



**Protected Species Survey
for Bats and Nesting Birds
and Nocturnal Bat Survey Report**

Mr & Mrs Hamon

Springfield Lodge,

Slad,

Stroud

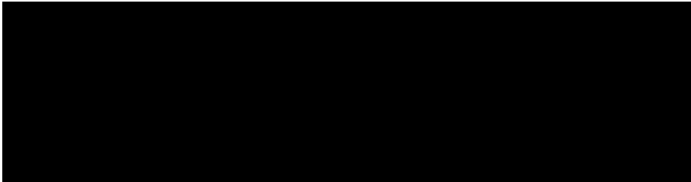
Gloucestershire

GL6 7QE

September 2023

Cotswold Environmental Ltd

Office address: Wateredge, Fostons Ash, The Camp, Stroud Gloucestershire GL6 7ER



This report has been prepared by Cotswold Environmental Ltd exclusively as a Protected Species Report for bats and nesting birds. Cotswold Environmental Ltd accept no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Methods used to prepare this report, including those carried out in the field followed The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.

Report Author:	
Report Reviewer:	
Document Number:	CE001030

CONTENTS

1	INTRODUCTION	4
2	METHODOLOGY	5
3	RESULTS	8
4	INTERPRETATION AND RECOMMENDATIONS	12
	APPENDIX A: LEGISLATION SUMMARY	18
	APPENDIX B: MAPS.....	22
	APPENDIX C: SITE IMAGES	25

TABLES

Table 1: Guidelines summary for assessing potential bat roost suitability.....	6
Table 2: Site Designations.....	8
Table 3: Granted EPSLs within 2km of survey site.....	9
Table 4: Weather conditions during daytime survey	11
Table 5: Weather conditions during nocturnal bat survey.....	12

SITE PLANS & MAPS

Figure 1: Site location map	22
Figure 2: Site Map	23

1 INTRODUCTION

- 1.1 Cotswold Environmental Ltd was instructed to carry out a Protected Species Survey for bats and nesting birds, as well as subsequent nocturnal bat survey effort, at Springfield Lodge, Slad, Stroud, Gloucestershire GL6 7E. The site is located at approximate National Grid Reference (NGR): SO 87931 07935.
- 1.2 Development proposals are described as demolition of an existing single-storey extension, to be rebuilt, as well as alterations to the roof and loft element of the main residential dwelling (See Fig 2. Site Map). A planning application will be submitted to Stroud District Council in due course.
- 1.3 This report provides survey data based on field visits that were carried out in June, August, and September 2023. The purpose of the daytime survey was to assess the buildings for their suitability to support protected species and to ascertain evidence of any protected species, most notably bats and nesting birds. The field visit results provide information to determine the potential ecological impact the proposed development may have on protected species, and to inform the level of further survey effort and mitigation required to comply with relevant nature conservation policies and legislation. The evaluation and findings in this report can be used by Stroud District Council in their view of the planning application. Survey results should be considered valid for a period of 12-18 months (subject to consultation with the Local Planning Authority and/or Natural England).
- 1.4 The National Planning Policy Framework (NPPF) (July 2021) sets out the government planning policies for England and how they should be applied. Chapter 15: Conserving and Enhancing the Natural Environment, is of particular relevance to this report as it relates to ecology and biodiversity. The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
- 1.5 The property is located in a rural setting 1.4 km to the north-west of central Slad Village. Stroud town centre is located 3.9 km to the south-east. The site location is shown in Fig. 1: Site Location Map.
- 1.6 The survey boundary comprised a residential dwelling (E1), adjoining single-storey extension (E2), and small block-building storage shed (E3). The extent of the survey boundary is shown in Fig. 2: Site Map.

Survey Objectives

To determine suitability for protected species

Ascertain evidence of protected species.

Determine the potential ecological impact the proposed development will have on protected species
Inform the level of further survey effort that is required.

2 METHODOLOGY

Desk Study

- 2.1 A records search was undertaken using desktop resources including the Multi-Agency Geographic Information for the Countryside¹ (MAGIC) resource. MAGIC was used to search for records of designated sites, habitats and granted European Protected Species Licenses (EPSLs) within a 2km radius. Google Earth² was also used to study the nearby landscape.

Preliminary Bat Roost Assessment

- 2.2 Ecological consultant [REDACTED] carried out the protected species survey on Tuesday 20th June 2023.
- 2.3 Survey effort was completed in line with official assessment guidelines³ and largely followed that recommended by the Chartered Institute for Ecology and Environmental Management (CIEEM)⁴ and British Standard Code of Practice⁵. The assessment followed the standard methodology. The site was searched using visual encounter survey techniques. Potential bat movement corridors and movement barriers were assessed and noted. During the site visit, where possible, all areas of the building were internally and externally examined for evidence of bats. The building survey included an internal and external assessment using a powerful torch and endoscope where required.
- 2.4 Internally, the buildings were assessed using a powerful torch beam to scan the walls and flat surfaces for droppings and other signs of bat activity. Feeding remains such as moth and butterfly wing concentrations were also surveyed for. All holes and crevices considered by the surveyor as likely to be used as a bat roost were examined to ascertain presence or absence of bats.

¹ Multi-Agency Geographical Information for the Countryside (MAGIC). Crown Copyright and database rights [2015]. Ordnance Survey 100022861. Available at: <http://www.magic.gov.uk/>

² https://www.google.co.uk/intl/en_uk/earth/

³ Collins J (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edn. Bat Conservation Trust, London.

⁴ CIEEM (2017) Guidelines for Ecological Report Writing. CIEEM, Winchester.

⁵ British Standards Institution (2013) BS 42020:2013. Biodiversity – Code of practice for planning and development. British Standards Institution, London.

