



Holly Tree House, Burgess Hill

Mr Chris Jones

Preliminary Ecological Appraisal and Bat Survey

23/04

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Executive Summary

A Preliminary Ecological Appraisal and bat roost assessment of the proposed development area at Holly Tree House were completed by JWK Wildlife Surveys Ltd between February and June 2023 on behalf of Mr Chris Jones. This Ecology Report forms part of the environmental support to accompany the planning application for proposed works at the site.

This Ecology Report includes the results of a desk study, protected and notable habitat and species assessments in addition to a suite of dusk emergence bat surveys. The surveys were completed to establish the ecological baseline conditions within the site and to identify any potential ecological constraints to the proposed development.

The survey area is located within a predominantly rural location approximately 2km northwest of Burgess Hill town centre within the Mid-Sussex district of West Sussex. The settlements of Ansty and Goddard's Green lie approximately 22.9km northwest and 2km southwest, respectively. The town of Haywards Heath is located 3.9km northeast. The site is accessed directly Cuckfield Road that bounds the survey area to the west.

The site falls within the SSSI IRZs for Ditchling Common SSSI, the proposed development area is dominated by habitats considered to be of low value for biodiversity with no hydrological connection or any functionally linked land and is therefore not considered likely to have a negative impact on the designated site. The site is not subject to any statutory designations.

Habitats within the survey site were assessed as being of local importance. The habitats supported are widespread throughout the landscape, however the site supports features with potential for use by widespread reptiles, amphibians, breeding birds, foraging and roosting bats, hazel dormice and badger. The sites boundaries also contributes to the wider ecological value providing wildlife corridors for more mobile species including bats and badgers to move through the landscape.

Based on the current proposals, it is considered that precautionary approaches in relation to reptiles, amphibians, breeding birds, foraging bats, dormice and badger will be sufficient in order to safeguard these species groups and to avoid any legal infringement relating to them.

Due to the confirmed presence of roosting bats within Building 1 and suitable roosting features associated with Building 2 a series of three dusk emergence surveys were undertaken to assess presence/absence and roost characterisation of bats; this follows current guidance (Collins, 2016).

The surveys identified a total of seven bat roosts utilising features associated with Building 1, comprising, five common pipistrelle day roosts and single day roosts of soprano pipistrelle and serotine. No roosts were identified within Building 2.

UK bat species and their roosts receive full legal protection under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017 (as amended) (refer to Appendix B). Due to the proposed works and unavoidable disturbance and damage to known roosts, a licence from Natural England must be granted before works commence. The licence application must be accompanied by a suitable bat mitigation strategy to ensure these protected species are safeguarded during and post works.

Details regarding mitigation, including precautionary working practices together with recommendations for ecological enhancement to help contribute towards achieving biodiversity gains are provided below.

1. Introduction

1.1 Background

JWK Wildlife Surveys Ltd was commissioned by Mr Chris Jones to undertake a Preliminary Ecological Appraisal and associated bat roost assessment relating to the proposed development of land at Holly Tree House, Burgess Hill, West Sussex (hereafter referred to as “the site”).

Planning permission is being sought to re-develop the site for further residential use with associated landscaping and parking areas.

The land subject to survey at Holly Tree House is the proposed development boundary which is presented in Figure 1 (Appendix A) with photographs of habitats present provided in Appendix B.

1.2 Study Area Context

The survey area is located within a predominantly rural location approximately 2km northwest of Burgess Hill town centre within the Mid-Sussex district of West Sussex. The settlements of Ansty and Goddard's Green lie approximately 22.9km northwest and 2km southwest, respectively. The town of Haywards Heath is located 3.9km northeast. The site is accessed directly Cuckfield Road that bounds the survey area to the west.

The proposed development site is formed of a single residential dwelling, outbuilding and landscaped amenity areas with associated parking and access. Bounding introduced shrub lines, hedgerows and trees were present along all boundaries. Extensive agricultural land dominates the immediate landscape in all directions with interspersed woodland blocks, associated hedgerow and tree line networks and private residential and agricultural properties also noted. Significant residential developments in the construction phase were present to the east with the Burgess Hill Golf Centre present to the west and the northern limits of the northern suburbs of Burgess Hill town 320m south. The site has an approximate area of 0.5ha with a central grid reference of TQ306 206.

1.3 Scope of Survey and Aims

The primary aim of the Preliminary Ecological Appraisal and bat roost assessment is to provide an assessment of the baseline ecological conditions present within the survey area, in order to identify any ecological constraints present on site. Specifically, the key objectives of this report are to:

a) Preliminary Ecological Appraisal

- Identify all statutory and non-statutory designated sites of nature conservation concern within the survey area and its surroundings;
- Record and categorise habitat types within the survey area in accordance with the UK Habitat Classification user manual (UK Habitat Classification Working Group, 2018);
- Identify the potential for and presence of protected species or other species of conservation interest within the survey area including: Protected Species (PS), Species of Principal Importance, (NERC Act, 2006) and Sussex Local Biodiversity Action Plan (Sussex LBAP) species.
- Provide recommendations to mitigate any development related impacts where possible and highlight requirements for any further ecological surveys; and
- Provide recommendations for ecological enhancements and net gain.

b) Bat Roost Assessment

- Identify the potential for and presence of bats within the survey structures from a preliminary bat roost assessment and data provided by the local biological records centre;
- Identify the presence or absence of bats within the survey structures from a series of dusk emergence surveys;

- Provide recommendations to mitigate any development related impacts where possible and highlight requirements for any Protected Species Mitigation Licences.

1.4 Legislative and Regulatory Context

1.4.1 Legislation

Many UK wildlife species and their habitats are protected by legislation. The key articles of relevance to this site include:

- Conservation of Habitats and Species Regulations 2017 (Habs Regs 2017);
- Wildlife and Countryside Act 1981 (as amended) (WCA 1981);
- Countryside and Rights of Way (CROW) Act 2000;
- Natural Environment and Rural Communities (NERC) Act 2006;
- Protection of Badgers Act 1992;
- The Hedgerows Regulations 1997;
- Wild Mammals Protection Act (1996); and
- The Environment Act 1995.

A summary of pertinent legislation in respect of ecology and biodiversity is provided within Appendix C.

1.4.2 National Planning Policy

The National Planning Policy Framework (NPPF, 2021) set out the Government's planning policies for England and how these should be applied. Paragraph 174 of the NPPF states that the planning system should contribute to and enhance the natural and local environment by:

- 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);
- 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; and
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

This will contribute to the Government's commitment to halt the overall decline in biodiversity, including the establishment of coherent ecological networks that are more resilient to current and future issues.

1.4.3 Local Planning Policy

It is considered that the Mid-Sussex District Plan (2014 - 2031) contains nature conservation policies relevant to the site. The full text of the relevant policies is contained in the Legislation section in Appendix C.

1.4.4 Biodiversity Framework

a) Habitats and Species of Principle Importance

Section 41 (S41) of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

b) Local Biodiversity Action Plan

The Sussex Biodiversity Action Plan (Local BAP) was devised as the means by which national biodiversity targets for species of principal importance under the UK Biodiversity Action Plan (UKBAP) would be met locally. The document also includes locally important habitats and species that are

characteristic of Sussex but not covered by the national targets. Although the UKBAP has been superseded by the Post-2010 Biodiversity Framework, local BAPs are still widely used as the species of principal importance remain the same.

2. Methodology

2.1 Desk Study

A desk study was undertaken for the site to obtain background ecological information for the site in February 2023. The desk study included the identification of statutory and non-statutory designated sites as well as protected and notable species.

2.1.1 Statutory Designated Sites

A search was carried out using the Multi-Agency Geographic Information for the Countryside (MAGIC) website to identify the presence of the following statutory designated sites for nature conservation:

- Statutory sites of European and international designation within 2km of the site including: Special Areas of Conservation (SAC); Special Protection Areas (SPAs); and Ramsar sites.
- Statutory sites of national or regional designation within 2km of the site, including Sites of Special Scientific Interest (SSSIs); National Nature Reserves (NNRs); and Local Nature Reserves (LNRs).

The MAGIC website was also used to identify if the site falls within any of Natural England's Impact Risk Zones for SSSIs¹.

2.1.2 Non-statutory Designated Sites

Sussex Biological Records Centre (SxBRC) provided records of non-statutory designated sites within 2km of the site.

2.1.3 Protected and Notable Species and Habitats

Records of legally protected species and other species and habitats of notable conservation interest within 2km of the site were obtained from SxBRC (data received 17th February 2023). These records included Protected Species, species listed under Schedule 1 of the Wildlife and Countryside Act (WCA) (1981) (as amended) ('Schedule 1 species'), Section 41 of the NERC Act (2006) Species of Principal Importance, Birds of Conservation Concern Red and Amber List (Eaton et al, 2015), Sussex BAP species, ancient woodland and invasive non-native species (Schedule 9).

Records received that were over 10 years old were considered historical and were not included within this assessment. Although the data provided by SxBRC is one of the most complete data sets of species available, the absence of records does not necessarily relate to an absence of species.

The following online resources were also used to identify ecological data of relevance to the scheme including habitats of principal importance:

MAGIC website² – accessed 24th February 2023. This website was used to identify recorded habitats of principal importance within the survey area. MAGIC was also used to search for Protected Species Mitigation Licences (PSML) which have been granted within 1km of the site. Typically, PSML are granted for development works affecting protected species such as bats (Chiroptera), great crested newt (*Triturus cristatus*) and hazel dormouse (*Muscardinus avellanarius*).

