Bat Survey Report

Great Treburrick Farm, St. Eval, Cornwall, PL27 7UR

Grid References:

Barn 2: SW 86642 70924

8th August 2023

Version 1

Plan for Ecology Ltd
Tremough Innovation Centre
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Document Control:

Site Name:	Great Treburrick Farm, St. Eval, Cornwall, PL27 7UR
OS Grid Reference:	Barn 2: SW 86642 70924
Report Author:	Holly Thomas FdSc
Document Reviewed by:	Naomi Scala BSc (Hons), MSc, ACIEEM (Bat licence no: 2018-34120-CLS-CLS; Dormouse licence no: 2016-20661-CLS-CLS; Barn owl licence no: 2023-11048-CL29-OWL)
Document Approved by:	Dr Kim Jelbert BSc (Hons), MSc, PhD, MCIEEM (Bat licence no: 2015-10444-CLS-CLS; Registered Consultant: RC224; Barn owl licence no. CL29/00037; Dormouse license no: 2016-22394-CLS-CLS)
Client:	Richard Old
Report Reference Number:	P4E3041
Version:	01
Date:	8th August 2023

Declaration:

been prepared and provided in accordance with the Chartered Institute of Ecology & Environmental
the opinions expressed are

Holly Thomas	
Naomi Scala	
Kim Jelbert	

Report Lifespan:

Ecological features can change over time, particularly if site management/ use changes. Typically, bat surveys are valid for 18 months (until February 2025).

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1.0 Summary

Bat evidence?	The emergence survey results indicate that Barn 2 at Great Treburrick Farm does not currently support roosting bats.
Proposed works?	The client proposes to demolish Barns 1 and 2and construct one residential dwelling
Bat specific mitigation recommendations?	Mitigation not required. Precautionary recommendations are provided. Although, bats are not currently, at the time of the survey, using the building, access points and internal features with potential to support bats were identified during the visual assessment. A precautionary approach should be adopted. The building contractors should be made aware that bats can roost unseen within the building structure. If, during works, a bat(s) is uncovered, the bat must not be handled, and works must stop immediately (as soon as it is safe to do so). Advice must be sought from an experienced bat ecologist (Plan for Ecology Ltd: 01326 218839) or Bat Conservation Trust (Tel: 0345 1300 228). There is opportunity to make provision for roosting bats within the new building and to enhance the value of the site for bats post-development.

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2.0 Introduction

2.1 Background

Richard Old commissioned Plan for Ecology Ltd to undertake a Preliminary Bat and Bird Assessment (sometimes referred to as a Bat and Barn Owl Assessment) of two barns at Great Treburrick Farm, St. Eval, Cornwall, PL27 7UR (OS Grid Ref for Barn 1: SW 86623 70931 and for Barn 2: SW 86642 70924) in April 2023. The client proposes to demolish the barns and rebuild one residential dwelling.

The barns were assessed for their suitability to support roosting bats. No evidence of bats was found in the barns; however, barn 2 has a small number of external features that could support roosting bats and was, therefore, assessed as being of low for roosting bats (Plan for Ecology Ltd, 2022).

In accordance with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), a single bat emergence survey of Barn 2 was recommended, during the bat active season (May to September inclusive) to inform the development works. Barn 1 was assessed as being of negligible suitability and, therefore, no further survey was recommended. In April 2023, Richard Old commissioned Plan for Ecology Ltd to undertake the recommended further survey work. This report describes and evaluates the use of the building by bats, and details mitigation

Professional Ecologists - .

2.2 Project Administration

Property Address:	Great Treburrick Farm, St. Eval, Cornwall, PL27 7UR
OS Grid Reference:	Barn 2: SW 86642 70924
Client:	Richard Old
Planning Authority:	Cornwall Council
Planning Reference Number:	Unknown
Report Reference Number:	P4E3041
Proposed work:	Demolition of Barn 1 & 2, and construction of one residential dwelling
Visual Assessment Date:	24th April 2023 (Barns 1 & 2)
Emergence Survey Date:	28th June 2023 (Barn 2)
Ecologist & Licence Number:	Naomi Scala BSc (Hons) MSc ACIEEM; Bat licence no: 2018- 34120-CLS-CLS; Barn Owl licence no: 2023-11048-CL29-OWL; Dormouse licence no: 2016-20661-CLS-CLS. Holly Thomas FdSc

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2.3 Legislation & Planning Policy

Planning: The local planning authority has a statutory obligation to consider impacts upon protected species resulting from development. Planning permission will not be granted with outstanding ecological surveys, and if applicable an appropriate mitigation plan.