- 2.5 Externally, visual ground inspections of all elevations were undertaken using binoculars and a telephoto lens where required. Photographs were taken to capture likely features of ecological value to bats and birds i.e. missing tiles, damaged or missing mortar, exposed gable ends, gaps within soffit board, rotten timber and other potential entry points. Other external aspects of the buildings were surveyed, including windows, windowsills, external doors and the ground within close proximity of the structure was thoroughly inspected for bat droppings and feeding remains.

Table 1: Guidelines summary for assessing potential bat roost suitability

Suitability	Description of building, tree or structure
Negligible	Negligible habitat features on site likely to be used by roosting bats
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, potential roost sites not suitable for larger numbers or regular use (i.e. maternity or hibernation).
Moderate	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.
Confirmed roost	Evidence of bats or use by bats found.

Nocturnal Bat Surveys

- 2.6 Three dusk nocturnal bat surveys were carried out during August and September 2023 following recommendations from the preliminary survey. Surveys were undertaken by ecologists Tom Charlton, Kayleigh Stewart, Sarah Crossman, and David Howard, with three surveyors per survey.
- 2.7 Nocturnal bat survey effort was completed in line with official assessment guidelines⁶ as well as interim guidance notes issued by the Bat Conservation Trust in May 2022⁷.
- 2.8 During the surveys, surveyors took up separate static positions 15 minutes prior to and 1.5 hours after sunset (see Site Map: Fig. 2). Visual observations of bats were noted, and bat species were identified using bat detectors. The information recorded included weather, timings, whether bats emerged or re-entered the building, direction of travel, species and activity e.g. foraging, commuting. Equipment used

⁶ Collins J (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edn. Bat Conservation Trust, London.

⁷ Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys Bat Conservation Trust, May 2022 [Online] [Accessed 1st June 2022] <https://cdn.bats.org.uk/uploads/pdf/Interim-guidance-note-on-NVAs-May-2022-FINAL.pdf?v=1653399882>

during the nocturnal surveys included Echo Meter Touch II recorders coupled to Apple tablets and heterodyne bat detectors.

- 2.9 Three infrared camera systems (SANNCE and SONY FDR AX-53 4K models) coupled with infrared lighting (Night Fox XB5 840 nm and 940 nm torches) were used to strengthen the survey data.
- 2.10 Recorded bat calls were analysed using Kaleidoscope 5.1.9i where required.
- 2.11 Temperatures were recorded onsite using an Elitech RC-51 Temperature Logger.

Inspection for Birds

- 2.12 The survey also included an internal and external inspection of the surveyed buildings for evidence of common nesting birds as well as notable and protected species. Inside the building, artificial light was used to search for birds, dead birds, dead chicks, nesting material and eggs.
- 2.13 All accessible elements of the surveyed buildings containing nesting potential were checked to see if the development would have any adverse effects on nesting birds. The active nests of all wild birds are protected under the Wildlife & Countryside Act 1981 (as amended). An active nest is one that is being built, containing eggs or chicks, or on which fledged chicks are still dependent. Birds within Schedule 1, such as barn owl *Tyto alba*, are also protected from disturbance during the nesting period.
- 2.14 The presence of notable and protected bird species and any signs indicative of their past and present use was taken into consideration during the inspection of the building. Likely perches and nesting locations were checked, and all ledges and cavities were examined for nesting debris where accessible.

Limitations

Bat droppings deposited in or around the exterior degrade quickly due to weather. The presence of bats or their roost must not be disregarded in the absence of droppings.

Many bat species in the UK are crevice-dwelling bats and as such, are difficult to find during PRAs. Local biological records were not obtained.

For Health & Safety purposes the roofs of the buildings were assessed from ground level

3 RESULTS

Desk Study

Designated Sites

- 3.1 The site lies within The Cotswolds Area of Outstanding Natural Beauty (AONB) and, according to the MAGIC database, three further statutory designated sites exist within a 2km radius of the site boundary. See Table 2 below. No non-statutory sites were identified within the same radius (see limitations).

Table 2: Site Designations

Site Name	Designation	Distance	Direction	Relevant Information
Bull Cross, The Frith and Juniper Hill	SSSI	545 m	North-West	An area notable for its beechwood forests which lies to the east of the proposed development site.
Swifts Hill	SSSI	1.1 km	South	A site renowned for its orchids including fragrant, bee and frog orchids.
Cotswold Commons and Beechwoods	SSSI, NNR	1.5 km	North	Areas of mixed scrub and grassland that provides habitat for the Duke of Burgundy butterfly.

SSSI = Site of Special Scientific Interest NNR = National Nature Reserve

Local Habitats

- 3.2 Springfield Lodge is located within a rural location, with habitats beyond the site boundary comprising grazing pasture fields and arable fields bounded by mature hedgerows. According to the MAGIC website the surrounding area is extensively wooded; there are substantial small blocks of Ancient and Semi-Natural woodland, and deciduous woodland, surrounding the site within a 2km radius. Of particular note is a large block of Ancient and Semi-natural Woodland known as The Frith, which lies 720 m west, and Worgan's Wood, lying 895 m to the south-west. Further to this, there are a number of

smaller blocks of deciduous woodland surrounding the site. Areas of Lowland Calcareous grassland lie to the north-east, north-west, east and south, and a small block of Lowland meadow 1.25km north-west.

Granted European Protected Species Licences (EPSLs) within a 2km Radius

- 3.3 According to the Magic website, three EPS licences for bats have been granted within a 2km radius of the survey site. These are shown below in Table 3.

