
Higher Commons Farm, Osbaldeston

Bat Survey Report

Compiled by Ecology Services Ltd.

on behalf of

Asif Patel

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Contents	Page No.
1.0 Introduction	2
2.0 Planning Policy and Legislation	2
3.0 Methodology	4
4.0 Results and Evaluation	6
5.0 Impacts and Recommendations	11
6.0 Conclusion	13
7.0 References	13

Tables

Table 1: Ecological Desktop Study Sources

Table 2: Description of Building.

Table 3: Overview of Roost Characterisation Survey

Figures

Figure 1: Site Plan of Building 1

Figure 2: Development Proposals Plan

Figure 3: Presence/ Absence Survey Results and Surveyor Location Plan – 21/09/2022

Figure 4: Presence/ Absence Survey Results and Surveyor Location Plan – 18/05/2023

Figure 5: Presence/ Absence Survey Results and Surveyor Location Plan – 15/06/2023

Appendices

Appendix 1: Planning Policy and Legislation

Appendix 2: Guidelines for assessing habitat suitability for bats

Appendix 3: Recommended timings and survey effort for presence/absence surveys

Appendix 4: Population statuses of bats species in Lancashire

Appendix 5: Site Photographs

1.0 Introduction

- 1.1 Ecology Services Limited was commissioned by Asif Patel in August 2022 to undertake a Preliminary Roost Assessment (PRA) of buildings at Higher Commons Farm, Commons Lane, Osbaldeston, BB2 7LP, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference (NGR) 364328, 431883. 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 survey work in relation to bats to be carried out, including presence/absence surveys. The results of these surveys are provided within this report.

Site Description

- 1.3 The site is located between the villages of Osbaldeston and Balderstone. There is a large garden with a grass lawn, shrubs and trees as well as an area of mature trees located adjacent to the western boundary.

Proposals

- 1.4 It is understood that proposed development activities at the site include adding an extension on to the rear elevation of the property. The proposed plans of which are shown in Figure 2.

Survey Objectives

- 1.5 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.
- 1.6 Following the preliminary roost assessment, further presence/absence surveys were recommended in the form of dusk emergence/ dawn re-entry surveys to enable robust data to be collected to determine the presence/likely absence of roosting bats. The presence/absence surveys included all structures that contain bat roost potential and have the potential to be affected by the proposals. Due to the timing of the instruction, being late in the survey season, the presence/absence surveys were required to be undertaken within differing survey seasons, one completed in 2022 and two in 2023.
- 1.7 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 that may be 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.,
- 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*)

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.

- 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 Local 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 2km of the site. Records of bat roosts relating to Natural England EPS licences within 2km of the site.

Preliminary Roost Assessment Survey

- 3.2 The preliminary roost assessment for buildings 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 was categorised according to its level of suitability and any evidence of roosting bats found during the inspection (see Appendix 2).
- 3.3 An interior and exterior inspection of the building 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. 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.
- 3.4 During the survey the surrounding area was assessed in relation to suitable habitat that may be of value to bats.

Buildings/Structures

- 3.5 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

- 3.6 The PRA inspection survey was undertaken by Mrs. Z. Foster who holds a Bat Class Licence Level 2 (Registration number 2015-17219-CLS-CLS).

Timing

- 3.7 The PRA inspection survey was conducted on the 2nd of September 2022.
- 3.8 The daytime survey was conducted at a time when bats are fully active, towards the end of the maternity season. Maternity colonies will be dispersing or have already dispersed as their focus turns to the mating season and the beginning of building up fat reserves. Evidence of bat occupation is likely to be detected, should they be present at the site.

Weather Conditions

- 3.9 Weather conditions during the survey were warm and sunny with no rain or wind affecting survey.

Presence/ Absence Surveys

- 3.10 Presence/ absence 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 survey visits for presence/ absence surveys to give confidence in a negative result for structures (and trees although unlikely to give confidence in a negative result). 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. Presence/ absence surveys form part of the suite of surveys that can be undertaken to characterise roosts, also known as roost characterisation surveys.
- 3.11 The presence/ absence survey 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 AnaBat SD2 detectors and Echo Meter 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. Up to three Canon XA-40 cameras were also used along with six no.96 infrared LED lights and one no.12 infrared LED light.
- 3.12 A total of one presence/ absence survey was undertaken at the site towards the end of the survey season. This was conducted on the 21st of September 2022 and consisted of one dusk emergence survey. An additional two presence/ absence surveys were undertaken on the 18th of May 2023 and the 15th of June 2023.

Personnel

- 3.13 The presence/ absence surveys were conducted by Principal Consultant Ecologist Mrs. L. Eccles-Sargeant BSc (Hons), MCIEEM, who holds a Bat Class Licence Level 1 (Registration number 2015-13762-CLS-CLS), 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 presence/ absence surveys including; Mr. P. Harrison BSc, MSc., Mr. C. Smith BA MSc, Mr. M. Smith and Mr. V. Smith.

Timing

- 3.14 The presence/ absence surveys were undertaken on the 21st September 2022 when maternity roosts will have dispersed and bats focus will turn to the upcoming mating season and on the 18th of May 2023 and the 15th of June 2023 during the peak activity season of bats and when maternity colonies are in occupation.

Weather Conditions

- 3.15 Weather conditions during the surveys was ideal being dry with no notable wind on any of the surveys.