Bats: In Britain protection of European Protected Species (EPS) such as bats is achieved through their inclusion on Schedule 2 of the Conservation and Habitats Regulations 2017 (as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (HM Government, 2019)), Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 12 of the Countryside and Rights of Way Act 2000 (HM Government, 1981, 2000 & 2017).

As a result of this statutory legislation it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat/s in its roost;
- Intentionally or recklessly damage, destroy or obstruct access to a bat roost (even if bats are not occupying the roost at the time);
- Possess or sell or exchange a bat (dead or alive) or part of a bat.

Works with potential to cause significant disturbance to roosting bats may require a European Protected Species (EPSL) licence or Bat Mitigation Class Licence (CL21) from Natural England before works can legally commence. Works likely to result in less significant disturbance may be carried out under a Bat Mitigation Method Statement. The magnitude of disturbance and therefore the requirement for an EPSL, Bat Mitigation Class Licence or method statement is assessed on a case by case basis by the bat ecologist. The Bat Mitigation Method Statement or EPSL must be prepared and/or applied for by a suitably experienced and licenced bat ecologist. Where planning permission is required, the appropriate licence cannot be obtained until planning permission has been granted.

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3.0 Methodology

3.1 Summary Visual Assessment

A visual assessment of Barn 1 and 2 was undertaken on 24th April 2023. The ecologist (Chloe Balmer) assessed the suitability of two barns and surrounding habitat to support bats in accordance with Collins (2016). A high-power torch was used to illuminate all accessible areas of the barns with potential to support roosting bats. The ecologist searched for signs of bats including droppings, staining and feeding remains.

The assessment was carried out in accordance with the Bat Surveys for Professional Ecologists - Collins, 2016). Potential bat roosts identified during the visual inspection of the building were categorised as to their suitability Collins, 2016) as described below:

Negligible: negligible features with potential to support roosting bats.

Low: one or more features with potential to support individual bats on an occasional basis. Unlikely to support large numbers of bats.

Moderate: one or more features with potential to support roosting bats but unlikely to be of high conservation status.

High: one or more features with potential to support large numbers of bats on a regular basis.

3.2 Emergence Surveys

A single emergence survey of Barn 2 (Figure 1) was undertaken on 28th June 2023. An emergence survey involves an ecologist(s) counting the number of bats emerging from the building for 15 minutes before sunset and for a period of 1.5 hrs after sunset. The surveyor(s) record the calls of any bats that emerge using a bat detector and recording equipment. The surveyors also used night vision recording equipment as detailed below; this enables identification of the species present and the location of bat access points (where applicable). Night vision aids increase the likelihood of detecting bats emerging later during the survey (<45 minutes are after sunset) when light levels are low. Naomi Scala BSc (Hons) MSc ACIEEM reviewed the video footage for the last 60 minutes of the survey (when light levels were low) using the Reolink App and on x2 speed.

Two ecologists were present during the emergence survey on 28th June 2023. Surveyor locations are shown in Figure 1 (below). Surveyor 1 (Naomi Scala) used an Echo Meter Touch (EMT) 2 coupled with a Reolink RLC-811A security camera and JC Security Infrared Illuminator 12-LED. Surveyor 2 (Holly Thomas) used an Anabat Express and a Batbox Duet coupled with a Reolink RLC-811A camera and JC Security Infrared Illuminator 12-LED. Cameras and infrared illuminators were located on tripods positioned to fully capture the required elevation of the building. The Reolink RLC-811A is widely and successfully used to record bats emerging from buildings.