Table 3: Granted EPSLs within 2km of survey site

Species	Distance	Direction	Year Granted
BLE,C-PIP,LHS	770 m	South-east	2019
BLE,C-PIP,LHS	1.1 km	South-east	2017
C-PIP	1.1 km	South-west	2019

LHS = *Rhinolophus hipposideros* BLE = *Plecotus auritus* C-PIP = *Pipistrellus pipistrellus*

Preliminary Bat Roost Assessment Results

Building Assessment

- 3.4 The PRA and all subsequent information pertain to the residential dwelling (referred to within this report as E1), adjoining single-storey extension (E3), and block-built storage shed (E2) (see Fig. 2: Site Map).

Building 1 (E1) – Residential dwelling

- 3.5 Survey building E1 is a two-storey, brick-built structure with a timber-framed pitched roof clad in concrete tiles. The building features two gable fronted projections, and dormer windows are present to both front and rear roof aspects. The roof is edged with timber soffit box and fascia board at the eaves. A large loft void located within the apex of the roof covers the majority of the roof area, accessed by an internal ceiling inspection hatch (see Fig 2: Site Map).
- 3.6 Externally, the building was found to be in good condition with limited features that may offer value to crevice dwelling species of bat that utilise the external fabric of the building for roosting. Stone block elevations were in good condition without any obvious cracking, absent mortar, or further damage that could be exploited by bats. Potential Roosting Features (PRFs) identified during the survey, as well as features offering potential ingress points for void dwelling species, were largely restricted to gaps beneath lead flashing to dormer windows, chimneys, and at valleys.

- 3.7 Internally, features that offer value to void-dwelling and perch-feeding species of bat included the exposed timber roof structure and bitumen felt underlining. Light ingress was noted at various locations, that would provide likely entry points.
- 3.8 **Concentrations of both fresh and old bat droppings, as well as scattered bat droppings found throughout the loft element of E1, were discovered during the assessment (see site images). Droppings were considered consistent with an individual/low number of bats comprising single species.**

Building 2 (E2) – Single-storey extension

- 3.9 E2 comprises a stone-block built single-storey extension adjoining the main residential (E1) at its north-eastern extent. The building supports a pitched timber-framed roof clad with concrete tiles. A skylight is present at the north-facing roof pitch, and the building's roof is edged with a wooden fascia board at the eaves. The building features a loft element, separate to that of E1, which is accessible via an external timber doorway.
- 3.10 Externally, stone block elevations were in good condition without any cracking, absent mortar of further damage that could be exploited by bats. Roof tiles and ridge capping were largely in good condition though with low numbers of raises that could be exploited for roosting, including those surrounding the skylight. Features that offer value to crevice dwelling species of bat that utilise the external fabric of the building for roosting and provide potential ingress points for void dwelling species included:

Gaps leading beneath timber fascia board
Low numbers of raised tiles

- 3.11 Internally, features that offer value to void dwelling and perch feeding species of bat included:

Exposed timber roof structure
Bitumen felt underlining to tiles

- 3.12 **A small concentration of approximately 20-30 bat droppings of various ages were found upon floor boarding, located below timber rafters with the loft element of E2 (see site images).**

Building 3 (E3) – Storage Shed

- 3.13 E3 comprises a small single-storey block-built structure located adjacent to E2. The building supports a mono-pitched roof structure clad with concrete tiles and underlined within bitumen felt. The building is accessed via an open doorway and with no enclosed loft void is present. It is currently utilised for storage.

- 3.14 Externally, the building and roof was in good condition with no features present that would be suitable for crevice dwelling species of bat. Internally, features that offer value to void dwelling and perch feeding species of bat were limited to exposed timber of the roof structure, which bats could easily access via the open doorway. However, **no bats, droppings, feeding remains, or further evidence of bat activity was discovered during the assessment of E3.**

Table 4: Weather conditions during the preliminary roost assessment

Date	Start	Finish	Temp °C	Wind	Cloud	Rain	Notes
20/06/2023	10:30	12:00	16	Calm	30 %	Dry	N/A

Nocturnal Bat Survey Results

Survey One – E1 and E2

- 3.15 During the first nocturnal survey, completed on the 8th of August 2023, five species of bat were recorded - common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P.pygmaeus*, noctule *Nyctalus noctule*, and *Myotis* sp. Early activity comprised regular but non-visual commutes from noctule over the site grounds. Activity throughout the survey was dominated by commuting passes and foraging by common and soprano pipistrelle over surrounding gardens; the first call recorded was made at 21:06 h, continuing throughout the duration of the survey until 22:02 h. Additionally, a single pass by *Myotis* sp, was recorded at 21:48 h. No other bat species were recorded, and overall, activity levels were considered low. **At no point were any bats observed emerging from or re-entering the surveyed building.**

Survey Two - E1 and E2

- 3.16 During the second nocturnal survey, completed on the 22nd of August 2023, four species of bat were recorded - common pipistrelle, soprano pipistrelle, noctule, *Myotis* sp., and brown long-eared *Plecotus auritus*. A low level of activity was observed during the survey period, though dominated by pipistrelle foraging and commuting activity over trees and shrubbery of the surrounding gardens between 20:15 – 21:37 h. Low numbers of commuting noctule were recorded during the early survey period, and a single non-visual pass by *Myotis* sp. was recorded at 21:15 h. **One brown long-eared bat emerged** from beneath lead flashing lining a chimney base of E1 at 20:36 h before dispersing to the wider environment (see Figure: Roost Location Map).

Survey Three – E1 and E2

- 3.17 During the third nocturnal survey, completed on the 5th of September 2023, four species of bat were recorded - common pipistrelle, soprano pipistrelle, brown long-eared bat, and noctule. Early activity

comprised regular commutes by noctule over the site grounds, starting at 19:48 h and continuing throughout the survey until 21:23 h. Commuting and foraging by common and soprano pipistrelle dominated observed/recorded activity throughout much of the survey, within garden habitats surrounding the surveyed buildings and driveway area. **One brown long-eared bat emerged** from timber fascia leading from the loft element of E2 at its east-facing elevation at 20:40 h, before dispersing to the wider environment (see Figure: Roost Location Map).