² <https://magic.defra.gov.uk/MagicMap.aspx>

2.2 Survey Area

The survey area for the information detailed within this report was defined as all land within the site boundary for the Preliminary Ecological Appraisal and single onsite building for the bat survey. Professional judgement was used to determine a proportionate and pragmatic survey area appropriate to this project during the survey. This was determined through consideration of the Zone of Influence, the potential impacts of the scheme, geographical area, desk study results, habitat quality and likely species present in accordance with good practice guidance and was considered appropriate to meet the objectives of the survey (Refer to Section 1.3 Scope of Survey and Aims).

2.3 Field Survey

2.3.1 Preliminary Ecological Appraisal

a) UK Habitat Classification Survey

The UK Habitat Classification survey was undertaken by Jack Kellett on 02nd February 2023, following good practice guidance in the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). The survey was limited to the boundaries of the site.

Habitats were classified following the methodology of the UK Habitat Classification system found in The UK Habitat Classification User Manual (The UK Habitat Classification Working Group, 2018). This involved mapping and describing the broad habitats and compiling a general plant species list to reflect the floristic assemblage of each habitat type. All botanical names follow the nomenclature of Stace (2019).

b) Protected Species Assessment

The protected species assessment was undertaken in accordance with the Guidance for Baseline Ecological Assessment (Institute of Environmental Assessment, 1995), which strengthens the standard methodology by looking for evidence of or habitats which may support legally protected and notable species. This includes:

- Waterbodies with suitable habitat to support great crested newt and other amphibians including common toad (*Bufo bufo*);
- Watercourses (eg. ditches, rivers, ponds) with suitable habitat for white-clawed crayfish (*Austropotamobius pallipes*), water vole (*Arvicola amphibius*) and otter (*Lutra lutra*);
- Presence of features within trees and structures suitable for bat roosts. These were then categorised based on their suitability to support a bat roost, following good practice guidance in Collins (2016);
- Signs of badger (*Meles meles*) activity, for example setts, latrines, runs, guard hairs and footprints;
- Suitable habitat for breeding and wintering birds;
- Evidence of and habitats suitable for birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
- Habitats suitable for reptiles;
- Habitats likely to support protected / notable invertebrates; and
- Presence of non-native invasive plant species.

Specific points of notable conservation interest within each survey area were identified as numbered "Target Notes" (TN).

2.3.2 Bat Survey

All bat surveys were undertaken in consideration of current good practice guidelines, which include the Bat Mitigation Guidelines (Mitchell-Jones, 2004); The Bat Workers Manual (Mitchell-Jones and McLeish, 2004) and Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition) (Collins, 2016). In addition, the surveys were carried out and led by an ecologist who holds a Natural England level 2 bat class survey licence.

a) Preliminary Bat Roost Assessment

The interior and exterior of the building was inspected closely with the aim of identifying the presence of bats and any secondary evidence together with any potential roost sites. Secondary evidence includes droppings, feeding remains, scratch marks and oil and urine staining.

The external inspection comprised a detailed search of all accessible architectural features for bat droppings, urine staining, scratch marks, staining around suitable crevices and feeding remains. A high-powered torch was used to illuminate internal features at height, for instance the apex of the roof and associated supporting beams, and these were inspected using close focusing binoculars when required.

Where access permitted, and where present, roof voids were also inspected. This comprised a search of the floor area and other flat surfaces, including stored materials, in order to find evidence of discarded feeding remains and bat droppings. Internal features such as the roof lining were examined to assess actual or potential roost opportunities.

b) Roost Categorisation

Where a potential bat roosting feature or confirmed roost was identified, the surveyor assessed how these could be used by bats throughout the year, in accordance with Natural England (2015):

- day roost - where individual bats, or small groups of males, rest or shelter in the day, but rarely on summer nights;
- night roost - where bats rest or shelter at night, but rarely during the day;
- feeding roost - where bats rest at night between feeding sessions, but rarely during the day;
- hibernation roost - where bats are found during winter;
- transitional or occasional roost - where bats gather at a temporary site before and after hibernation;
- mating site - where males and females gather from late summer to early winter;
- maternity roost - where babies are born and raised until they're independent;
- satellite roost - where breeding females roost close to the main nursery colony in the breeding season; and
- swarming site - where bats gather in large numbers from late summer to autumn.

2.3.3 Dusk Emergence Surveys

The surveys were undertaken in suitable weather conditions (i.e., no more than light rain or breeze and temperatures >8 °C). Bat activity is often reduced during periods of very wet, windy or unseasonably cold weather (Slack and Tinsley, 2015).

All dusk emergence surveys were led by an experienced ecologist who holds a level 2 class survey licence for bats with a further three experienced bat surveyors, having a combined total of over 40 years professional ecological consultancy experience. In addition, three infrared camera (two on the final survey) set-up were used to ensure complete coverage of the survey structure. The entire length of the survey was recorded continuously using the detector and camcorder set-ups. Equipment used is listed below:

- Anabat Walkabout full spectrum detector with an integral recording facility;
- 2x Echometer Touch 2, heterodyne and real-time expansion with integral recording,
- Bat Box Duet bat detectors, combined heterodyne frequency division detectors;
- 2x Anabat Swift full spectrum detectors with an integral recording facility;
- 1x Canon XA40 camcorder;
- 2x Canon XA11 camcorders;
- 6x Nightmaster NM1 XL 850nm infrared torch;
- 3x Neweer SAB264 tripod; and
- 3x tripod bracket with mounted clamp and camera hotshoe.

Post survey data analysis was carried out using Anabat Insight for all detector recordings and VLC Media Player for infrared camera footage.

Dusk surveys involved the monitoring of the structure from fifteen minutes before sunset until between 1.5 to 2 hours after sunset.

Refer to Figures 1 in Appendix A for surveyor, camera and detector locations.

2.4 Limitations

The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document. Should there be a delay in the proposed timeline, it is considered prudent that the survey findings be reviewed and updated as required for subsequent planning applications so that the assessment of ecological impacts is undertaken against an accurate baseline.

2.4.1 Data Search

It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

2.4.2 Habitat Assessment

It should be noted that the habitat survey does not constitute an invasive species survey. Any invasive species noted onsite will be identified and their extent mapped but a detailed search for this species group will not be undertaken and a specialist survey will need to be carried out by a suitably qualified person to ascertain for definite the presence or absence of any invasive species.

2.4.3 Bat Surveys

Bats are mobile animals and can move roost sites throughout the year. It is possible that surveys carried out in February and May to June may miss roosts occupied earlier or later in the year. However, where undisturbed, it is possible to find secondary evidence of bats inside a building throughout the year, although secondary signs may be missed where they are within an area that can't be fully accessed.

3. Results

3.1 Desk Study Results

3.1.1 Statutory Designated Sites

The site is not subject to any statutory designations with a single site present within 2km of the survey boundary. Bedelands Farm LNR lies 950m east at its closest point and is designated for species rich meadows, wetlands, ancient hedgerow and woodland habitats.

The closest site of international importance is Ashdown Forest SPA, SAC and SSSI, located approximately 14.2km northeast of the survey site at its closest point. The site is designated for its species rich grassland, heathland and woodland habitats with rare floral, bird and invertebrate assemblages.

3.1.2 SSSI Impact Risk Zone

The site falls within the SSSI IRZs for Ditchling Common SSSI which is located 2.8km southeast and is noted for extensive acidic heath habitat with associated species rich assemblages of plants, breeding birds and invertebrates.

3.1.3 Non-statutory Designated Sites

A total of five non-statutory designated site and one designated road verge of nature conservation importance were present within 2km of the site. These are detailed within Table 1 below.

Table 1 Non-Statutory Designated Sites Located within 2km Search Area of the Site.

Site	Reason for Designation	Distance
M07 - Burgess Hill Railway Lands	Noted for species rich grassland, woodland and scrub habitats with associated species assemblages.	1.46km east
M16 - Great Wood & Copyhold Hanger	Designated for semi-natural woodland, coniferous plantation and stream with notable ground flora.	810m north
M20 - Bedelands	Designated for semi-natural woodland, grassland and pond with species rich floral compositions.	950m east
M30 - Pond Lye	Designated for single large pond with marginal swamp habitats and species rich grassland habitat with notable species populations.	1.6km northwest
M48 - Keymer Tile Works	Noted for mosaic of ponds, reed bed, grassland and woodland habitats.	1.85km southeast
Malthouse Lane Designated Road Verge	Specific detail not available.	1.85km southwest

3.1.4 Habitats

A search of MAGIC identified seven habitats of principle importance (NERC Act, 2006) present within 2km of the site and are listed below in Table 2.

Table 2 Habitats of Principle Importance Located within 2km Search Area of the Site.

Habitat	Details and closest location in relation to the site
NERC Act (2006) Habitat of Principal Importance: Lowland Mixed Deciduous Woodland	Over 50 blocks of woodland were present within 2km, including over 30 ancient stands. The closest ancient area located 175m west.
NERC Act (2006) Habitat of Principal Importance: Traditional Orchard	Five areas, the closest 715m east.
NERC Act (2006) Habitat of Principal Importance: Lowland Fen	Five discrete areas, all located 1.85m northwest.
NERC Act (2006) Habitat of Principal Importance: Hedgerow	Extensive network across surrounding landscape associated with agricultural and private residential land.
NERC Act (2006) Habitat of Principal Importance: Open Water	Nine ponds identified within 500m, three of which lie within 250m located 10m northwest, 95m southeast and 240m west.

