Moor-Hey House

Bat Survey Report

(Including Outline Mitigation Scheme)

Compiled by Ecology Services Ltd.

on behalf of

Mr. I. Phang

June 2022
(Updated August 2023)

1 Church Row Chambers
Longton
Preston
Lancashire
PR4 5PN

tel: 01772 614932
fax: 01772 614930
email: info@ecologyservices.co.uk
web: www.ecologyservices.co.uk

Ref. number: **23119**
Written by: **SO'N**
Checked: **LES**
Approved: **LES**

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1.0 Introduction

1.1 Ecology Services Limited was commissioned by Mr. Isaac Phang in April 2022 to undertake a Preliminary Roost Assessment (PRA) of structures/buildings at Moor-Hey House, Stoneygate Lane, Knowle Green, PR3 2XE, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference (NGR) 364333, 438501. The location and boundary of the site is shown on Figure 1.

1.2 Recommendations made following the Preliminary Roost Assessment include the requirement for further Roost Characterisation Surveys to be caried out in relation to bats in the form of presence/ absence surveys.

Site Description

1.3 The site is located within a rural environment to the north of Knowle Green and contains a mix of habitats including; mature scattered trees, shrubs, amenity grassland, wooden structures and the brick building subject to survey and a gravel parking area.

Proposals

1.4 It is understood that current proposals for the site include the removal of the single storey extensions on the western elevation to allow for the construction of a new larger single storey extension to provide additional living accommodation. Alterations are also proposed to the window fenestrations, including the southern ground floor entranceway. Proposals also include the construction of a detached sited to the west of the proposed extension. The development proposals are shown on Figure 2.

Background and Survey Objectives

1.5 A Preliminary Roost Assessment of the building was undertaken which found the presence of a number of bat droppings and a single pipistrelle sp. bat within the loft area. Further roost characterisation surveys were completed in the form of dusk emergence surveys during the active bat season in 2022. The surveys identified the presence of two roost access points being used by singular common pipistrelle. Due to the time lapse from the initial dusk emergence surveys, a further updated survey was recommended in order to confirm the current status of bat species present at the site and to see if there were any changes in roosting activity at the site. This report details all of the surveys completed to date at the site in relation to bats.

1.6 The aim of the preliminary roost assessment was to:

- Undertake a visual inspection of the site to establish baseline conditions;
- Complete an assessment to ascertain if potential or evidence of use existed for bat species; and
- Determine if there are requirements for further and/or more detailed surveys.

1.7 Following the preliminary roost assessment, further roost characterisation surveys were recommended in the form of dusk emergence surveys to enable robust data to be collected and to determine the type of roost and bat species present. The surveys included all structures that contain bat roost potential and have the potential to be affected by the proposals. A further updated dusk emergence survey has been completed in 2023 to provide current data on bat activity at the site.

1.8 The purpose of this report is to state the survey methodologies, present the results of the surveys, evaluate the findings, assess the impacts of the proposals and make recommendations concerning the protection of bat species present at this site. Where

possible the report will aim to provide sufficient information to allow a local authority to assess fully the potential impacts of the proposed development on roosting bats.

2.0 Planning Policy and Legislation

2.1 This section provides a brief overview of planning policy and legislation relevant to bats in the England. Further information is provided in Appendix 1.

Planning Policy

2.2 The National Planning Policy Framework (NPPF, 2021) places a clear responsibility on Local Planning Authorities (LPAs) to contribute to conserving and enhancing the natural and local environment. LPAs should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species (e.g. Species of Principal importance, Local Biodiversity Action Plan species); and identify and pursue opportunities for securing measurable net gains for biodiversity. In accordance with the NPPF, local planning policy and guidance, development proposals should provide integrated improvement for biodiversity at the site and seek to maintain and enhance opportunities for bats. The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation.

2.3 Protected species within England, such as bats, are a 'material consideration' in the determination of a planning application. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted to inform a planning application.

2.4 The local planning authority (LPA) has a duty to ensure that protected and priority species (e.g. Species of Principal Importance, Biodiversity Action Plan species) are fully considered in a planning decision. Therefore, up to date survey information and, where required, mitigation strategies adequate to assess the impacts of the proposals and to demonstrate that opportunities for species using the site can be maintained, must be provided in support of a planning application.

Legislation

2.5 All bats and their roosts receive strict protection under the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats & Species Regulations 2017 (as amended)[1]. In brief, this legislation makes it an offence to: kill, injure or capture a bat; to destroy, damage or obstruct access to a bat roost; or to disturb a bat occupying a roost. A Local Authority is a 'competent authority' within the context of Regulation 7 of the Conservation of Habitats & Species Regulations 2017 (as amended) when dealing with planning applications where a European Protected Species (EPS) (all bat species) may be affected. Therefore, planning decisions should only be made when European Protected Species and their habitats are fully taken into account.

[1] The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 continue the same provision for European protected species, licensing requirements and protected areas after Brexit.

2.6 Where proposed works are likely to contravene the legislation protecting bats, a Natural England licence must be applied for, and approved, before works can proceed.

2.7 Section 40 of the Natural Environmental and Rural Communities (NERC) Act 2006 (as amended) places a statutory duty on public authorities, in exercising their functions, to conserve and enhance biodiversity in England. Species of Principal Importance for the conservation or enhancement of biodiversity in England, identified by the Secretary of State in consultation with Natural England, are listed under Section 41 of the NERC Act. The Local Planning Authority and government bodies (e.g. Natural England) will expect the overall design of the development to have regard for the conservation and enhancement of populations of these species. Seven bat species are listed as 'Species of Principal Importance' under Section 41 of the NERC Act 2006 (as amended):

- Noctule (*Nyctalus noctula*)
- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Lesser horseshoe (*Rhinolophus hipposideros*)
- Greater horseshoe (*Rhinolophus ferrumequinum*)
- Barbastelle (*Barbastella barbastellus*)
- Bechstein's (*Myotis bechsteinii*)
- Brown long-eared (*Plecotus auritus*)

3.0 Methodology

Desktop Study

3.1 Ecological data and records searches were undertaken by contacting the sources listed in Table 1.

Table 1: Ecological Desktop Study Sources

Source of information	Information supplied
Lancashire Biodiversity Action Plan (LBAP)	Identification of LBAP species known to occur in the region.
Natural Environment and Rural Communities (NERC) Act 2006 (as amended)	Review of Species of Principal Importance known to occur in the region.
Multi Agency Geographical Information for the Countryside (MAGIC) website	Statutory protected sites designated for their bat interest within 5km of the site. Records of bat roosts relating to Natural England EPS licences within 3km of the site.

3.2 No site-specific data search has been undertaken for bats. In some cases, for Preliminary Roost Assessments of buildings in low impact / small-scale scenarios, such as an extension to a residential property, loft conversions (full or partial), installation of Velux/dormer windows, single modern agricultural or similar building conversion or demolition, it may be acceptable to not undertake a data search with the Local Environmental Records Centre or other relevant sources (CIEEM, 2020). In this instance a data search was not considered necessary due to the small-scale scenario of the proposals on a single residential property and the recent bat survey work undertaken which provides current data in relation to bats at the site.

Preliminary Roost Assessment Survey

3.3 The preliminary roost assessment for buildings/structures followed the below methodology, which is based on the methods set out in the Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (2016). Each building/structure was

categorised according to its level of suitability and any evidence of roosting bats found during the inspection (see Appendix 2).

3.4 An interior and exterior inspection of the buildings/structures was undertaken to search for any potential roosting features and evidence of roosting bats. Signs surveyed for included droppings, dead bats, feeding remains (beetle, moth and butterfly remains), urine staining and grease marks around crevices and down walls, and any noises such as scratching and audible bat calls. An Explorer Premium 8803AL (9mm) endoscope and a ladder were used to check accessible features. A Clulite Long Ranger LED Pistol Light (1200 lumens) and close focusing binoculars were used to better assess any features of interest not accessible. High resolution photographs were taken for later review.

3.5 During the survey the surrounding area was assessed in relation to suitable habitat that may be of value to bats.

Buildings/Structures

3.6 Preliminary roost assessments of buildings and structures can be undertaken at any of the year and can provide conclusive results, which can save expense and time for a planning applicant. The optimum time to investigate the presence of bats is usually during their active season when signs of presence can be more easily located, although this is dependent on the type of roost being inspected.

Personnel

3.7 The PRA inspection survey was undertaken by Senior Consultant Ecologist Mrs. S. O'Neill BA (Hons), who holds a Bat Class Licence Level 2 (Registration number 2015-13768-CLS-CLS).

Timing

3.8 The PRA inspection survey was conducted on the 16th of May 2022.

3.9 The daytime survey was conducted at a time when bats will be active having recently come out of hibernation. Feeding will occur on most nights and roost sites, in particular suitable maternity roosts for females, are being sought. Evidence of bat occupation is likely to be detected, should they be present at the site.

Weather Conditions

3.10 Weather conditions during the survey were reasonable with a number of rain showers but no appreciable wind and temperatures of 12°C.

Roost Characterisation Surveys

3.11 Roost characterisation surveys were carried out in accordance with the Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Good Practice Guidelines', which recommends timings and minimum number of presence/ absence survey visits to determine the roost status for structures. See Appendix 3 for full details. These are determined by the level of potential assigned to each individual building, structure or tree. See Appendix 2 for the full table.

3.12 The roost characterisation surveys required three surveyors on any one survey to enable all previously identified bat roosting features to be covered. Surveyors noted any visual observations of bat activity and were aided by the use of the following equipment; Batbox Duet, a heterodyne and frequency division bat detector and Magenta Bat4, a heterodyne bat detector, used in conjunction with an AnaBat SD1/2 detectors, AnaBat Express (Full

Spectrum Upgrade), Wildlife Acoustic EchoMeter Touch 2 used in conjunction with an Apple iPhone and EchoMeter Touch 2 Pro detectors used in conjunction with Samsung SM-P610 Tab S6 Lite tablet, which were set to record so that data could be analysed if required. A Pulsar Helion 2 XP50 PRO thermal Scope. Canon XA-40 and XA-10 infrared cameras were also used along with two no.96 infrared LED lights and one no.12 infrared LED light per camera.