TABLE 5: WEATHER CONDITIONS DURING NOCTURNAL BAT ACTIVITY SURVEYS

Date	Start	Finish	Sunrise/ Sunset	Temp °C	Wind	Cloud	Rain	Notes
08/08/23	20:30	22:15	20:46	14	Calm	70%	Dry – previous rain throughout day	n/a
22/08/23	20:00	22:00	20:18	17	Calm	10%	Dry	n/a
05/09/23	19:30	21:25	19:46	16	Still	30%	Dry	n/a

Bird Inspection Results

3.18 No birds nests were discovered during the assessment and the buildings.

4 INTERPRETATION AND RECOMMENDATIONS

4.1 A daytime assessment was commissioned with a view to assess the residential dwelling and storage shed within the grounds of Springfield, Slad for their potential to support protected species, notably roosting bats and nesting birds. The survey boundary is shown in Figure 2: Site Map. Development proposals are described as demolition of an existing single storey extension, to be rebuilt, as well as alterations to the roof and loft element of the main residential dwelling.

4.2 As part of the desk study, online resource MAGIC was checked for granted EPS licences and statutory and non-statutory designated sites. Results from the online desk study showed that three EPSLs for bats have been granted and three statutory designated sites were identified within a 2 km radius, though Springfield does not lie within or adjacent to these. The proposals are considered small-scale, and therefore, no impacts to surrounding designated sites or priority habitats are expected and provided that surrounding ecological features are not subjected to the inappropriate use of nocturnal lighting, no

impacts to nearby habitats beyond the site boundary are anticipated as a result of the development proposals.

- 4.3 The site is located within a rural location, surrounded by grazing pasture and woodland with nearby linear features including hedgerows and scattered mature trees that would provide connectivity to surrounding areas of woodland. Hedgerows bordering the surrounding agricultural land will offer value as habitat links, connecting to the blocks of woodland that surround the site which will likely support a diversity of wildlife, including bat populations of various species.

Building Assessment

Buildings E1 and E2

- 4.4 Bat droppings were discovered within a loft void during the assessment of building E1 and E2. Subsequently, **both structures are deemed to be confirmed roosts**. Therefore, it was recommended that prior to any works commencing, **three nocturnal surveys should be undertaken** to gather further information and to characterise the roost. Three surveyors were used to cover the necessary survey area.

Building E3

- 4.5 No bats, droppings or further evidence of bat presence was discovered during the inspection of building E3 and no potential roosting features (PRFs) were noted during the survey and the ridge and field tiles of the roof did not offer any roosting opportunities for crevice-dwelling bats. Further to this, no evidence that would indicate use of the structure void dwelling or perch feeding species was noted. Subsequently, following the daytime assessment, this surveyed building is deemed as holding negligible potential to support roosting bats.

Nocturnal Surveys

- 4.6 During the nocturnal surveys, an assemblage of five species of bat were recorded from within the wider environment, utilising surrounding garden habitats for commuting and foraging activity. Nearby woodland is a likely contributing factor to the species diversity and activity recorded during the nocturnal survey effort, though overall activity levels were considered low. Roosting observations comprised single emergences of brown long-eared bat from two separate locations – one each on Elements E1 and E2 - during the second and third nocturnal survey respectively.

Roost Characterisation

- 4.7 Results of the daytime and nocturnal surveys indicate that the surveyed building elements E1 and E2 currently serve as infrequent day roosts for a maximum count of two brown long-eared bat. The bat roost locations are shown in **Figure 3: Roost Location Map**.

Licence and Mitigation

4.8 As the proposed development will result in the loss of two day roosts for two brown long-eared bat, a European Protected Species Licence (EPSL) will be required from Natural England in order for the development to lawfully proceed. A 'low impact' Bat Mitigation Class Licence (BMCL) may also be used in this instance. Natural England expect three tests to be satisfied before a EPSL can be issued. These tests are as follows:

- There is no satisfactory alternative.
- The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- The action authorised preserved public health or public safety or other imperative reasons of overriding public interest including those of the social or economic nature and beneficial consequences of primary importance for the environment.

4.9 Regarding the derogation test '*The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range*', the following consideration has been given:

- Brown long-eared bat are widespread across the UK and common throughout the county. In addition to this, the mitigation strategy set out in this report has been designed in such a way to provide future roosting provisions specifically for this species, and to promote enhancements for other bat species in the area.

4.10 The mitigation set out in this report is to ensure the safeguard of brown long-eared bat and to additionally promote net gain at the site, in line with the current National Planning Policy Framework (NPPF) (July 2021).

4.11 In accordance with The Bat Mitigation Guidelines 2023, there are no timing constraints associated with occasionally used roosts and as such the works at Springfield Lodge will be scheduled to commence following granting of the EPS Licence. In the event that proposed plans change then the level and specifics of mitigation may change. Therefore, a licenced bat ecologist should be consulted.