Roost Status

- 3.16 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.

- 3.17 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

- 3.18 While both sections of the attic were accessed, only part of the floor in the western section of the attic was boarded so not all of the space could be examined.
- 3.19 The roost characterisation survey consisted of a single presence/ absence survey during the 2022 survey season. The survey undertaken was conducted during suitable weather conditions and no limitations to the survey were noted. Guidelines recommend that three surveys are appropriate for sites where a confirmed roost is identified. However, it was not possible to conduct the further two surveys within the remaining optimal survey period.
- 3.20 Overall, there are limitations to the PRA survey 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; Alcaholic, 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 despite their decline.
- 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 in the area surrounding the site include a licence relating to common pipistrelle, soprano pipistrelle and whiskered bats pertaining to a location approximately 800m to the south-west of the site, dated between 2017 and 2022 and a licence relating to brown long-eared bats at a location which is approximately 1.5km to the north-east of the site, dated between 2017 and 2027.

Preliminary Roost Assessment

Habitat Assessment

- 4.10 The site is located in a semi-rural location between the villages of Osbaldeston and Balderstone. The property possesses a large garden including areas of mown grassland and a variety of trees. To the immediate north, south and west are agricultural grassland fields, bound by hedgerows containing mature trees. Adjacent to the property to the east is another residential property with a large associated garden.
- 4.11 In the landscape surrounding the site, there are numerous, interconnected watercourses, many of which are tree-lined. The closest to the site are c.35m away to the south-west; c.120m away to the north-east and c.280m away to the south-west – this watercourse is connected to the Wilcock Brook. Mellor Brook is located c.560m to the south-west of the site.

There are multiple ponds in the vicinity of the site, with the nearest located c.70m away to the east and a large pond, located c.280m away to the south-west. c.630m to the east of the site, is a watercourse lined with mature trees which leads continuously to a large woodland. There are also wooded areas located c.1.1km away to the north-west and c.530m to the south-west. Just over 2km to the north-west is the River Ribble which has tree-lined banks and is a substantial watercourse. These areas are likely to provide very good quality foraging habitat and other roosting opportunities for bats. Buildings within Osbaldeston and Balderstone, and farm buildings close to the site are also likely to provide roosting opportunities bats.

- 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 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 building can be found in the Table 2 below. Photos of buildings/structure with annotations showing locations of potential roosting features are provided in Appendix 5.

Table 2: Description of Building.

Building 1
Description:
<p>A two-storey, stone-built residential property which is currently lived-in. The roof is covered in slates and there are ridge tiles and two, brick-built chimney stacks with lead-flashing at their bases. There are wooden fascia boards present on the northern and southern elevations. The southern, eastern gables and a small part of the northern elevations of the building are rendered. The western elevation and most of the northern elevation are composed of plain stone. The windows have wooden frames and are double-glazed, with stone lintels and sills. The doors are also double-glazed. On the southern elevation there is a single-storey "extension" which extends halfway along the length of the building and has a sloping, slate covered roof. On the northern elevation there is an open porch with a slate roof covering.</p> <p>Inside there is a large attic which is divided into two sections by a thick, stone dividing wall. The attic was accessed via a hatch in the upstairs ceiling. The utilised section of the attic in eastern section of the building is used for storage. There are thick wooden ceiling beams and bitumen roofing felt beneath the roofing slates. The floor is boarded. The western section of the attic was accessed through a small opening in the dividing wall. Only a small area of the floor in this attic space was boarded so there was limited scope for examining the area. The rest of the floor was covered in a thick layer of insulating material. There was bitumen roofing felt present in this part of the attic as well.</p>
Roost potential signs:
<p>The brickwork and mortar on the chimney stacks are tight and there are no gaps beneath the ridge tiles on the southern elevation.</p> <p>On the northern and southern elevations of the roof, there are some lifted slates and gaps at the edge of the roof.</p> <p>There are almost continuous gaps beneath the fascia boards on both the northern and southern elevations. Some areas beneath the fascia boards are heavily cobbed and some are cobweb-free.</p> <p>On the western elevation there are a couple of areas where the mortar is missing along the edge of the roof slates. The brickwork and mortar on this elevation is tight.</p> <p>On the northern elevation there is a large gap at the corner beneath the wooden fascia board and as mentioned above numerous other gaps.</p>

In the western section of the attic, there were numerous bat droppings located on the insulation covering the floor by the opening in the dividing wall. Some of the bat droppings looked quite fresh and a sample of these droppings was collected. More droppings were caught in cobwebs on the dividing wall beneath a gap in the brickwork. A moth wing was also found on the floor. Multiple droppings were scattered in the attic but it was not possible to search the whole attic due to a lack of floor boarding.

The building contains a **confirmed** bat roost.

- 4.14 Taking into account the presence of a confirmed bat roost contained within Building 1, further roost characterisation surveys were recommended, the results of which are presented within the following sections.

Roost Characterisation Survey Results

- 4.15 Roost characterisation surveys were undertaken in the form of presence/ absence surveys, the raw data can be found within the following section. An overview of date, times and the results of the survey are provided below.