3.13 In 2022 a total of three roost characterisation surveys were undertaken at the site at an optimal time of year over the active breeding season of bats. These were conducted between the 15th June 2022 and the 26th July 2022 inclusive and consisted of three dusk emergence surveys. An updated roost characterisation survey was undertaken in 2023 during the optimal time of year over the active season of bats. This was conducted on the 2nd of August 2023 and consisted of a single dusk emergence survey.

Personnel

3.14 The presence/absence surveys were conducted by Senior Consultant Ecologist Mrs. S. O'Neill BA (Hons), who holds a Bat Class Licence Level 2 (Registration number 2015-13768-CLS-CLS), Mr. S. Booth who holds a Bat Class Licence Level 2 (Registration number 2016-27296-CLS-CLS), Experienced Ecologist Mrs. Z. Foster who holds a Bat Class Licence Level 2 (Registration number 2015-17219-CLS-CLS) and experienced consultant ecologists who have regularly been involved with bat activity surveys including; Mr. P. Harrison BSc (Hons), Mr. C. Smith MSc. and Mr. M. Barnes BSc (Hons).

Timing

3.15 The roost characterisation surveys were undertaken between the 15th of June 2022 and the 26th of July 2022 during the peak activity season of bats and when maternity colonies are in occupation. The updated roost characterisation survey was undertaken on the 2nd of August 2023 towards the end of the maternity period but during the peak activity season for bats.

Weather Conditions

3.16 Weather conditions during the surveys were ideal with suitable temperatures and no appreciable wind or rain affecting surveys.

Roost Status

3.17 If evidence of a bat roost is recorded during the surveys, the status of the roost is evaluated based on its function. This requires sufficient survey effort to determine the species and numbers of roosting bats present, the time of year that the roost is used and characteristics of the roost itself. The Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' details types of bat roosts which may be defined in several ways, as below:

- Day roost – where individual bats or small groups of males, rest or shelter in the day.
- Night roost – where bats rest or shelter in the night but are rarely found during the day.
- Feeding roost – where individual or few bat/s rest or feed during the night.
- Transitional/occasional roost – used for short periods of time by few or occasionally small groups of bats on waking or prior to the hibernation period.
- Swarming site – large numbers of males and females gather during late summer to autumn.
- Mating sites – where mating takes place from late summer and through winter.
- Maternity roost – where females give birth and raise their young.

- Hibernation roost - where bats may be found during winter. To have a constant cool temperature with high humidity.
- Satellite roost – an alternative roost used by individual to small numbers of breeding females over the breeding season. Usually close to main nursery colony.

3.18 Roost selection is often closely correlated with presence of suitable foraging habitat within a reasonable commuting distance from the roost. Different roost sites are used throughout the active season which is most dependent upon roost microclimate and abundance of invertebrate prey nearby. Weather conditions can also affect the ability of bats to successfully forage. All British bats are insectivorous.

Limitations

3.19 During the PRA, due to the gradient of the ground, a small portion of the southern roof area was unable to be clearly viewed from ground level. Internally light was observed at the roof valley but any access potential was unable to be viewed externally. The eastern, northern and western roof areas of Building A were viewed from a distance with the aid of binoculars.

3.20 Rain showers occurred during the survey but these were intermittent and are not considered to have adversely affected the PRA surveys conducted at the site.

3.21 The roost characterisation surveys were undertaken during suitable weather conditions and at an appropriate time of year. The small portion of the southern roof area that was not clearly viewed during the PRA was also unable to be viewed during the roost characterisation surveys. However, surveyors were positioned so that bat activity over the building was able to be tracked. Surveyors each had two-way radios and review of timings of any noted bats was undertaken during the survey and supported by review of the camera footage recorded.

3.22 Overall, there are limitations to the surveys undertaken and these have been taken into consideration when conclusions, impacts and recommendations have been made.

4.0 Results and Evaluation

Desktop Study

National Status

4.1 There are 18 species of bat that are native to the United Kingdom. The latest Review of the Conservation Status of British Mammals (2018) has shown that where change could be assessed with reasonable confidence there have been increases in the geographical range and population status of two species of UK bat (greater and lesser horseshoe bat) and decrease in the geographical range of one species (grey long-eared bat).

4.2 Increases in population were also identified in the following species: Bechstein's, Daubenton's, Natterers, serotine and brown long-eared although it is noted that the reliability of the results is poor.

4.3 Population data was not available for; Alcathoe, whiskered, Brandt's, Leisler's, noctule, Barbastelle and Nathusius pipistrelle.

4.4 Population estimates were given for common and soprano pipistrelle however could not be reliably compared to the results from Harris et al. (1995) as the two species had not been identified as separate species at the time of the survey. Pipistrellus spp. remain the commonest species of bat in the UK.

4.5 Serotine and barbastelle are considered vulnerable and Leisler's and Nathusius' pipistrelle, near threatened in Britain and England in the Red List for Britain's Terrestrial Mammals (Mathews and Harrower, 2020).

Regional Status

4.6 The north west of England appears to be a stronghold for Whiskered and Brandt's, both of which are reasonably rare in southern England.

Local Status

4.7 The Lancashire Local Biodiversity Action Plan (LBAP) lists eight bat species recognised as being resident in Lancashire (refer to Appendix 4) in a combined species action plan.

Designated Sites

4.8 There are no statutory or non-statutory protected sites designated on the basis of their interest for bats that are located within the vicinity of the site and which could be adversely affected by the proposed development of the site.

Records Data Search

4.9 Records of European Protected Species mitigation licences for bats within the 3km area surrounding the site include licenses relating to; soprano pipistrelle approximately 1.7km to the north east (2019-2024); common pipistrelle and brown long-eared approximately 1.9km to the south west (2011-2013); common pipistrelle approximately 2.6km to the south east (2019-2020) and a Brandt's, common pipistrelle and soprano pipistrelle roost approximately 2.7km to the north west with a number of licenses dated between 2019 and 2024. All of the noted licenses cover works affecting a resting place.

Preliminary Roost Assessment

Habitat Assessment

4.10 The site is located in a rural location on the northern outskirts of the village of Knowle Green. The land boundary contains a large managed garden including areas of mown grassland, scrub, and a variety of trees ranging in age. The northern boundary of the site is bordered by a tree lined access road. The eastern, southern and western boundaries compose mature hedgerows and mature scattered trees. An unnamed watercourse is also present to the west of the site. A raised paved area is located to the south of the main house and a man-made lined pond is located to the east of this area. The garden contains a mix of native and introduced shrubs and further structures include a wooden summer house and garage as well as the main residential property. The site contains good quality foraging habitat and contributes to potential wildlife and commuting habitats within the wider survey area.

4.11 Land surrounding the site comprises open agricultural land in the form of grazed pasture with a network of hedgerows, fencing and scattered trees to the north, east and south of the site. To the west lie a small number of further residential properties with established gardens and tree lined boundaries linking to the wider survey area. Features present within the surrounding agricultural land include a network of hedgerows and boundaries. A single waterbody located c.215m to the west beyond the unnamed watercourse. A further watercourse c.318m west named Cowley Brook which is flanked by a linear band of trees and provides an ideal foraging and commuting feature. To the east is a small pocket of woodland located at Squire House and the larger area of woodland at Over Hey Wood, both of which are located to the west of Stoneygate Lane. Habitats within the wider survey areas provide high value foraging and commuting habitat and are likely to provide a number of roosting opportunities.

4.12 Overall, habitats within the immediate and wider surrounds of the surveyed buildings are considered of high value for foraging and commuting bats. Where suitable habitats are present in close proximity to buildings/structures then there is generally an increased use of these for roost sites due to a higher abundance of food and better access to food sources.

Buildings/ Structures

4.13 A description of the buildings/structures can be found in the Table 2 below and overleaf. Photos of buildings/structure with annotations showing locations of potential roosting features are provided in Appendix 5.

Table 2: Description of Buildings/ Structures.

Building A – Residential Property
Description:
A two-storey residential property that is currently occupied. The building is of a roughly L-shape and is of a brock construction and slate tiled roof with clay ridge tiles. There is a central chimney with lead flashing and overhanging eaves with wooden painted soffits surrounding the roof verge. uPVC windows and doors were observed. There are three lower extension areas accommodating the main entrance to the south, a side entrance to the west and a lower ground floor extension also on the western elevation. The main entrance and side extension compose of brick with slate roof tiles and the side entrance is of a wooden construction with a lean to slate tile roof. Internally, the roof is of a timber construction with two main loft void areas that are separated with an internal brick wall that has an open access gap to the north. The roof is circa 1.5metres in height at the apex with an open central space for each of the loft areas, i.e. no central wooden roof trusses. No roofing membrane was observed and light was noted emanating from gaps at the roof tiles and also light spill from the bathroom below to the north-western loft area.
Roost potential signs:
From ground level the roof tiles appeared to be tight fitting but internally gaps were observed within the southern roof area and at the roof valley to the south. A broken ridge tile and further raised ridge tiles were noted on the southern elevation. A gap was observed between the soffit and the wall on the eastern and southern elevations, a bat dropping was observed on the window sill of the located under the eastern gap. A further gap was noted in the wooden soffit on the southern elevation and a minor gap was also observed between the entrance extension and the wall, although this appeared to be cobwebbed and located beside the drainpipe. Internally a number of bat droppings were observed scattered throughout the loft areas. Droppings were indicative of brown long-eared and possibly pipistrelle species. Concentrated droppings were noted in the main southern loft area, c.100+ and a larger concentrated areas of bat droppings were noted in three areas of the eastern loft area, c.300+. The droppings were noted below the main timber joists which had areas free from cobwebs, and adjacent nearby cobwebs had bat droppings caught within them. Droppings ranged in age with fresh and old droppings being present. Following a thorough search of the loft areas a single bat was found roosting behind a central roof timber. The species is unconfirmed due to the limited view of identifying features but from review of photographs taken it is considered that the species shows some similarity to pipistrelle species. Access was gained to the entire loft areas and a thorough examination of this space was conducted in addition to the rest of the interior and exterior of the building. The building is a **confirmed** roost with the potential to support more than one species with the potential to support a larger day roost or a possible maternity roost.
Building B – Summer house
Description:
A single storey wooden structure situated on a concrete base and located to the west of Building A. The roof is of a gable construction and is covered in roofing felt with a number of solar panels present. Two windows were noted on the western and southern elevations with an access door also

