SWE Ref: SWE 590

Version No: 2

Date: 11th October 2022

Client: L & A Doran

South West Ecology

Ecology Report

Aller Farm

Disclosure

The information, opinion, and advice which I have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct and the British Standard for Biodiversity – Code of Practice for Planning and Development (2013). I confirm that the opinions expressed are my true and professional bona fide opinions.

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1.0 INTRODUCTION

1.1 Background

SWE Limited was commissioned to undertake a protected species assessment of a single residence at Aller Farm, Dolton, EX19 8PP (Ordnance Survey grid reference SS 598118 – see Figure 1). The survey was required to support a planning application for works to the house including an extension to the west elevation which would impact on the main roof (see Drawing Nos: 008G and 010G; Building Conservation Services) and replacement of the slate roof with thatch.

Figure 1. Location of the property.

1.2 Report Purpose

The purpose of this report is to:

- provide an ecological assessment through consideration of a Preliminary Roost Appraisal (PRA) and emergence survey;
- identify the ecological constraints in relation to the proposed works;

- identify the mitigation measures which may be required, where necessary, to ensure compliance with nature conservation; and
- identify appropriate enhancement and compensation measures which may be incorporated into the design, in line with local and national planning policy.

This report has been written in accordance with the guidance produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) 2017[1].

1.3 Report Lifespan

In accordance with CIEEM guidance[2] this report, and the results of the ecological survey contained within, remains valid for 12 months.

1.4 Author

The author of this report, Dr S. Holloway, has over twenty-five years' professional experience of ecology, environmental management, and nature conservation in the private, public, and voluntary sectors. He has worked extensively throughout the UK on projects relating to bats, including wind farms, quarries, and residential/industrial development. Dr Holloway is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and is a Chartered Environmentalist (CEnv).

All work was undertaken in accordance with the CIEEM recommendations, the most up-to-date and relevant survey guidance available at the time (Bat Conservation Trust 2016), and in compliance with BS:42020:2013 Biodiversity. Code of Practice for Planning and Development.

[1] CIEEM (2017) *Guidelines on Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester.
[2] CIEEM. 2019. On the Lifespan of Ecological Reports and Surveys. Advice Note. April 2019.

2.0 RELEVANT LEGISLATION[3] AND PLANNING POLICY

This ecological assessment has been completed with due regard to the requirements of and/or advice given by the following key documents.

2.1 Relevant Legislation[4]

2.1.1 Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb[5] wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time). Species include all bats.

The Habitats Regulations 2017 will continue to implement the Habitats Directive and certain elements of the Birds Directives in England. The Habitats Regulations 2010 have been amended ten times since they were last consolidated (in 2010) and remain in place since the UK exited the EU.

2.1.2 Natural Environment & Rural Communities (NERC) Act 2006

The Natural Environment and Rural Communities Act 2006 (the "NERC Act" 4) came into force in October 2006. Section 40 of this Act places a duty on public bodies to have due regard for the conservation of biodiversity when exercising their functions (meaning the conservation of biodiversity is a material consideration in the planning process). Section 41 requires the Secretary of State to publish and maintain a list of habitats and species of principal importance for the conservation of biodiversity in England (sometimes referred to as the Section 41 list or S41 list). The Secretary of State must also take steps to further the conservation of these habitats and species and encourage others to do the same. The S41 list has been drawn up

[3] Please note that the summary of relevant legislation provided here is intended for general guidance only. The original legislation should be consulted for definitive information.

[4] Please note that the summary of relevant legislation provided here is intended for general guidance only. The original legislation should be consulted for definitive information.

[5] Disturbance, as defined by the Conservation of Habitats and Species Regulations 2010, includes in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

in consultation with Natural England and is largely based on the list of priority habitats and species derived from the UK Biodiversity Action Plan.

Example species on the S41 list relevant to this assessment include brown long-eared *Plecotus auritus* bat.

2.1.3 Wildlife & Countryside Act 1981

The Wildlife and Countryside Act 1981, as amended (WCA6), implements the Convention of the Conservation of European Wildlife and Natural Habitats (The Bern Convention) and the Birds Directive in Great Britain. The WCA provides legal protection to all wild bird species (with certain exceptions) and to other species of wild animals (e.g. bat species) and plants as listed on various schedules of the Act.