Table 3: Overview of Roost Characterisation Survey

Date of survey & survey type	Start & end times and time of Sunset/ sunrise	Structure reference/ location	Equipment used	Weather Conditions
Dusk 21.09.2022	Start time: 18.57 End time: 20.50 Sunset time: 19.20	Building 1	Bat box duet used in conjunction with AnaBat SD2 detectors and an Echo Meter Touch 2 Pro and recording devices. Canon XA-40 infrared cameras and infrared lights were also used.	Start Temp: 20.5°C Sunset Temp: 20.1°C Finish Temp: 13.9°C Precipitation: Dry Wind: Calm (BS0*) Cloud Cover: 100% at start 50% at the finish.
Comments: Three surveyors were required to cover all suitable roosting features identified.				
Dusk 18.05.2023	Start time: 20:56 End time: 22:41 Sunset time: 21:11	Building 1	Bat box duet and Magenta Bat4, used in conjunction with AnaBat Express Full Spectrum detectors, Echo Meter Touch 2 Pro and recording devices. Canon XA-40 infrared cameras and infrared lights were also used.	Start Temp: 16°C Sunset Temp: 14.5°C Finish Temp: 9°C Precipitation: Dry Wind: Calm (BS0*) Cloud Cover: 90% at start 60% at the finish.
Comments: Three surveyors were required to cover all suitable roosting features identified.				
Dusk 15.06.2023	Start time: 21:28 End time: 23:43 Sunset time: 21:43	Building 1	Bat box duet used and Magenta Bat4, used in conjunction with AnaBat Express Full Spectrum detectors, Echo Meter Touch 2 Pro and recording devices. Canon XA-40 infrared cameras and infrared lights were also used.	Start Temp: 23.8°C Sunset Temp: 20.9°C Finish Temp: 16.7°C Precipitation: Dry Wind: Calm (BS0*) Cloud Cover: 0% at start 0% at the finish.
Comments: Three surveyors were required to cover all suitable roosting features identified.				

Presence/ Absence Survey No.1

- 4.16 Evidence of bat emergence was recorded by the surveyors. One common pipistrelle was observed to emerge from a gap at a roof slate to the west of the central most chimney (#1); a soprano pipistrelle and a common pipistrelle were observed to emerge from the eaves above a central window on the southern elevation (#2); a further common pipistrelle was observed to emerge from a hole to the east of the drain pipe and the west of the window on the south western elevation (#3). See Figure 3 for roost location details)
- 4.17 Commuting and foraging activity was identified at the site surrounding the surveyed building, with foraging activity being more frequent to the west and south of the building. Activity to the north of the building was limited. A commuting noctule was observed to fly over the buildings and common pipistrelle were recorded to the south of the building. Feeding activity and social calling by common pipistrelle was also recorded. Bat species identified at the site comprised of; common pipistrelle, soprano pipistrelle, noctule and Myotis species, including Daubenton's and whiskered/Brandt's.

Presence/ Absence Survey No.2

- 4.18 Evidence of bat emergence was recorded by the surveyors. One common pipistrelle was seen to emerge from the ridge tile just west of the central most chimney (#1). The surveyor located on the southwestern corner of the building recorded an emergence of one common pipistrelle from the southwestern gable end of the building just above the guttering (#4). The surveyor positioned at the northwest corner of the building recorded one common pipistrelle emerging from the northwest corner of the building, the pipistrelle emerged from the soffit next to the drainage pipe (#5).
- 4.19 Commuting, foraging and feeding activity was identified at the site surrounding the surveyed building, mainly located to the south of the building over the garden and to the north of the building along the hedge line and road. Only common pipistrelles were recorded during this survey.

Presence/ Absence Survey No.3

- 4.20 Evidence of bat emergence and re-entry was recorded by the surveyors. Two common pipistrelles were seen to emerge from the top of the wall to the east of the drainpipe and west of the window on the southwestern face of the building (#3). From the same position the same surveyor also recorded a common pipistrelle emerged from the western gable end from behind a security alarm box (#6) and a common pipistrelle re-enter at the same location and the emerge again. A further common pipistrelle was seen to emerge from the southwestern gable end of the building just above the guttering (#4). The surveyor positioned at the southeastern corner of the building recorded a Myotis species (whiskered/Brandt's from call analysis) to emerge from ridge tile approximately a quarter of the way along the roof from the western gable end (#7).
- 4.21 Commuting, foraging and feeding activity was identified at the site along the road and hedgerow to the north of the building, along the driveway at the east of the building and over and around the garden to the rear of the building (southside). Bat species identified included common pipistrelle, soprano pipistrelle, whiskered/Brandt's, noctule, and brown long-eared.

Summary and Evaluation

- 4.22 The preliminary roost assessment found Building 1 to contain a confirmed bat roost as noted by the evidence described within Table 2. Habitats within the immediate and wider surrounds are considered to be of high value for foraging and commuting bats.