located to the south. The roof is in a poor condition on the western elevation where wood appears to be degrading. An overhanging soffit is present to the south. Internally there is no loft area and a full inspection of the space was undertaken. Evidence of water ingress was present on the western internal walls and the interior has been painted and is currently used for storage.
Roost potential signs:
No gaps or entry points were observed externally at the building. Internally no suitable roosting features were noted and the internal space is entirely light filled. There was debris in and around the building indicating that the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use. A thorough examination of the building was conducted. The building is considered to have **negligible** potential for roosting bats.
Building C - Garage
Description:
A single storey wooden garage structure with a gable roof located to the west of Building A and south of Building B. Wooden barge boards are present and the roof is covered in corrugated concrete asbestos sheeting. Windows are present on the eastern and southern elevation and double doors on the northern elevation, one of which was open slightly. Vegetation covers the eastern elevation and parts of the roof. Internally there is no roofing membrane and evidence of the roof leaking was observed. The garage is currently used as storage and the walls have been stained from which a strong smell is present within the structure. An active robin's nest was present to the left of the entrance and a small number of mouse droppings were observed. The internal space is light filled.
Roost potential signs:
No suitable gaps were observed externally at the building. Internally no suitable roosting features were noted and the internal space is entirely light filled. There was debris in and around the building indicating that the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use. A thorough examination of the building was conducted. The building is considered to have **negligible** potential for roosting bats.

4.14 Taking into account the presence of a bat and the number of droppings identified within Building A, further roost characterisation surveys were recommended, the results of which are presented within the following sections.

4.15 Buildings B and C were found to contains negligible potential to support roosting bats and no further activity surveys are deemed to be required for these buildings.

Roost Characterisation Survey Results

4.16 The raw data from the roost characterisation surveys for Building A can be found within the following section. An overview of dates, times and the results of the surveys are provided overleaf.

Table 3: Overview of Roost Characterisation Surveys

Date of surveys & survey type	Start & end times and time of Sunset/ sunrise	Structure reference/ location	Equipment used	Weather Conditions
2022				
Dusk 15.06.2022	Start time: 21.27 End time: 23.43 Sunset time: 21.43	Building A	Bat box duets used in conjunction with AnaBat SD2 detectors and Echo Meter Touch 2 and recording device. Canon XA-40 & XA-10 infrared cameras and infrared lights were also used.	Start Temp: 19.8°C Sunset Temp: 16.3°C Finish Temp: 9.7°C Precipitation: Dry Wind: Calm (BS0*) Cloud Cover: 0% to 50%
Comments (to include # of surveyors used for each visit): Three surveyors were required to cover all suitable potential roosting features identified.				
Dusk 07.07.2022	Start time: 21.26 End time: 23.41 Sunset time: 21.41	Building A	Bat box duet used in conjunction with AnaBat SD1/2 detectors and Echo Meter Touch 2 Pro's and recording devices. Canon XA-40 & Canon XA-10 infrared cameras and infrared lights were also.	Start Temp: 18.1°C Sunset Temp: 17°C Finish Temp: 15.7°C Precipitation: Dry Wind: Light breeze (BS1*) Cloud Cover: 100%
Comments (to include # of surveyors used for each visit): Three surveyors were required to cover all suitable potential roosting features identified.				
Dusk 26.07.2022	Start time: 21.02 End time: 23.18 Sunset time: 21.18	Building A	Bat box duet and Magenta Bat4 used in conjunction with AnaBat SD1/2 detector; Echo Meter Touch 2 and Echo Meter Touch 2 Pro's with recording devices. Canon XA-40 & Canon XA-10 infrared cameras and infrared lights were also.	Start Temp: 19.6°C Sunset Temp: 15.1°C Finish Temp: 10°C Precipitation: Dry Wind: Light air (BS1*) Cloud Cover: 100 to 0%
Comments (to include # of surveyors used for each visit): Three surveyors were required to cover all suitable potential roosting features identified.				
2023				
Dusk 02.08.2023	Start time: 20.53 End time: 23.08 Sunset time: 21.08	Building A	Bat box duet and Magenta Bat4 used in conjunction with AnaBat Express (full spectrum upgrade) & EchoMeter Touch 2 Pro detectors and recording devices. Canon XA-40 infrared cameras & lights.	Start Temp: 15.3°C Sunset Temp: 15.1°C Finish Temp: 12.6°C Precipitation: Dry Wind: Light air (BS1*) Cloud Cover: 90 to 100%
Comments (to include # of surveyors used for each visit): Three surveyors were required to cover all suitable potential roosting features identified.				

**Beaufort Scale - BS*

2022 Survey results

Dusk Emergence Survey No.1

4.17 One common pipistrelle was observed to emerge from the southern elevation at the soffit to the left of the window above the entrance door (#1). The bat was observed to re-enter and emerge again from the same location.

4.18 Commuting, foraging and feeding activity was identified at the site mainly located to the north-west and west over the adjacent tree line and to the south over the garden area. Species identified include; common pipistrelle, soprano pipistrelle, Myotis species including whiskered/Brandt's and Daubenton's and brown long-eared. Social calls by common pipistrelle were also noted.

4.19 Prior to the survey the loft area was entered to deploy a temperature and humidity data logger to lay a covering on the loft floor over old droppings in order to allow for any recent droppings to be identified and to confirm any bat presence. A single common pipistrelle was observed to be present within the same location as previously noted on the initial PRA survey.

Dusk Emergence Survey No.2

4.20 One common pipistrelle was observed to emerge from the southern elevation at the soffit to the left of the window above the entrance door (#1).

4.21 Commuting was noted to the east along the treeline and at the driveway. Foraging and feeding activity was observed over the surveyed building, along the tree line to the west and at the garden located to the south of the building. Bat activity was observed around the roof area. Increased levels of brown long-eared activity was noted than the initial survey. Bat species identified include; common pipistrelle, soprano pipistrelle, Myotis species including Brandt's and Daubenton's, brown long-eared and noctule. Social calls by common pipistrelle were also noted.

4.22 Prior to the survey the loft area was entered to check for presence of bat species and any recent deposit of bat droppings on the covering. No evidence of bat presence was observed and a single recent dropping was noted on the covering.

Dusk Emergence Survey No.3

4.23 One common pipistrelle was observed to emerge from the southern elevation at the soffit to the left of the window above the entrance door (#1). A second common pipistrelle was observed to emerge from under a ridge tile on the hipped roof section of the southern roof (#2).

4.24 Commuting, foraging and feeding activity was identified at the site. Foraging and feeding was noted around the entire building; along the tree line accompanying the access road; over the front garden and driveway; over the field located to the east of the site and over the tree line to the east and southern garden area. Bats were observed foraging close up to the house on this occasion. Bat species identified include; common pipistrelle, soprano pipistrelle, Myotis species including Brandt's and Daubenton's and noctule. Social calls by common pipistrelle were also noted.

4.25 Prior to the survey the loft was entered to retrieve the temperature and humidity data logger and the covering and to check for presence of bats. No evidence of a roosting bat was observed in the location previously noted and no further recent bat droppings were noted on the loft floor covering.

4.26 The temperature and humidity logger recorded varied results with temperatures ranging between 12°C and 45°C and humidity between 22.5%rh and 77.5%rh. Prior to the surveys when the loft was accessed it was noted that when the lights were on within the bathroom below the north western section of the loft that light spill was evident within the main loft area.

2023 Survey result

Dusk Emergence Survey No.4

4.27 One common pipistrelle was observed to emerge from the southern elevation at the soffit to the left of the window above the entrance door (#1). A second common pipistrelle was observed to emerge from a gap at the single storey western extension between the wooden soffit and the brick wall (#3).

4.28 Commuting, foraging and feeding activity was identified at the site. Activity was noted surrounding the building but was less prevalent to the north adjacent to the access road. Bats were noted flying over and around the buildings and at tree canopy height of the surrounding trees. Bat species identified include: common pipistrelle, soprano pipistrelle, Myotis species including; whiskered/Brandt's, Daubenton's and Natterer's, Noctule and brown long-eared.

4.29 Prior to the survey the loft was entered to check for any changes in site conditions within the loft area. Recent deposits of scattered bat droppings were observed. No individual bat presence was observed in the previously known roost location.

Summary and Evaluation

4.30 The preliminary roost assessment found Building A to contain a confirmed bat roost with the potential for the roost to support either a larger day roost or a maternity roost when considering the location and numbers of old and recent droppings found within the loft areas. The roost also has the potential to be used by more than one species. Buildings B and C have been found to hold negligible potential to support roosting bats considering the lack of potential roosting features, as noted within Table 2. Habitats within the immediate and wider surrounds are considered to be of high value for foraging and commuting bats.

4.31 The PRA survey was undertaken by suitably experienced surveyor in line with BCT Guidance.

4.32 In line with guidance, Building A was subject to further roost characterisation surveys in the form of presence/ absence surveys to collect information which will inform the required Natural England bat licence. Three surveys were undertaken in 2022 and an updated survey was conducted in 2023.

4.33 A single common pipistrelle was observed within the loft area on the first survey but was not observed to be present on the subsequent three surveys undertaken at the site. One access point was recorded on each survey occasion whereby a single common pipistrelle was observed to emerge a soffit to the left of the window above the entrance door (#1) on the southern elevation. On the second survey the bat (presumed to be the same common pipistrelle) was noted to re-enter and emerge in the same location (#1). On the third survey a second access point was observed where a common pipistrelle emerged from a ridge tile located on the hipped roof section of the southern roof (#2). On the fourth survey a common pipistrelle emerged from a gap between the wooden soffit and the wall on the single storey extension located to the west of the house (#3). From the roost characterisation surveys completed at the site Building A has been found to support a common pipistrelle day roost used by low numbers of bats. During the surveys completed other bat species were noted

including; soprano pipistrelle; Myotis species including whiskered/Brandt's, Daubenton's, Natterer's; noctule and brown long-eared.

