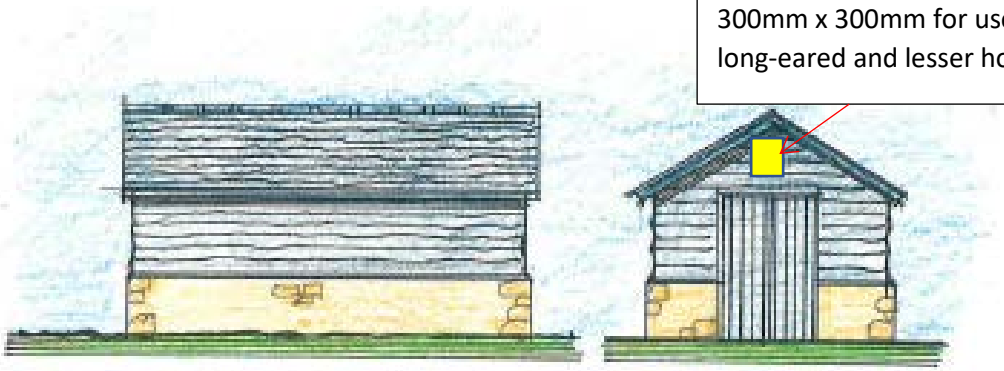
A permanent replacement roost for the single brown long-eared bat roosting in the crevice in the wall of the open-fronted section of the existing building will be provided by way of 1x Build-in WoodStone bat box located at the eaves on the eastern elevation of the proposed dwelling (to replicate the existing crevice this bat has been using). This will replicate as closely as possible the location and orientation of this roost.

The use of the WoodStone boxes has been chosen in both cases in order to complement the design and materials of the proposed dwelling and will ensure that replacement roosting locations will be separate from the inner fabric of the building and therefore avoid conflict with the new residential use.

Build-in WoodStone bat box

Garden store bat mitigation

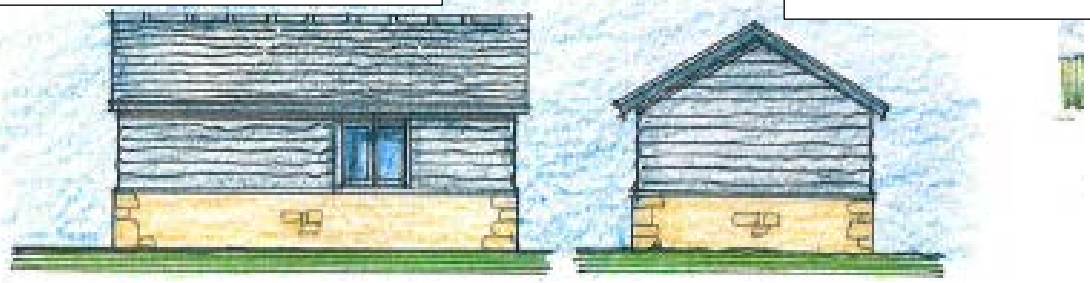
Flighted bat access. Hole measuring 300mm x 300mm for use by brown long-eared and lesser horseshoe



EAST NORTH

No pre-fab trusses used in roof construction. Needs to be uncluttered for use by bats.

Roof underlined with type 1F bitumen felt OR timber sarking but no use of breathable roofing membrane here



WEST SOUTH

ELEVATIONS 1:100

ROOF : NATURAL SLATE

WALLS : NATURAL STONE RISER TIMBER CLADDING ABOVE

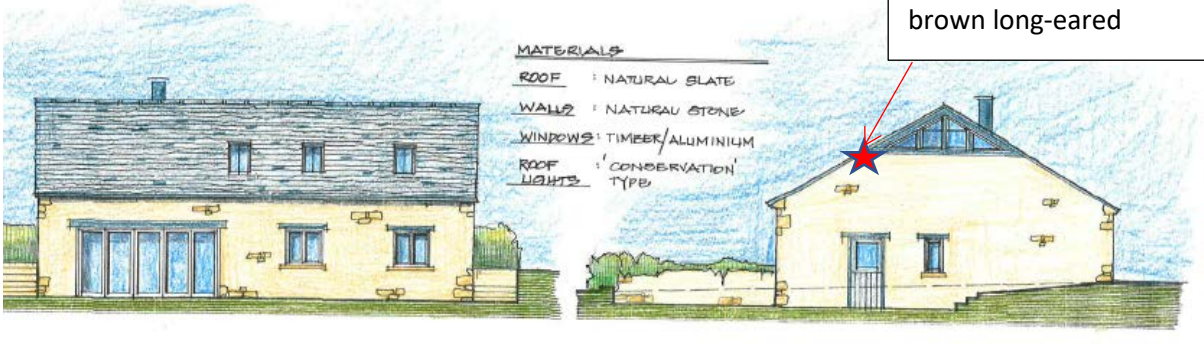
WINDOWS & DOORS : T

Proposed dwelling bat mitigation

2x Build-in Woodstone bat box for pipistrelle

NORTH ELEVATION WEST ELEVATION

1x Build-in Woodstone bat box for brown long-eared



SOUTH ELEVATION EAST ELEVATION

It is also important to provide a potential covered feeding area for brown long-eared and lesser horseshoe bats. This can be achieved by providing access to the detached garden store via an entrance hole measuring 300mm x 300mm in the north elevation above the door (see garden store bat mitigation drawing on previous page). This is large enough to permit flighted access for lesser horseshoe bats. Internally, it is vital that the construction of the garden store is suitable for use by these bat species. As such, it should be of a traditional purlin and rafter construction with an exposed ridgeboard and no use of pre-fabricated trusses. Its roof should be underlined with type 1F bitumen felt or timber sarking but under no circumstances should a breathable roofing membrane be used as this can entangle bats. It is also important that no security lights or similar are shining on the entrance to the garden store in order to maintain suitable roosting, light sampling and foraging conditions for brown long-eared and lesser horseshoe.