- 4.23 The PRA survey was undertaken by suitably experienced surveyors in line with BCT Guidance.
- 4.24 In line with guidance Building 1 was subject to further roost characterisation surveys in the form of a presence/ absence surveys. These were undertaken over two consecutive seasons and collected information on where bats are accessing the building, the species and numbers of bats.
- 4.25 In summary, Building 1 at Higher Commons Farm has been found to support a maximum of three common pipistrelle on any one survey at six roost locations (#1, #2, #3, #4, #5, #6), one soprano pipistrelle at one roost locations (#2) and one Myotis species. (whiskered/Brandt's) at one roost location (#7). Transitional/ occasional roosts of common pipistrelle and soprano pipistrelle were recorded on the survey on the 21st of September 2022. Day roosts of common pipistrelle have been recorded on the 18th of May 2023 and the 15th of June 2023 and a day roost of a single Myotis species (whiskered/Brandt's) was been recorded on the 15th of June 2023.
- 4.26 Bat species recorded during the surveys include; common pipistrelle, soprano pipistrelle, noctule and Myotis species; including Daubenton's and whiskered/Brandt's. Common pipistrelle social calls were also recorded at the site.

5.0 Impacts and Recommendations

Buildings Roost Suitability

- 5.1 The result of the PRA survey completed in 2022 at the Higher Commons Farm site found the presence of bat droppings within the loft area and classified the building as a confirmed bat roost.
- 5.2 In line with The Bat Surveys for Professional Ecologists: Good Practice Guidelines, produced by the Bat Conservation Trust (2016) further roost characterisation surveys in the form of presence/ absence surveys have been undertaken. A single presence/ absence survey was completed at the end of the optimal survey period in 2022 and two further presence/ absence surveys were completed in 2023 during the optimal survey period.
- 5.3 Following these surveys, Building 1 at Higher Commons Farm has been confirmed to support day roosts and transitional/ occasional roosts used by low numbers of common species. A peak count of bats identified during the surveys include a maximum of three common pipistrelle, one soprano pipistrelle and one whiskered/Brandt's. A total of seven roost locations were recorded being located at gaps within the roof slates and ridge tiles, at the wall tops, eaves and soffits and behind a security box.
- 5.4 All surveys have been undertaken in line with BCT Guidance (Collins 2016) and were completed by experienced ecologists.
- 5.5 The proposals at the site involve a single and double storey extension on the southern and eastern elevations which will tie into a section of the roof located between the two chimneys.
- 5.6 As roosting bats have been confirmed within the building 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).

- 5.7 Details of the proposals will need to be reviewed to assess the effect of the proposals upon bat species found using the site. The review shall include ways in which impacts may be reduced and/or determine how suitable mitigation or compensation can be incorporated within the design to reduce adverse impacts upon bat species.
- 5.8 The Local Planning Authority will require the results of the surveys and a suitable mitigation scheme that demonstrates the continued favourable conservation status of bats found at the site in support of any Planning Application, in line with current Planning Policy. Furthermore, the Local Planning Authority should also consider Biodiversity Net Gains in relation to bats.
- 5.9 A section 106 agreement or similar binding covenant should be in place attached to any planning permissions and adequate roost provision should be agreed to ensure the favourable conservation status of bat species at the site.
- 5.10 Work at the site will need to be delayed until such time that a Natural England Licence is applied for and granted to legally permit work to commence which would affect bats or their roost.
- 5.11 A Natural England licence can only be applied for once planning permission is gained, if planning permission is required. There may be delays in obtaining a NE Licence and time constraints as to when mitigation can be undertaken.
- 5.12 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

- 5.13 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.
- 5.14 Lighting schemes should be designed in accordance with best practice and ensure there are no detrimental impact upon bat roosting and foraging habitats.

Other: Breeding Birds

- 5.15 The site also contains suitable breeding bird habitat.
- 5.16 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.
- 5.17 It is good practice to remove all affected breeding bird habitat during the winter months prior to works starting to prevent delays. 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 Conclusion

- 6.1 To conclude, this report details the findings of the PRA survey and the roost characterisation surveys (in the form of presence/ absence surveys) undertaken at the Higher Commons Farm site. The completed surveys have been undertaken by suitably experienced surveyors at the appropriate time of year and in line with current guidance.
- 6.2 Evidence of bats in the form of scattered droppings were noted in the loft area, particularly in the western section, and the building was classed as a confirmed roost.
- 6.3 Roost characterisation surveys in the form of presence/absence surveys seven roost locations being used by low numbers of common species including; common pipistrelle (maximum 3), soprano pipistrelle (maximum 1) and *Myotis* species likely whiskered/Brandt's (maximum 1). The roosts present have been classified as day roosts and transitional/ occasional roosts.
- 6.4 Bat species recorded during the surveys include; common pipistrelle, soprano pipistrelle, noctule and *Myotis* species; including Daubenton's and whiskered/Brandt's. Common pipistrelle social calls were also recorded at the site.
- 6.5 A Natural England Protected Species Licence accompanied by an appropriate mitigation and enhancement strategy will need to be granted to derogate from the legal protection afforded bats.

7.0 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 May 2023].