4.34 The roost characterisation surveys were conducted during the optimal survey period for bats and were undertaken by suitably experienced surveyors in line with the current BCT Guidance.

4.35 When taking all of the data gathered from both the preliminary roost assessment and the roost characterisation surveys it is considered that Building A currently supports a low conservation status day roost used regularly by small numbers of common pipistrelle, maximum two bats. Evidence from the initial survey would indicate that Building A has previously supported a higher conservation roost, likely species being brown-long eared bats, due to the numerous droppings present within the loft area. The number of droppings would indicate the previous presence of a larger day roost or potential maternity roost but that this roost is no longer used by the species for either purpose. The updated survey completed in 2023 found the site to remain in a similar condition with similar survey results being recorded.

5.0 Impacts and Recommendations

Buildings Roost Suitability

5.1 Building A has been confirmed to support two common pipistrelle bat roosts that are considered to be used as day roosts. The first roost is located within the main loft area of the house and has been found to have two confirmed access points (#1 and #2) which both lead into the loft area. A roost location at the roof timbers has been observed within this loft. A second roost has been identified located on the single storey extension located to the west of the house with an access point (#3) between the wooden soffit and the wall. The preliminary roost assessment confirmed that Building A has previously supported a higher conservation roost in the form of a larger established day roost or potential maternity roost of brown long-eared, but that the building is not currently being used by this species for either purpose. Building B and Building C on site have been found to hold negligible potential to support roosting bats.

5.2 All surveys have been undertaken in line with BCT Guidance (Collins 2016) and were completed by experienced ecologists, during the optimal survey period.

5.3 The proposals at the site involve the removal of the single storey extensions on the western elevation of the house to allow for the construction of a new larger single storey flat roof extension. Alterations to the windows and southern elevation ground floor entranceway are also proposed. Demolition of the existing wooden summer house (Building B) and the existing wooden single garage will also be required to make way for the construction of a single storey flat roofed double garage located to the west of the proposed extension. It is possible that access point #1 may be able to be retained or modified in its current location. The access point at #3 will be destroyed due to the proposed development.

5.4 There are currently no proposed works to be undertaken on the roof area. However, remediation works will be required at a future point as part of ongoing maintenance works. Therefore, at this time there will be no alterations to access point #2 which is located at the ridge tiles on the southern hipped roof point.

5.5 Roosts have been confirmed within Building A and in the absence of suitable compensation measures under the appropriate Natural England (NE) licence, if works are undertaken that impact a bat roost either directly or indirectly, then this would result in an offence being

committed under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended).

5.6 The Local Planning Authority will require an outline mitigation scheme which details how the favourable conservation status of the species found present at the site will be maintained and that there will be no detrimental effect upon roosting bats by the proposed development. Work at the site will be delayed until such time that a NE licence is applied for and granted to legally permit work to commence which would affect bats or their roost.

5.7 A NE licence can only be applied for once planning permission is gained. Natural England, the licensing authority, will require the species, numbers and use of a roost to be ascertained before granting a licence and there may be delays in obtaining a Licence and time constraints as to when mitigation can be undertaken.

5.8 The Local Planning Authority should also consider Biodiversity Net Gains in relation to bats.

5.9 As bats are mobile creatures and can form new roosts at any time if works are not started within one year of this report, then it may be necessary to repeat certain surveys.

Safeguards and Enhancement Measures

5.10 As best practice, opportunities for bat species identified at the site should be incorporated within any proposed development to ensure that the long-term status of bat species in the local area is maintained.

5.11 Lighting schemes should be designed in accordance with best practice and ensure there are no detrimental impact upon bat roosting and foraging habitats, bat activity was found present around the entirety of Building A but was more regularly observed to the north-west, west and southern areas over adjacent tree lines and the garden area.

Other: Breeding Birds

5.12 The site also contains suitable breeding bird habitat and an active robin's nest was observed within Building C during the initial preliminary roost assessment.

5.13 The Wildlife and Countryside Act (WCA) 1981 (as amended) states that all wild birds are protected at all times against killing or injury. Under the WCA, it is an offence to kill, injure or take any wild bird, to take damage or destroy the nest of any wild bird, or to take or destroy the egg of any wild bird. It is good practice to carry out any works outside of the breeding bird season that might affect nests and result in an offence being committed. The breeding bird season is generally considered to be between March to August inclusive.

5.14 It is good practice to remove all affected breeding bird habitat during the winter months prior to works starting to prevent delays, where possible. If suitable breeding bird habitat is affected during the breeding bird season, then an assessment by an Ecologist for breeding birds should be undertaken prior to works. If breeding birds are found, it is likely that works will have to be delayed until breeding has ceased.

6.0 Mitigation Scheme

6.1 The mitigation scheme below has been designed to provide an outline of the measures required to maintain the current status of common pipistrelle at the Moor-Hey House site.

6.2 The following method statement is not a replacement for a Natural England Protected Species Licence which will be required to permit works, once planning approval has been granted by the Local Planning Authority.

6.3 The mitigation scheme has been designed to provide a long-term replacement day roost used by crevice dwelling bats such as pipistrelle species. Enhancement is also proposed at the site for the loss of other potential roosting features.

6.4 The works will include the provision of an interim roost prior to disturbance and any demolition of areas on the existing building, Building A. An interim bat box shall be installed at the site prior to works commencing to ensure that bat species will not be left without roosting provision at any time.

6.5 The initial demolition works will commence following the installation of the interim bat box and will be completed in a sensitive and controlled manner, as detailed below and overleaf:

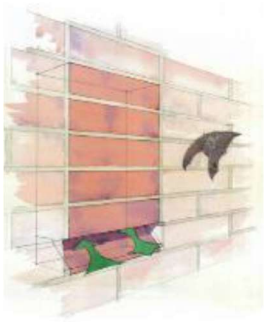
- Prior to any demolition at the site, the land owner and any other person/s involved in the demolition process at the site shall ensure that an appropriate Natural England Protected Species Licence has been granted and that the Local Planning Authority has approved the mitigation scheme. The owner and any other person/s should ensure that they are familiar with the required works at the site in relation to bat/s.
- A tool box talk shall be undertaken prior to works to inform site operatives of the presence of bats at the site and the legislation relating to bats; measures that will be used to protect them; good working practices; licensable activities and what to do should a bat be found during the works.
- Liaison between the demolition contractor and the bat licensed ecologist shall be conducted to confirm the areas that contain bat roosting potential and which require supervision.
- The confirmed roosts are considered to be day roosts used by low numbers of a common species with a status of low conservation significance. Therefore, it is considered that the proposed works shall not impact a breeding roost or a roost used for hibernation and in line with the Bat Mitigation Guidelines, there are no conditions with regards to timing of the works.
- The demolition contractor shall provide a safe method of access to enable the bat licensed ecologist or their accredited agent to supervise the careful removal (soft demolition) of areas of bat roosting potential located at Building A, including confirmed access points noted #3 and #1 (should this not be retained). These may include areas other than the confirmed access points, should they be deemed suitable to support roosting bats. Crevices and gaps may also be further inspected with the use of an endoscope.
- The contractor will carefully remove these features in a controlled and sensitive manner under the direction of the bat licensed ecologist.
- Licensable activities will only be undertaken during suitable weather conditions with no heavy rain/snow/frost or high winds forecast.
- If a bat/s is/are located and appear unwell or is injured then it/they will be captured and taken into care with a suitably experienced local Bat Carer.

6.6 The proposed building at Moor-Hey House shall incorporate provision for two bat roosts within the overall proposals to compensate for the loss of one identified day roost #3 used on an occasional and potential modification of one access point at #1 used on a frequent basis.

One bat box shall form compensation under requirements of the Natural England licence for the loss of a bat roost and one bat box shall form enhancements at the site for crevice dwelling bat species. The access point #1 shall either be retained or modified in its existing location.

6.7 It is proposed that roosting opportunity will be provided with the installation of two internal bat tubes, such as the Schwegler 1FR Bat Tube or similar. Examples of internal bat tubes are provided below.

Schwegler 1FR Bat Tube

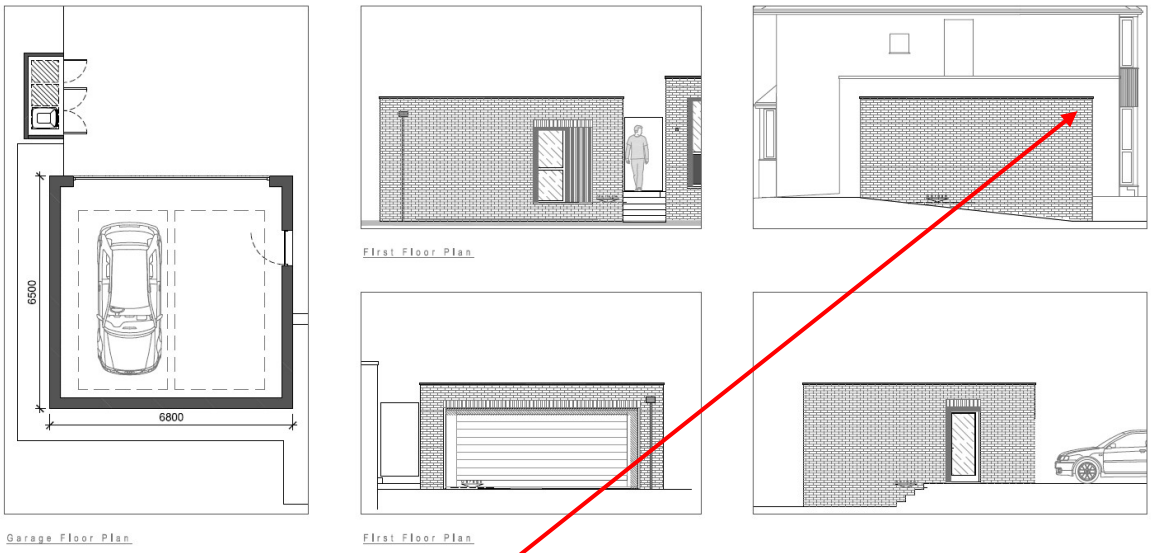


Habitat Bat Access Panel

Ibstock enclosed bat box

6.8 One bat tube shall be located on the southern elevation in a similar location to access point #3. The second bat tube shall be located on the western elevation of the proposed garage to provide an alternative roosting location. The proposed bat tubes will not be located above windows or doors and shall be sited as high on each elevation as possible.