Disturbing works to be carried out under ecological supervision

Bats will be excluded from the building via one-way bags fitted over the roosting points on the western elevation and the same on the crevice in the wall on the open-fronted section. Any other crevices in the building will either be excluded with one-way bags or if they can be endoscoped and confirmed no bats are present, they can be stuffed with mineral wool insulation until such times that these areas need to be disturbed to facilitate the development – this will ensure no roosting bats are present when walls or timbers are pointed or removed. The exclusion bags will be fitted only after the licence has been issued and will need to be in place for a period of at least seven nights of suitable overnight temperature of at least 6degC with no strong wind or heavy rain.

A watching brief by a Licensed Bat Worker will then be necessary during the course of any roof stripping works to the building. Such works will be undertaken upon the instructions of the Licensed Bat Worker until works have reached such a stage that the Bat Worker is confident that no bat presence is likely to be identified beyond that point.

Any bats found during the course of this process should be taken into the care of the Bat Worker and released into one of the temporary bat boxes.

Should more bats be found than are approved on the Natural England licence, works would have to cease whilst Natural England are contacted for advice on how best to proceed. This can occasionally happen as bats do move roosts regularly and sometimes more bats are found during the roof strip than were observed on the dusk or dawn surveys.

Timing of the bat exclusion

The specific timings of the works will be set out in the licence application to Natural England once the likely timescales of the development are better understood. However, given the results to date have found day roosts of common species, no specific timing restrictions are necessary, although it is worth bearing in mind that works must also avoid impacting nesting birds (typically present March-August) and to achieve overnight temperatures suitable for excluding bats, winter is often best avoided. For these reasons, late summer or autumn are generally suitable in this situation, subject to any other planning conditions.

Monitoring

In the first May-August period following completion of the works, monitoring of the 3x Build-in Woodstone bat boxes will be undertaken, by way of a single evening emergence survey at the Site in order to determine the success, or otherwise, of the bat mitigation. A daytime inspection of the garden store to search for any evidence of brown long-eared or horseshoe bats will also be undertaken immediately prior to the emergence survey.

The results of the monitoring to be submitted to the Local Biological Record Centre and as in accordance with any planning or licence conditions applicable.

Birds

Certain mitigation will be needed in respect of the loss of a blackbird nest site through the proposed works.

Nesting bird check:

No more than two days in advance of any works that may be considered potentially disturbing to bats or nesting birds, a check of the existing building will be made by a suitably qualified ecologist and all contractors will be made aware of the findings and any potential constraints.

If active birds' nests are identified, a minimum 5m buffer zone of no disturbance will be clearly marked and birds will be left undisturbed until all the young have naturally fledged, which will be monitored and advised by the ecologist.

Replacement bird nesting opportunities:

An open-fronted bird box, such as that illustrated blow, would be suitable for use by blackbird and should be erected on the eastern elevation of the converted building, perhaps under the eaves of the porch.

Vivara Pro Barcelona Woodstone Open Nest Box

Outline timetable of works:

Development Activities and Timings			
Step	**Activity**	**Timing**	**Notes**
Ongoing	Commission an 'Appointed Ecologist' Toolbox talk to all contractors by Appointed Ecologist.	Start of works	An Appointed Ecologist will be commissioned to oversee works, provide advice and be on call for any protected species constraints arising throughout works. All contractors will be made aware of potential constraints relating to protected species.
1.	Erect temporary bat boxes on retained mature trees at the Site.	Any time prior to step 3	As per details within the NE bat licence
2.	Check for signs of nesting birds within the subject building	No more than two days in advance of step 3	By Appointed Ecologist immediately prior to step 3

3.	Fit one-way bat exclusion devices	Immediately following step 2	As per details of bat licence. Must be in place for at least 7 nights of suitable overnight weather
4.	Watching brief of roof strip of the building.	No timing restriction, but preferably August – October.	Only in suitable weather conditions with no strong winds, no heavy rain and air temperature of above 6ºC. Any bats found are to be captured by licensed bat worker and released into temporary bat box.
5.	Conversion of existing building, including installation of in-built bat boxes and erection of bird box. Construction of garden store and flighted access for bats	Anytime following step 4 but no later than 1 year after bat exclusion. Anytime following steps 1-2	To continue after steps 1-4 have been completed. Must start immediately after a nesting bird check.
6.	Dusk monitoring visit of permanent replacement roosts and daytime check of garden store	May-August following completion of development	1 dusk survey of 3x Build-in Woodstone bat boxes and daytime check of garden store. Results to be sent to Local Record Centre.

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