4.12 Using data collected from nocturnal surveys conducted in August and September 2023, based on the surveyed building supporting two x day roosts for brown long-eared bat, the recommended RAMs and Mitigation Strategy in support of the EPSL would include the following:

4.13 Before any aspect of the roof can be impacted, such as the removal of flashing, fascia, soffit, tiles etc., a bat-licensed ecologist must:

- Prior to stripping or any aspect of the roof, one bat box should be installed on a mature tree within the grounds of the property. At least one Schwegler 1FF (or similar) should be used. Bat boxes should be installed no less than 4m from ground level and not face north. The bat box will provide provisional roosting space for any bats that are found during the licensed supervision (i.e. roof strip). They will also provide suitable roosting habitat for other bats in the area.
- Prior to the commencement of the proposed works, a bat-licenced ecologist should carry out a final inspection inside the building to check for the presence of any bats. If any are found, a program of passive measures should be carried out (to be described fully in the EPS licence application / Method Statement).
- All contractors working on the proposed development must be briefed on the legal protection afforded to bats and their places of shelter and on how to proceed if a bat is discovered during the course of the work.
- Works must be undertaken slowly, by hand and with care. This includes taking such precautions as removing slates carefully, checking beneath for the presence of bats before being discarded. A licenced bat worker should carry out a watching brief when critical works are carried out, such as when tiles and other key roofing components are removed from the roof. The client will provide secure scaffolding or a cherry picker in order for the ecologist to safely inspect the roof.
- The supervising ecologist bat worker will continue the watching brief until the building is declared free of bats. Any bats found during this period will be safely removed by the ecologist and placed in the bat box. If in the unlikely event a bat is discovered after the ecologist is no longer supervising, works should halt immediately and the appointed ecologist responsible for the licensed works must be contacted for advice. If you are not able to reach the ecologist, then contact The Bat Conservation Trust: 0845 1300 228. Never handle bats for legal and Health & Safety purposes.

Enhancements

4.14 Whilst the loss of 2 x day roosts for brown long-eared bat will not have an adverse effect of the Favourable Conservation Status of this species at site or local level, enhancement of the site should be undertaken as part of the development in line with obligations under the NPPF (July 2021). Therefore, the following enhance measures will be implemented at Springfield Lodge:

4.15 Furthermore, 2 x Schwegler 1FF box (or similar) or Schwegler 2F box (or similar) will be installed upon mature trees or buildings within the site boundary; these boxes are known to be used by a variety of bats including *Plecotus*, *Nyctalus*, *Pipistrellus*, and *Myotis* species. Furthermore, these woodcrete-built bat boxes have been proven to be more successful as bat mitigation than traditional timber-built bat boxes⁸.

The following considerations will be given when selecting the positioning of bat boxes on site:

The chosen placement will be of a robust nature, reducing possibility of the bat box falling to the ground which could cause damage to the box, loss of a roost, or disturbance, injury or death to bats.

The area will be absent of ivy cover. This is important, as there is risk that in time, ivy will grow over the box and cause it to become blocked at the entrance. It is further recommended that climbing plants are not allowed to grow up towards the bat box as this may eventually block entry.

The surroundings will be free from obstruction, allowing for a more direct flight path into the bat box.

The location will be safely accessible, should the bat box need to be repaired, replaced or monitored by bat-licensed personnel.

The position of the bat box will ensure it is located away from main access doors in order to minimise potential disturbance to roosting bats.

Following Bat Conservation Trust guidelines, the bat box shall be installed a minimum of 4 m above ground and positioned to ensure that it will receive direct sunlight for at least part of day, in a south, east or south-east facing direction. They must not face north or north-east.

Note: Once a bat box is occupied, it is an offence to disturb any bat when it is roosting, or to kill, injure or handle a bat without the appropriate licence granted by Natural England. If a sick or injured bat is found, the local Wildlife Trust or bat group should be contacted for further advice. If maintenance of the bat boxes is required, a suitably licensed bat worker or local bat group must be consulted.

4.16 Once completed, bat mitigation features are to be checked by an appropriately licensed and experienced bat consultant prior to works being completed so that changes can be made if necessary.

⁸ 1. Aughney, T. (2008). An investigation of the impact of development projects on bat populations: Comparing pre-and post-development bat faunas. Irish Bat Monitoring Programme. Bat Conservation Ireland, www.batconservationireland.org

Mitigation will also need to be signed-off on completion by the licensed bat consultant. Once the works are complete, if required, a compliance letter can be provided to Stroud District Council.

Outline Nocturnal Lighting Measures

4.17 As suitable bat habitat occurs within the nearby surrounding environment, a low-level lighting scheme will be implemented during and after construction to avoid indirect disturbance to bats and other nocturnal animal species that may exploit local habitats. Measures must be taken to ensure nocturnal animals are safeguarded from inappropriate use of light and noise throughout the hours of night during the construction period, as well as to protect important commuting corridors for bats. Any external lighting installed as part of the development must be used in accordance with the most recently publishing informative - Guidance Note 08/23: Bats and Artificial Lighting⁹.

4.18 Sensitive lighting strategy measures during the construction period are as follows:

Works must not be carried out after dusk and must not commence until after dawn.

Generators and machinery that emit significant noise levels must not be left to run after dusk.

LED lighting sources must be used, which generally have a narrower and more directional beam.

Light spill must be controlled and if lighting is required at night, hooded shields must be fitted to prevent spill onto nearby habitats that are likely to support wildlife, including nearby trees and hedgerows.

Lighting must not be directed towards any bat or bird compensation features.

4.19 In addition to the above, when selecting appropriate external lighting, the following specifications should be taken into consideration:

Any external lighting incorporated into the proposed development should be LED luminaires due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.

Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats¹⁰.

All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used¹¹

⁹ <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

¹⁰ Stone, E.L. (2013) *Bats and lighting: Overview of current evidence and mitigation*

¹¹ Bat Conservation Trust & Institute of Lighting Professionals (ILP) 2023. *Guidance Note 8: Bats and artificial lighting in the UK*. Bats and the Built Environment Series.

Birds

- 4.20 No birds' nests were discovered during the assessment, and the surveyed structures offer low value for nesting. If at any point nesting birds are discovered within the structures, without appropriate mitigation, these may be impacted by the development proposals. Impacts to nesting birds can be avoided by timing works outside the bird nesting season which generally runs between February-August, or by ensuring a site visit is carried out by a suitably qualified ecologist ahead of works commencing.