The Countryside and Rights of Way Act 2000 (the "CRoW Act") primarily provides for public access on foot to areas of open land. However, it also strengthens the legal protection for species under the WCA and introduces a new offence relating to reckless disturbance of these species.

2.2 Relevant Planning Policy

2.2.1 National Planning Policy

The NPPF (2021) includes the Government's national planning policy guidance on the protection of biodiversity. The NPPF sets out the role that the planning system must play in the protection of biodiversity in relation to the natural environment. The following section details the most relevant biodiversity guidance to the proposed Development.

Paragraph 174 states that "The planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites for biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services; and

- minimising impacts on and providing net gains for biodiversity.

Paragraph 180 states that when determining planning applications, local planning authorities should apply the following principles:

A) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
B) development on land within or outside a site of special scientific interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of sites of special scientific interest;
C) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons63 and a suitable compensation strategy exists; and
D) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.2.2 Government Circular 06/20059

The Government Circular 06/20059 remains valid despite the cancellation of the former Planning Policy Statement 9 (PPS9) which it accompanied, and which was replaced by the NPPF. Of relevance to this site, the circular advises that potential effects of a development on priority habitats or species (i.e. Habitats and Species of Principal Importance – see below) are capable of being a material consideration in the preparation of regional spatial strategies and local development documents and the making of planning decisions.

2.2.3 Species and Habitats of Principal Importance

Priority habitats and species are formally defined in the NPPF as species and habitats of principal importance included in the England Biodiversity List published by the Secretary of

State under section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Planning authorities have a duty under Section 40 of the NERC Act to have regard to priority species and habitats in exercising their functions including development control and planning.

3.0 METHODOLOGY

A Preliminary Roost Assessment (PRA) of the building was undertaken on the 13th May 2022 in line with Bat Conservation Trust (BCT, 2016)[6] guidance. The PRA involved a detailed external and internal inspection to compile information on the potential and actual bat entry/exit points; potential and actual bat roost locations; and evidence of bats such as droppings. The weather at the time of survey was overcast with F0 winds, and 16^0C.

The exterior of the building was visually assessed for potential bat access points and evidence of bat activity, using binoculars where necessary. Features, such as small gaps/ crevices beneath eaves, along the ridges or within the stonework; lifted or missing tiles; or gaps around doorways which had potential as bat access points into the building were sought. Evidence that these potential access points were actively used by bats typically would include staining within gaps and/ or bat droppings or urine staining under gaps and/ or on walls. These signs were recorded wherever they were present. The presence of cobwebs and general detritus within the features were also recorded as these indicate that potential access points were likely to be inactive.

The internal roof space was assessed for evidence of bat activity, or potential roost features. Evidence, including droppings and urine staining, was sought beneath features that bats may use for roosting and/ or as an access point. Features included gaps within mortise joints, above beams and lintels and gaps within walls. The presence of a bat roost is typically indicated by the presence of live/ dead bats; a concentration of, or scattered bat droppings; food remains, for example moth and butterfly wings; scratch marks; and fur, or urine stains.

A search for historic evidence of nesting birds was conducted during the PRA.