Each bat detector type uses a different method of detecting; the EMT detector uses heterodyne and real-time expansion, the Batbox duet uses heterodyne and the Anabat express uses frequency division. Each method of detection is described below:

- Frequency division: this method automatically and continuously records bat calls at all frequencies, and makes them audible to the human ear by dividing the call frequency by 10. Calls are played in real time and can be readily identified with sound analysis.

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- A real-time expansion bat detector digitally records ultrasonic bat calls and then plays them back at a slower rate and frequency to give an audible output.

- Heterodyne: this method identifies bat calls echolocating at the frequency set by the operator but will fail to/ or only partially record bat calls outside this frequency.

3.3 Ecological Evaluation

The value of buildings/ other structures for roosting bats is determined following the framework provided by Wray et al. (2010). This framework determines the appropriate value of a roost on a geographic scale, based on the relative rarity of the bat species using the site (based on the known distribution and population size in the U.K.), as well as the type of roost (based on the results of the emergence/ re-entry and static detector surveys). Where more than one bat species is present within the site, each species is valued individually, and the highest value obtained is assigned to the site.

Table 1 (below) categorizes bat species by their distribution and rarity in England. Table 2 (below) assigns a value for each roost type for the different rarity categories (Tables 1 and 2 are adapted from Wray et al. 2010).

Table 1: Relative rarity of bat species in England (adapted from Wray et al. 2010)

Rarity (within range)	Region
	England
Common	Common pipistrelle (Pipistrellus pipistrellus) Soprano pipistrelle (Pipistrellus pygmaeus) Brown long-eared (Plecotus auritus)
Rarer	Lesser horseshoe (Rhinolophus hipposideros) Whiskered (Myotis mystacinus) [illegible] Myotis brandtii) [illegible] Myotis daubentonii) [illegible] Myotis nattereri) [illegible] Nyctalus leisleri) Noctule (Nyctalus noctula) [illegible] pipistrelle (Pipistrellus nathusii) Serotine (Eptesicus serotinus)
Rarest	Greater horseshoe (Rhinolophus ferrumequinum) [illegible] Myotis bechsteinii) Alcathoe (Myotis alcathoe) Greater mouse-eared (Myotis myotis) Barbastelle (Barbastella barbastellus) Grey long-eared (Plecotus austriacus)

Table 2: Value of bat roosts (adapted from Wray et al. 2010)

Value	Roost types
District, local or parish	Feeding perches (common species) Individual bats (common species) Small numbers of non-breeding bats (common species) Mating sites (common species)

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Value	Roost types
County	Maternity sites (common species) Small numbers of hibernating bats (common and rarer species) Feeding perches (rarer/rarest species) Individual bats (rarer/rarest species) Small numbers of non-breeding bats (rarer/rarest species)
Regional	Mating sites (rarer/rarest species) including well-used swarming sites Maternity sites (rarer species) Hibernation sites (rarest species) Significant hibernation sites for rarer/rarest species or all species assemblages
National	Maternity sites (rarest species) Sites meeting SSSI guidelines
International	SAC sites

3.4 Weather Conditions

The weather during the initial visual assessment was in line with seasonal norms. The emergence survey was undertaken during suitable weather conditions, as described below:

- 28th June 2023: Dry with part cloud and a temperature of 16ºC at the beginning of the survey; and 16ºC, part cloud and dry at the end of the survey; in accordance with the Beaufort Scale, wind was light breeze .

3.5 Limitations

There are a small number of visible features on the exterior of Barn 2 with potential to support roosting bats, which could not be fully inspected for evidence of bats. This limitation was addressed by undertaking a bat emergence survey. There are no limitations associated with weather conditions.

The bat survey was undertaken in accordance with best practice guidance; however, the results of this survey represent only a snapshot of use at the time of survey.

The calls of four bat species are notoriously difficult to record: the long-eared bat (Plecotus spp.) and the barbastelle bat (Barbastella barbastellus) have a quiet echolocation call, and the horseshoe bats (Rhinolophus hipposideros & R. ferrumequinum) have highly directional calls. The long-eared, barbastelle and horseshoe species can be easily missed during bat detector surveys. We presume all Plecotus spp. recordings are those of brown long-eared bat (Plecotus auritus) because Cornwall is outside the known range of the grey long-eared bat (Plecotus austriacus).