APPENDIX A: LEGISLATION SUMMARY

National Planning Policy Framework July 2021

The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2021) states: Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas and should be given great weight in National Parks and the Broads. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

- a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
- b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
- c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 172), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife & Countryside Act 1981 (as amended) [WCA] is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part I within the Act deals with the protection of wildlife. Most European Protected Species offences are now covered under the Conservation of Habitats and Species Regulations (see below), but some 'intentional' acts are still covered under the WCA, such as obstructing access to a bat roost.

The WCA prohibits the release to the wild of non-native animal species listed on Schedule 9 (e.g. Signal Crayfish and American Mink). It also prohibits planting in the wild of plants listed in Schedule 9 (e.g.

Japanese Knotweed and *Rhododendron ponticum*) or otherwise deliberately causing them to grow in the wild. This is to prevent the release of invasive non-native species that could threaten our native wildlife.

The provisions relating to animals in the Act only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity. There are 'defences' provided by the WCA. These are cases where acts that would otherwise be prohibited by the legislation are permitted, such as the incidental result of a lawful operation which could not be reasonably avoided, or actions within the living areas of a dwelling house.

Licensing

Certain prohibited actions under the Wildlife and Countryside Act may be undertaken under licence by the proper authority. For example, scientific study that requires capturing or disturbing protected animals can be allowed by obtaining a licence – e.g. bat surveys.

Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (which are the principal means by which the EC Habitats Directive is transposed in England and Wales) update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994. These regulations provide for the:

- protection of European Protected Species [EPS] (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, dormice, great crested newts, and otters;

- designation and protection of domestic and European Sites - e.g. Site of Special Scientific Interest [SSSI] and Special Area of Conservation [SAC]; and

- adaptation of planning controls for the protection of such sites and species.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in exercising their function – i.e. when determining a planning application. There is no defence that an act was the incidental and unavoidable result of a lawful activity.

It is possible for actions which would otherwise be an offence under the Regulations to be undertaken under licence issued by the proper authority. For example, where a European Protected Species has been identified and the development risks deliberately affecting an EPS, then a 'development licence' may be required.

Bats

In England and Wales, bats and their roosts are protected under the Conservation of Species and Habitats Regulations 2017 (as amended), and the Wildlife & Countryside Act 1981 (as amended).

Taken together, this legislation makes it an offence to:

- Deliberately capture (or take), injure or kill a bat

- Intentionally or recklessly disturb a group of bats where the disturbance is likely to significantly affect the ability of the animals to survive, breed, or nurture their young or likely to significantly affect the local distribution or abundance of the species whether in a roost or not

- Damage or destroy the breeding or resting place of a bat

- Possess a bat (alive or dead) or any part of a bat

- Intentionally or recklessly obstruct access to a bat roost

- Sell (or offer for sale) or exchange bats (alive or dead) or parts of bats

A roost is defined as being 'any structure or place that is used for shelter or protection', and since bats regularly move roost site throughout the year, a roost retains such designation whether or not bats are present at the time.

Birds

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended).

Under this legislation it is an offence to:

- Kill, injure or take any wild bird

- Take, damage or destroy the nest of any wild bird while it is in use or being built