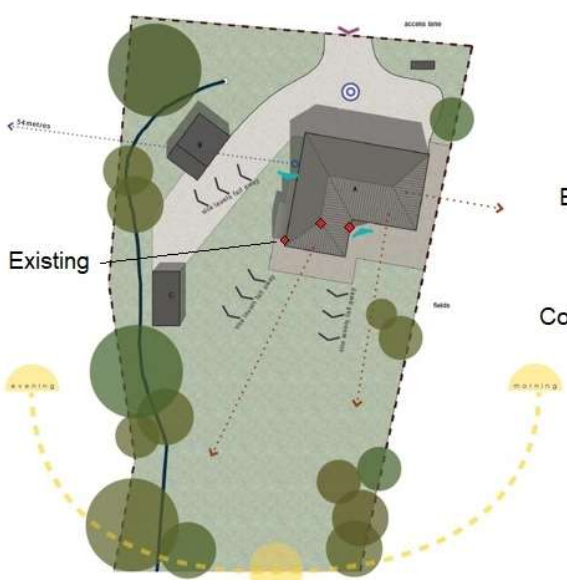
Approximate compensation location.



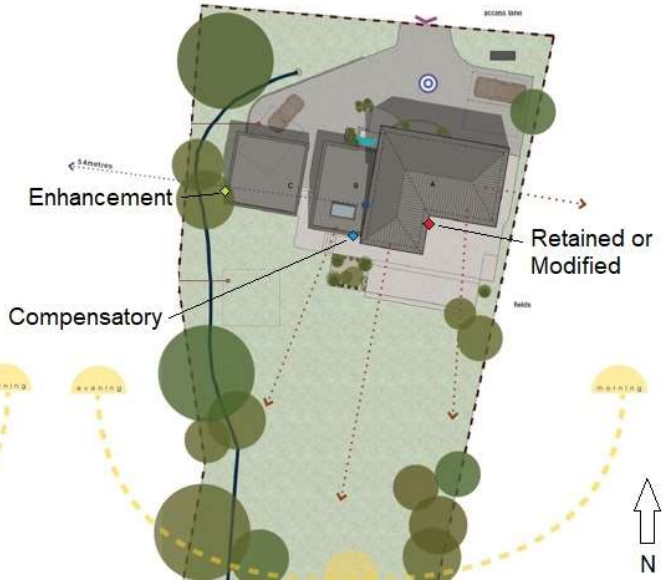
Approximate enhancement location.

6.9 The National Planning Policy Framework (NPPF) states that new development should take into account likely effects of pollution on health, living conditions and the natural environment, in particular to 'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation'. The site is located within a rural setting with limited artificial light at night other than that emitted from the property itself. Currently there is a level of light spill from within the property through existing windows and doorways. The location of the bat tubes has been chosen in a similar location to the roost that is to be lost or in an area where light spill is considered to be minimal. If a lighting scheme is to be used at the site, then this should incorporate provision for bat species and not illuminate the bat roosts following current guidance.

6.10 The locations of the existing bat roost access points and the locations of the proposed compensatory and enhancement bat roosts are provided below.



Existing roost access points



Proposed roosts and access points

6.11 No monitoring is proposed in line with the recommendations of The Bat Mitigation guidelines for this type of roost.

6.12 On completion of the development and when the provision for the new roosts have been implemented the interim bat box will be checked by a bat licensed ecologist. If no signs of bat use are present then the bat box will be removed from site. If bats or signs of use by bats is identified then this shall be left in situ.

6.13 No works will be undertaken at the site until a Natural England (NE) Mitigation Licence is applied for and granted. A NE Mitigation licence enables derogation from the Conservation of Habitats and Species Regulations 2017, as amended, and permits works that would affect bats or their roosts to proceed.

6.14 The mitigation scheme outlined within this report aims to provide a continued ecological functionality of two day roosts, on used on a frequent and occasional basis by small numbers of common pipistrelle (one individual confirmed at each location).

6.15 It is considered that one roost access point can be retained or modified in its existing position. The loss of one further roost location and access point cannot be avoided if development works are to proceed. Therefore, compensation in the form of two replacement roosts have been proposed. One bat tube is to provide compensation for the loss of the day roost which is considered to be suitable compensation for the usage of the site by the bat species identified. The second bat tube is to provide enhancement at the site and to ensure that there is no net loss of bat roosting opportunity at the site.

6.16 The mitigation scheme and procedures will be completed under a Natural England Mitigation Licence and all relevant supervision and mitigation works will be undertaken by a bat licensed ecologist and/or their named ecologist accordingly.

6.17 The internal bat tubes will provide long-term roosting for bat species, in particular common pipistrelle, at the site. Thereby maintaining the favourable conservation status of roosting provision for common pipistrelle at the site which has been found to support day roosts used on a frequent and occasional basis by low numbers of bats.

7.0 Conclusion

7.1 To conclude, this report details the findings of the PRA survey and the roost characterisation surveys that have been undertaken at this site.

7.2 All completed surveys have been undertaken by suitably experienced surveyors at the appropriate time of year and in line with current guidance.

7.3 Evidence of roosting bats has been found at Building A and further roost characterisation surveys have been undertaken. Two common pipistrelle access points have been confirmed, one (#1) at the soffit to the left of the window above the entrance door and one (#2) from a ridge tile located on the hipped roof section of the southern roof. Brown long-eared bats were not found to be roosting within the building during the surveys completed, although internal evidence would indicate previous use of the building by this species.

7.4 Bat species recorded during the roost characterisation surveys include; common pipistrelle, soprano pipistrelle, Myotis species including Daubenton's, Brandt's and Whiskered; brown long-eared and noctule. Common pipistrelle social calls were also noted.

7.5 One existing confirmed roost will be directly affected by the proposals and therefore there are implications at the site in relation to bats. A Natural England Mitigation Licence will need to be applied for and granted to legally permit works to commence which would affect bats or their roosts.

7.6 The mitigation scheme proposed is considered appropriate to the species and roosts identified at the site. The Habitat Regulations 'three tests' are able to be met and a licence can be practicably issued by Natural England once planning permission has been granted.

8.0 References

Bat Conservation Trust (2017) The State of the UK's Bats 2017. National Bat Monitoring Programme Population Trends.

BCT (2020) Core Sustenance Zones and habitats of importance for designing Biodiversity Net Gain for bats. Bat Conservation Trust, London. Online - available from: https://www.bats.org.uk/resources/guidance-for-professionals/bat-species-core-sustenance-zones-and-habitats-for-biodiversity-net-gain [Accessed August 2023].

Bat Conservation Trust (2021) The National Bat Monitoring Programme Annual Report 2020. Bat Conservation Trust, London. Available at https://www.bats.org.uk/our-work/national-bat-monitoring-programme/reports/nbmp-annual-report [Accessed August 2023].

Berge, L., (2007). Resource partitioning between the cryptic species Brandt's bat (Myotis brandtii) and the whiskered bat (M. mystacinus) in the UK. Ph.D. thesis, University of Bristol.

Buckley, D.J., Lundy, M.G., Boston, E.S.M. et al. (2013) The spatial ecology of the whiskered bat (Myotis mystacinus) at the western extreme of its range provides evidence of regional adaptation. Mamm Biol 78, 198–204.

CIEEM (2019). Advice Note on the Lifespan of Ecological Reports & Surveys. CIEEM, Winchester.

CIEEM (2020) Guidelines for Accessing and Using Biodiversity Data in the UK. Chartered Institute of Ecology and Environmental Management (CIEEM).

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

ODPM Circular 06/2005/ Defra Circular 01/2005: Biodiversity & Geological Conservation – Statutory Obligations and their impact within the Planning System (16 August 2005). Online - available from;
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf [Accessed August 2023].

Harris, S. et al. (1995) A review of British mammals: population estimates and conservation status of British Mammals other than cetaceans. JNCC, Peterborough.

Individual Species Reports – Fourth Article 17 UK Habitats Directive Report (2019): Supporting Information (habitats & species). Online – available from https://hub.jncc.gov.uk/assets/081db8a3-afa7-442b-bd0d-701aaf830bdc [accessed May 2023].

Institution of Lighting Professionals (ILP) Publications. Bat Conservation Trust Guidance note 8/23 Bats and Artificial Lighting at Night https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/ [accessed August 2023]

Marnell, F. & Presetnik, P. (2010) Protection of over ground roosts for bats (particularly roosts in buildings of cultural heritage importance). EUROBATS Publication Series No. 4 (English Version). UNEP/EUROBATS secretariat, Bonn, Germany.

Mathews F, and Harrower C. (2020). IUCN – compliant Red List for Britain's Terrestrial Mammals. Assessment by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough.

Ministry of Housing, Communities & Local Government (July 2021). National Planning Policy Framework. Online - available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf [Accessed August 2023].

Mitchell-Jones, A.J. (2004). The Bat Workers Manual (3rd Edition) JNCC. The Bat Mitigation Guidelines (English Nature 2004).

The Conservation of Habitats and Species Regulations 2017 (as amended).