The proposed works are limited to the site boundary and therefore no significant impacts are expected to the habitats listed above.

3.1.5 Protected and Notable Species

Table 3 Protected and Notable Species Records (post 2013) within 2km of the Site.

Species		Record details	Protection / Conservation status
Amphibians	Great crested newt	SxBRC returned 15 recent records within 2km of the survey area. The closest and most recent located 350m west in 2022.	Schedule 2 of the Conservation of Habitats and Species Regulations 2010 and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).
	Other	SxBRC returned recent records for common toad (<i>Bufo bufo</i>), common frog (<i>Rana temporaria</i>) and smooth newt (<i>Lissotriton vulgaris</i>). The closest and most recent related to smooth newt located 350m west in 2022.	
Reptiles		SxBRC returned recent records for grass snake (<i>Natrix helvetica</i>) and slow worm (<i>Anguis fragilis</i>). The closest and most records related to slow worm, 1.4km southwest in 2019 and 1km southeast in 2016.	Schedule 2 of the Conservation of Habitats and Species Regulations 2010 and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).
Birds (excluding barn owl)		SxBRC returned recent records for multiple bird species. Including house sparrow (<i>Passer domesticus</i>), starling (<i>Sturnus vulgaris</i>), dunnock (<i>Prunella modularis</i>), bullfinch (<i>Pyrrhula pyrrhula</i>) and song thrush (<i>Turdus philomelos</i>).	NERC Act (2006), Birds Directive A1, Schedule 1 Wildlife and Countryside Act 1981 (as amended), Red List, Amber List, UK BAP Priority, Sussex Notable Bird.
Barn Owl (<i>Tyto alba</i>)		SxBRC returned seven recent records for barn owl within 2km. The closest accurate record was from 2020 955m northeast.	Schedule 1 Wildlife and Countryside Act 1981 (as amended)
Bats		SxBRC returned records for at least seven bat species from 2013 including bat species (<i>Chiroptera sp</i>), Daubenton's bat (<i>Myotis daubentonii</i>), whiskered bat (<i>Myotis mystacinus</i>), Natterer's bat (<i>Myotis nattereri</i>), common pipistrelle	Schedule 2 of the Conservation of Habitats and Species Regulations 2010, NERC Act (2006), Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

	(<i>Pipistrellus pipistrellus</i>), soprano pipistrelle (<i>Pipistrellus pygmaeus</i>) and brown long-eared bat (<i>Plecotus auritus</i>). The closest record related to common and soprano pipistrelle from 2018 located 600m north. The most recent was of a common pipistrelle located 1.7km northwest from 2021, relating to an unspecified roost.	
Hazel Dormouse (<i>Muscardinus avellanarius</i>)	SxBRC returned 13 recent records of hazel dormice within 2km of the site. The most recent from 2021, located 1.2km northeast and comprised eight records all relating to a single location. The closest record from 2015, located 880m east.	Conservation of Habitats and Species Regulations 2010, Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).
Water Voles (<i>Arvicola amphibius</i>)	SxBRC returned no recent records of water vole within 2km of the site.	Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), NERC Act (2006), UK BAP Priority,
Badger (<i>Meles meles</i>)	Due to the confidential nature of badger records none were returned by the data search or present through online data sources.	Protection of Badgers Act (1992) and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended).
West European Hedgehog (<i>Erinaceus europaeus</i>)	SXBRC returned multiple recent records of hedgehog within 2km of the site.	UK BAP Priority, Red List.
Invertebrates	SXBRC returned recent records for multiple invertebrate species. The majority of records were associated with woodland and grassland habitats.	Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), NERC Act (2006), UK BAP Priority, Nationally Rare,
Invasive Non-Native Species (INNS)	SXBRC returned recent records for 13 species within 2km of the site.	Wildlife and Countryside Act 1981 (as amended) Schedule 9.

No recent records for any other protected or notable species that could utilise onsite habitats were returned from the data search.

3.1.6 Protected Species Mitigation Licences

A total of seven granted PSML were present within 1km of the survey area. In order of distance licence details below:

- Brown long-eared bat, soprano pipistrelle. Active licence 250m south.
- Great crested newt. Active licence 420m southeast.
- Hazel dormouse. Active licence 440m northeast.
- Soprano pipistrelle. 480m northwest from 2017.
- Hazel dormouse. Active licence 790m east.
- Hazel dormouse. Active licence 880m east.
- Common pipistrelle. 970m southeast from 2016.

An additional six licence returns in relation to great crested newt were also present within 1km. Positive licence returns were located 380m northeast, 480m east, 580m east, 700m southwest and 770m southwest, from between 2014 – 2017. A single negative return was present 10m northwest in 2019.

3.2 Field Survey

3.2.1 UK Habitat Classification Survey

Table 4 below describes the habitats identified during the field survey. Figure 1 (Appendix A) provides a habitat plan of the site, with corresponding target notes and photographs provided in Appendix B.

Table 4: Habitat Assessment

Habitat	Description / Species Composition
Building (u1b5)	Three onsite structures were present within the survey area. Comprising Building 1, a detached residential dwelling, Building 2, a garage and Building 3, a small greenhouse. Refer to Section 3.2.3 for details of Buildings 1 and 2. Building 3: a typical, aluminum framed greenhouse on a brick and concrete base located northeast of Building 2.
Other Developed Land (u1b6)	Formed of tarmac, concrete and paved areas predominantly associated with the onsite structures and the main site access and parking areas.
Amenity Grassland (u1d)	The majority of the site comprised managed amenity grassland areas. Dominant species comprised fescue species (<i>Festuca sp</i>), perennial ryegrass (<i>Lolium perenne</i>), Yorkshire fog (<i>Holcus lanatus</i>), creeping bent (<i>Agrostis stolonifera</i>), white clover (<i>Trifolium repens</i>), self-heal (<i>Prunella vulgaris</i>), creeping buttercup (<i>Ranunculus repens</i>), springy turf moss (<i>Rhytidiadelphus squarrosus</i>) and a small area containing hairy sedge (<i>Carex hirta</i>).
Mixed Scrub (h3h) (12)	A line of mixed native and introduced shrub species were present parallel to the southern site hedgerow and along the western and eastern sections of the northern boundary hedgerow. Dominant species comprised rose (<i>Rosa sp</i>), holly (<i>Ilex aquifolium</i>), rhododendron (<i>Rhododendron ponticum</i>), cherry laurel (<i>Prunus laurocerasus</i>), camelia (<i>Camelia sp</i>), box honeysuckle (<i>Lonicera pileata</i>), bramble (<i>Rubus fruticosus agg</i>), elder (<i>Sambucus nigra</i>), snowberry (<i>Symphoricarpos alba</i>) and bay laurel (<i>Laurus nobilis</i>). A sparse ground flora of ground ivy (<i>Glechoma hederacea</i>), lords and ladies (<i>Arum maculatum</i>) and bluebell and (<i>Hyacinthoides sp</i>).
Line of Trees (w1g6)	A single line of mature Lawson's cypress (<i>Chamaecyparis lawsoniana</i>) formed the majority of the eastern site boundary.
Planted Horticulture Bed (c1f)	Several planted ornamental flower and shrub beds were present within central and western extents, specifically along the margin of the access track and paved areas bounding Building 1. Dominant species comprised heather (<i>Calluna sp</i>), snowdrop (<i>Galanthus sp</i>), pampas grass (<i>Cortaderia sp</i>), rose and primrose (<i>Primula sp</i>). Several areas had been recently cleared with exposed earth dominating.
Unvegetated Ground (u1c)	An area of disturbed earth was present adjacent to the site access track. A further area of unvegetated ground was noted north of Building 2 adjacent to the site boundary and was likely formed due to the heavy shade from adjacent trees, hedgerow and structures.
Hedgerow (h3a) (Priority Habitat)	The western, southern and northern boundaries were formed of native hedgerows. The western boundary was noted to be species rich with hawthorn (<i>Crataegus monogyna</i>), blackthorn (<i>Prunus spinosa</i>), beech (<i>Fagus sylvatica</i>), holly, pedunculate oak (<i>Quercus robur</i>), wild privet (<i>Ligustrum vulgare</i>), spindle (<i>Euonymus europaeus</i>) and yew (<i>Taxus baccata</i>). The northern and southern were noted to be dominated by beech with occasional holly and hawthorn present but generally lacked a diverse species mix. Ground flora was limited with only red-dead nettle (<i>Lamium purpureum</i>), common nettle (<i>Urtica dioica</i>) and bristly oxtongue (<i>Helminthotheca echioides</i>). All features were noted to have some management.

Other Hedgerow (h3b)	Three small sections of box (<i>Buxus sempervirens</i>) hedge were noted adjacent to the central section of the northern hedgerow.
Tree (1170)	Multiple mature and semi-mature trees were present within the site, all trees were concentrated to the site margins apart from a single immature holly adjacent to the southern aspect of Building 1. The majority of mature specimens comprised pedunculate oak with sycamore (<i>Acer pseudoplatanus</i>), cherry (<i>Prunus</i> sp), Norway spruce (<i>Picea abies</i>) and beech.
Fence (72)	A single length of timber post and rail fence was present adjacent to the site access point from Cuckfield Road.