- Take or destroy the egg of any wild bird

Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

APPENDIX B: MAPS

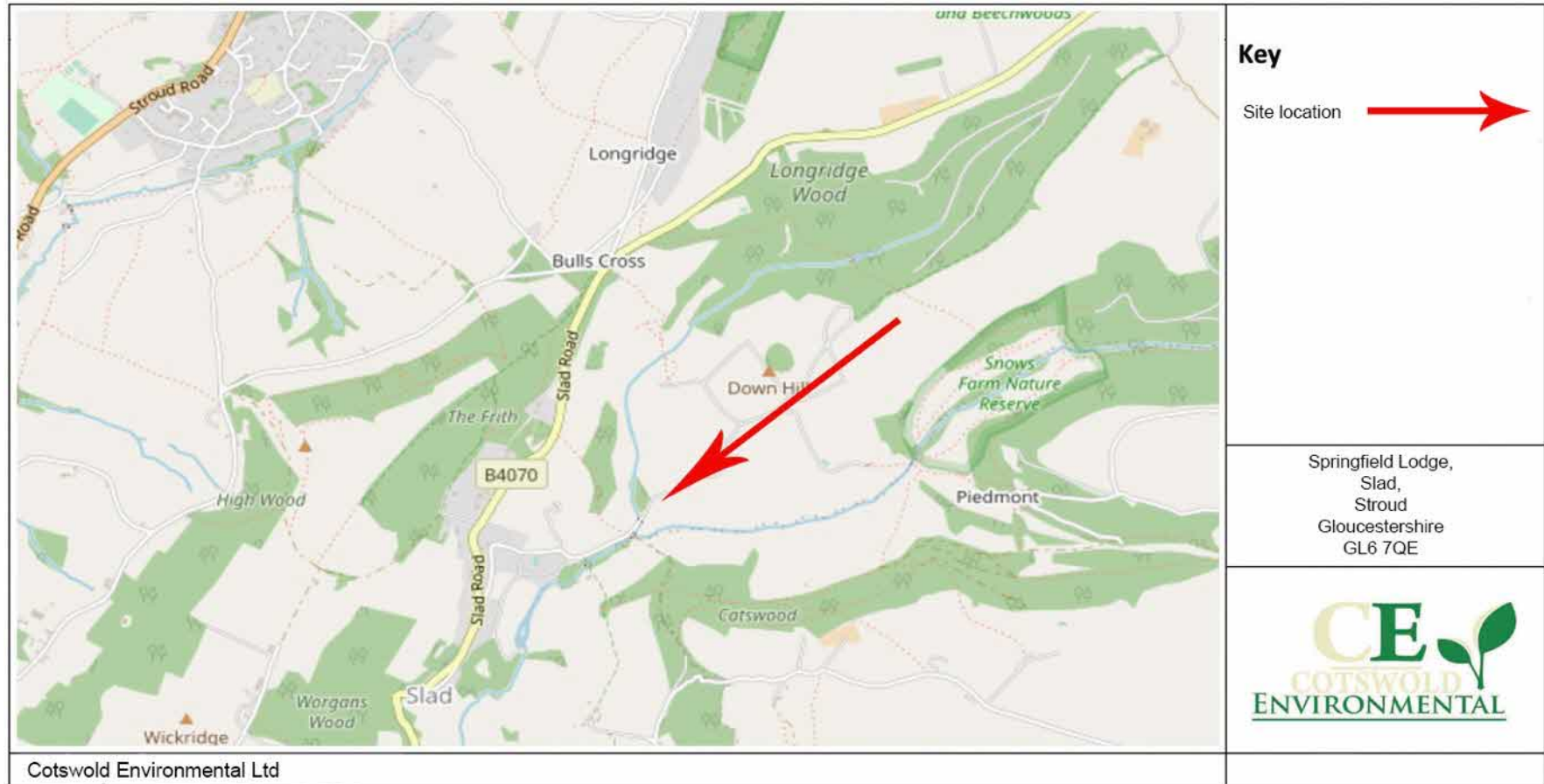


Figure 1: Site location map

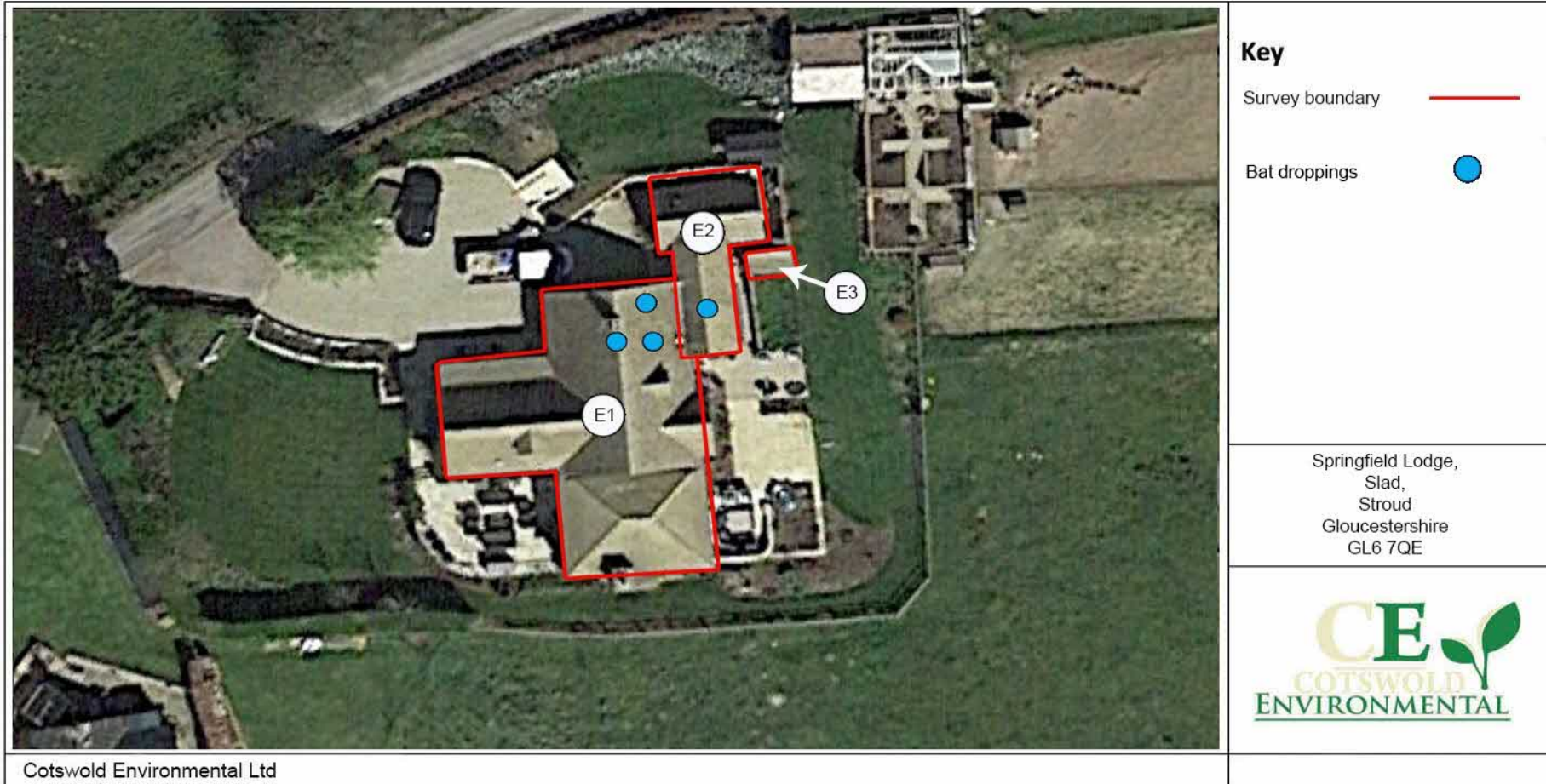


Figure 2: Site Map

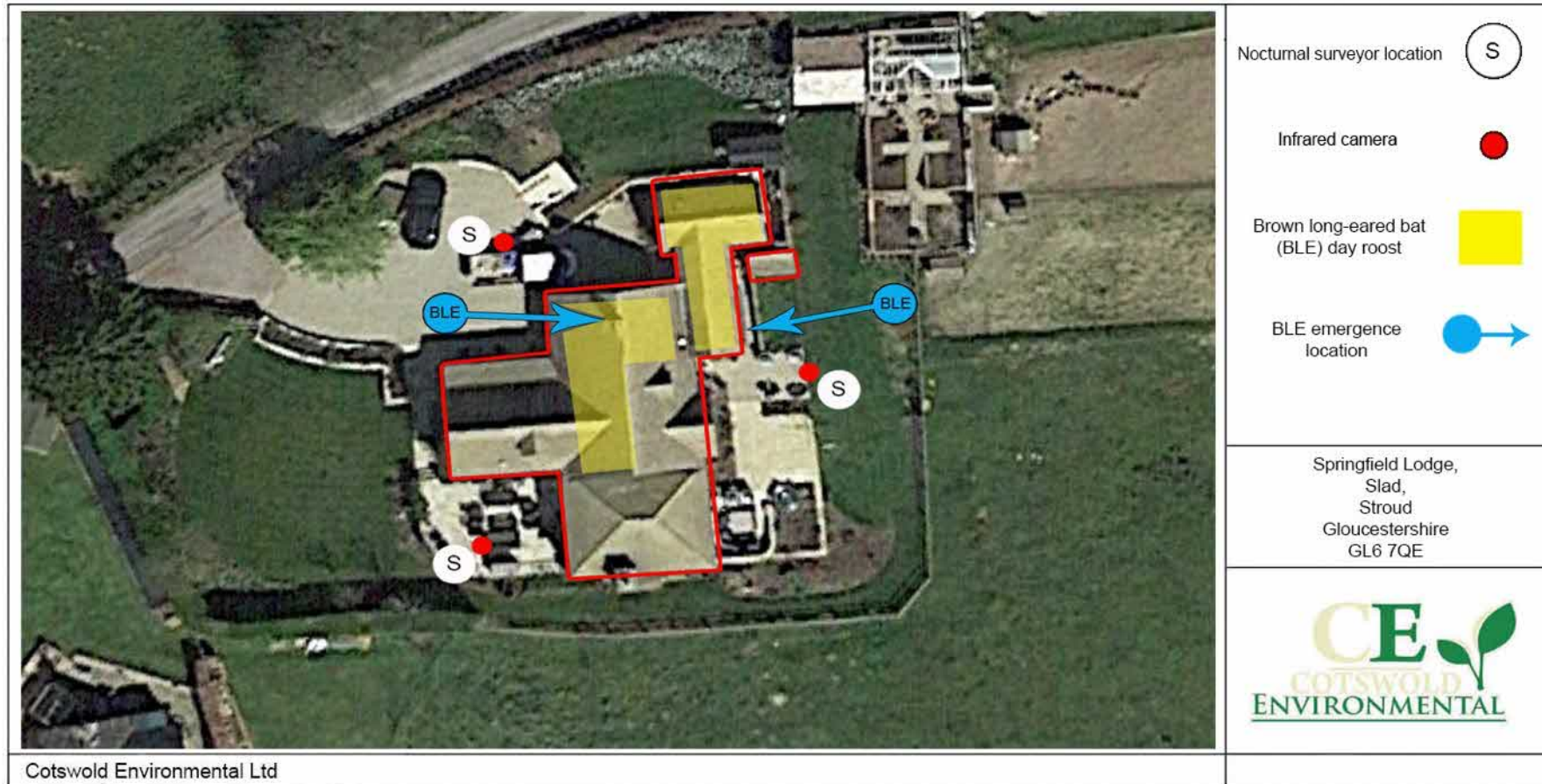


Figure 3: Nocturnal bat survey map

APPENDIX C: SITE IMAGES



Photo 1: E1 – North-facing gable end.



Photo 2: Red arrow points to gaps leading beneath timber fascia board. E2



Photo 3: E2 – east-facing elevation showing external timber doorway to loft void.



Photo 4: Red arrow points to raises surrounding skylight. E2.



Photo 5: E1 - Red arrow points to gap leading beneath raised lead flashing.



Photo 6: Stonework of gable end. E2.



Photo 7: Internal view of loft element showing exposed timbers and bitumen felt underlining. E1