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

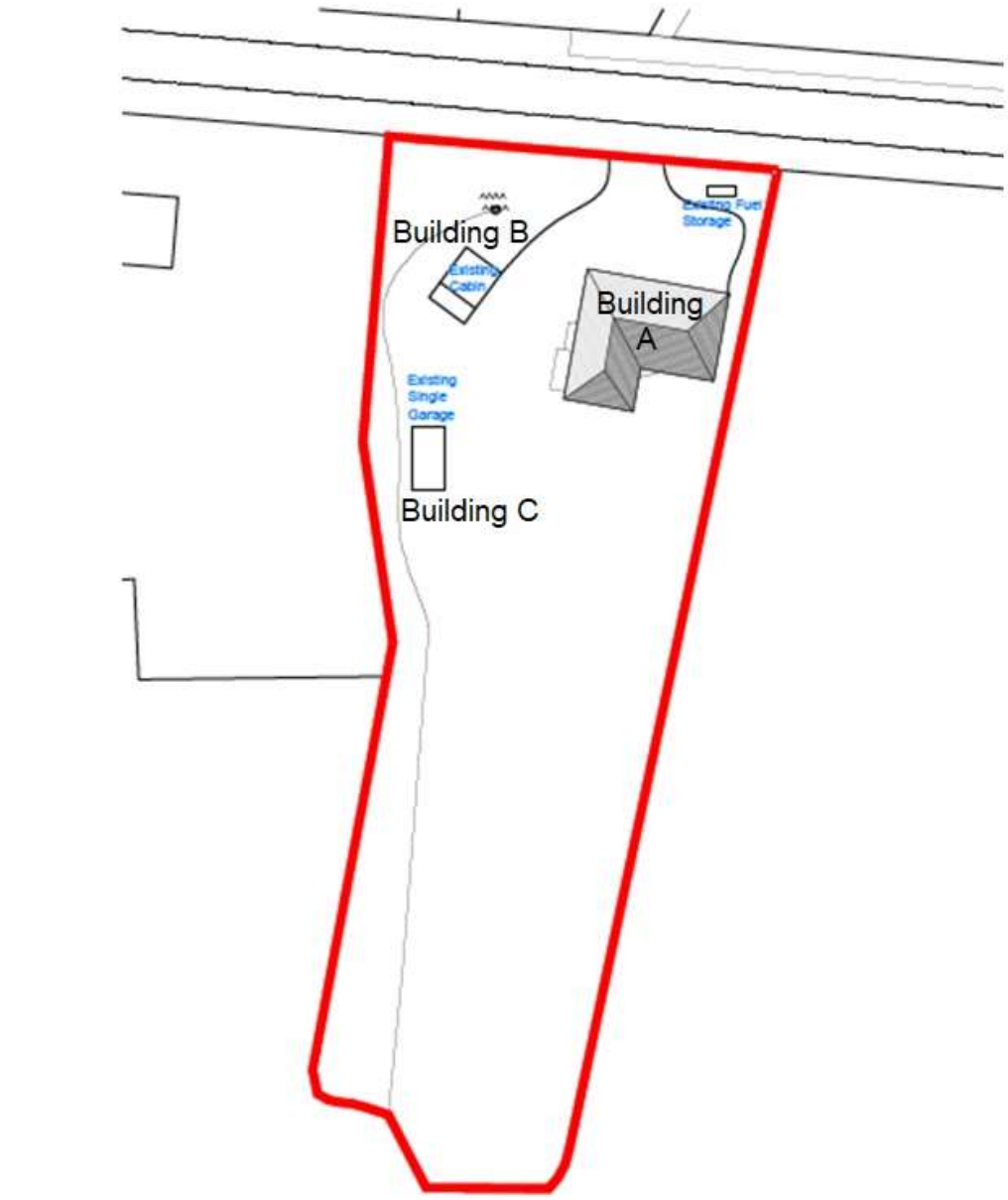
The Natural Environment and Rural Communities (NERC) Act 2006.

The Wildlife & Countryside Act 1981 (as amended).

UK Biodiversity Steering Group (1995) Biodiversity – the UK Steering Group Report. Volume 2: Action Plans. P89 SAP for Pipistrelle. London, HMSO.

White, S.J. (ed), Beattie, D., Bedford, A., Brown, M., Cripps, R., Cross, S., Greenhalgh, M.E.G., Ligget, C., Martin, S.J., Parker, A., Smith, P.H & Tapp, S. (2017). Lancashire's Vertebrates: The Mammals, Amphibians, Reptiles and Freshwater Fish of Lancashire and North Merseyside. Lancashire & Cheshire Fauna Society, Publication No. 122. Rishton, Lancashire.

Figure 1:
Site Plan



Existing Site Plan

Key: -

Existing

Proposed

Existing to be removed

NB: Furniture shown for indicative purposes only

SCALE BAR 1:100

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Figure 2:
Development Proposals Plan