3.2.2 Protected Species Assessment

Table 5: Protected and Notable Species Assessment (refer to Table 5 for detailed bat assessment)

Species		Suitable Onsite Habitat/Features	Overall Potential of Onsite Presence
Amphibians	Great Crested Newt	The site was dominated by buildings, hardstanding and amenity grassland which provide limited potential for this species group. However, marginal areas of hedgerow and scrub were noted to provide some sheltering and foraging habitat that could be used by this species group during their terrestrial phase. No waterbodies were present within the proposed development area. The closest pond was situated 10m northwest of the site boundary with an additional two ponds located within 250m and a further six within 500m. The site was isolated on all sides by open agricultural fields and roads with limited direct connectivity to any pond network or extensive optimal terrestrial habitat. Furthermore, onsite features were common and widespread throughout the immediate landscape with no great crested newt records within 250m.	low
	Other	Overall, the known presence of great crested newt and other amphibians within the wider landscape mean the potential presence of this species group utilising onsite features, during their terrestrial phase, in low numbers and a transient nature cannot be ruled out.	low
Reptiles		The site was dominated by buildings, hardstanding and amenity grassland which provide limited potential for this species group. Areas of marginal scrub and hedgerow were noted to contribute towards creating a varied habitat structure preferred by this species group, however these areas are discrete in nature within the site. The proposed development area lacked any connections to optimal offsite habitat in all directions and the limited extent of potentially suitable onsite features further decreases the potential for this species group to utilise onsite features in high numbers. Therefore, the likelihood of significant reptile populations within the site is unlikely, but usage of marginal areas in low numbers cannot be ruled out.	low
Breeding Birds (excluding Barn Owl)		Scrub, hedgerow, tree and building habitats provide suitable nesting features for a range of bird species. The site has some connection to the wider landscape for mobile bird species with direct links to offsite hedgerow areas, however the dominating grassland restricts the majority of onsite nesting potential to marginal areas.	high

Barn Owl	Foraging / Commuting	The site was dominated by managed grassland habitats with regular disturbance. The lack of any extensive onsite habitat and connections to suitable offsite areas limits the potential for use by this species.	negligible
	Roosting / Nesting	No onsite buildings or trees were noted to have any potential roosting or nesting features. No suitable features present.	negligible
Bats	Foraging / Commuting	Shrub, hedgerow and trees areas provide optimal foraging habitat for a range of bat species. The site has limited connectivity with extensive offsite areas, however open grassland and hedgerows allow bats to move across the landscape.	moderate
	Roosting Buildings	Refer to Section 3.2.3 for PBRA results.	
	Roosting Trees	Some potential roosting features were noted with boundary trees, specifically the mature oaks.	low
Hazel Dormouse		Scrub and hedgerow habitats with the presence of bramble and oak provide some habitat for this species, however the onsite features were limited in size and lacked any other favourable floral species. The site lacked any connections to extensive woodland blocks, however connections to the north and south were present along the roadside hedgerows that are a continuation of the western boundary hedge. Overall, the discrete extent of optimal onsite habitat with suitable species composition is considered to restrict the usage of this species within the site to low numbers.	low
Water Vole		No suitable onsite habitats. No waterbodies on or immediately adjacent to the site were present with no records within the areas.	negligible
Badger	Foraging / Commuting	Hedgerow, scrub and grassland were considered to provide suitable foraging habitat for this species. The site has connections to extensive areas of optimal foraging and commuting habitat which allow this species to easily access onsite areas from offsite north, east and southern areas.	moderate
	Sett Building	The regularly used nature of the site with connections to a wider and less disturbed landscape limits the potential for badgers to utilise onsite features for sett building.	low
Invertebrates		Mature trees, scrub and hedgerows all provide potential invertebrate habitats; however, these are of limited size compared to offsite areas. Onsite habitats are common and widespread within the surrounding landscape with more optimal and extensive areas. The small size of the site is likely to limit the usage of any features by significant populations of notable invertebrate species.	low

Other Protected and Notable Species	Shrub and grassland areas provide suitable foraging and sheltering habitat for Western hedgehog and their presence onsite cannot be ruled out.	moderate
Invasive Non-Native Species	Rhododendron and pampas grass were noted onsite at the time of the survey.	present

3.2.3 Bat Roost Assessment

Buildings

All buildings identified as providing potential roosting features for bats identified during the preliminary bat roost assessment are detailed below within Tables 6 and 7. A map showing the building location is provided in Appendix A.

Table 6: Building 1 Preliminary Bat Roost Assessment

Building no.	Central Grid Ref	Footprint (m ²)	Limitations	Date of Initial Assessment	Dates of Subsequent Assessments (if applicable)	
B1	TQ30634 20649	c. 210m ²	None	02/02/2023	N/A	
Usage	Roof Type(s)	Retaining Wall Construction	Adjacent Structure(s)/Connection(s)		Closest Significant Natural Habitat(s)	
Residential	Double pitched, hip and valley.	Rendered brick ground floor and tile hung upper level.	Building 2 located to northeast.		Large woodland 175m west.	
Storeys	Roof Construction	Fascia Feature(s)	Section Descriptions (if applicable)		Connectivity/Commuting Route(s)	
2 (three including loft)	Clay tile throughout with low numbers of skylights.	Hanging tiles on southern aspect including both gable faces and associated dormers.	Section 1 – main building body with hipped roof connected to Section 2 on southern aspect. Section 2 – open gable connected centrally on northern face to Section 1. Section 3 – Small single storied extension from east face of Section 1.		Two mature oak and adjacent hedgerow on within 10m north.	
Loft Space / Cellar	Internal Construction		Eaves/Soffits/Chimney		Damage/Degradation	Orientation (main roof area)
Loft and accessible eaves.	Timber framed throughout with central ridge beam. A bitumen felt roof membrane was present in areas. Breeze block internal gable face. Timber framed boxed rooms within Section 1.		Barge boards on open gable faces with brick-built chimneys and associated lead flashing.		Overall good condition, some missing hanging and roof tiles.	north to south
Photos						
Looking southeast across the western face.		A view of the eastern elevation showing Section 3.		Looking northwest of southern aspect.		
						

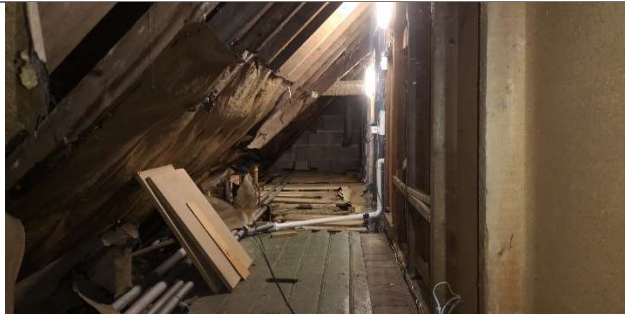
A view southwest across north-eastern corner.		Typical internal view of accessible eaves.		Internal view of main loft space.	
					
Roosting Bats Identified		Secondary Signs		Key Potential Roosting Features	
No		Low numbers of scattered droppings present throughout the main loft space (indicative of pipistrelle species), the majority were old and degraded but some considered to be produced during the last season. Droppings also noted in lower number within the accessible eave areas.		Externally, hanging and roof tiles provided the highest potential features. Internally, open timber frame, raised lining and cavities within internal gable wall and roof partition walls.	
Potential Roost Feature/Evidence Photos					
					
Notes				Overall Assessment Rating	
TQ30645 20664				Confirmed Roost	

Table 7: Building 2 Preliminary Bat Roost Assessment

Building no.	Central Grid Ref	Footprint (m ²)	Limitations	Date of Initial Assessment	Dates of Subsequent Assessments (if applicable)	
B2	TQ30645 20664	c. 90m ²	None	02/02/2023	N/A	
Usage	Roof Type(s)	Retaining Wall Construction	Adjacent Structure(s)/Connection(s)		Closest Significant Natural Habitat(s)	
Garage/storage	Double pitched, half-hipped.	Timber plank.	Building 1 located to the southwest.		Large woodland 175m west.	
Storeys	Roof Construction	Fascia Feature(s)	Section Descriptions (if applicable)		Connectivity/Commuting Route(s)	
2	Clay tile throughout.	None.	A small lean-to on the eastern face. Accessible externally.		Two mature oak and adjacent hedgerow on within 5m north and west.	
Loft Space / Cellar	Internal Construction		Eaves/Soffits/Chimney		Damage/Degradation	Orientation (main roof area)
None	Split internally with timber partition wall. Timber framed throughout with central ridge beam. A breathable roof membrane was present. An internal mezzanine level was present within the open plan section.		None.		Overall good condition, some raised roof tiles and timber boarding.	north to south
Photos						
View of western aspect showing open plan section and enclosed areas.			Looking west towards eastern face showing external lean-to and tiled roof.			
						

Internal view of open plan section showing frame and exposed external planks.		Internal view showing breathable roof membrane on northern face.	
			
Roosting Bats Identified	Secondary Signs	Key Potential Roosting Features	
No	Low numbers of scattered droppings present within the open plan section. The majority were old and partially disintegrated with no obvious association with any potential roosting feature.	Externally, below raised roof tiles and timber boarding on retaining walls provided the highest potential features. Internally, open timber frame and associated cavities between joints.	
Potential Roost Feature/Evidence Photos			
			
Notes			Overall Assessment Rating
Droppings present were considered to be from foraging bats utilising the open plan nature of the structure. No evidence of roosting was found during the assessment.			High

Trees

No trees scheduled for removal were noted to have any potential roosting features with all potential roosting habitat being limited to retained trees.