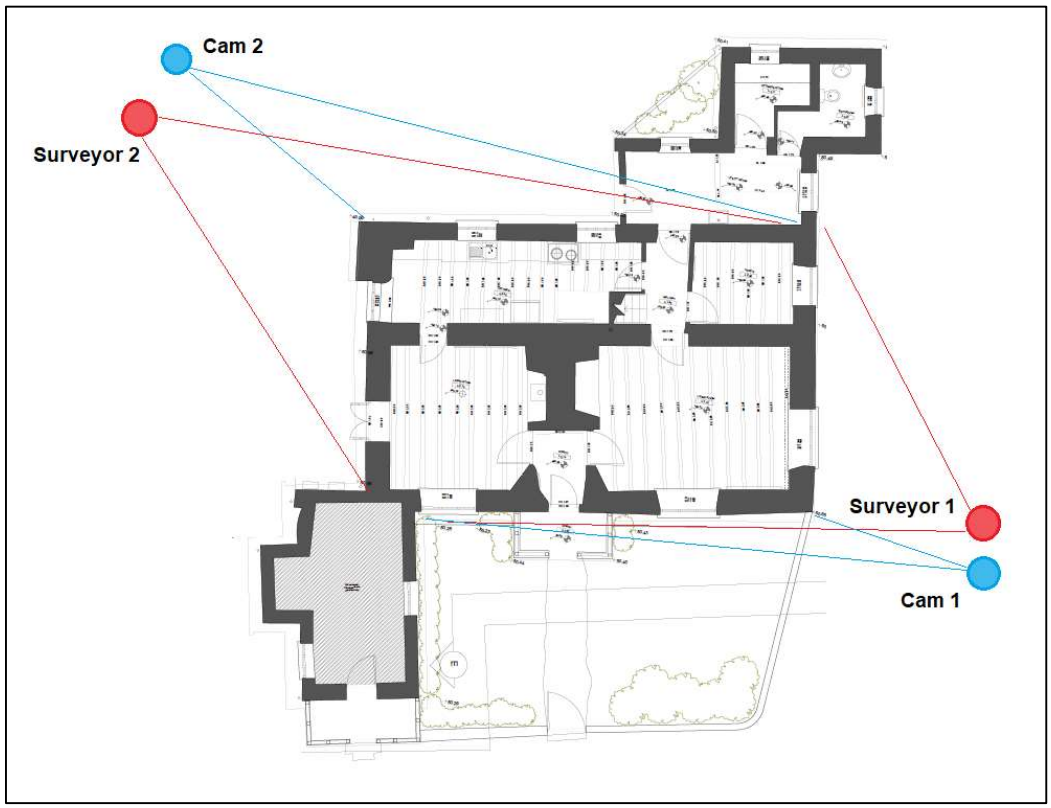
A torch and binoculars were used as required during the survey.

Subsequent to the findings of the PRA and eDNA analysis, which concluded that the house attic is used as a roost by brown long-eared bats, emergence surveys of the house were conducted on 18th August and 29th September 2022 as per the Bat Conservation Trust (2016) guidance. Two surveyors using EM2 Pro detectors observed the building from *c.* 15 minutes prior to sunset and for up to 1.5 hrs after sunset. In addition a thermal imaging camera (Pulsar Helion 2 XQ38F) was used.

[6] Collins 2016. Bat Surveys for Professional Ecologists. Good Practice Guidance. 3rd Edition.

Sunset was at 20:31 and 18:59 hrs. The temperature at the start of the 18th August survey was 17.5°C, with 100% cloud cover and F2 winds. The temperature at the end of the survey was 16.3°C, 100% cloud cover, with F1 winds. The temperature at the start of the 19th September survey was 15.3°C, with 90% cloud cover and F0 winds. The temperature at the end of the survey was 12.8°C, 10% cloud cover, with F0 winds.

Figure 2. Location of surveyors and thermal cameras.



3.1 Limitations

This report is based on the evidence recorded at the site at the time of the survey.

Bats and birds are highly mobile species groups and therefore the findings and assessments provided should be regarded as a 'snapshot' of activity during part of the season.

4.0 RESULTS

The house was located within a rural area. The immediate surroundings consisted of a driveway, parking area/yard, and residential garden. The wider landscape comprised of grassland fields bounded by hedgerows and broadleaf woodland. The landscape had high potential value for commuting/foraging bats.

4.1 PRA

The details of the PRA are provided in Table 1. This assessment only includes the main house and not the extensions located to the north and south elevations. Where works to the extensions are to take place, or the house extension will impact on these, further survey may be required.

Table 1. Building description and protected species evidence

Photos	Description
The south elevation  **The south elevation showing gap in soffit** 	The house consisted of a ground floor, first floor and second floor the latter taking up the majority of the roof space. The house was constructed of cobb/stone walls which were rendered and in a good condition. The doors and windows were timber framed and in a good condition with no points of access for bats or birds. The pitched roof consisted of a timber frame overlaid with bitumen roofing felt and slates with a clay ridge. The slates were in a good condition with only minor gaps seen – these were mostly filled with detritus or moss. There were minor gaps under some of the ridge tiles. There was a brick chimney with lead flashing to the base. The eaves included timber barge boarding and timber soffits. The majority of the barge boards and soffits were in a good condition however one lower section of soffit was falling away to the south elevation – this would allow bat or bird ingress. There also small rot holes to the ends of the

Table 1. Building description and protected species evidence

The north elevation

The west elevation

Internal roof space 1. Likely location of bat ingress and roosting area

Bat droppings beneath water tank and timbers in roof space 1

soffits and minor gaps elsewhere that could allow bat ingress into the roof structure.