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

ILP Publications. Bat Conservation Trust Guidance note 8/18 ILP Bats and Artificial Lighting in the UK <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

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 May 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., Liggett, 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 of Building 1

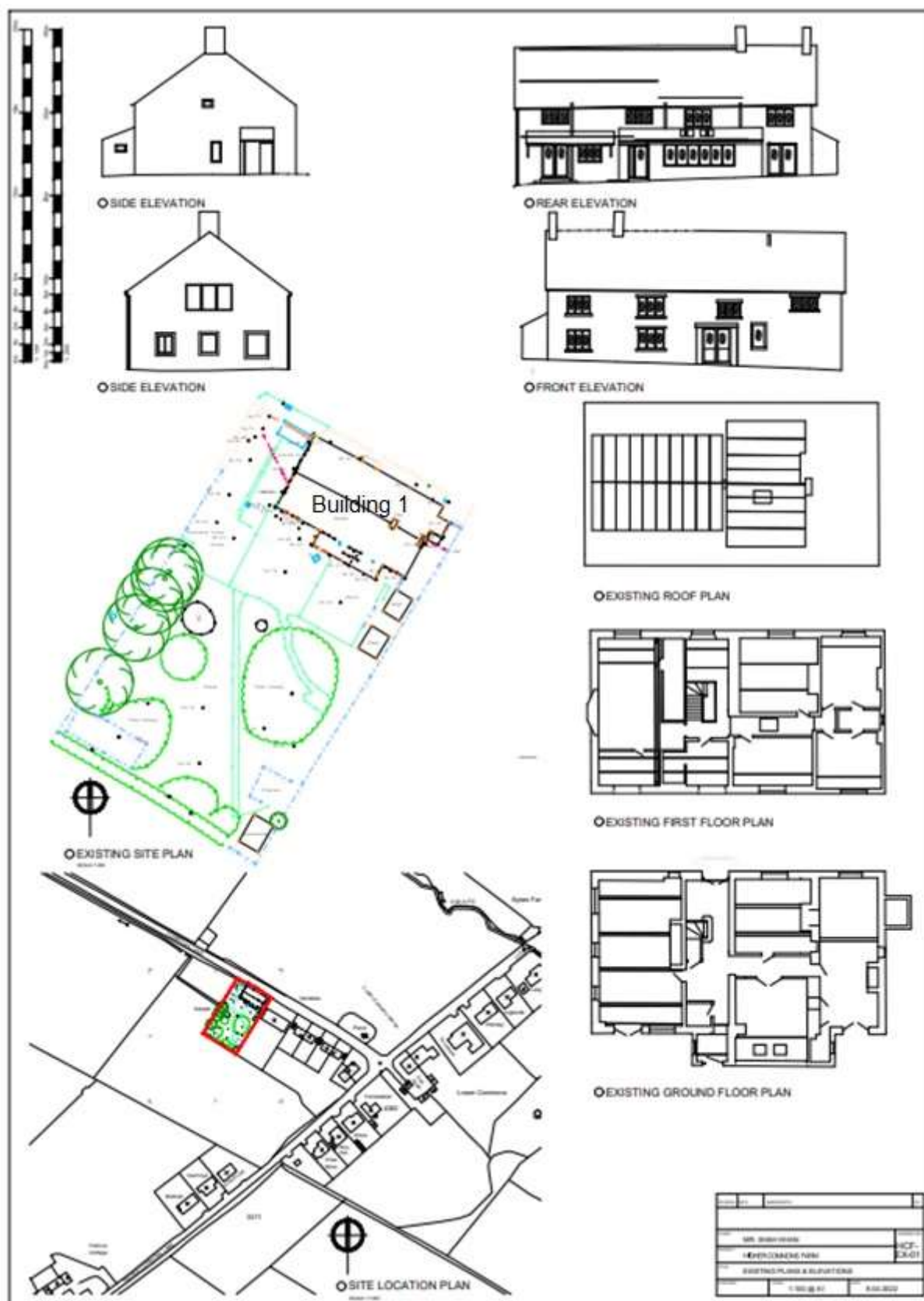


Figure 2:
Development Proposals Plan

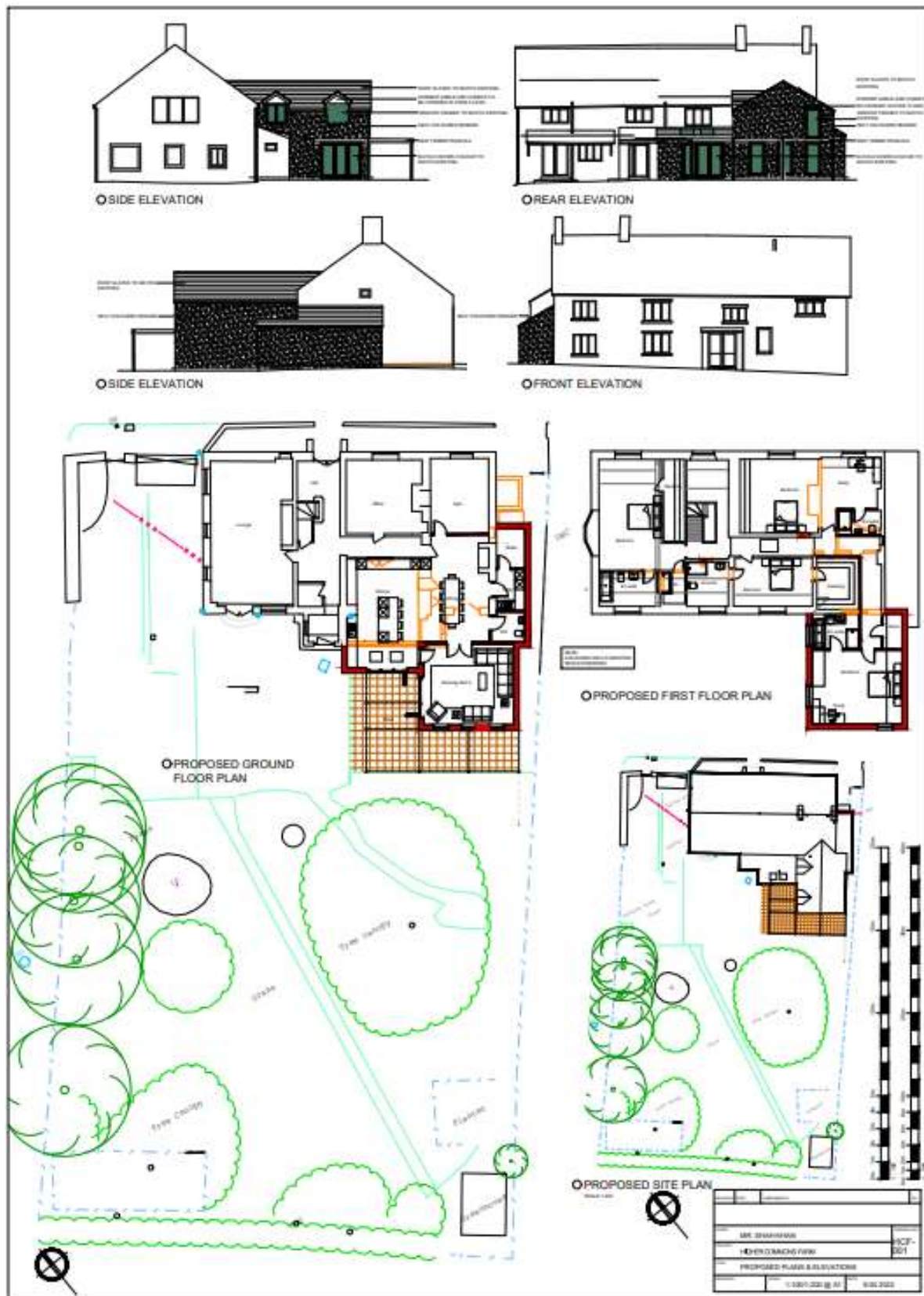


Figure 3:
Presence/ Absence Survey Results and Surveyor Location Plan – 21/09/2022