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4.0 Bat Survey Results

4.1 Site Description and Habitat Assessment

Barns 1 and 2 are located within Great Treburrick Farm approximately 1 km west of Penrose, c. 1.3 km southeast of Porthcothan and c. 9 km northwest of St Eval, Cornwall. The barns are located centrally within the farmstead and are located west of the rural lane leading to Great Treburrick Farm.

The area is rural in character with further agricultural buildings within the nearby vicinity. Pockets of Deciduous Woodland (UK BAP Priority Habitat/ Section 41 NERC Act, 2006 Habitat of Principal Importance) are present c. 280m east and west of the site. Habitats in the wider area comprise predominantly mixed farmland with pockets of broadleaved woodland; and small towns and villages.

Buildings in the wider area comprise a mixture of period and modern properties with vegetated gardens, outbuildings and barns. In combination, these features provide potential high-quality foraging and roosting habitat for bats.

4.2 Visual Assessment Summary: Barn 2

The visual assessment was undertaken on 24th April 2023. See Plan for Ecology Ltd (2023) for the full visual assessment description.

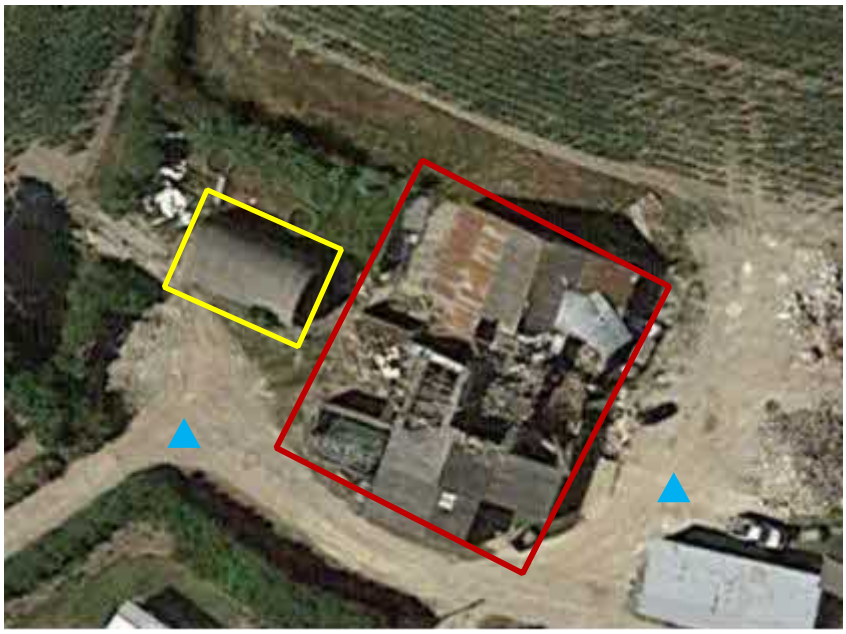

Figure 1: Aerial view of the two barns; the yellow outline is referred to as Barn 1 and the red outline refers to the total area of Barn 2 (though most of the northern section is dilapidated). Blue triangle shows surveyor locations.

Externally, Barn 2 is a detached barn comprising of multiple sections and construction types (Figs 2-6. A likely original stone building was extended and is connected to block-built sections to the north and south. The stone-built section has a slate tiled, pitched roof with concrete ridge tiles. The northern part of the pitched roof is largely missing and dilapidated, but part of the roof to the south is slightly more intact; here slate tiles and concrete ridge tiles were observed to be lifting in places, creating small gaps beneath which provide potential roosting locations for crevice dwelling

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bats. The block-built sections to the north have pitched roofs of corrugated metal sheeting; the southern block-built section features a pitched roof of likely asbestos (or other cement fibre) corrugated sheeting material. All corrugated sheeting is supported by timber joists with a metal A-frame, the slate tiles are supported by a timber unlined A-frame. The exterior is exposed and largely dilapidated; on the northern gable end a large gap between the two block walls is present. This part of the building appeared to be structurally unstable. On all elevations, doorways and windows were unglazed and open (previously used to house livestock). The stone-built section features small gaps within the stonework and beneath flaking render; these areas have potential to support roosting bats by providing roosting locations for crevice dwelling bats.