The dormer roof contained 3 no. windows projecting from the pitched roof to the south elevation. These included timber soffits and pitched slate roofs. There were gaps under the timbers which could allow ingress for bats.

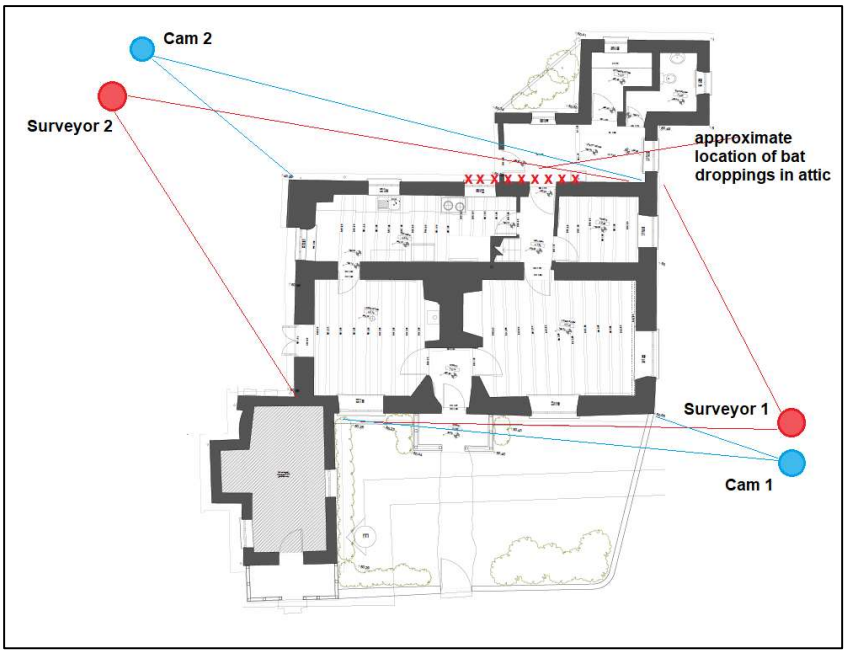
The external walls showed evidence of historic nesting by swifts.

The internal roof space was limited due to the dormer. An access door to the eastern side of the roof from a bedroom led into a small space that contained a water tank. Approximately 100 fresh bat droppings were noted on the floor with occasional droppings stick to the wall. No bats were seen. It is likely bats entered the small room via gaps in the ceiling above the water tank or where the door to the attic space had been left open.

There were a high number of droppings located within the attic space (approximately 1000, both old and fresh noted on timber flooring and on insulation – Figure 3). 4 no. long-eared bats were noted roosting on the bitumen roofing felt.

Table 1. Building description and protected species evidence	
Roof space 2  **Bat droppings in roof space 2** 	

Figure 3. Approximate location of bat droppings.



The analysis of the bat droppings confirmed that they were produced by brown long-eared *Plecotus auritus* bats.

SureScreen Scientifics

Folio No: E13630
Report No: 1
Purchase Order: Aller 1
Client: SWE LTD
Contact: Steve Holloway

TECHNICAL REPORT

ANALYSIS OF BAT DROPPINGS FOR SPECIES OF ORIGIN IDENTIFICATION

SUMMARY

The droppings of bats contain small amounts of DNA belonging to the organism from which they originated. By analysing droppings collected from a bat roost or colony for the presence of DNA, a robust identification of the species present can be made. Recent advancements in molecular methods including PCR (polymerase chain reaction) and DNA sequencing mean that 92% of bat species worldwide can be identified including all 17 UK resident bat species.

RESULTS

Date sample received at Laboratory: 17/05/2022
Date Reported: 24/05/2022
Matters Affecting Results: None

Lab Sample ID.	Site Name	O/S Reference	Genetic Sequence	Common Name	Result	Sequence Simliarity
B700	Aller Farm	SS 583 119	TCCGGGGAATGGATTGGGTG CCACTAAATAATTGGGAGCC CCTGATATAGCTTTTCCCCG AATAAATAACATAAGCTTCTG ACTGCTTCCCCCATCTTTTC TACTACTTTTAGCTTCGTCTG CAGTAGAGGCTGGAGCAGGT ACCGGTTGAACAGTCTATCC TCCTTTAGCGGGAAACCTTG CCCACGCTGGAGAGACTACT TTGCAGAT	Brown long-eared bat	*Plecotus auritus*	97.25%

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Jennifer Higginbottom **Approved by:** Chelsea Warner

4.2 RCA

During the emergence surveys brown long-eared, common pipistrelle and soprano pipistrelle bats were recorded emerging from the roof of the house. (Figure 4). The bats emerged at several points. No other bat species were found to emerge.