3.3 Dusk Emergence

Table 8: Dusk Emergence Building 1

Building/Tree no.																	
B1																	
Coverage																	
Aspect	Surveyor/IR Camera Set-up/Both			Detectors			IR Camera Set-up Details										
Northwest	Surveyor			EMTouch													
Southwest/west	Camera			Anabat Swift			Canon XA11 + 2x Nightmaster XL IR Torch										
Southeast/south	Camera			Anabat Swift			Canon XA11 + 2x Nightmaster XL IR Torch										
East	Surveyor			Anabat Walkabout													
Northwest	Surveyor			EMTouch													
Survey 1		Temperature (°C)		22 - 18		Wind		1(2)/12		Cloud (okta)	Cover	1/8		Rain		0	
Date		Dusk/Dawn			Sunrise/Sunset				Start/End Times			Survey Number					
24/05/2023		Dusk			20:55hrs				20:40hrs – 22:25hrs			1/3					
Roost Recorded? Yes. Single common pipistrelle day roost on southern aspect below hanging tile.																	
Species Recorded. Common pipistrelle and myotis bat species (call analysis indicative of whiskered/Brandt's bat (<i>Myotis mystacinus/brandtii</i>)).																	
Notes. Generally low levels of activity during the survey with a peak during the early part of the survey. The first bat recorded was the emerging common pipistrelle at 21:14hrs from the southern aspect. Common pipistrelle dominated throughout the remainder of the survey with activity concentrated along northern boundary features and over open grassland areas to the west and east. A single myotis bat was noted at 21:57hrs but the bat was only heard and not seen, considered to be passing along southern areas. The last bat heard was a common pipistrelle at 22:27hrs foraging over eastern site areas.																	

Survey 2	Temperature (°C)	21	Wind	1/12	Cloud Cover (okta)	3/8	Rain	0
Date	Dusk/Dawn		Sunrise/Sunset		Start/End Times		Survey Number	
15/06/2023	Dusk		21:15hrs		21:00hrs – 22:45hrs		2/3	
Roost Recorded? Yes. Three common pipistrelle day roosts, two located below hanging tiles on the south-western gable and one from the smaller gable on the northern extent of the western aspect from below barge board. Single serotine day roost from below eaves on south-western gable face.								
Species Recorded. Common pipistrelle, serotine and soprano pipistrelle.								
Notes. Generally higher levels of activity than the first survey, however still low, with a peak earlier in the survey. The first bat recorded was a common pipistrelle which emerged from below a hanging tile towards the apex of the south-western gable at 21:41hrs. A second common pipistrelle emerged from below a hanging tile adjacent to the window on the south-western gable at 21:45hrs. A single serotine was recorded which emerged from below the eaves on the south-western gable at 21:46hrs. A single common pipistrelle emerged from below a timber barge board on the western gable face at 21:53hrs. A single soprano pipistrelle was recorded at 21:23hrs foraging over eastern areas. Common pipistrelle dominated the remainder of the survey with the last bat recorded at 22:45hrs foraging along the northern site boundary.								

Survey 3	Temperature (°C)	18	Wind	1/12	Cloud Cover (okta)	3/8	Rain	0
Date	Dusk/Dawn		Sunrise/Sunset		Start/End Times		Survey Number	
29/06/2023	Dusk		21:18hrs		21:00hrs – 22:50hrs		3/3	
Roost Recorded? Yes. Two common pipistrelle day roosts from below hanging tiles on the southern face. A single soprano pipistrelle day roost from below roof tile on central, western face.								
Species Recorded. Common pipistrelle and soprano pipistrelle.								
Notes. Low levels of activity with a peak early in the survey. The first bat recorded was a soprano pipistrelle at 21:37hrs which emerged from below a roof tile close to the ridgeline on the western elevation. Soprano pipistrelle were recorded intermittently throughout the survey with the last bat at 22:08hrs. Two common pipistrelle emerged from separate hanging tiles on the southern face at 21:41hrs and 21:42hrs. Common pipistrelle dominated the remainder of the survey with the last bat recorded at 22:48hrs foraging over eastern areas.								

Summary

Roosts Identified	Location/Feature	Peak Roost Count	ID Confirmed
Common pipistrelle day roost x4	Below hanging tiles on the southern and south-western gable faces.	1	Yes
Common pipistrelle day roost x1	Below barge board on western gable.	1	Yes
Serotine day roost	Below eaves on south-western gable.	1	Yes
Soprano pipistrelle day roost	Roof tile on western elevation.	1	Yes

Roost Location Photos

Hanging tiles - red
Barge board – blue
Eaves - yellow
Roof tile - green



Notes

PSML required.

Table 9: Dusk Emergence Building 2

Building/Tree no.										
B2										
Coverage										
Aspect	Surveyor/IR Camera Set-up/Both			Detectors			IR Camera Set-up Details			
North	N/A – No features									
West	Surveyor			BatBox Duet (Recording adjacent EM Touch)						
South and East	Camera (Surveyor 3 rd survey)			Adjacent Anabat Walkabout			Canon XA40 + 2x Nightmaster XL IR Torch			
Survey 1		Temperature (°C)	22 - 18	Wind	1(2)/12	Cloud (okta)	Cover	1/8	Rain	0
Date	Dusk/Dawn			Sunrise/Sunset			Start/End Times		Survey Number	
24/05/2023	Dusk			20:55hrs			20:40hrs – 22:25hrs		1/3	
Roost Recorded? No										
Species Recorded. Common pipistrelle.										
Notes. Generally low levels of activity during the survey with a peak during the early part of the survey, only common pipistrelle were recorded. The first bat recorded was at 21:20hrs foraging over eastern areas. The remainder of activity concentrated along northern boundary features and over open grassland areas to the east. The last bat heard was a common pipistrelle at 22:27hrs foraging over eastern site areas.										
Survey 2		Temperature (°C)	21	Wind	1/12	Cloud (okta)	Cover	3/8	Rain	0
Date	Dusk/Dawn			Sunrise/Sunset			Start/End Times		Survey Number	
15/06/2023	Dusk			21:15hrs			21:00hrs – 22:45hrs		2/3	
Roost Recorded? No										

Species Recorded.

Common pipistrelle, soprano pipistrelle.

Notes.

Low levels of activity with common pipistrelle dominating. The first bat recorded was a common pipistrelle at 21:44hrs foraging over eastern areas with another bat along the northern hedgeline. A single common pipistrelle foraged within the open barn areas at 22:03hrs and circled twice before leaving. A single soprano pipistrelle was recorded at 21:23hrs foraging over eastern areas. Common pipistrelle dominated the remainder of the survey with the last bat recorded at 22:45hrs foraging along the northern site boundary.

Survey 3	Temperature (°C)	18	Wind	1/12	Cloud Cover (okta)	3/8	Rain	0
Date	Dusk/Dawn	Sunrise/Sunset		Start/End Times		Survey Number		
29/06/2023	Dusk	21:18hrs		21:00hrs – 22:50hrs		3/3		

Roost Recorded? No

Species Recorded.

Common pipistrelle and soprano pipistrelle.

Notes.

Low levels of activity with a peak early in the survey. The first bat recorded was a common pipistrelle at 21:42hrs which flew over areas to the south. Common pipistrelle dominated the remainder of the survey with the majority of activity over eastern areas and along bounding northern hedgeline. A single soprano pipistrelle was recorded at 22:08hrs. The last bat recorded at 22:48hrs foraging over eastern areas.

Summary

Roosts Identified	Location/Feature	Peak Roost Count	ID Confirmed
N/A	N/A	N/A	N/A
Notes			
No further survey required.			

4. Discussion and Recommendations

4.1 Designated Sites

4.1.1 Statutory Designated Sites

The site is not subject to any statutory designations with the proposed works discrete in nature and therefore not considered to have any negative impact on the single designated site present within 2km.

4.1.2 SSSI IRZ

The site falls within the SSSI IRZs for Ditchling Common SSSI. The site is dominated by habitats considered to be of low value for biodiversity with no hydrological connection or any functionally linked land to the designated site. It is therefore not expected that the proposed works for this site will lead to a negative impact on the SSSI.

Recommendations

If the nature of the proposed works were to change, it is recommended that the client contact Natural England for advice before proceeding with works.

4.2 Habitats

4.2.1 Hedgerow (Priority Habitat)

The western, northern and southern site boundaries were formed of native hedgerow priority habitat.

Recommendations

Under current proposals the majority of hedgerow features will be retained, and no significant vegetation removal required with existing access points being utilised. However, should proposals change and the removal significant hedgerow sections be required further survey work may be required (refer to Sections 4.2.3 and 4.2.4)

4.3 Species (excluding bats)

4.3.1 Great Crested Newt, other Amphibians and Reptiles

It is considered that the likelihood of amphibians and reptiles utilising onsite habitats is limited due to the limited suitability of onsite features, which are dominated by buildings, hardstanding and amenity grassland. However, the potential for these species groups to pass through the site cannot be ruled out.

Recommendations

Due to the limited potential for amphibians and reptiles to utilise onsite habitats and the proposed works being concentrated to areas of managed grassland, hardstanding and building features within the central site extents and the majority of boundary features being retained, it is considered that a precautionary approach involving a two phased vegetation clearance for all areas of natural habitat that are to be impacted by works, including boundary introduced shrub and central horticultural habitats. This approach is considered sufficient to safeguard these species groups throughout the proposed works under current proposals. Full details are provided below.

- In the first phase of habitat management, all standing vegetation within the central grassland areas will be reduced in height to approximately 200mm above ground level. Vegetation will be cleared using hand tools, such as chainsaws and strimmers. All cut vegetation will be removed from the site.