No evidence of bats using Barn 2 at Great Treburrick Farm for roosting was observed. The state of the interior lessens its suitability due to the draughty exposed nature and wet/ dampness from the dilapidated corrugated roofs. Barn 2 does, however, support a small number of external features with potential to support roosting, crevice dwelling bats (gaps beneath lifting slate roof tiles, under ridge tiles and within the stonework of the stone-built section). The rural nature of the site and surrounding landscape makes the site suitable for roosting, foraging and commuting bats. Overall, the Barn 2 at Great Treburrick Farm was, therefore, assessed as being of for roosting bats.

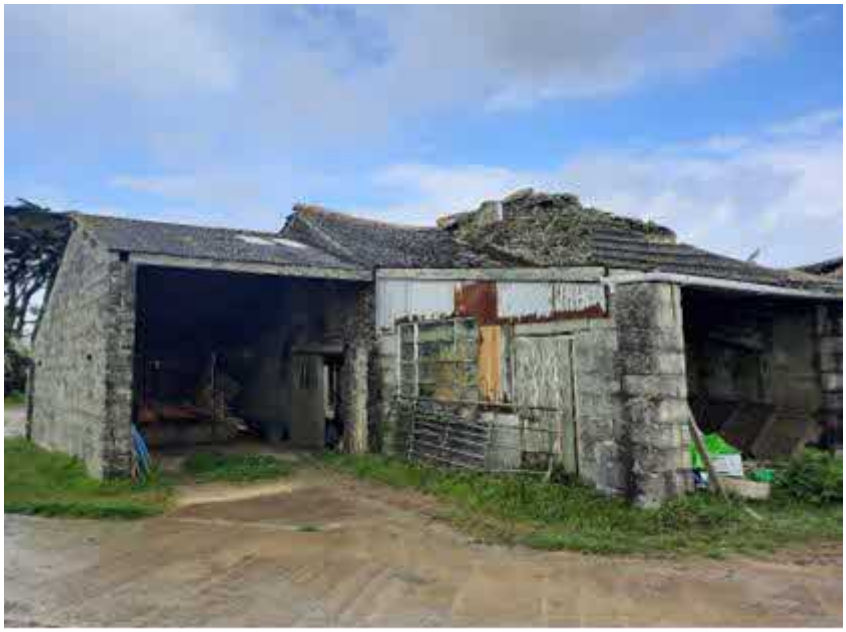

Figure 2: View of the eastern and southern elevations of Barn 2.

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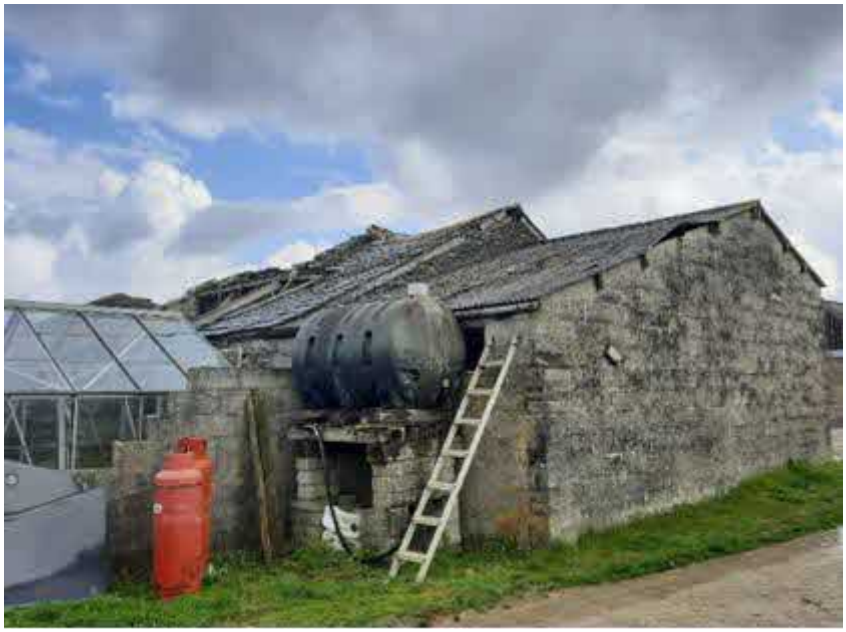

Figure 3: View of the southern and western elevations of Barn 2.