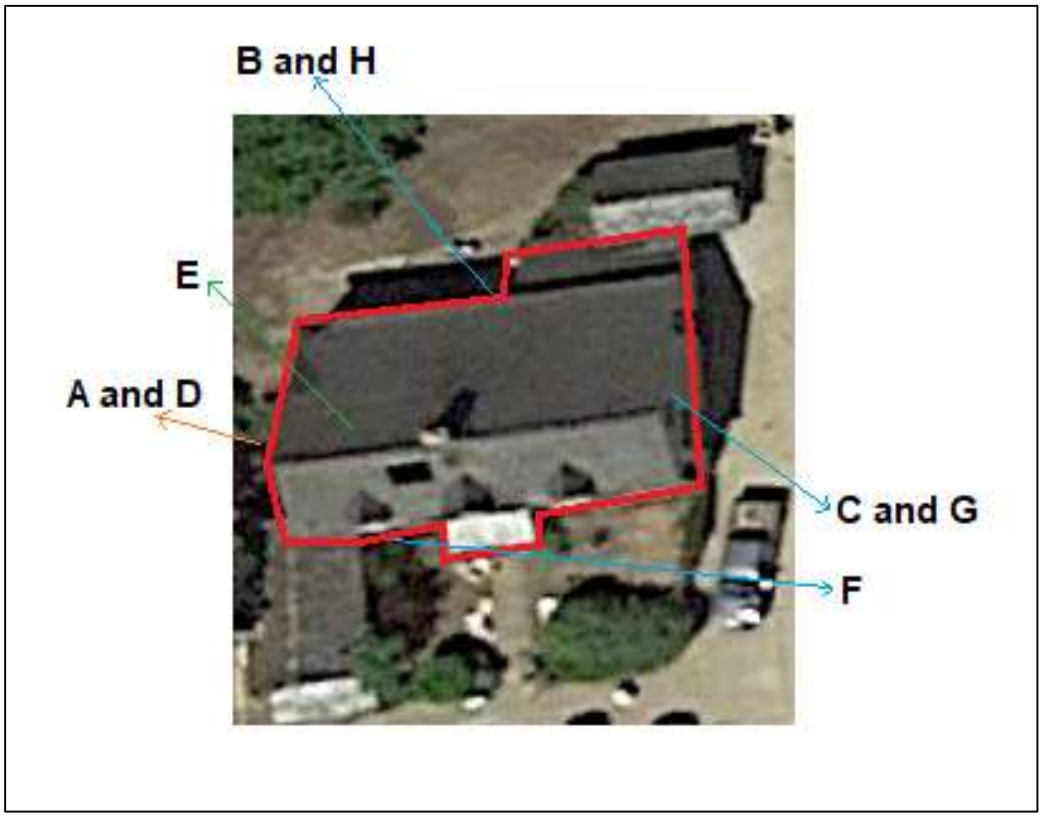
This demonstrated that the house contains a small roost of brown long-eared bats and roosts for small numbers and a single soprano and common pipistrelles respectively.

Common and soprano pipistrelles foraged over the garden throughout the survey period. Occasional noctule flew at height over the property.

Table 2. Details of emerging bats and incidental recordings.

Date	Bat seen to emerge	Incidental bat registrations (not associated with the bungalow)
18.08.22	A. 2 no. soprano pipistrelles emerged from the apex of the roof to the west elevation at 20: 41 hrs on 18th August. B. 3 no. brown long-eared bats emerged from beneath or near to the eaves to the north elevation between 20:56 hrs and 21:04 hrs. C. 2 no. brown long-eared bats emerged from the end of the ridge tiles to the east elevation at 21:05 hrs.	Soprano and common pipistrelles flying around the garden. Noctule flying overhead.
29.09.22	D. 1 no. soprano pipistrelle emerged from the roof apex to the west elevation at 19:12 hrs. E. 1 no. common pipistrelle emerged from the north facing roof tiles at 19:12 hrs. F. 1 no. brown long-eared bat emerged from the soffit to the south elevation at 19:23 hrs. G. 6 no. brown long-eared bats flew from the roof apex to the east elevation between 19:24 hrs and 19:39 hrs. H. 3 brown long-eared bats flew from under or near to the roof eaves to the north elevation between 19:28 and 19:44 hrs.	Soprano and common pipistrelles flying around the garden. Noctule flying overhead.