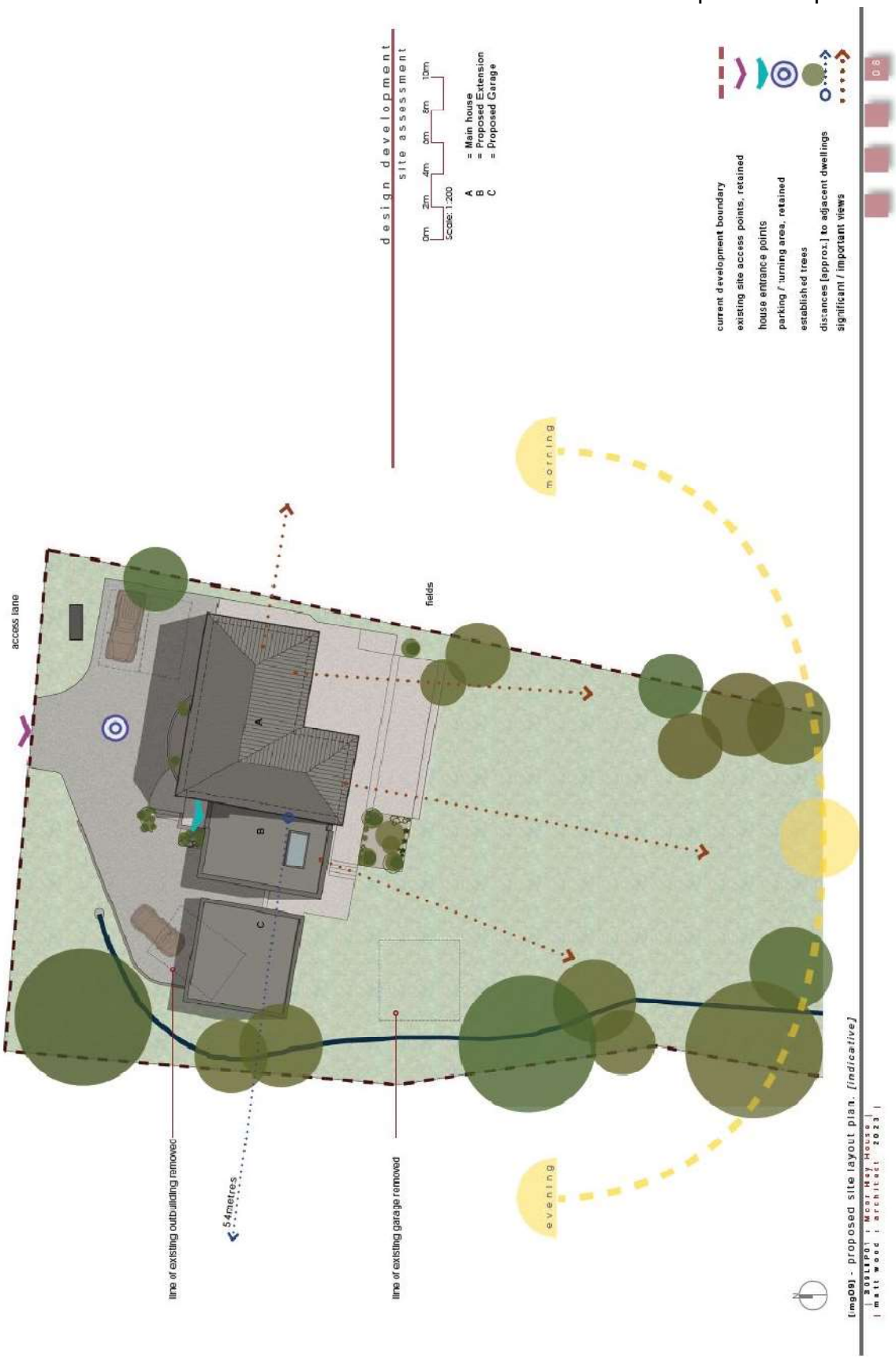


Figure 3:
Roost Characterisation Survey Results and Surveyor Locations

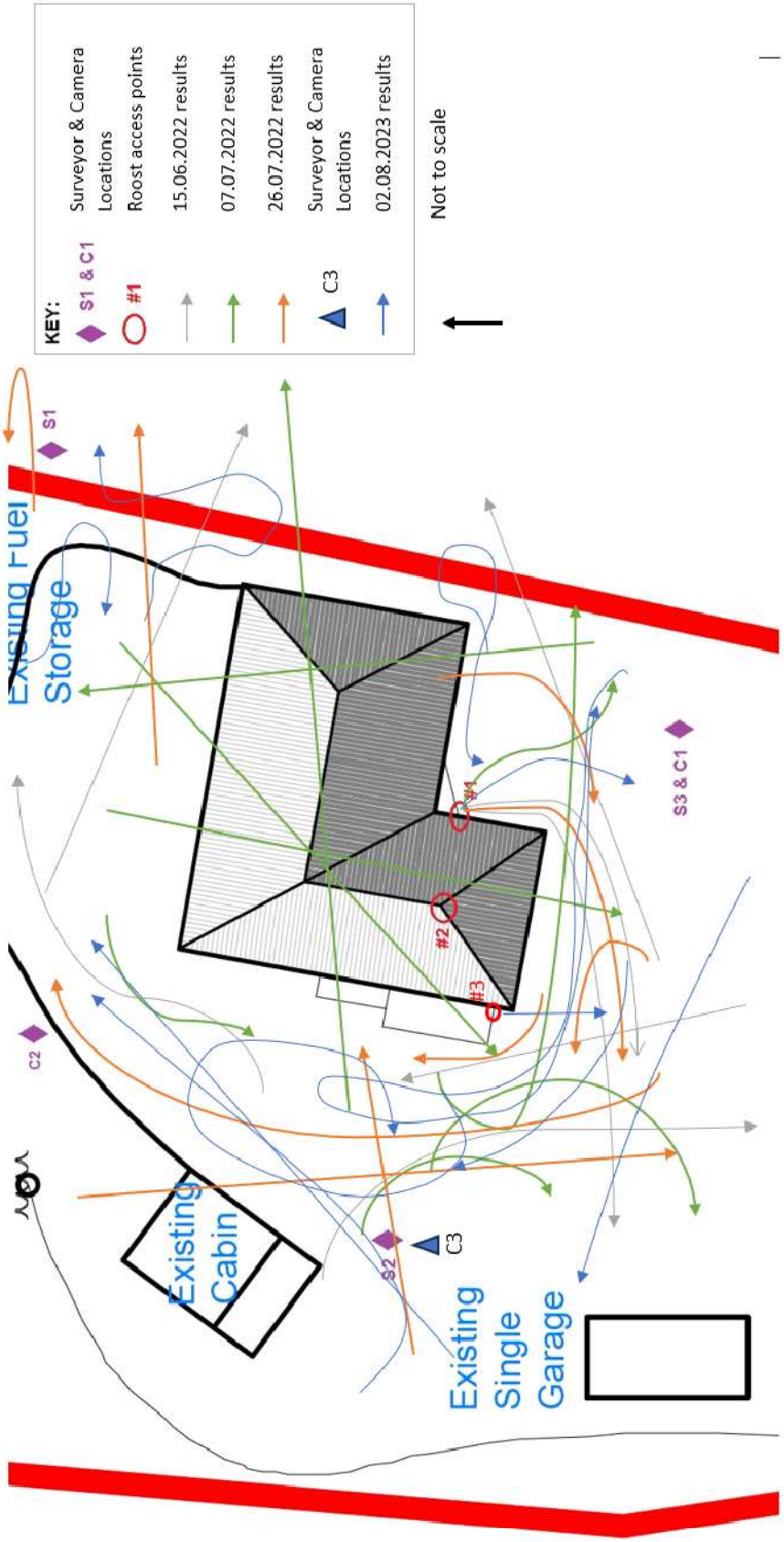
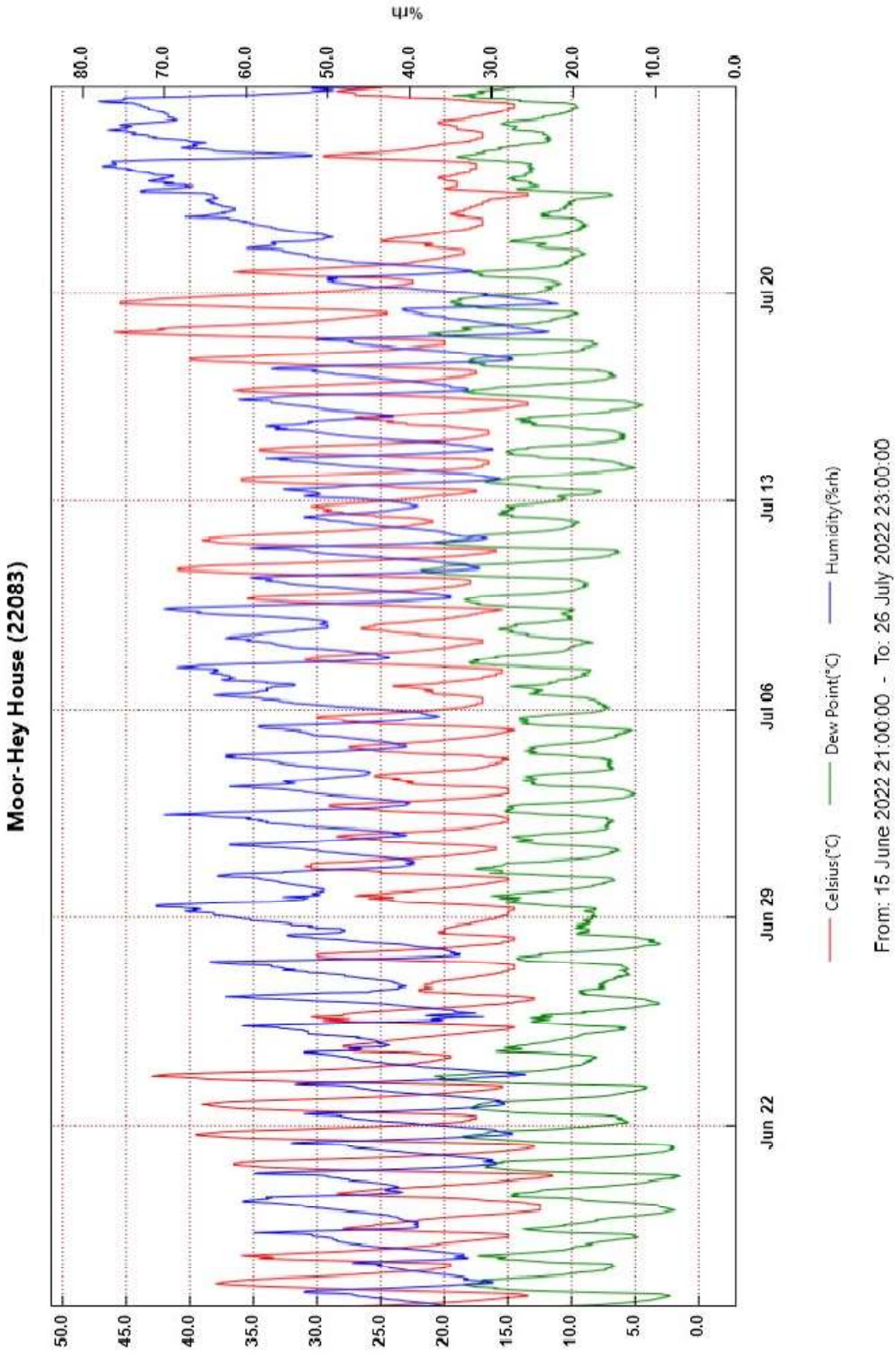


Figure 4:
Temperature & Humidity Data Logger Results



Appendix 1:
Planning Policy and Legislation

Disclaimer: Appendix 1 is a guide to legislation and procedure relating to biodiversity in England. It is general guidance and it does not give specific advice in relation to any site, species or project. It represents Ecology Services Ltd interpretation of legislation and procedure as at August 2023. Readers should note that legislation and procedure changes continually and is interpreted on a case-specific basis. Nothing in Appendix 1 should be construed as an offer of advice or legal opinion.

Planning Context

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF, 2021) places a clear responsibility on Local Planning Authorities (LPA) to contribute to conserving and enhancing the natural and local environment. LPAs should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species (e.g. Species of Principal importance, Biodiversity Action Plan species); and identify and pursue opportunities for securing measurable net gains for biodiversity. The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation.

A Local Planning Authority (LPA) has a duty to ensure that protected species and habitats within the UK are a 'material consideration' in the determination of a planning application. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted in support of a planning application.

Statutory Protection Afforded Bats

The Conservation of Habitats & Species Regulations 2017 (as amended), also known as the Habitats Regulations, lists all UK bat species on Schedule 2 which places an obligation to implement strict protection for these species. This legislation makes it an offence to:

- deliberately kill, injure or capture a wild bat;
- deliberately disturb* a bat;
- damage or destroy a breeding site or resting place of a bat.

*Disturbance, as defined by the Conservation of Habitats & Species Regulations 2017 (as amended), is that which is likely to:

- impair their ability –
  - to survive, to breed or reproduce, or to rear or nurture their young; or
  - in the case of animals of a hibernating or migratory species, to hibernate or migrate.
- affect significantly the local distribution or abundance of the species to which they belong.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 continue the same provision for European protected species, licensing requirements and protected areas after Brexit.

All UK bats and their roosts are afforded further protection through their inclusion on Schedule 5 of the Wildlife & Countryside Act 1981 (as amended), which makes it an offence to:

- intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection;

- intentionally or recklessly obstruct access to a structure or place which a bat uses for shelter or protection.

Regulation 12 the Conservation of Habitats and Species Regulations 2017 (as amended) requires the appropriate authority in England and Wales to designate as Special Areas of Conservation such sites as the authority considers to be of national importance which contribute significantly to the maintenance, or restoration at favourable conservation status in the natural range of the species listed in Annex II of the EC Habitats Directive. Four bat species (greater horseshoe, lesser horseshoe, Bechstein's and barbastelle) are listed under Annex II.

When dealing with planning applications where a European Protected Species (EPS) (all UK bats) may be affected, a Local Authority is a 'competent authority' within the meaning of regulation 7 of the Conservation of Habitats & Species Regulations 2017 (as amended). The local authority must therefore exercise their functions under the provisions made within the 2017 Regulations (as amended), and planning decisions should only be made when European Protected Species and their habitats are fully taken into account.

Licensing of Works Affecting Roosting Bats

Where a bat roost is likely to be affected by development then a licence to derogate from the legal protection would be required. Licence applications are processed and issued by Natural England and can only be applied for once planning permission (if required) has been granted.

Natural England may grant a licence for the purposes specified in paragraph 55 of the Regulations. The purposes are:

- 55(2)(e) preserving public health or safety or other imperative reason of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment.
- 55(2)(f) preventing the spread of disease.

Natural England must not grant a licence under paragraph 55 unless it is satisfied that:

- 55(9)(a) there is no satisfactory alternative; and
- 55(9)(b) the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable status in their natural range.