- The second phase of habitat management will involve the remaining vegetation being cut to ground level using hand tools, this will take place at least 48 hours (longer if bad weather) after the first phase to ensure any animals have time to move out of the area. All vegetation should be cut in an outwardly direction, pushing any animals present to offsite, retained areas. The vegetation should then be maintained at this level for the entirety of the works to prevent any amphibians or reptiles recolonising during works. This work can only take place between the active period for these species which is taken to be March to October, inclusive.
- All retained areas should be fenced during works to prevent any encroaching machinery during construction phase.
- The above detailed methods are based on current proposals that are to retain the majority of boundary features, however, should proposals change, and these features be significantly impacted further surveys may be required to establish the presence or absence of these species groups to allow a suitable mitigations strategy to be devised.

4.3.2 Breeding Birds (excluding barn owl)

Suitable bird nesting habitat was recorded within the site including areas of scrub, trees and hedgerows. Evidence of historic swallow (*Hirundo rustica*) nests were noted within Building 2. All wild birds in the UK are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs.

Recommendations

Development activities that may impact upon vegetation and known nesting habitats within Building 2 must consider the potential for nesting birds. Therefore, such works should avoid the bird nesting season which typically runs from March to August inclusive. If works during the bird nesting season cannot be avoided, a precautionary nesting bird check will be required no more than 24hrs in advance of works. This would involve ecologists monitoring potential nesting habitat to determine whether they are used by nesting birds. If nesting birds are discovered, the nest must be left in situ until no longer in use with a suitable buffer zone setup to protect the nest.

Prior to site clearance continued nesting provision should be installed across the site to ensure nesting habitats are present and accessible throughout the construction process. Nesting provision should be sited within areas that are to be retained with minimal disturbance levels and comprise at least four nest boxes for common and widespread species.

4.3.3 Hazel Dormice

Hazel dormouse receives protection under the Conservation of Species and Habitats Directive 2010 (as amended), which affords protection to individuals as well as the places they use for shelter and breeding. The boundary scrub and hedgerow habitats were considered to provide some suitable, but limited, habitat for dormice with some connections to offsite hedgerow areas, however these were considered to be of sub-optimal quality due to a limited species diversity.

Recommendations

Under current proposals no impacts to the boundary hedgerows will be undertaken. However, should proposals change and discrete works be required it is considered, due to the low potential for this species to be present within the habitat, a precautionary approach to works is appropriate to safeguard any population present.

Works to clear any vegetation within hedgerow habitat must be undertaken under an ecological watching brief by a suitably experienced ecologist.

Immediately prior to and during vegetation removal, the working footprint will be extensively checked for dormice or evidence of dormice (e.g. ground level hibernation nests/old day nests in trees/scrub) by the

suitably experienced ecologist. This will involve a 'fingertip search'. If dormice are found and disturbance cannot be avoided, works will cease, and a Protected Species Mitigation licence may need to be obtained.

Should proposals change and large section of hedgerow be subject to removal of pruning the project ecologist should be contacted to devise a suitable approach to ensure this species is safe guarded throughout and post works.

4.3.4 Badger (and other notable mammals)

The onsite grassland, scrub and hedgerow habitats were considered to provide some suitable foraging habitat for badgers with connections to offsite habitats.

Recommendations

The potential for badgers to pass through the site must be taken into account during works. Materials must be stored safely at night with lids securely fitted. If trenches are required as part of the works these must be closed over night or ramps installed to enable badgers, and other mammals, to escape. The ramps must be substantial enough for badgers to use therefore these should comprise planks of wood or similar.

4.4 Bats

4.4.1 Preliminary Roost Assessment

Based on the presence of secondary bat roosting signs within Building 1 and potential roosting features within Building 2, the structures were classed as a confirmed roost and as providing high potential for use by bats, respectively.

No trees that are scheduled for removal were noted to have any potential roosting features for bats.

Recommendations

Due to the presence of potential bat roosting features and secondary evidence of bats within the survey structure a series of three dusk emergence surveys were undertaken to assess presence/absence of bats.

4.4.2 Dusk Emergence Surveys

Bats receive protection under the Conservation of Species and Habitats Directive 2010 (as amended), which affords protection to bats and the places they use for feeding, shelter and breeding.

The emergence surveys identified seven roosts within Building 1, including five common pipistrelle day roosts and single day roosts of soprano pipistrelle and serotine.

No roosts were identified within or associated with Building 2.

Development proposals will result in the destruction and disturbance of known roosts.

All UK bat species and their roosts receive full legal protection under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017 (as amended) (refer to Appendix B). Due to the proposed works and unavoidable disturbance and damage to known roosts, a licence from Natural England must be granted before works commence.

A licence application can only be submitted to Natural England following the granting of full planning permission and once all ecological conditions have been discharged (those which are feasible to discharge before the commencement of works). Full details of the project would be required including work schedules and detailed landscaping plans (as required) prior to commencing the licence application. Once the bat licence has been approved and issued by Natural England, all works must be carried out in accordance with the conditions of the licence.

No further survey work is currently required at Holly Tree House; an adequate level of information has been gained regarding the presence/absence and status of the confirmed roosts at the building. Survey

work to accompany the licence application must have been completed within the current active bat survey period or the previous season, in turn if the required licence application is not submitted within 18 months of the completed surveys, the site will require update bat surveys in order to ensure the presence and status of bat roosts has not altered and the devised mitigation strategy remains appropriate.

The licence application must be accompanied by a suitable bat mitigation strategy to ensure this protected species group is safeguarded during and post works. See below details of an outline bat mitigation strategy in regard to the proposed works at the site. Specific mitigation proposals will be determined at the licencing stage in consultation with Natural England and therefore the below details should not be taken as an exhaustive list. The required licence application will detail the full mitigation and compensation strategy and requirements once full project proposals have been discussed and agreed.

Outline Bat Mitigation Strategy

- Specific timings of works will be determined at the licencing stage; however works should be undertaken when any potential impacts to the most significant roosts is minimised.
- Prior to any works to Holly Tree House, contractors must receive a bat awareness toolbox talk to include legislation, basic bat ecology, what to do if a bat is found and specific details of the associated licence.
- Continued roost provision should be installed prior to works commencing to ensure features are present during works.
- Roost re-creation should be integrated within the design of the completed structure post works.
- A pre-works check by the named ecologist will be undertaken of all known roosts using a torch and endoscope before any works begin. All works to known roosts and immediately adjacent areas (<2m) will be carried out by hand and will be overseen by the named ecologist so that any bats present can be safely captured by the ecologist and relocated.

Post-development monitoring may also be required depending on the type of bat licence applied for, in order to ensure that the favourable conservation status of the bat roosts and species present has been maintained. As post development monitoring should be proportionate to the sensitivity of the bat species and the effect the development would have on its population, it is considered that minimal, if any, post-development monitoring would be required in this case. The specific requirements of any monitoring requirements will be determined at the licencing stage.

Commuting and Foraging

Due to the known presence of bats within the site and immediate offsite areas the proposals should aim to incorporate a sensitive lighting design to minimise light spill on surrounding linear features that could be used by foraging and commuting bats.

Bats and Lighting

Different species of bat have been found to react differently to night-time lighting, however research has found that generally, all species of bats are sensitive to artificial lighting and that excessive lighting can delay bats from emerging, thus shortening the time available for foraging, as well as causing individuals to move away from suitable foraging grounds or roost sites to alternative dark areas (Jones, 2000). Bats can also become isolated from their foraging grounds if the linear features they use for commuting are suddenly illuminated, creating a light barrier (Fure, 2006).

New development should aim to minimise indirect impacts from lighting associated with the proposals. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management 2006, Institute of Lighting Engineers 2009, Bat Conservation Trust, 2014):

- low pressure sodium lights are a preferred option to high pressure sodium or mercury lamps, and lights should be directed low with minimal light spillage;

- ideally, some parts of the site (boundary habitats) should be kept dark, preferably at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g. 1.5 hours after sunset and 1.5 hours before sunrise); and
- artificial lighting should not directly illuminate any potential bat commuting areas such as tree lines or vegetative linear habitats.

Development provides the opportunity to enhance a site for biodiversity in accordance with local and national planning policy, therefore recommendations for site enhancement measures are provided in the section below.

5. Ecological Enhancements

Government planning policy (National Planning Policy Framework) now explicitly requires local authorities to seek wildlife gains through the planning process and not to just offset losses. Therefore, development projects should aim to create ecological enhancements and improve the biodiversity value of sites above and beyond mitigation / compensation requirements. A range of enhancement measures have been recommended below to contribute towards meeting these aims.

5.1 Native Species-Rich Planting

Any landscaping schemes should include a significant proportion of native species-rich planting of local provenance including a range of native trees, hedges, shrubs and wildflowers in order to increase the ecological value of the site for wildlife. The use of nectar rich and fruit bearing trees and shrubs is also advised where possible.

5.2 Connectivity

Any planting proposals for the scheme should serve to enhance the habitats on site for biodiversity and improve connectivity with the wider environment through the creation and maintenance of green corridors. This could be achieved through minimising light spill on boundary features, supplementary planting of vegetated boundaries and woodland areas to ensure species can pass the site freely.