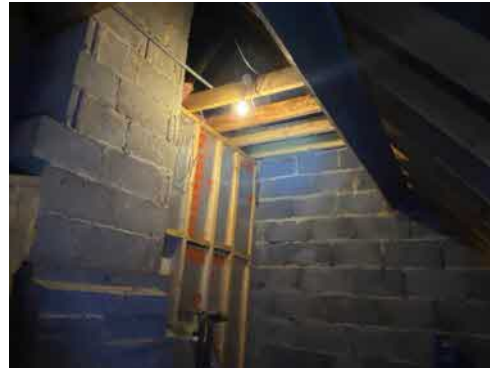


Photo 8: Internal view of loft element showing exposed timbers and bitumen felt underlining. E1.



Photo 9: Bat dropping concentration within loft element. E1



Photo 10: Bat droppings upon floor boards. E1.



Photo 11: Internal view of loft element showing exposed timbers and bitumen felt underlining. E2



Photo 12: Concentration of bat droppings within loft element. E2.



Photo 73: E3 - Block-built storage shed



Photo 14: Concrete tiles cladding roof of E3.



Photo 15: View of south-facing elevations – E1 and E2.



Photo 16: Example infrared camera view



Photo 87: Example infrared camera view



Photo 18: Example infrared camera view



Photo 99: Example infrared camera view



Photo 20: Brown long-eared emergence location, E1.



Photo 21: Brown long-eared emergence location, E2.