Figure 4. Location of bat emergence.



5.0 ASSESSMENT

The results of the survey were assessed in accordance with current legislation.

The results of the survey were assessed in accordance with current legislation and policy.

5.1 Bats

Given the evidence found it is concluded that the following roosts are present in the house roof:

- Brown long-eared – small number (between 5 and 9 with the higher number potentially including juveniles) of bats roosting in at least one location. Given the numbers it was concluded that a small maternity roost is present.
- Soprano pipistrelle – small day roost of up to two bats.
- Common pipistrelle – occasional day roost for a single bat.

The brown long-eared maternity roost is of moderate conservation significance. The scale of impact of the proposed extension would be low and the re-roofing works high. Timing constraints with respect to the re-roofing will need to be applied. It is expected that a like-for like opportunity will be retained for brown long-eared bats although it is acknowledged that replacing the slate roof with thatch may prohibit the bats return due to changes in temperature, humidity etc. Consideration should therefore be made to provide a new roost in an adjacent outbuilding. Monitoring for 2 years will be required.

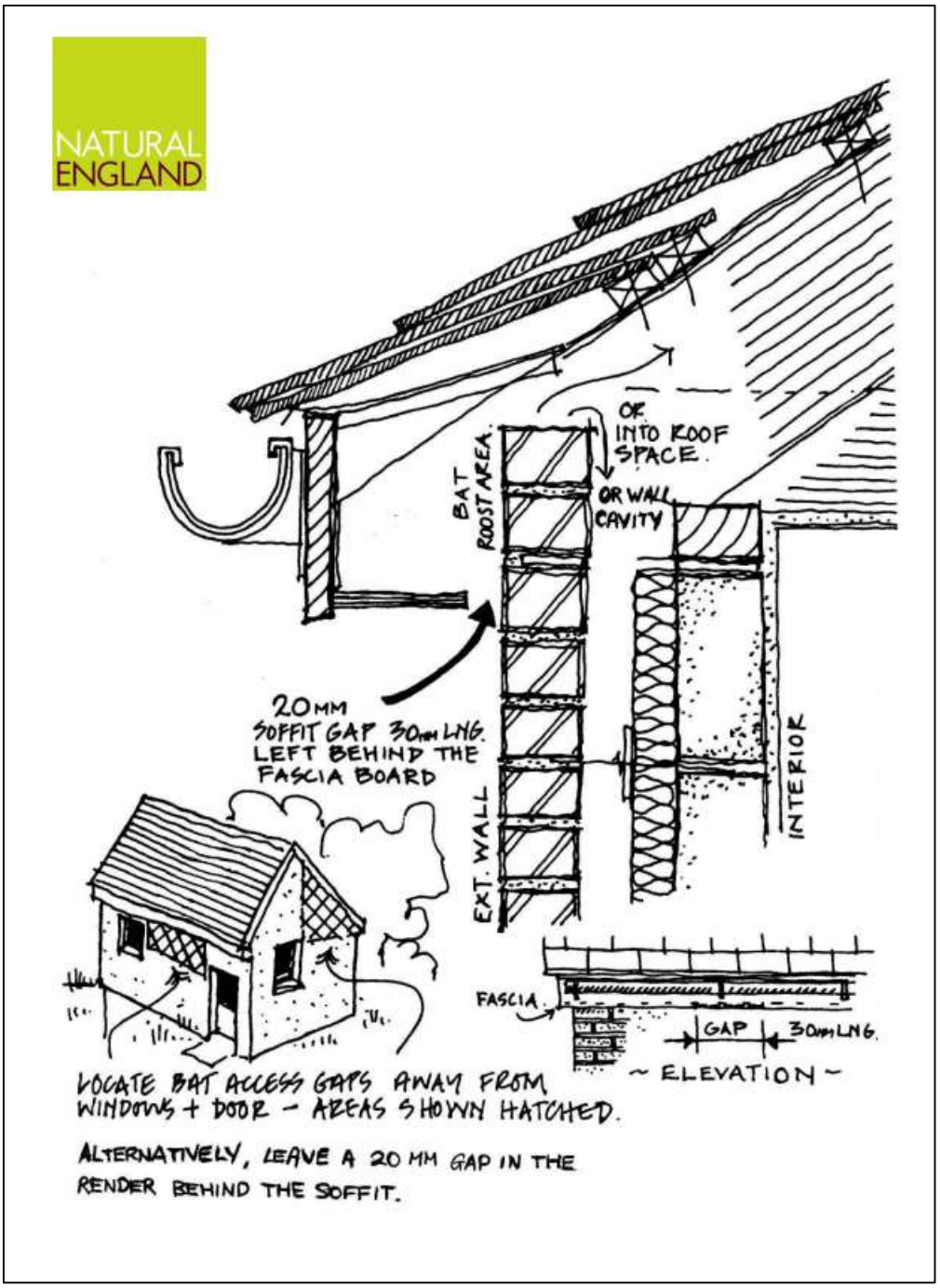
The soprano and common pipistrelle roosts are of low conservation significance. The scale of impact of the proposed extension and re-roofing works of the house on pipistrelle roosts would be low. There is flexibility over the provision of bat boxes, access to the completed extension / re-roof. There are no conditions about timing or monitoring.