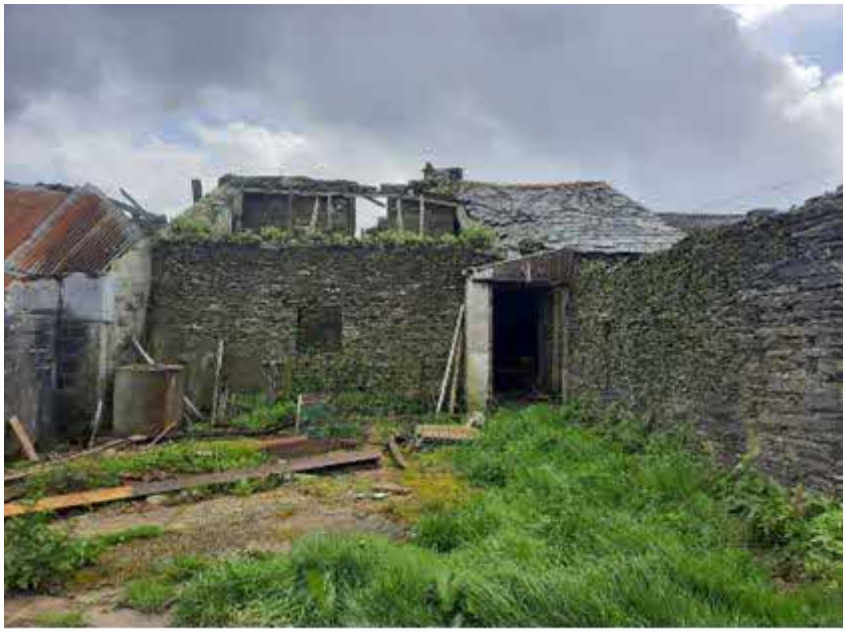

Figure 4: View of part of the stone-built section on the western elevation of Barn 2.

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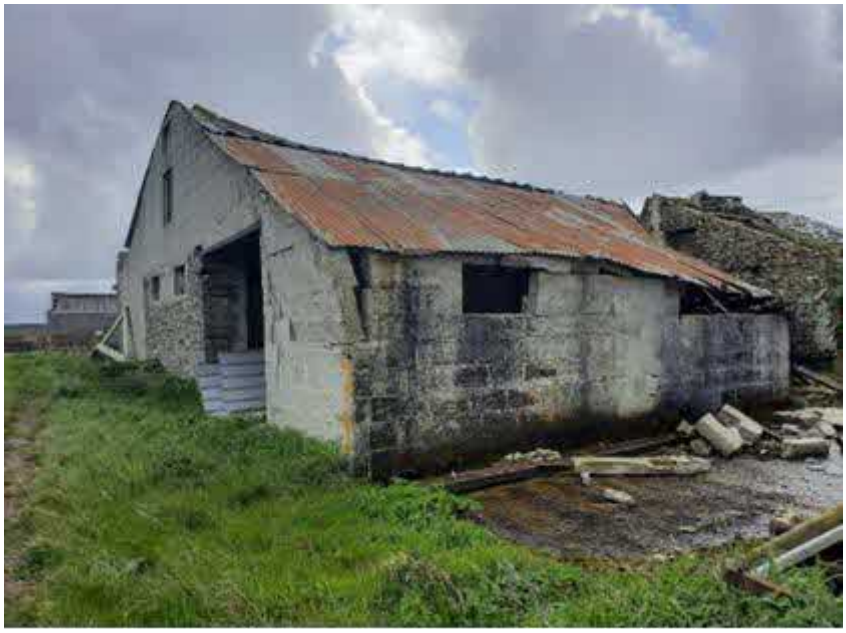

Figure 5: View of part of the block-built section on the northwest elevations of Barn 2.