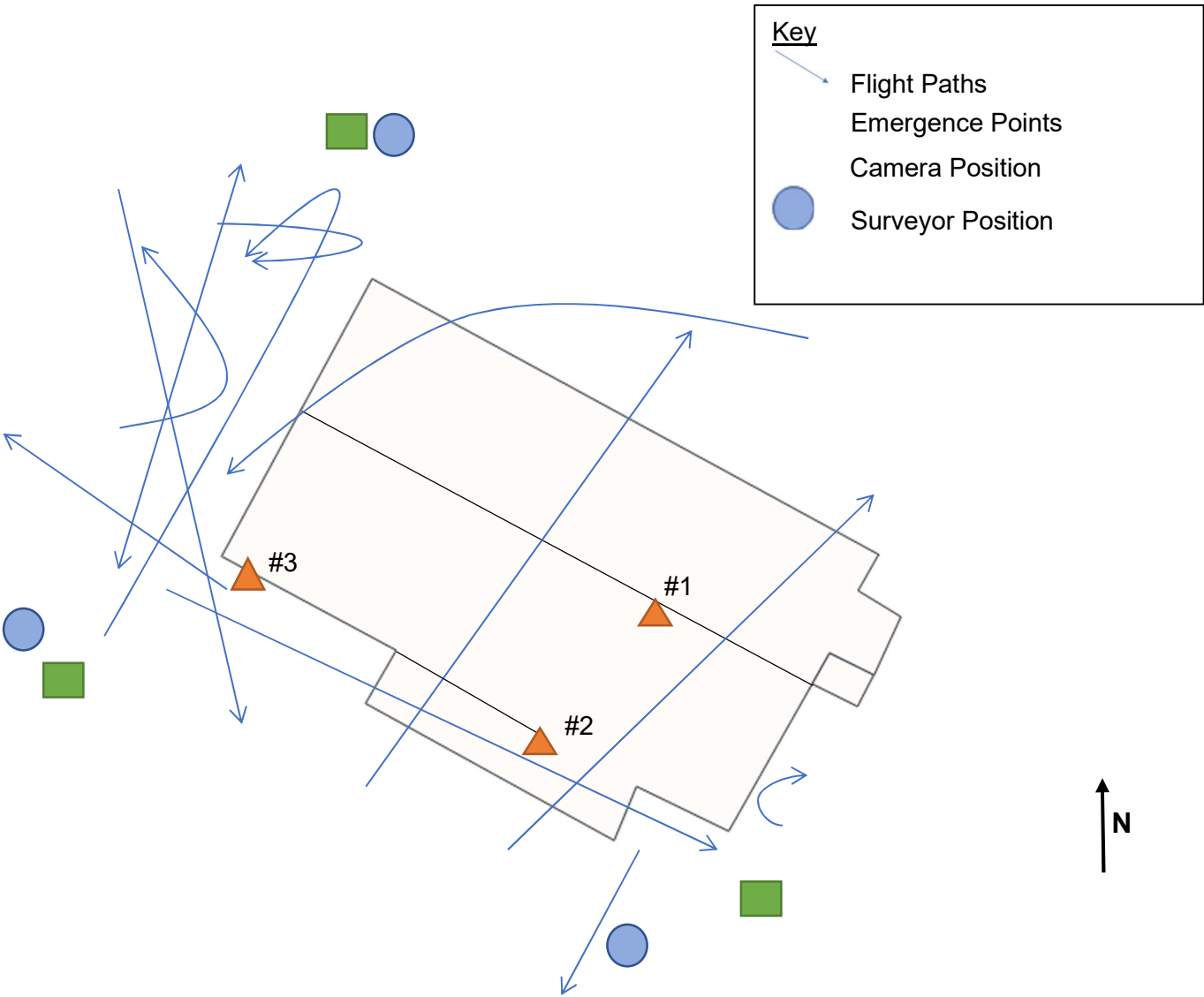


Figure 4:
Presence/ Absence Survey Results and Surveyor Location