In December 2016, Natural England introduced four policies for European Protected Species (EPS) licensing. The policies were revised in January 2022. The policies seek to achieve better outcomes for EPS and reduce unnecessary costs, delays and uncertainty that were inherent in the current system. In brief, the four policies are:

- **Policy 1.** Reduce mitigation measures for impacts on EPS
- **Policy 2.** Location of compensation habitats
- **Policy 3.** Let EPS use temporary habitats
- **Policy 4.** Alternative sources of evidence to reduce standard survey requirements

Policy 1 allows compensation for EPS impacts to be delivered without the need to relocate or exclude populations where: exclusion or relocation measures are not necessary to maintain the conservation status of the local population; the avoid-mitigate-compensate hierarchy is followed; and compensation provides greater benefits to the local population than would exclusion and/or relocation. This policy can be used to reduce mitigation measures, such as exclusion or relocation of EPS, by increasing compensation. This policy allows killing of EPS and destruction of their habitat without needing to exclude or relocate individual animals.

Policy 2 allows for the provision of off-site compensation measures where the licensing tests are met, the avoid-mitigate-compensate hierarchy is followed, there are good reasons for maximising development on the site of EPS impacts and where an off-site solution provides greater benefit to the local population than an on-site solution.

Policy 3 relates to developments, such as mineral extraction, which temporarily create habitat which is likely to attract EPS and enables works to proceed without the exclusion of EPS where the conservation status of the local population would not be detrimentally affected. On completion of development, such sites must contribute to the conservation status of the local population as much as or more than the land use which preceded development. The measures to achieve this should be set out in a management plan and secured by a legal agreement.

Under **Policy 4** Natural England may accept a lower than standard survey effort where: the costs or delays associated with carrying out standard survey requirements would be disproportionate to the additional certainty that it would bring; the ecological impacts of development can be predicted with sufficient certainty; and mitigation or compensation will ensure that the licensed activity does not detrimentally affect the conservation status of the local population of any EPS.

Natural Environmental and Rural Communities (NERC) Act 2006

Section 40 of the Natural Environmental and Rural Communities (NERC) Act 2006 (as amended) places a statutory duty on public authorities, in exercising their functions, to conserve and enhance biodiversity in England. Species of Principal Importance for the conservation of biodiversity in England, as identified by the Secretary of State in consultation with Natural England, are listed Section 41 of the NERC Act. The Local Planning Authority and government bodies (e.g. Natural England) will expect the overall design of the development to have regard for the conservation of these species. Seven bat species are listed as Species of Principal Importance under Section 41 of the NERC Act (refer to Section 2).

Appendix 2:
Guidelines for Assessing Habitat Suitability for Bats

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats based on the presence of habitat features within the landscape, to be applied using professional judgement (Taken from the Bat Conservation Trust Bat Surveys for Professional Ecologists: Good Practice Guidelines, 2016).

Suitability	Description	
	Roosting habitats	**Commuting & foraging habitats**
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[1] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation[2]). A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential[3].	Habitat that could be used by small numbers of commuting bats such as gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitats. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) of a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[1] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back to gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland and water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[1] and surrounding habitat.	Continuous, high quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broad-leaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

[1]For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
[2]Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types un urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.
[3]This system of categorisation aligns with BS8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Appendix 3:
Recommended Timings and Survey Effort for Presence/Absence Surveys

Tables 7.1 & 7.3. Recommended timings and minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
Structures One survey visit - one dusk emergence or dawn re-entry survey[1]. Timing - May to August. Trees No further surveys required. Precautionary approach to felling.	Structures & Trees Two separate survey visits - one dusk emergence and a separate dawn re-entry survey[2]. Timing - May to September[3] with at least one of surveys between May and August[2].	Structures & Trees Three separate survey visits - at least one dusk emergence and a separate dawn re-entry survey. The third visit could be either a dusk or dawn[2]. Timing - May to September with at least two of surveys between May to August[2].

[1]Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis. If there is a possibility that quiet calling, late-emerging species may be present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

[2]Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on the 31st August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime. A dawn survey immediately after a dusk one is considered only one visit.

[3]September surveys are both weather and location dependant. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

Appendix 4:
Population Statuses of Bat Species in Lancashire

National Status

There are 18 species of bat that are native to the United Kingdom.

The latest Review of the Conservation Status of British Mammals (2018) has shown that where change could be assessed with reasonable confidence there have been increases in the geographical range and population status of two species of UK bat (greater and lesser horseshoe bat) and decrease in the geographical range of one species (grey long-eared bat). Increases in population were also identified in the following species: Bechstein's, Daubenton's, Natterers, Serotine and brown long-eared although it is noted that the reliability of the results is poor. Population data was not available for; Alcathoe, whiskered, Brandt's, Leisler's, noctule, Barbastelle and Nathusius pipistrelle.

Population estimates were given for common and soprano pipistrelle however they could not be reliably compared to the results from Harris et al. (1995) as the two species had not been identified as separate species at the time of that survey. *Pipistrellus* spp. remain the commonest species of bat in the UK despite their decline.

The State of Bats 2017 report produced by the Bat Conservation Trust used results from multiple survey types (hibernation, roost, waterway and field) of the National Bat Monitoring Programme (NBMP) to compile population trends between 1999, 2001 or 2002 to 2016. The report identified statistically significant (95% accuracy) population increase in Great Britain in the following species; greater horseshoe (hibernation and roost surveys), lesser horseshoe (hibernation and roost surveys), Daubenton's (hibernation surveys), Natterers (hibernation surveys), common pipistrelle (field surveys), soprano pipistrelle (field surveys). Significant decreases in population in Great Britain were identified in common pipistrelle (roost surveys), soprano pipistrelle (roost surveys) and brown long-eared (roost surveys).

These trends reflect relatively recent changes to bat populations since the 1990s. It is generally considered that prior to this there were significant historical declines in bat populations dating back to at least the start of the 20th century, although evidence is fragmented and few data were collected in a systematic way.

Serotine and barbastelle are considered vulnerable and Leisler's and Nathusius' pipistrelle, near threatened in Britain and England in the Red List for Britain's Terrestrial Mammals (Mathews and Harrower, 2020).

Local Status

There are eight bat species listed as being resident in Lancashire; these are as follows:

- Brown long-eared (*Plecotus auritus*)
- Whiskered (*Myotis mystacinus*)
- Brandt's (*Myotis brandtii*)
- Daubenton's (*Myotis daubentonii*)
- Noctule (*Nyctalus noctula*)
- Common pipistrelle (*Pipistrellus pipistrellus*)
- Soprano pipistrelle *(Pipistrellus pygmaeus*)
- Natterer's (*Myotis nattereri*)

Nathusius pipistrelle (*Pipistrellus nathusii*) has also been recorded in the county more recently. Although there are no known roosts in Lancashire, they have been trapped and ringed at Pennington Flash, Wigan. Lesser horseshoe (*Rhinolophus hipposideros*) is historically known to be present in Lancashire, however, the most recent record is from East Lancashire in 2009.

Populations of bats in many parts of Lancashire are comparable in size and importance to some of the best areas in the country. Estimates have not been made for Lancashire from the national population estimates as they are of poor reliability and it is not felt that the estimates would be useful or statistically valid (White (Ed.) *et. al.,* 2017).

The valleys of the Lune, Wyre, Hodder, Ribble and their tributaries support substantial populations of pipistrelle and Daubenton's. Many colonies of the latter species roost in bridges over the rivers.

There are also good numbers of most of the other bat species listed as being present in this area.

Clusters of brown long-eared colonies are strongly skewed towards the west of the county and populations are known in the Silverdale area, Fylde and West Lancashire, and whiskered and Brandt's are probably more common in the north of the county than in southern Lancashire.

Ponds in the Fylde, mill lodges and reservoirs in eastern Lancashire and other areas provide concentrated feeding areas for many bats.

Swarming activity has been identified in two locations in Lancashire; Blackburn with Darwen and close to the Yorkshire border in Ingleton. It is known that bats will travel from Lancashire to swarming sites in Yorkshire.

Appendix 5:
Site Photographs

Photo 1: Building A – northern and western elevations.

Photo 2: Building A – western elevation.

Photo 3: Building A – southern elevation.

Photo 4: Building A – southern and eastern elevations.

Photo 5: Building A – eastern roof, viewed from a distance.

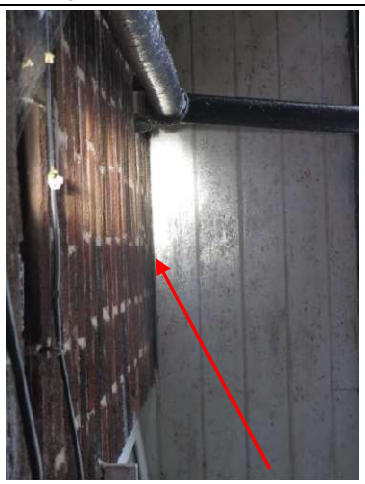


Photo 6: Building A – example of gap between soffit and wall.

Photo 7: Building A – gap at ridge tile.

Photo 8: Building A - internal loft area looking to south.

Photo 9: Building A – internal loft area showing location of access in brick wall to eastern loft area.

Photo 10: Building A – concentrated bat droppings in eastern loft area.

Photo 11: Building A – Bat found within eastern loft area.

Photo 12: Building B – western elevation and roof.

Photo 13: Building B – eastern and southern elevations.

Photo 14: Building B – internal view.

Photo 15: Building C – southern and eastern elevations.

Photo 16: Building C – northern and western elevations.

Photo 17: Building C – internal view.

Photo 18: Garden looking south taken from patio area.

**All previous photos taken on the 16.05.2022*

Photo 19: Camera 1 (C1) Field of view of Building A at the darkest point of the survey, looking at the southern elevation from the garden

Photo 20: Camera 2 (C2) Field of view of Building A at the darkest point of the survey looking at the northern and western elevation from the driveway.

Photo 21: Common pipistrelle observed within the eastern loft area (15.06.22)

Photo 22: Roost access points (15.06.22)

Photo 23: Camera 1 (C1) Field of view of Building A at the darkest point of the survey, looking at the southern elevation from the garden (02.08.23)

Photo 24: Camera 2 (C2) Field of view of Building A at the darkest point of the survey looking at the northern elevation from the driveway (02.08.23)

Photo 25: Camera 2 (C2) Field of view of Building A at the darkest point of the survey looking at the western northern elevation (02.08.23)

Photo 26: Roost location #1 identified 02.08.23

Photo 27: Roost location #3 identified 02.08.23