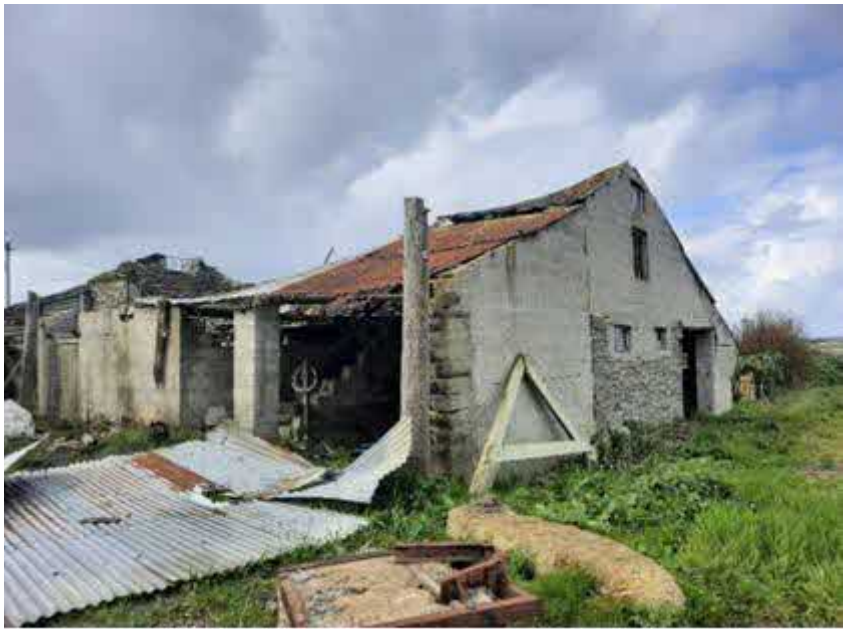

Figure 6: View of part of the block-built dilapidated section on the northeast elevations of Barn 2.

4.3 Emergence Survey

No bats were recorded emerging from Barn 2 during the single emergence survey. Two common pipistrelle (Pipistrellus pipistrellus) passes and one noctule bat (Nyctalus noctula) pass were recorded during the emergence survey. None of these bats emerged from the building.

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4.4 Bat Species Evaluation

The survey results show that Barn 2 is not currently (at the time of the survey) being used by bats.

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5.0 Impacts and Mitigation Recommendations

5.1 Evaluation of Development Proposals and Impacts

The emergence survey has shown that Barn 2 at Great Treburrick Farm does not support a bat roost and that proposed demolition works are unlikely to impact roosting bats.

5.2 Mitigation

Although, bats are not currently, at the time of the survey, using Barn 2, access points and external features with potential to support bats were identified during the visual assessment. A precautionary approach should be adopted. The building contractors should be made aware that bats can roost unseen within the building structure. If, during works, a bat(s) is uncovered, the bat must not be handled, and works must stop immediately (as soon as it is safe to do so). Advice must be sought from an experienced bat ecologist (Plan for Ecology Ltd: 01326 218839) or Bat Conservation Trust (Tel: 0345 1300 228).

There is opportunity to make provision for roosting bats within the fabric of / on the exterior of the replacement building and enhance the value of the site for bats post-development.

5.3 Opportunities for Biodiversity

The value of the site for roosting bats post-development could be enhanced by incorporating the following measures:

A single bat box could be installed on the exterior of the new building post-development, on a south or west facing elevation and at least 4m above ground. Any enhancements installed should not be lit by artificial lighting, either directly or indirectly through light spill. This is in line with the Cornwall Planning for Biodiversity Guide (2018). Suitable products for bats include the Schwegler 1FQ or 1FF bat boxes, the Bat Block for external walls, or a comparable product. Suitable products are available at https://www.nhbs.com, https://www.greenandblue.co.uk/products/bat-block-bat-brick and https://www.wildcare.co.uk/.

There is also opportunity to enhance the building for nesting birds and bees by installing a bird box on an east or north facing elevation, and a bee brick on the south facing elevation. Suitable projects are available at https://www.nhbs.com, https://www.wildcare.co.uk/ and https://www.greenandblue.co.uk/.

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