Plan – 18/05/2023

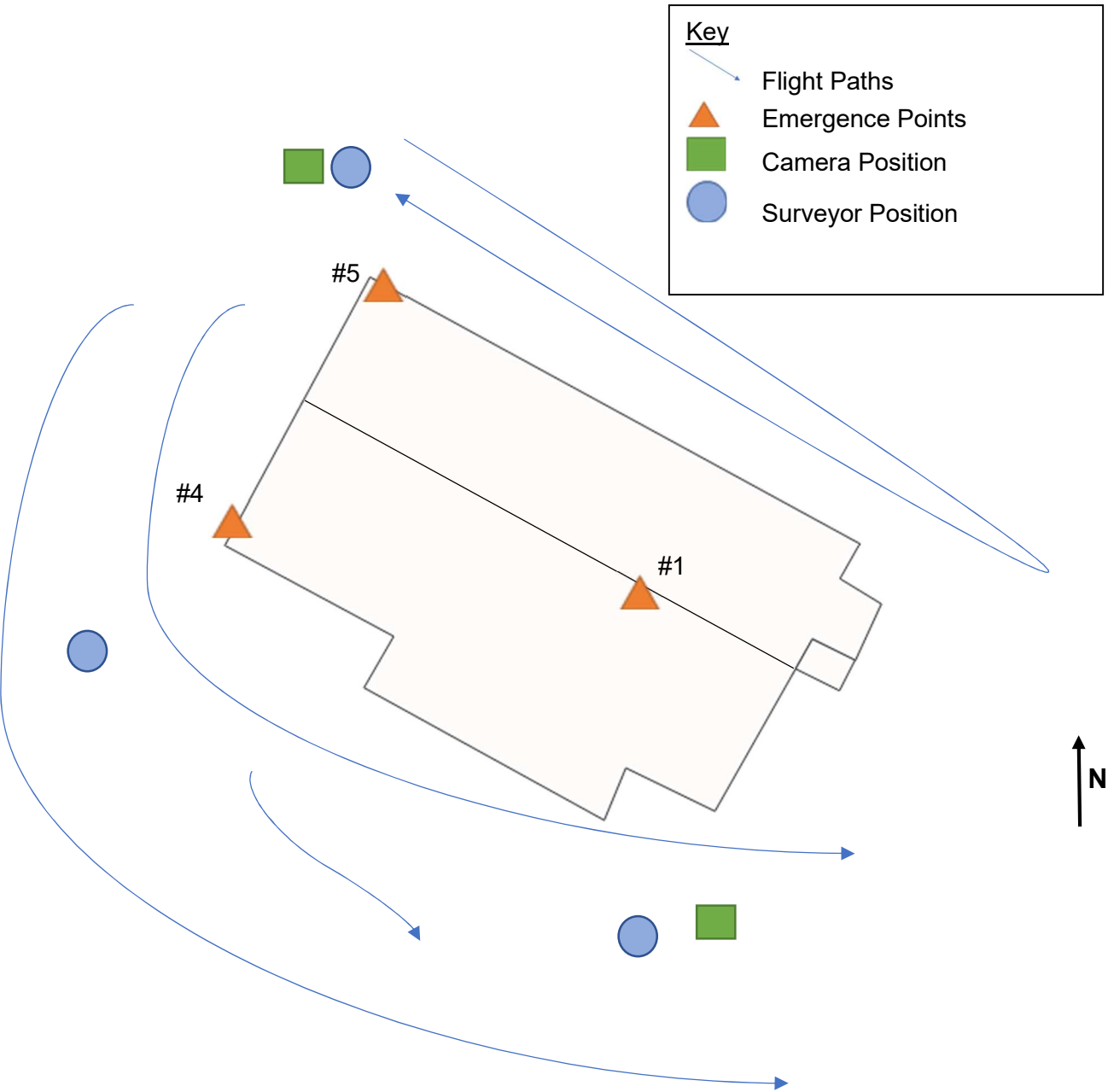
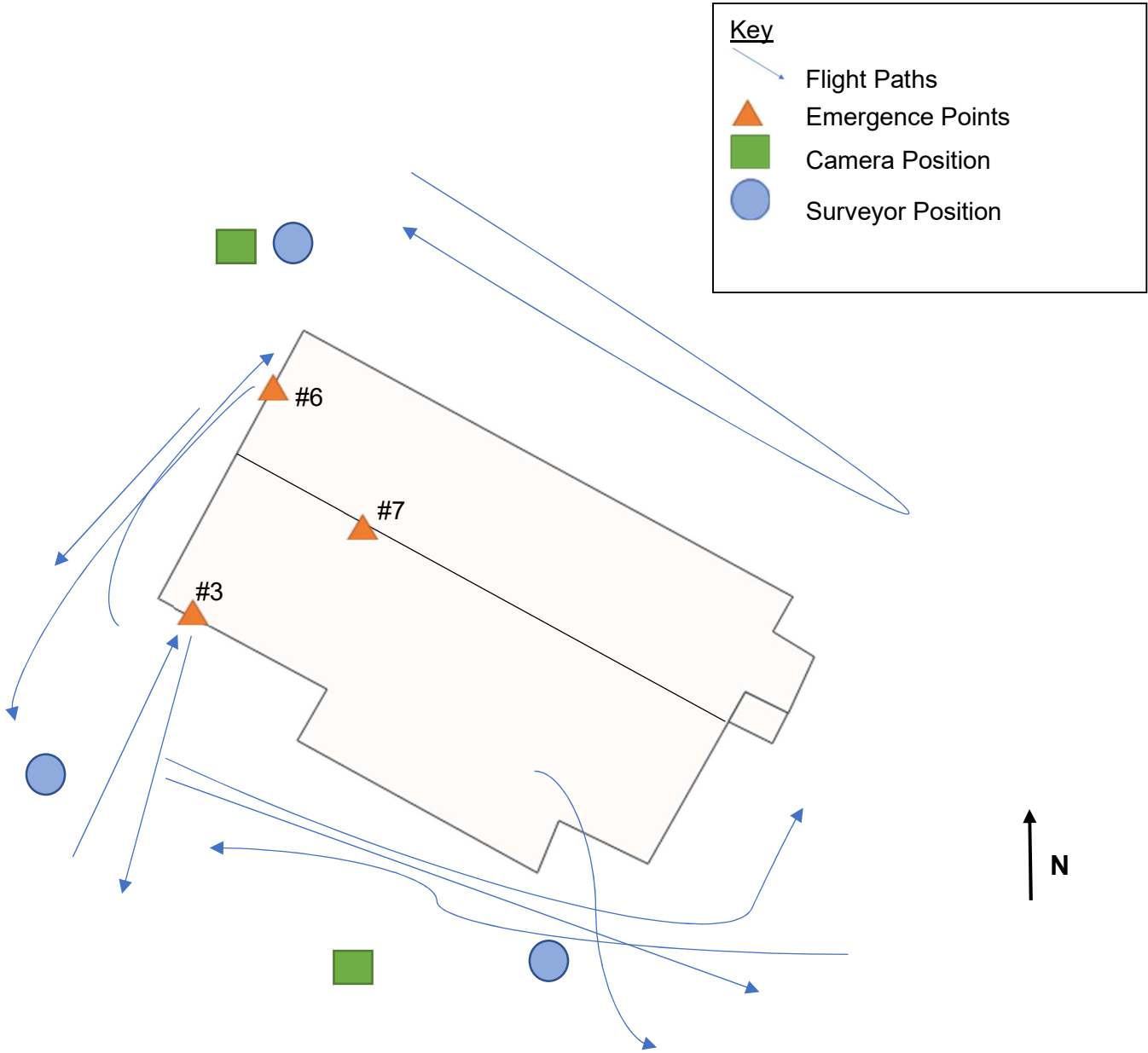