In this instance a European Protected Species Licence (EPSL) will be required prior to commencing the proposed works. The EPSL will include the following measures (this list is not exhaustive) and these should be made a condition of any planning permission).

The following must apply for this project where planning permission is granted:

- The roofing works to the house to be conducted between 1st October and 1st May to avoid disturbing bats. Where this is not possible an alternative maternity roost will need to be provided prior to re-roofing works commencing. This could for example be a roost built into one of the adjacent barns to the south of the house (a bat loft). The roost should have a minimum of 4 m x 4 m area and 2 m ridge beam to floor of the roof space. Heating of the roof space will be critical for a successful brown-long eared maternity roost. Roost zones with high internal temperatures are required (typically 25^0C to 40^0C required). Suitable access into the replacement bat loft through the roof eaves (via 2 x holes through a soffit or barge board – size 15 – 20 mm high x 20 – 50 mm wide). Access via the entrance must provide bats a means to enter the roof void. See Figure 5 for an example of an access point.
- 2 no. woodcrete bat boxes (for example the Beaumaris Woodstone Bat Box or equivalent) suitable for pipistrelle bats to be placed as high as possible – 1 no. to the east elevation and 1 no. to the south elevation walls. These should be erected prior to works commencing on the extension / or re-roofing.
- Access into the retained roof spaces must be provided through the roof eaves as mentioned above. 2 no. access points should be provided to the north and south elevations, and 1 to the east elevation.
- Contractors must be advised in writing that there is potential presence of bats in the roof space;
- On the morning that works to the roof are due to commence, a suitably qualified ecologist should attend site to (a) carry out a pre-works survey to confirm there are no bats present; and (b) give a tool-box talk briefing the contractors covering brief details of bat ecology and roosting behaviour, legislation covering bats and bat roosts, and what to do if a bat is encountered during works;
- If a bat is encountered at any time during the proposed works when the ecologist is not on site, work should cease immediately in the vicinity of the bat, and advice should be sought immediately from the ecologist. Bats should never be handled by those inexperienced of bats and must never be handled without wearing suitable protective gloves.
- Two years monitoring of the bat provision by a licenced bat ecologist as per best practice.

Figure 5. Example of an access point into the roof. Natural England.



5.2 Nesting birds

The roof has been used in the past by swifts although all nests had been removed / fallen off at some point. Because of the potential for presence of nesting birds the extension and roof works should not take place between 1st March and 31st August inclusive, unless a careful, detailed check for active birds' nests has been conducted immediately beforehand (as per BS

42020:2013). Any birds nesting must be left to complete breeding (i.e. until all dependant juveniles have fledged).

Two nest boxes should be fixed to the external walls of the house, for example 2 No. 17A Schwegler Swift Nest box (Triple Cavity), or equivalent. The boxes should be erected under the eaves to the south elevation.

6.0 CLOSURE

This report has been prepared by SWE Limited with all reasonable skill, care, and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

The information presented in this report provides guidance to reduce the risk of offences under UK law. However, SWE is not a legal practice and disclaims any responsibility to the client and others for actions that lead to offences being caused, whether or not the guidance contained in this report is followed. Interpretation of UK legislation is presented in good faith; however, for the avoidance of doubt, we recommend that specialist legal advice is sought.

This report is for the exclusive use of L & A Doran; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SWE.

SWE disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.