5.3 Bats

The proposed development presents an opportunity to enhance the site for bats, beyond required mitigation. It is recommended that four bat boxes should be erected on semi-mature/mature trees within the site. These could include Schwegler 2F boxes or the Schwegler 1 FQ, which is maintenance free. Bat Boxes should be oriented south-west to south-east and located at least 3m above ground level on trees and ideally directly below the eaves if located on a building. The bat boxes must be located outside external light spill and close to suitable vegetation. They should be sheltered from strong winds and be exposed to the sun for part of the day. More details are provided in Appendix D.

5.2 Birds

It is recommended that five additional boxes, specific to Sussex notable bird species, beyond those required for mitigation should be incorporated within the design of the scheme. Three boxes should be installed on or within onsite structures and should be of specific design for house martin and swift, such as Schwegler House Martin box or Schwegler Swift Box Series 16 or 17. The additional two boxes should be targeted towards house sparrow and starling with potential integrated boxes including Schwegler Sparrow Terrace 1SP or Habibat Starling Box.

Due to the limited regular usage of artificial nesting provision by song thrush (*Turdus philomelos*) supplementary planting of suitable evergreen features across two areas within existing hedgerows should be undertaken. This should include yew and holly. More details are provided in Appendix E.

The exact location of the boxes should be discussed and agreed with an ecologist prior to construction.

5.4 Additional Enhancements

Invertebrates

A range of insect nesting boxes³ could be attached to offsite trees/shrubs within the wider site to encourage insect biodiversity at the site. Several long-lasting products are available that can be attached to trees, including boxes designed to attract pollinating insects, and ladybirds and lacewings that are a natural form of pest control for aphids and greenfly.

³ Available at <https://www.nhbs.com/browse/search?q=insect+boxes>

6. References

- Bat Conservation Trust (2018). *Bats and Artificial Lighting in the UK: Bats and the Built Environment series* [online]. Available from <https://cdn.bats.org.uk/uploads/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?v=1542109349> [Accessed February 2023].
- Bird Brick Houses Ltd (2013). Homes for bats and birds [on-line]. Available from: <https://www.birdbrickhouses.co.uk/brick-nesting-boxes/> [Accessed February 2023].
- CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins J (ed) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust
- Fure, A. (2006) *Bats and lighting*. The London Naturalist, No. 85.
- Hundt, L. (2012) *Bat Surveys Good Practice Guidelines 2nd Edition*, London: Bat Conservation Trust.
- IEEM - Institute of Ecology and Environmental Management (2006). *Bats and Lighting*. Winchester: IEEM.
- ILE - Institute of Lighting Engineers (2009). *Bats and Lighting in the UK*. ILE and the Bat Conservation Trust [on-line]. Available from http://www.bats.org.uk/data/files/bats_and_lighting_in_the_uk_final_version_version_3_may_09.pdf [Accessed February 2023].
- Institute for Environmental Assessment (1995) *Guidance for Baseline Ecological Assessment*
- Jones, J. (2000). *Impact of Lighting on Bats*. Bat Conservation Trust. [on-line]. Available from <http://www.bats.org.uk/downloads/Helpine/lighting.pdf> [Accessed February 2023].
- Kunz, T. (1982) *The Ecology of Bats*. Plenum Press, New York.
- MAGIC (Multi-Agency Geographic Information for the Countryside) (2023) <http://www.magic.gov.uk/> [Accessed February 2023]
- Marchant, J.H. (1983) *BTO common birds census instructions*. BTO, Thetford.
- Mitchell-Jones, A J. (2004) *Bat mitigation guidelines*. English Nature: Peterborough.
- Mitchell-Jones, A.J. and McLeish, A. P. Ed. (2004) *Bat Workers' Manual*, 3rd Edition. Joint Nature Conservancy Council: Peterborough.
- Natural England (2022). *Bats: advice for making planning decisions*. [online]. Available from <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects> [Accessed February 2023].
- Oldham, R.S., Keeble, J., Swan, M.J.S and Jeffcote, M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal*: **10** (4); 143-155.
- Schofield, H.W. and Mitchell-Jones, A.J. (2003) *The Bats of Britain and Ireland*. The Vincent Wildlife Trust, Ledbury.
- Schwegler (2023). *Bird and Nature Conservation Products* [on-line]. Available from https://www.schwegler-natur.de/wp-content/uploads/2021/09/gbr-79_product_catalog.pdf [Accessed February 2023]

Slack G. & Tinsley E. (2015) *Linking bat survey with meteorological data: a way to target operational wind farm mitigation*. In Practice v87, p34 – 38.

Stace, C (2019). *New Flora of the British Isles* (4th Ed), Cambridge University Press.

Sussex Biodiversity Records Centre (SXBRC) (2023). *Desktop Biodiversity Report for Holly Tree House, Burgess Hill*. Unpublished report for JWK Wildlife Surveys Ltd.

UK Habitat Classification Working Group (2018) *UK Habitat Classification User Manual*. Available from ecountability.co.uk/ukhabworkinggroup-ukhab.

Appendix A. Figures



Figure 1: Holly Tree House Habitat Plan

Drawn by: JK
Date: 26/02/2023
Not to Scale



Figure 2: Holly Tree House Bat Survey Plan

Drawn by: JK
Date: 24/07/2023
Not to Scale

Appendix B. Target Notes

Target note number	Comments	Photo
N/A	Photograph 1: A view northwest across western site areas, showing amenity grassland and planted bed features.	
N/A	Photograph 2: Looking west to eastern aspects of all onsite structures.	
N/A	Photograph 3: A view north showing planted beds adjacent to Buildings 1 and 2.	
1	Photograph 4: Showing breeding bird potential within onsite vegetation.	
2/3	Photograph 5: A view of marginal scrub providing potential reptile and amphibian habitats.	

4	Photograph 6: Onsite Building 1 providing potential bat roosting features.	
5	Photograph 7: Onsite boundary tree lines providing suitable bat foraging and commuting habitat.	
6	Photograph 8: A view along boundary hedgerow features providing some suitable dormouse potential.	
7	Photograph 9: A view of the open onsite areas providing potential for commuting badger.	

Appendix C. Legislation

Legislation relating to European Protected Species of potential relevance to Holly Tree House Development Proposals

European Protected Species and their resting places (e.g. bat roosts) are protected under Schedules 5 & 6 of the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CROW) Act 2000, and the Conservation of Habitats and Species Regulations 2017.

The Conservation of Habitats and Species Regulations 2017 transpose the European Union's 'Habitats Directive' (Council Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora (EC Habitats Directive) into UK law. The Regulations provide for the designation and protection of 'European Sites', the protection of 'European Protected Species' (EPS), and the adaptation of planning and other controls for the protection of European Sites. EPS are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017.

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to:

- Intentionally kill, injure or take certain animals listed in Schedule 5;
- Intentionally or recklessly damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection;
- Intentionally or recklessly disturb any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any structure or place which any such animal uses for shelter or protection.

In addition, under this legislation there are offences relating to sale, possession and control of wild animals listed in Schedule 5.

Under the Conservation of Habitats and Species Regulations 2017 it is an offence to:

- Deliberately capture, injure or kill any wild animal listed as a European Protected Species;
- Deliberately disturb wild animals of any such species in such a way as to be likely:
 - to impair their ability:
 - i) to survive, to breed or reproduce, or to rear or nurture their young, or;
 - ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or;
 - to significantly affect the local distribution or abundance of the species to which they belong.
- Deliberately take or destroy the eggs of such an animal, or;
- Damage or destroy a breeding site or resting place of such an animal.

In addition, under this legislation there are offences relating to possession, control sale and exchange of an EPS.

Great crested newt, otter and several species of bat are listed as a Species of Principal Importance (SoPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Legislation relating to breeding birds.

All birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended) and it is an offence, with certain exceptions, to:

- intentionally kill, injure or take any wild bird;

- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- intentionally take or destroy the egg of any wild bird; and

Schedule 1 of the Wildlife and Countryside Act 1981 provides further protection for selected species (including peregrine falcon (*Falco peregrinus*), barn owl (*Tyto alba*), little ringed plover (*Charadrius dubius*) and black redstart (*Phoenicurus ochruros*) during the breeding season. If any person intentionally or recklessly disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird. That person shall be guilty of an offence. For the purpose of this offence 'Any wild bird' means any bird included in Schedule 1.

A number of bird species are species of principal importance under Section 41 of the NERC Act (2006).

Conservation status - Birds of Conservation Concern (Eaton et al. 2015)

The UK's leading bird conservation organisations have worked together on the third quantitative review of the status of the birds that occur regularly in the UK, updating the last review in 2011. The status of birds within the UK have been regularly monitored through a series of surveys, including the national Breeding Bird Survey, Common Bird Census, sea bird monitoring programs and wetland monitoring programs. The result of this review and continued monitoring is The Population Status of Birds in the UK, Birds of Conservation Concern 4: 2015.

Birds are assessed against criteria to place each species on one of three alert lists, red, amber or green. Red list species are considered to be of high conservation concern, being either globally threatened, having historical UK population declines, having a rapid population decline or breeding range contraction of 50% or more in the last 25 years.

Amber list species are considered to be of medium conservation concern as they meet one or more of the following criteria (but none of the red list criteria): Red listed for historical decline in a previous review but with substantial recent recovery (more than doubled in the last 25 years), a UK breeding range contraction of between 25% and 49%, a reduction of breeding or non-breeding population of 25-49% in the last 25 years, a 5-year mean of 1-300 breeding pairs in the UK, an unfavourable European conservation status, at least 50% of the UK breeding population found in 10 or fewer sites, or where the breeding population in the UK represents 20% or more of the European breeding populations.