Figure 5:
Presence/ Absence Survey Results and Surveyor Location Plan – 15/06/2023



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 July 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	<p>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 conditions¹ 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 hibernation²).</p> <p>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 potential³.</p>	<p>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.</p> <p>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.</p>
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).	<p>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.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland and water.</p>
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.	<p>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.</p> <p>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.</p> <p>Site is close to and connected to known roosts.</p>
<p>¹For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.</p> <p>²Evidence 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 in urban environments (Korsten <i>et al.</i>, 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.</p> <p>³This system of categorisation aligns with BS8596:2015 Surveying for bats in trees and woodland (BSI, 2015).</p>		

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
<u>Structures</u> One survey visit - one dusk emergence or dawn re-entry survey ¹ . Timing - May to August.	<u>Structures & Trees</u> 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 .	<u>Structures & Trees</u> 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 .
<u>Trees</u> No further surveys required. Precautionary approach to felling.		
<p>¹Structures 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.</p> <p>²Multiple 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.</p> <p>³September 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.</p>		

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; Alcatraz, whiskered, Brandts, 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: (02.09.2022) Southern & western elevations of Building 1



Photo 2: Lifted slates & gaps beneath slates



Photo 3: Gap beneath fascia boards on southern elevation



Photo 4: Western elevation of Building 1



Photo 5: Missing areas of mortar on western elevation



Photo 6: Northern elevation of Building 1



Photo 7: Gap beneath fascia board



Photo 8: Further gaps beneath the fascia boards

Photo 9: Eastern elevation of Building 1



Photo 10: Inside eastern section of attic



Photo 11: Inside western section of attic



Photo 12: Small access hatch between eastern & western sections of the attic



Photo 13: Numerous bat droppings on the floor of western section of attic



Photo 14: Bat droppings caught in cobwebs on wall dividing the eastern & western section of the attic



Photo 15: Gap at the top of the dividing wall above the bat droppings