Green list species are considered to be of low conservation concern. They include all regularly occurring species that do not qualify under any of the red or amber criteria are green listed. The green list also includes those species listed as recovering from Historical Decline in the last review that have continued to recover and do not qualify under any of the other criteria.

Legislation relating to bats.

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

- intentional or reckless disturbance (at any level);
- intentional or reckless obstruction of access to any place of shelter or protection; and
- selling, offering or exposing for sale, possession or transporting for purpose of sale

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- deliberate killing, injuring or capturing of Schedule 2 species (all bats);
- deliberate disturbance of bat species as to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.
- deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
- damage or destruction of a breeding site or resting place; and
- keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Legislation relating to badger.

Badgers and their setts are afforded protection under the Protection of Badgers Act (1992). Under this Act it is an offence to wilfully kill, injure, ill-treat, take or possess a badger, or attempt to do so. It is also an offence to damage, destroy or obstruct access to a sett; or to interfere with a sett whilst it is occupied thus causing disturbance to a badger. These provisions have implications for construction or preparation works undertaken in the vicinity of an active sett and may be confounded by distance from the sett entrance. Any works resulting in ground penetration, vibration or noise near an identified badger sett entrance/s have the potential to disturb badgers and advice should be sought from a suitably experienced ecologist under such circumstances. If disturbance to an active sett is probable, then a licence may need to be obtained from Natural England before any works commence.

A sett is defined as any structure or place which displays signs indicating current use by a badger. If monitoring indicates a sett is not displaying signs of recent use, then it is not protected by the law. However, field signs that can suggest current occupation (such as hairs, fresh spoil, faeces, and prints) can remain for a period of several weeks and therefore do not prove current occupation.

Disturbance around known occupied setts is not considered to require a licence if there is no reason to believe that the 'disturbance' is greater than that commonly tolerated by badgers e.g. felling of small trees/shrubs, clearing out of ditches etc. However, for more significant works in the vicinity of a badger sett, a licence issued by Natural England will be required. Recently issued guidance by Natural England (Natural England, 2009a, 2009b) provides further guidance on how the legislation should be interpreted.

Natural Environment & Rural Communities Act 2006

The Natural Environment & Rural Communities Act 2006 (NERC) is designed to help achieve a rich and diverse natural environment and thriving rural communities through modernised and simplified arrangements for delivering Government policy.

It was created to make provision in connection with wildlife, Sites of Special Scientific Interest, National Parks and the Broads; to amend the law relating to rights of way; to make provision as to the Inland Waterways Amenity Advisory Council; to provide for flexible administrative

arrangements in connection with functions relating to the environment and rural affairs and certain other functions; and for connected purposes.

Section 40 of NERC carries an extension of the earlier CRow Act biodiversity duty to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity. Section 41 requires the Secretary of State, as respects England, to publish a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity. The updated list was published in May 2008.

Regional and Local Planning Policy

The Mid-Sussex District Plan (2014 - 2031) includes the following Nature Conservation Policies that are relevant to the site.

- **Policy DP37: Trees Woodland and Hedgerows**

Trees, woodland and hedgerows will be protected and enhanced by ensuring development:

- i. incorporates existing important trees, woodland and hedgerows into the design of new development and its landscape scheme; and*
- ii. prevents damage to root systems and takes account of expected future growth; and*
- iii. where possible, incorporates retained trees, woodland and hedgerows within public open space rather than private space to safeguard their long-term management; and*
- iv. has appropriate protection measures throughout the development process; and*
- v. takes opportunities to plant new trees, woodland and hedgerows within the new development to enhance on-site green infrastructure and increase resilience to the effects of climate change; and*
- vi. does not sever ecological corridors created by these assets. Proposals for works to trees will be considered taking into account:*
- vii. the condition and health of the trees; and*
- viii. the contribution of the trees to the character and visual amenity of the local area; and • the amenity and nature conservation value of the trees; and*
- ix. the extent and impact of the works; and*
- x. any replanting proposals.*

- **Policy DP37: Biodiversity**

Biodiversity will be protected and enhanced by ensuring development:

- xi. Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments; and*
- xii. Protects existing biodiversity, so that there is no net loss of biodiversity. Appropriate measures should be taken to avoid and reduce disturbance to sensitive habitats and species. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances); and*
- xiii. Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience; and*
- xiv. Promotes the restoration, management and expansion of priority habitats in the District; and*

- xv. *Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty; and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas, and Nature Improvement Areas.*

Appendix D. Bat Box Design

Example	Type	Dimension D x W x H (cm)	Target species	Location
	2F Schwegler Bat Box (General Purpose) with or without Double Front Panel	16 x 16 x 33	Without panel: Particularly successful with brown long-eared bat. Also used by noctule. With panel: Ideal for crevice-dwelling species: pipistrelles, <i>Myotis</i> species (particularly Daubenton's), Leisler's and serotine.	On trees or buildings and at a height of 3 to 6m. In open sunny positions and in groups of 3 to 5 facing different directions. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.
	1FQ Schwegler Bat Roost (For External Walls)	9 x 35 x 60	Species known to use buildings e.g. pipistrelles, long-eared bats, Natterer's, whiskered, Brandt's, Alcaethoe (assumed based on current evidence), Daubenton's (occasionally), Bechstein's (very rarely), noctule (very rarely), Leisler's, serotine and barbastelle (rarely).	On external or internal walls (e.g. within a loft space). A minimum of 3m above the ground and where there is a clear flight path for bats entering and leaving. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.

Example	Type	Dimension D x W x H (cm)	Target species	Location
	2FR Schwegler Bat Tube	12.5 x 20 x 47.5	Species known to use buildings e.g. pipistrelles, brown long-eared, Natterer's, whiskered, Brandt's, Alcahoë (assumed based on current evidence), Daubenton's (occasionally), Bechstein's (very rarely), noctule (very rarely), Leisler's, serotine and barbastelle (rarely).	Into the masonry of an external wall. It can either be built flush with the wall or beneath a rendered surface. A minimum of 3m above the ground and where there is a clear flight path for bats entering and leaving. Transverse connecting holes (optional) allow several tubes to be placed next to each other in modular form. It is recommended that at least three units are connected together. An optional passage through the rear panel also enables existing cavities in the walls to be accessed via the tube. This provides an excellent solution to the problem of providing access to existing roosts when converting or renovating older buildings. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.
	Bat Brick House Entrance hole: 20mm (high crescent at base)	Custom.	Designed to provide roosting opportunities for most of the UK bat species, including pipistrelles. The entrance hole can be tailored to different species.	Fitted into the walls of brick built buildings, either retrospectively post construction or during construction. Best at a height of 3-6m and ideally in sunny positions in clusters, facing different aspects. http://www.birdbrickhouses.co.uk/index.html Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.

Example	Type	Dimension D x W x H (cm)	Target species	Location
	Bat Brick	10 x 21.5 x 6	Species known to use buildings e.g. pipistrelles, brown long-eared, Natterer's, whiskered, Brandt's, Alcahoie (assumed based on current evidence), Daubenton's (occasionally), Bechstein's (very rarely), noctule (very rarely), Leisler's, serotine and barbastelle (rarely).	Shaped specially to allow bats to access the cavity of a house. They can be incorporated during both new build or renovation projects. (A cavity chamber may need to be constructed to maintain an area free of insulating material where bats can roost). Best at a height of 3-6m and ideally in sunny positions in clusters, facing different aspects. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.
	Schwegler Brick Box Type 27	24 x 18 x 26.5	Species known to use buildings e.g. pipistrelles, brown long-eared, Natterer's, whiskered, Brandt's, Alcahoie (assumed based on current evidence), Daubenton's (occasionally), Bechstein's (very rarely), noctule (very rarely), Leisler's, serotine and barbastelle (rarely).	Flush with the outside wall of a building or underneath structures like arches, bridges and tunnels, where conditions are correct. It can be rendered or covered so that only the entrance hole is visible. Best at a height of 3-6m and ideally in sunny positions in clusters, facing different aspects. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.

Appendix E. Bird Box Designs

Example	Type	Dimension D x W x H (cm)	Target species	Location
	2M Schwegler Nest Box Hole-fronted 32mm entrance hole	17 x 16 x 35	Multi-purpose , including: great-, blue-, marsh-, coal- and crested tit, redstart, nuthatch, collared and pied flycatcher, wryneck, tree and house sparrows, and occasionally bats.	It can be freely suspended and has a conical roof. These features protect against cats and deter martens. It is very popular in private gardens and especially around fruit trees, mainly in areas where the trees are short and have many branches. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.
	Schwegler Nest Box 1B Hole-fronted 32mm entrance hole	16 x 16 x 23	Multi-purpose , including: great-, blue-, marsh-, coal and crested tit, redstart, nuthatch, collared and pied flycatcher, wryneck, tree and house sparrows, bats.	Suitable walls or semi-mature/mature trees and shrubs; attached to a tree trunk or hung from branches. Ideal points include discrete areas away from predators, such as against walls, plant and metal supports.

Example	Type	Dimension D x W x H (cm)	Target species	Location
	Vivara Pro WoodStone Oval Open Nest Box	15 x 23 x 25.5	Robin, wren (if well hidden), spotted flycatcher, pied and grey wagtail, song thrush and black redstart.	Robin and spotted flycatcher: hidden high on a wall or tree amongst climbing vegetation such as ivy. Wren and song thrush: low in dense vegetation. Ensure that it is well concealed and sited higher if your area has a particularly high cat population.